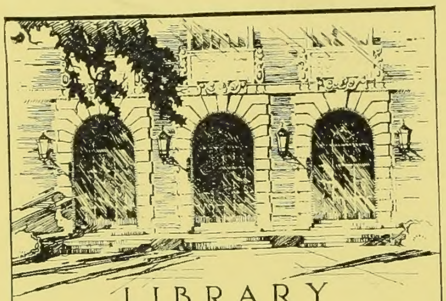

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

JANUARY, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

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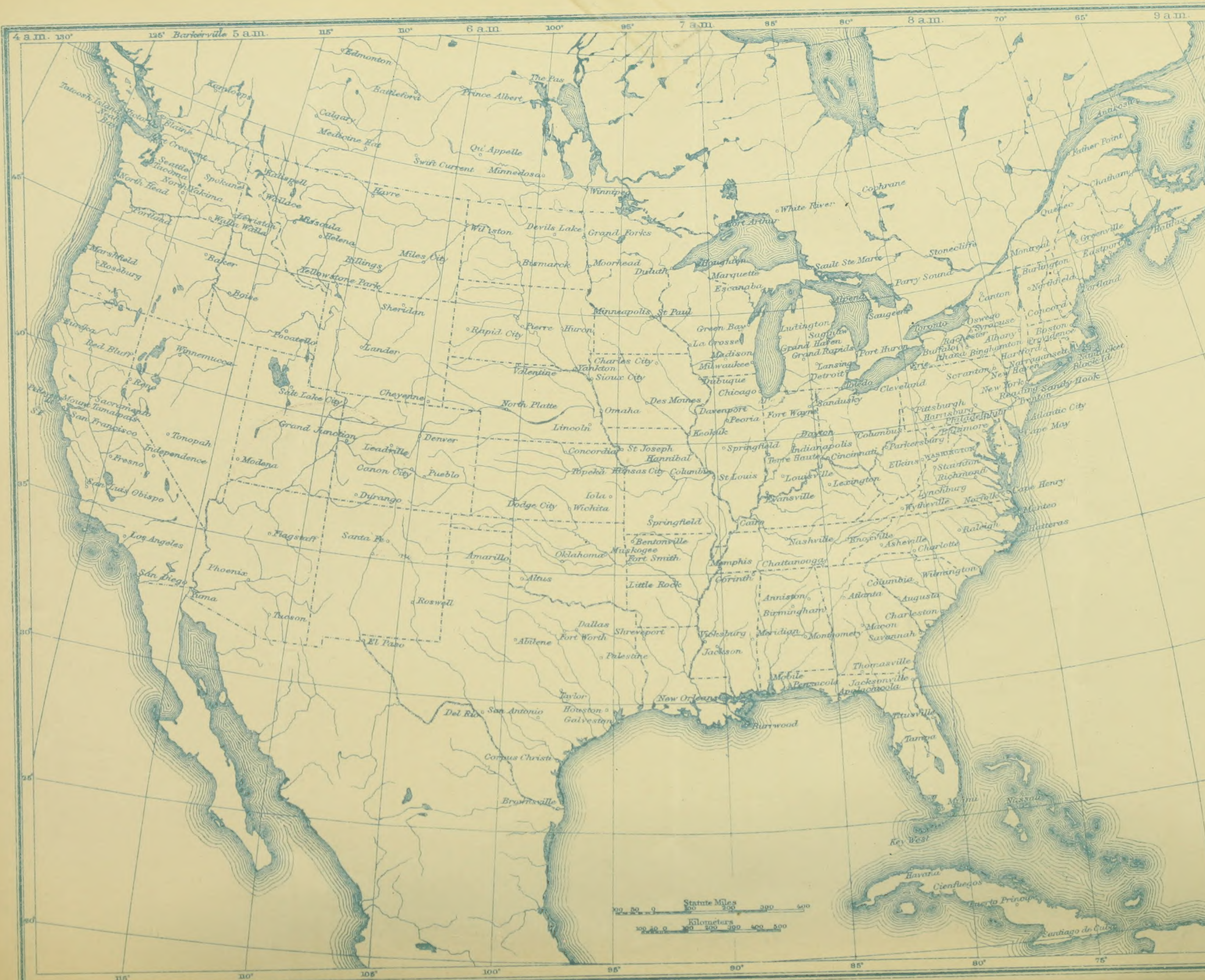
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Springfield
Terre Haute
Elkins
Staunton
Richmond
San Luis Obispo
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Kansas City
Columbia
St Louis
Louisville
Lexington
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U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXIX. BISMARCK, N. D., JANUARY, 1920. No. 1.

GENERAL SUMMARY.

Taken as a whole, the weather throughout the month was unfavorable from the standpoint of outdoor work, rail and wagon traffic, and for livestock. During the twenty-nine years since the Climatological Service was established in North Dakota, the mean temperature for January was lower but nine times, and the average precipitation was exceeded but three times during that period. Owing to the scarcity of feed in the central and western parts of the State, livestock suffered to a considerable extent, and some losses resulted.

TEMPERATURE.

The mean temperature for the State was 2.7°, or 2.2° below the normal, and 16.0° lower than the mean for January, 1919. The highest mean reported was 16.8° at Hettinger, Adams County; the lowest was −7.2° at Pembina, Pembina County. The highest temperature reported was 49° at Hettintinger on the 30th and 31st; the lowest was −44° at Berthold Agency, McLean County, on the 24th. The greatest daily range of temperature was 55° at Bottineau, Bottineau County, on the 27th. The greatest monthly range was 87° at Berthold Agency, McLean County; the least was 58° at Mayville, Traill County. Naturally the temperature over the southern portion of the State averaged 15° higher than over the northern portion.

PRECIPITATION.

The average precipitation for the State was 0.93 inch, or 0.39 inch above the normal, and 0.76 inch greater than the average for January, 1919. The greatest monthly amount reported was 2.97 inches at Westhope, Bottineau County; there was none at Hettinger, Adams County. The greatest amount recorded in any twenty-four consecutive hours was 1.15 inches at Westhope, Bottineau County, on the 26th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall for the State was 10.0 inches.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
								Average.	Highest.*	Direction.	Date.
Bismarck	30.30	31.07	24	29.72	11	57	6,273	8.4	28	nw.	20
Devils Lake	30.28	30.98	24	29.49	12	44	7,947	10.7	32	nw.	12
Ellendale	30.27	30.95	24	29.67	26	56	10,658	14.3	55	nw.	26
Grand Forks	30.39	30.90	24	29.55	12	90	....	......	33	nw.	10†
Williston	30.24	30.90	24	29.74	15	48	5,690	7.6	32	nw.	12
Moorhead, Minn	30.33	30.99	24	29.56	12	57	6,906	9.3	30	nw.	26
Averages or extremes.	30.28	31.07	24	29.49	12	.....	....	10.1	55	nw.	26

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent.			Lowest observed.	Date.
					7 a. m.	Mean noon.	7 p. m.		
Bismarck	131.4	279.2	47	− 5	83	74	86	49	12
Devils Lake	158.4	275.8	57	+ 7	92	86	88	56	24
Ellendale	139.2	282.9	49	......	86	.....	87	68	1
Grand Forks	......	......	......	......	96	.....	100	.....	....
Williston	105.7	275.8	38	− 6	87	79	82	57	2
Moorhead, Minn.	......	......	......	......	86	.....	86	.....	....
Averages or extremes	133.7	278.4	48	− 1	88	80	88	49	12

* And other dates.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	3.3	−1.6	58	−52	0.79	+0.25	4	15	8	8	nw.
1893...	0.8	−4.1	49	−48	0.98	+0.44	7	11	11	9	nw.
1894...	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895...	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896...	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897...	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898...	14.6	+9.7	69	−32	0.11	−0.43	2	8	8	15	nw.
1899...	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900...	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901...	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902...	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903...	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904...	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905...	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906...	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907...	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908...	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909...	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910...	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911...	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912...	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913...	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914...	14.8	+9.9	62	−38	0.50	−0.04	4	16	8	7	nw.
1915...	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916...	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917...	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918...	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919...	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920...	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.

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Climatological Data for January, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	2.5	-2.0	32	10	-32	24	49	1.65	+1.18	0.50	16.5	8	9	4	18	nw.	E. T. Carley.
Amidon	Slope	......	4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	M. J. Connolly.
Arnegard	McKenzie	......	1	7.9	......	37	28	-23	27	39	1.60	......	0.40	16.0	5	12	7	12	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	6.2^{a}	-1.3	41^{a}	30	-30^{a}	24	43^{a}	0.60	+0.05	0.30	6.0	3	......	......	......	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. F. Yunker.
Berthold Agency‡‡	McLean	2,082	25	6.3	-1.2	43	31	-44	24	40	0.37	-0.04	0.14	10.2	5	12	7	12	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	45	7.4	+0.7	39	31	-32	21	33	0.52	-0.02	0.20	6.9	7	5	11	15	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	-3.0	-2.3	30^{a}	10	-41	24	55^{a}	0.90	+0.45	0.30	......	10	......	......	......	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	-0.6	......	33	12	-40	24†	44	1.10	......	0.70	......	2	14	0	17	......	G. H. Phelps.
Bowman	Bowman	......	5	16.3	......	46	29	-31	24	44	0.22	......	0.08	5.3	7	13	4	14	nw.	M. W. Madsen.
Cando	Towner	1,488	18	-3.0	-1.5	41	31	-34	24	47	1.10	+0.72	0.45	11.0	4	8	9	14	se.	A. J. Swanson.
Carson	Grant	2,500	7	6.2	......	45	31	-35	24	40	0.46	......	0.15	4.8	7	11	10	10	nw.	J. W. Evens.
Colgate	Steele	1,177	5	-0.5	......	32	12	-28	24	43	0.70	......	0.40	7.0	3	11	13	7	nw.	James McCann.
Cooperstown	Griggs	1,428	9	......	......	......	......	......	......	......	1.00	+0.49	0.60	10.0	2	12	17	2	nw.	S. Friswold.
Crosby	Divide	1,954	12	2.6	+0.9	32	9†	-38	24	39	0.52	-0.05	0.20	5.2	7	11	8	12	w.	John Jensen.
Devils Lake	Ramsey	1,478	15	-2.3	-2.6	32	12	-32	24	33	0.74	+0.14	0.29	10.0	9	7	8	16	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	11.9	+1.6	43^{a}	15	-34	24	43^{a}	0.79	+0.37	0.30	7.9	4	11	8	12	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	2.6	-0.8	36	11	-35	24	49	0.65	+0.25	0.35	6.5	4	3	17	11	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	8.2	......	43	31	-41	24	43	0.20	......	0.20	3.5	1	12	5	14	ne.	W. H. Moede.
Dunseith	Rolette	1,682	23	-0.8	-2.3	32	9†	-32	24	37	0.60	+0.12	0.20	6.0	5	5	16	10	nw.	J. G. Lamont.
Eckman	Bottineau	......	14	-2.8	-3.4	29	9†	-39	24	43	0.65	+0.04	0.15	......	6	7	10	14	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	5.2	-2.6	40	29	-31	24	32	0.35	+0.05	0.10	......	8	5	8	18	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	6.2	......	38	12	-27	24	40	0.65	......	0.23	8.0	14	6	6	19	nw.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	7	......	......	......	......	......	......	......	0.27	......	0.12	......	5	2	18	11	nw	N. W. Solenberger.
Epping	Williams	2,224	11	......	......	......	......	......	......	......	0.52	......	0.32	5.0	3	14	10	7	se.	M. E. Uggen.
Fessenden	Wells	1,610	7	-0.4	......	33	5	-36	24	50	1.15	......	0.30	11.5	6	9	10	12	nw.	G. T. Seymour.
Forman	Sargent	1,249	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. T. Denk.
Fryburg	Billings	2,790	1	......	......	......	......	......	......	......	0.48	......	0.20	5.0	3	7	16	8	nw.	Verne King.
Fullerton	Dickey	1,439	21	6.0	-1.8	35	5†	-29	24	37	1.17	+0.39	0.35	11.7	5	7	9	15	nw.	F. O. Alin.
Garrison	McLean	1,901	24	4.0	-2.5	35	31	-37	24	45	0.75	+0.28	0.20	7.2	6	5	14	12	nw.	G. L. Robinson.
Grafton	Walsh	827	27	-3.8	-4.7	30	12	-34	27	40	0.85	+0.24	0.33	11.1	8	11	5	15	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	27	-3.4	-7.0	32	12	-32	24	37	1.33	+0.77	0.57	10.3	11	11	7	13	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	0.6	-1.1	35	12	-33	24	47	1.60	+1.19	0.50	16.5	6	4	17	10	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	-4.1	-2.4	28	12	-39	23	34	1.90	+1.19	0.60	19.0	5	10	8	13	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	-4.8^{a}	-2.5	34^{a}	12	-38^{a}	24	34^{a}	2.10	+1.21	0.68	21.0	5	7	16	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	16.8	+4.3	49	30†	-32	25	48	0.00	-0.36	0.00	0	0	20	3	8	nw.	U. J. Downey.
Hillsboro	Traill	901	13	-1.9	-5.8	31	12	-28	25	37	1.30	+0.55	0.50	13.0	7	9	12	10	nw.	F. E. Mayall.
Howard‡‡	Williams	2,275	12	2.9	+1.4	34	12	-39	24	40	0.95	+0.13	0.70	10.1	3	7	12	12	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	6.5	0.0	37	5	-28	21	39	0.70	+0.05	0.30	7.0	4	9	1	21	nw.	S. Calvelage.
Lakota	Nelson	1,579	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. R. Pettes.
Lamoine	Kidder	1,936	11	0.6^{a}	-3.4	30^{a}	29	-37^{a}	24	38	1.40	+0.79	0.60	14.0	4	17	2	12	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	23	-4.2	-1.5	29	11	-40	23	39	2.10	+1.49	0.60	21.0	7	11	13	7	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	-1.9	-4.5	30	9†	-30	24	40	1.70	+1.01	0.50	17.0	8	6	9	16	s.	Reuben Gray.
Linton	Emmons	1,711	1	6.4	......	36	5†	-32	21†	37	0.91	......	0.50	8.5	4	......	......	......	......	J. G. Sailer.
Lisbon	Ransom	1,091	15	3.9	-2.0	35	12	-26	24	42	1.00	+0.28	0.50	10.0	5	9	6	16	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	......	......	......	......	......	......	......	0.95	......	0.40	9.5	6	7	7	17	nw.	Edw. Tapley.
McHenry	Foster	1,509	9	-3.0	......	30	11†	-36	24	43	1.35	......	0.60	13.0	3	24	4	3	nw.	P. E. Trudeau.
McKinney‡‡	Renville	1,640	25	0.1^{a}	-3.1	32^{a}	13	-39^{a}	27	46^{a}	0.50	+0.11	0.30	5.0	2	2	20	9	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	3.8	......	34	12	-26	24	25	0.60	......	0.20	6.0	5	13	6	12	nw.	J. G. Carlson.
Maddock	Benson	1,604	4	-0.8	......	33	12	-36	24	40	1.33	......	0.76	......	3	3	15	13	nw.	A. T. Felland.
Mandan	Morton	1,644	5	6.2	......	40	31	-32	24	43	0.31	......	0.11	......	6	8	8	15	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	-0.4	-4.4	32	12	-37	24	48	1.11	+0.44	0.37	11.5	12	8	8	15	nw.	P. B. Anderson.
Marmarth	Slope	......	10	15.4^{g}	+5.1	45^{i}	28	-27^{f}	24	47^{i}	0.72	+0.44	0.23	8.4	9	......	......	......	se.	S. P. Grane.
Mayville	Traill	975	23	-2.4	-8.5	26	5†	-32	24	30	0.80	+0.30	0.22	......	6	17	4	10	nw.	W. C. Gould.
Melville	Foster	1,590	21	-0.8^{c}	-6.4	30^{c}	5†	-30^{c}	24	30^{c}	0.70	+0.32	0.30	7.0	3	......	......	......	nw.	J. P. Kidder.
Minot	Ward	1,557	23	-0.6	-5.6	37	9†	-42	24	53	0.60	+0.14	0.20	6.0	5	8	18	5	nw.	W. I. Faris.
Minto	Walsh	820	26	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. M. Evans.
Mott	Hettinger	2,424	12	11.1	+3.6	36	15†	-35	24	31	0.85	-0.07	0.25	8.0	8	10	10	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	5.2	-0.7	43	31	-38	24	52	0.40	-0.08	0.35	5.0	2	9	5	17	sw.	C. J. Hoof.
New England	Hettinger	2,400	25	12.8	-0.5	44	13†	-33	23	44	0.32	-0.14	0.20	......	4	16	1	14	nw.	W. C. McKenzie.
New Salem	Morton	2,163	14	7.7	0.0	39	31	-33	24	41	0.36	-0.31	0.15	3.5	4	8	12	11	nw.	J. Christiansen.
Orange‡‡	Adams	2,586	10	11.0^{a}	+1.8	35^{a}	28	-31^{a}	24	50^{a}	0.30	-0.06	0.30	3.0	1	......	......	......	......	J. E. Lowries.
Park River	Walsh	998	15	4.3^{b}	-6.1	32^{b}	12	-30^{b}	23	38^{b}	0.65	+0.18	0.30	10.4	4	......	......	......	nw.	C. B. Wright.
Parshall	Mountrail	......	4	......	......	......	......	......	......	......	0.40	......	0.20	4.0	2	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	45	-7.2	-4.3	28	9†	-42	23	38	2.70	+2.05	0.80	27.0	7	3	18	10	nw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	0.4	+0.4	32	12	-39	24	39	1.50	+1.06	0.80	15.0	5	3	12	16	nw.	A. O'Neill.
Power	Richland	1,020	26	......	......	......	......	......	......	......	1.40	+0.77	0.40	14.0	8	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	4	......	......	......	......	......	......	......	1.25	......	0.40	12.5	7	5	6	20	e.	C. Frank.
Selfridge	Sioux	......	......	......	......	......	......	......	......	......	0.17	-0.36	0.08	2.0	3	9	13	9	nw.	H. F. Solenberger.
Steele	Kidder	1,857	22	0.8	-6.8	35	29	-38	24	37	1.57	+1.11	0.98	12.5	6	18	9	4	......	H. S. Wood.
Taylor	Stark	2,493	3	9.5	......	41	31	-33	24	37	0.21	......	0.10	......	4	6	10	15	nw.	H. Leutz.
Towner	McHenry	1,482	17	-2.2	-4.8	28	10†	-39	24	50	0.75	+0.27	0.30	7.5	5	14	8	9	sw.	B. Bagley.
Turtle Lake	McLean	1,899	5	2.8	......	35	29	-36	24	41	0.75	......	0.45	8.0	5	8	8	15	w.	A. T. Anderson.
Valley City	Barnes	1,245	1	-0.8	-5.6	31	12	-32	23	35	2.30	+1.69	0.80	23.0	7	14	5	12	w.	C. F. Schroeder.
Wahpeton	Richland	962	25	3.2	-4.6	35	12	-24	25	46	1.20	+0.70	0.30	12.0	7	6	11	14	se.	G. C. Morehart.
Walhalla	Pembina	966	12	-3.9	-3.6	32	12	-37	23	43	1.40	+0.55	0.50	14.0	4	20	1	10	s.	Ivan Lee.
Washburn	McLean	1,734	20	7.3	-0.1	41	31	-40	24	40	0.23	-0.17	0.06	10.0	7	7	8	16	nw.	Adolph Guenther.
Westhope	Bottineau	1,508	13	-3.3	-1.9	30	10	-42	24	34	2.97	+2.52	1.15	......	6	13	8	10	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	5.8	-0.7	37	28	-37	24	29	0.92	+0.34	0.26	8.4	7	7	7	17	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	-4.6	-4.9	31	12	-41	24	37	1.40	+0.84	0.40	14.0	7	9	12	10	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	......	......	38	31	-36	25	46	0.50	+0.12	0.50	5.0	1	......	......	......	......	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	1.4	-1.3	34	12	-27	21	35	0.94	+0.23	0.36	14.4	13	9	7	15	n.	U. S. Weather Bureau.
Averages		......	......	2.7	-2.2	49	30†	-44	24	55	0.93	+0.39	1.15	10.0	5	10	9	12	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for January, 1920.

Stations.	Watersheds	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red		.20	.05			.10	T.							.30		.20	.20	T.	.10	.50												1.65
Amidon	Lit. Missouri																																
Arnegard	Missouri	.05		.40												.05		.40		.20			T.		.20		.30						1.60
Ashley	Missouri																	.20	.30	.10													0.60
Beach	Lit. Missouri																																
Berthold Agency	Missouri	T.							T.							.01	T.		.11	.11			T.	T.		T.	.14				T.		0.37
Bismarck ***	Missouri	T.	T.				T.	T.						T.	T.	T.		.20	.03	.16			.04	.01		.04			.04	T.	T.		0.52
Bottineau ‖	Mouse		.05	.01			T.			T.			T.		.02	.12	.04		T.	.12	.10					.11	.30		.03			T.	0.90
Bowbells ‖	Mouse															T.				.70						.40							1.10
Bowman	Grand		.01						T.		T.						.02	.04		T.	.08		.03	.02			.02						0.22
Cando	Sheyenne			.05												.35				.25							.45						1.10
Carson	Heart	.02																.05		.15			.02	.02	.10	.05							0.41
Colgate	Sheyenne			.20												.10												.40					0.70
Cooperstown	Sheyenne		T.							T.							T.		.60	.40				T.		T.				T.			1.00
Crosby	Mouse	T.					T.								.01	.08		.12	.20	.05					.02						.04		0.52
Devils Lake ***	Sheyenne		.02	T.			T.	T.		T.			T.		.01	.29	T.		.14	.13	.07			T.		.02	.04		T.	T.		.02	0.71
Dickinson ‖	Heart		.10																.19		.30				T.		.20	T.				T.	0.79
Donnybrook	Mouse						T.										.05	.35	.05	T.						.20				T.	T.		0.65
Dunn Center	Knife	T.	T.						T.							T.		T.		.20	T.					T.	T.				T.		0.20
Dunseith	Mouse		.10											.10	T.	.10			T.								.20		.10				0.60
Eckman	Mouse														.10	.10			.15	.10						.10	.10						0.65
Edgeley	James														.02	.03	.04		.08	.10	.03			.03			.02						0.35
Ellendale***	James			.02	.01	T.	.01	.01		.01				.03	T.	.09	.01	.11	.14	.10				.06	.04		T.	.01		T.	T.		0.65
Energy	Missouri	T.	T.					T.						T.	.02	.05			.05	.12			T.	T.		.05	T.		T.	T.	T.	T.	0.27
Epping	Missouri	T.							.10									.32	.10														0.52
Fessenden	James		.05	T.			T.	T.	T.						T.	.30	.05		.30	.15	.30			T.						T.			1.15
Forman	Sheyenne																																
Fryburg	Lit. Missouri																T.	.18		.20						.10							0.48
Fullerton	James						T.	T.	*	T.						.07	.25		.33	.35				.17		T.							1.17
Garrison	Missouri							T.						T.		.12	.16	.09	.20	.17				T.			.01					T.	0.75
Grafton	Red				.05										.07	.12			.05	.10	.13						.33					.02	0.85
Grand Forks ***	Red		T.	.01	T.		T.	.02		.04		T.	T.		.19	.52	T.		.08	.06	.12	T.		T.	T.	.05	.20		T.	T.		.04	1.33
Granville	Mouse		T.													.20		.10	.40	.20	.50					.20							1.60
Hannah	Pembina		.20													.50			.40								.60			T.		.20	1.90
Hansboro	Red			.32											.40	.60			.10								.68						2.10
Hettinger	Grand																																0.00
Hillsboro	Red			.20				T.		T.					.05	.50			.30	.10						.05						.10	1.30
Howard	Missouri	T.	T.				T.							T.		.10	T.			.70							.15					T.	0.95
Jamestown	James			T.	T.			T.	T.						.20			.10	.30							.10				T.			0.70
Lakota	Sheyenne																																
Lamoine	Missouri							.20										T.	.40	.60						.20							1.40
Langdon	Pembina	.10	T.	.20				.20		T.	T.				.30	.40			.30							T.	.26					T.	2.10
Larimore	Red														.20	.50	.05		.20	.05	.30					.25	.15						1.70
Linton	Missouri														.04			.35		.50							.02			*			0.91
Lisbon	Sheyenne				T.		T.	T.		T.					T.	.20	.10	T.	.10	.10	.50	T.	T.			T.							1.00
McClusky	Missouri						.05								.05	.05	.05		.35	.40													0.95
McHenry	James															.60			.40										.35				1.35
McKinney	Mouse														T.	.20	T.		.30														0.50
McLeod	Sheyenne			.06				.09								.12			.20	.13													0.60
Maddock	Sheyenne		.44																.76			.13											1.33
Mandan ‖	Missouri		T.		T.											T.			.10	.02	.11		T.	.03	T.	.03	.02				T.		0.31
Manfred	Sheyenne		.05	.02			T.	.05	.04	T.					.10	.20	.02		.37	.10	.10			T.		.04				.02		T.	1.11
Marmarth	Lit. Missouri	.04						.01			.02					.01	.12	.09			.20			.15			.08						0.72
Mayville	Red			.10	T.			.06								.20	T.		.20	T.	.22										.02		0.80
Melville	James		T.				T.									.20			.20	.30						T.				T.		T.	0.70
Minot	Mouse													.05		.05	.10		.30	.10													0.60
Minto	Red																																
Mott	Cannon Ball	.10															.05	.25		.21						.03	.06		.04		.11		0.85
Napoleon	Missouri															T.			.35	.05													0.40
New England ‖	Cannon Ball	.02																.02		.20					.10								0.32
New Salem	Heart	T.													T.			.10	.10	.15			T.			.01	T.						0.36
Orange	Cannon Ball																										.30						0.30
Park River	Red														.08	T.	.15		T.	.12						T.	.30	T.					0.65
Parshall	Missouri																		.20	.20													0.40
Pembina ‖	Red						.40							.20	.20	.60	.20									.80						.30	2.70
Pettibone	James			T.			T.	T.		T.					T.	.10			.30	.80						.20				T.		.10	1.50
Power	Missouri	T.			.05			.10			T.			T.	.05	.40			.30	.30				.10		.10							1.30
Powers Lake	Sheyenne							T.					T.	T.	.10		.15	.10	.15	.40	T.			T.		.15	.20	T.		T.	T.		1.25
Selfridge	Missouri																	.04		.05				.08		T.					T.		0.17
Steele	Missouri	T.													.06		.13		.26	.98										.07	.07		1.57
Taylor	Heart						T.									T.		.02	.07							.10					.02		0.21
Towner	Mouse		T.												T.	.10	.05	T.	.30	.20						.10							0.75
Turtle Lake	Missouri			T.				.08						T.		.04		.04	.14	.45	T.			T.		T.	T.						0.75
Valley City	Sheyenne			.05			.10	.10		T.						.50		.60		.80						T.						.15	2.30
Wahpeton	Red			.15				.10		.05						.20			.30		.30		.10	T.									1.20
Walhalla	Pembina														.30	.50										.20	.40						1.40
Washburn	Missouri															.03	.06	.01	.02	.04	.02					.05							0.23
Westhope	Mouse														.40	.22	T.		.20	.15						.85	1.15						2.97
Williston ***	Missouri	.02					T.		T.							.08	T.	.26	.02	.25				.08		.21		T.		T.	T.		0.92
Willow City	Mouse		.10	T.			T.	T.			T.				T.	.40	T.	T.	.20	.10				T.		.20	.30			T.		.10	1.40
Zap	Knife																	.50															0.50
Moorhead, Minn ***	Red	T.	T.				T.	T.						T.	T.	T.		.20	.03	.16			.04	.01		.04			.04	T.	T.		0.52

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	18	28	29	31	21	16	15	27	21	32	30	27	24	21	25	16	17	19	16	21	11	3	-1	5	-11	15	9	17	7	12	28	17.7
	Minimum	-26	-21	-20	-3	2	-13	-19	-8	-6	5	5	3	2	2	5	-8	-14	-12	-17	-8	-22	-31	-20	-30	-29	-29	28	-24	-3	-9	-3	-12.7
Ashley	Maximum	7	-2	18	25	36	21	19	21	31	29	29	35	25	32	24	12	5	5	8	0	10	-4	-8	-7	10	22	6	29	....	41	27	ᵃ16.9
	Minimum	-16	-16	-2	12	14	9	10	-2	-2	2	3	12	10	3	3	-3	-11	-7	-5	-11	-22	-14	-16	-30	-19	-7	-14	-10	....	-2	-1	ᵃ-4.4
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Berthold Agency	Maximum	4	17	26	37	36	30	19	28	35	32	31	40	29	20	14	14	12	10	-3	0	-4	-11	-8	8	4	11	8	36	33	12	43	17.6
	Minimum	-15	-16	14	4	14	13	5	-2	5	15	-1	24	12	7	1	-6	-15	-9	-7	-18	-36	-19	23	-44	-20	-11	-31	-8	10	-1	3	-5.0
Bismarck	Maximum	3	19	24	35	35	25	18	30	35	30	30	37	20	28	22	10	7	9	4	0	2	-8	-9	-11	9	11	5	32	36	7	39	17.1
	Minimum	-13	-14	13	15	17	13	0	0	7	16	7	18	14	3	2	-2	13	-6	-4	-15	-32	-14	-19	30	-12	-16	-20	5	6	0	7	-2.2
Bottineau §§	Maximum	14	20	18	23	17	14	24	20	17	30	25	9	1	-1	-2	7	-3	-1	-8	-1	-19	-15	-9	2	-6	1	20	16	8	26	....	ᵃ7.6
	Minimum	-31	-23	2	10	2	0	-7	-7	2	0	9	-5	-5	-6	-7	-13	-26	-25	-19	-16	-21	-31	-34	-41	39	11	-35	-27	-1	-7	-7	-13.6
Bowbells §§	Maximum	5	-10	5	29	22	22	18	15	25	30	21	33	24	10	3	2	14	16	15	5	4	8	-14	-16	-10	5	-11	10	21	31	11	10.2
	Minimum	-22	-24	-18	-8	4	4	-4	-7	4	9	-5	-1	-2	-3	-10	-11	-26	25	-19	21	-25	32	-35	-40	-40	-18	-36	-34	10	3	-9	-11.5
Carson	Maximum	7	22	16	25	23	24	20	20	32	20	22	22	20	32	10	6	6	20	20	-12	0	-12	8	-15	6	6	7	35	35	6	45	14.5
	Minimum	-15	-9	13	9	12	11	1	-1	8	8	-2	14	10	13	5	-8	-4	0	-5	-14	18	-17	-28	-35	-15	10	-12	5	15	-1	5	-2.1
Crosby	Maximum	-1	20	20	27	25	19	19	21	32	27	25	32	15	15	5	10	6	7	-3	-3	-11	-12	-11	-12	2	-1	-7	28	26	4	30	11.4
	Minimum	-19	-13	2	7	15	12	1	4	17	11	-1	8	5	0	-3	-1	-20	-9	-13	-18	-20	-30	-21	-38	-16	-16	-31	-11	4	-1	2	-6.3
Devils Lake	Maximum	-10	-2	2	26	29	22	17	15	28	20	26	32	6	0	0	2	-2	-5	-5	-4	7	-15	-15	-19	0	1	-9	16	18	0	26	6.2
	Minimum	-24	-25	-9	-4	3	1	3	-1	3	12	1	6	-4	-6	-6	-12	-23	-11	-19	-17	-22	-25	-29	-32	-19	-21	-29	17	0	-9	-1	-10.8
Dickinson §§	Maximum	14	30	33	37	28	29	19	26	36	32	37	36	35	39	43	18	17	40	5	0	-2	-5	-8	-4	27	12	22	36	41	20	....	ᵃ23.1
	Minimum	-10	2	10	3	12	13	3	10	17	10	9	23	15	13	11	10	4	3	-4	-14	24	-20	-23	-34	-18	-5	-15	-3	20	3	2	0.7
Donnybrook	Maximum	0	12	25	27	27	22	17	24	31	33	36	17	8	8	8	10	-6	4	4	-5	-10	-17	-11	-12	0	-1	-1	34	35	8	31	11.3
	Minimum	18	-12	11	13	18	10	2	-3	11	8	16	8	0	0	-10	10	-20	-12	-13	-12	-17	-23	-25	-35	-18	-11	-33	15	8	5	-4	-6.2
Dunseith	Maximum	-5	6	6	22	20	23	19	19	32	30	17	14	32	2	3	1	1	5	11	2	3	0	-10	-8	-9	-4	-6	11	25	14	20	12.8
	Minimum	-28	-29	-7	0	-10	-5	-5	-9	-5	-5	-5	-2	-5	3	-10	-11	-27	-13	-20	-14	22	-30	-31	-32	-30	-11	-31	32	0	-11	-6	-14.5
Edgeley	Maximum	4	-3	14	22	35	22	21	23	30	30	28	35	24	16	14	12	6	4	0	-2	1	-9	-10	-10	2	10	4	25	40	19	29	14.1
	Minimum	-16	-6	-4	3	20	9	11	3	3	14	5	17	9	0	3	-6	-14	-7	-10	-13	-21	-18	19	-31	-20	-5	-18	7	11	-3	3	-3.6
Ellendale	Maximum	5	7	15	25	34	22	19	20	31	29	28	38	18	22	19	10	6	7	1	1	5	-7	-8	-10	7	28	1	25	35	8	28	15.1
	Minimum	-14	-16	5	5	17	10	12	7	1	16	5	17	3	1	5	0	11	-5	-6	-11	-24	-11	-14	27	-14	-11	-15	15	8	-2	2	-2.6
Fessenden	Maximum	-4	4	9	25	33	20	15	21	30	27	23	32	17	5	5	2	2	1	2	-1	2	-12	-13	-13	-2	5	3	32	23	5	29	10.2
	Minimum	-25	-30	0	3	14	0	3	-4	-3	8	-5	14	3	4	-6	-19	-24	-13	-19	-17	30	26	-27	-36	24	-15	-29	-18	2	-8	-7	-11.0
Forman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Fullerton	Maximum	5	8	11	24	35	30	21	20	31	30	25	35	18	22	18	12	3	6	6	6	-6	-3	-8	8	7	11	-2	24	33	17	28	14.8
	Minimum	-15	-18	4	5	21	10	13	8	1	15	6	12	9	1	5	-2	-5	-12	-8	-10	-23	-15	-16	-29	-18	-10	-16	-13	12	-2	0	-2.9
Garrison	Maximum	5	12	22	28	31	26	18	25	33	28	26	33	28	16	11	10	5	6	5	-1	-4	12	8	-16	1	8	1	33	30	10	35	14.4
	Minimum	-19	-18	2	8	16	7	3	-5	8	10	0	23	9	4	-3	-16	-21	-9	-10	-16	-28	-19	-22	-37	21	10	-29	-12	8	-4	0	-6.5
Grafton	Maximum	9	-13	-4	19	27	21	20	13	29	26	20	30	20	0	-3	1	1	10	-8	4	-3	-9	17	-12	0	2	0	6	10	8	12	6.0
	Minimum	26	-25	-14	-21	14	0	11	-13	-6	12	7	3	15	-11	-7	-12	-22	30	-25	15	-28	-20	-33	32	-32	-5	-34	-25	-3	-7	-2	-13.7
Grand Forks	Maximum	-12	-6	0	17	28	20	20	11	24	24	20	32	8	0	3	1	0	-4	-4	2	7	-12	14	-14	4	5	-7	11	11	4	18	5.9
	Minimum	-25	-27	-16	-20	9	1	-4	-12	-9	12	6	8	-7	-11	-4	-10	-20	-15	-23	13	-28	-20	-29	32	25	17	-28	-24	2	-4	0	-12.4
Granville	Maximum	-7	7	14	28	28	21	18	25	32	25	28	35	15	18	8	5	-2	0	-4	4	-6	-14	-15	-14	-5	0	-4	25	22	10	33	9.9
	Minimum	-20	-23	3	5	10	7	5	0	15	5	2	10	5	-3	-5	-8	-22	-13	-14	-16	-23	-24	28	-33	15	-14	-32	-22	2	-6	-3	-8.7
Hannah	Maximum	-10	-4	-2	8	15	22	21	15	20	21	21	28	20	10	3	9	2	5	4	-8	-10	-14	10	-18	2	7	-8	4	10	6	15	5.4
	Minimum	-25	-35	-10	-4	3	12	0	-6	-5	10	8	4	5	-11	-12	11	-24	-29	-27	16	-25	-34	39	36	32	-15	-36	-12	-2	-10	-9	-13.6
Hansboro	Maximum	-2	-6	3	20	18	22	....	15	30	30	22	34	14	8	-5	0	-5	5	-6	2	-2	-20	-20	-17	-8	-3	-2	10	10	7	17	ᵃ5.7
	Minimum	-24	-30	-11	-5	10	0	....	-7	-4	8	-2	5	-6	-11	-11	-20	-30	-18	-30	22	-25	-32	-36	38	-32	18	-34	-24	-6	-12	-12	-15.4
Hettinger	Maximum	22	31	30	22	19	22	25	20	33	30	28	28	36	46	43	34	33	34	33	47	14	15	8	5	-5	14	34	39	45	49	49	28.5
	Minimum	-5	8	10	-3	5	5	5	12	20	18	14	18	20	22	18	18	18	16	3	-1	-2	8	-13	23	32	14	-4	-3	7	23	3	5.0
Howard	Maximum	4	18	24	27	27	18	11	22	32	30	22	34	20	15	13	10	10	6	6	6	-9	-16	11	-14	5	-1	1	30	28	11	31	13.2
	Minimum	20	-9	4	9	14	2	-4	2	14	9	0	20	4	6	0	-9	-18	-19	-12	22	-22	32	25	39	25	16	-29	-10	4	-5	-1	-7.4
Jamestown	Maximum	20	23	21	24	37	31	21	25	30	29	25	34	26	9	18	20	3	0	2	-5	-2	-7	-10	12	0	0	6	24	29	16	28	15.8
	Minimum	-4	0	2	4	21	4	10	2	2	9	8	25	4	2	1	2	-17	-8	-12	10	-28	-18	-20	-27	-20	-10	-22	-6	13	-4	-2	-2.8
Lakota	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Lamoine	Maximum	-1	4	11	22	22	20	19	17	28	26	20	28	22	12	10	6	-3	-1	0	0	1	-17	-16	-17	-3	8	....	21	30	8	27	ᵃ10.1
	Minimum	26	-27	4	-10	14	4	10	-7	-2	-10	2	19	4	2	-3	-14	21	-12	-13	11	-27	-26	-20	-37	-24	-2	....	-17	8	-5	5	ᵃ-8.9
Langdon	Maximum	0	10	15	24	25	20	17	10	26	20	29	26	17	11	4	0	-5	-5	-3	5	8	-20	20	-15	7	6	-5	16	11	5	23	6.6
	Minimum	-30	-15	-10	-15	2	3	7	7	-5	6	5	-2	-7	11	-11	-16	-28	-23	-30	-15	30	-34	-40	-35	-19	10	-36	-26	-2	-13	-14	-14.9
Larimore	Maximum	-9	-9	-5	18	28	20	21	24	30	28	20	30	10	3	4	2	-10	-5	-5	-1	1	9	15	-11	-4	4	-3	11	19	9	17	6.8
	Minimum	-24	-27	-15	-22	9	1	2	-4	14	12	5	10	-4	-9	-9	-12	-22	-15	-20	-11	24	-18	29	-30	-23	11	-29	-21	0	-9	-4	-10.6
Lisbon	Maximum	-2	8	15	22	34	33	26	17	27	29	25	35	22	15	12	9	5	5	6	5	9	6	7	-8	-2	9	0	25	30	24	27	14.5
	Minimum	-20	16	14	11	19	14	3	-7	5	12	4	20	8	-3	7	-17	-13	-10	-12	8	-24	-14	-16	-26	-22	-8	-20	17	0	6	-5	-6.7
McHenry	Maximum	18	0	0	28	28	15	15	5	28	28	30	17	15	4	2	4	10	5	-5	-5	-8	-11	18	-18	-5	5	-8	-10	20	5	30	6.6
	Minimum	-25	-31	-11	-10	0	0	0	-5	-3	10	0	0	3	-6	-5	-16	-23	-8	-23	16	-30	20	-25	-36	-21	-10	30	-20	-10	-7	-5	-12.5
McKinney	Maximum	-5	5	....	30	25	25	20	15	19	30	30	22	32	17	2	7	3	-1	-1	-3	-10	-10	-13	-18	-5	-5	-12	25	20	10	30	ᵃ9.5
	Minimum	-20	26	....	13	-6	-15	8	8	-3	4	14	0	15	0	-5	-14	-23	-12	-17	16	-20	-28	-30	-37	-21	-14	39	-21	5	-5	-5	ᵃ-9.3
Maddock	Maximum	-3	2	7	24	25	21	20	14	28	26	20	33	17	15	3	2	1	-3	4	-5	7	-8	-15	-17	-4	2	-8	20	24	7	27	9.1
	Minimum	-25	-30	4	2	16	-1	0	-2	0	11	-4	16	-1	-4	-5	-17	-24	-13	-22	-14	-28	-26	-28	-36	-26	-9	32	-20	7	-8	-6	-10.8
Marmarth	Maximum	22	....	....	....	....	....	....	....	....	....	32	32	35	40	40	33	16	42	38	15	6	-7	5	-5	32	40	17	45	42	26	40	ⁱ26.2
	Minimum	2	....	....	....	....	....	8	10	....	8	2	25	17	27	30	16	8	10	1	13	-10	12	-21	-27	-10	7	7	7	26	13	12	ᶠ4.6
Minot	Maximum	-4	8	18	29	30	22	11	26	37	29	37	35	10	8	1	5	1	2	-5	3	-8	13	-15	-15	3	-5	-5	31	35	8	23	10.6
	Minimum	-22	-24	-6	8	11	5	-4	-4	3	10	3	8	-1	-8	-9	-15	-24	-16	-22	17	-29	-26	-30	-42	-19	21	40	-22	1	-10	-6	-11.9
Mott	Maximum	30	28	28	31	29	27	26	25	20	22	25	27	30	34	36	28	12	15	8	-1	0	-8	-13	9	10	14	17	35	26	14	36	19.4
	Minimum	15	13	16	14	12	8	9	12	13	11	11	15	17	20	21	11	-2	-3	-11	-13	-14	-22	-27	-35	14	-15	2	4	5	-2	19	2.8
Napoleon	Maximum	8	16	30	33	27	16	23	32	28	27	34	24	28	20	12	5	4	8	-4	5	-5	-11	-13	13	18	18	24	38	16	36	43	17.8
	Minimum	-23	-25	5	11	22	4	10	-5	-2	9	-2	22	4	0	1	-11	-18	-12	-10	-18	-22	-20	-23	-38	-25	-25	-25	-14	-14	-5	-3	-7.3
New England §§	Maximum	32	28	34	36	24	21	26	33	23	34	34	36	44	40	20	12	44	20	3	0	8	-11	1	23	12	16	40	41	17	43	11	23.5
	Minimum	3	13	5	12	14	7	6	16	10	3	9	22	11	13	16	1	1	0	-14	-18	-16	23	-33	-29	3	-8	2	13	6	6	16	2.0
New Salem	Maximum	6	19	21	35	32	26	19	18	31	30	30	33	22	35	28	12	8	12	18	15	-3	-10	-10	-11	1	11	16	36	35	10	39	18.5
	Minimum	-14	-15	12	15	16	12	1	-2	18	15	4	16	14	8	0	-3	-13	-11	-3	14	-24	-19	-26	-33	-19	-12	-21	-5	8	-4	4	-3.1
Orange	Maximum	11	28	27	22	24	21	29	29	30	30	20	29	28	23	22	22	13	30	30	2	2	23	25	15	6	6	8	35	20	10	....	ᵃ20.0
	Minimum	-4	-6	9	10	13	13	19	16	20	12	3	20	19	13	19	3	-1	-3	-3	-12	-13	-22	-25	-31	21	-5	-8	8	20	3	....	ᵃ2.1
Park River	Maximum	8	-11	-4	23	28	22	....	....	28	27	24	32	17	0	-5	3	0	8	-6	4	-8	-2	-15	-13	0	2	-6	5	2	-6	8	ᵇ4.3
	Minimum	24	-20	-13	15	14	5	....	....	-4	12	10	6	-2	-8	10	-20	-23	-22	-24	-12	-20	-22	-30	-25	-24	-8	-22	-27	-22	-18	-6	ᵇ-12.9
Pembina §§	Maximum	-2	8	12	18	22	8	16	19	28	22	27	-4	0	2	3	-10	15	-10	-5	-12	12	20	-15	-5	-12	-15	10	10	15	10	28	3.9
	Minimum	-24	-16	-12	10	-8	-10	-18	-12	-10	-8	-4	-4	-12	-15	-12	-15	-25	-28	-35	-30	-25	32	-42	-34	-22	-30	25	-20	-12	-5	-10	-18.2
Steele	Maximum	5	10	12	20	24	32	25	20	34	24	22	24	27	4	2	3	-3	-4	-4	8	0	-5	-7	-10	10	-6	-3	25	35	30	25	11.1
	Minimum	-20	15	-8	0	10	8	0	12	10	10	7	5	0	8	-8	-10	-25	-18	-20	-20	-20	-26	-28	-38	-33	26	-20	-5	-2	-9	-2	-9.5
Towner	Maximum	0	3	9	20	20	12	13	17	27	28	23	23	17	6	6	6	2	-3	-3	-6	-5	-12	-20	-17	-4	0	-14	25	16	9	23	7.3
	Minimum	-21	-32	-10	9	10	1	-1	5	10	2	-7	15	-2	-2	0	-17	-24	-18	-17	-17	-29	-30	-36	-39	-18	-14	-37	-25	2	-5	-5	-11.7
Valley City	Maximum	-3	6	1	20	30	25	22	13	27	27	20	31	15	3	7	8	2	-1	-3	-7	-11	-14	-14	-16	1	7	-7	20	22	7	25	8.1
	Minimum	-25	29	-7	12	18	3	9	-6	0	9	0	15	2	8	-2	-6	-19	-18	-13	-27	-17	-23	-32	-23	-24	-7	-28	-15	7	-9	-10	-9.6
Wahpeton	Maximum	-2	-3	5	20	32	20	18	13	27	27	20	35	10	10	10	5	5	5	0	0	0	-5	-3	10	22	16	-6	21	30	15	17	11.4
	Minimum	-19	-23	-6	6	4	7	13	14	2	13	8	10	2	-5	3	4	-12	-12	-13	-5	-22	-19	-14	-23	-24	5	-18	-20	12	0	3	5.1
Westhope	Maximum	3	-1	8	28	28	26	25	21	29	30	20	24	17	8	19	6	1	-2	-2	-5	-5	-8	-8	-18	-6	-8	-11	14	8	12	20	8.6
	Minimum	33	-34	-3	7	5	-5	5	8	-5	8	-10	8	-8	5	-5	-12	-28	-15	-23	-20	-25	-35	-37	-42	-27	-38	-38	-28	-5	-5	5	-15.2
Williston	Maximum	7	26	24	31	26	22	14	23	34	22	32	34	20	22	23	19	-5	12	3	-4	9	-16	-12	9	11	2	8	37	26	10	36	14.9
	Minimum	-15	-1	8	4	14	9	2	9	13	11	0	13	12	6	6	-6	13	-7	8	-20	21	-22	-31	-37	9	21	-26	8	5	0	10	-3.2
Willow City	Maximum	15	-2	12	21	20	23	16	13	26	19	15	31	13	7	-2	3	3	0	-5	-6	-9	-22	-14	-22	4	0	10	13	13	1	26	5.2
	Minimum	-34	-36	-2	3	8	-3	-5	8	-11	6	-11	13	-8	-5	7	-12	27	-15	22	19	-29	-32	-36	-41	-29	-14	-40	-10	-1	-8	-8	-11.3
Zap	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ, 1 day missing. ᵇ, 2 days, etc.

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CLIMATOLOGICAL DATA

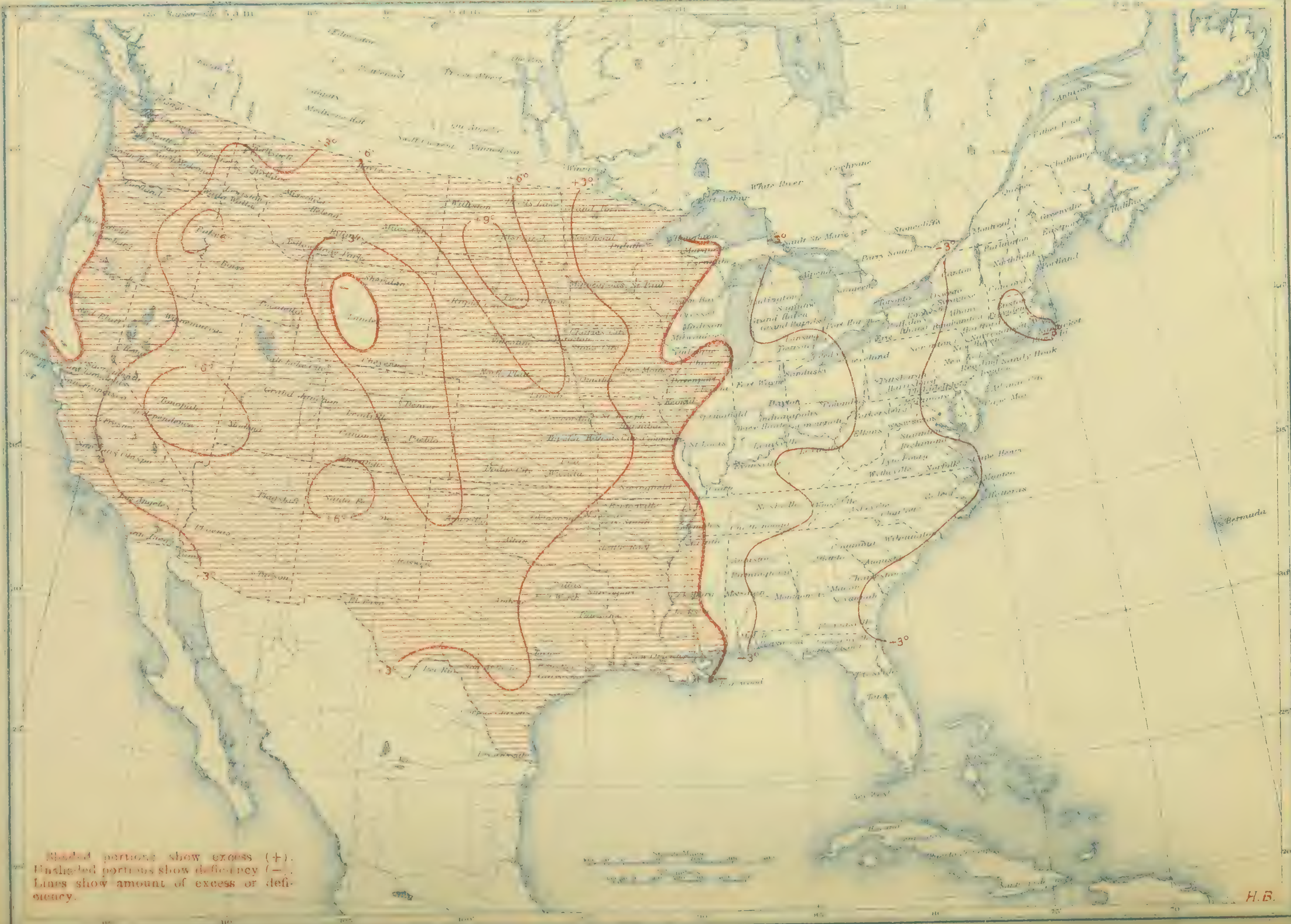
NORTH DAKOTA SECTION

FEBRUARY, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
APRIL 6, 1920.

Departure of the Mean Temperature from the Normal, February, 1920.



Shaded portions show excess (+). Unshaded portions show deficiency (−). Lines show amount of excess or deficiency.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXIX. Bismarck, N. D., February, 1920. No. 2.

GENERAL SUMMARY.

Favorable weather conditions prevailed during the month. The temperature was above normal during practically the entire month. A severe cold wave occurred on the 14th, but the recovery to normal temperature was rapid, and on the 16th the temperature was again above normal. The monthly means averaged about 8° above normal in the western half of the State, but the excess decreased to less than one degree at some extreme eastern stations. The precipitation, which was practically all in the form of snow, was generally light in amount, and the falls were well distributed throughout the month. The mild weather in the western portion of the State was favorable for range stock, but the snow interfered considerably with grazing, especially over northern sections.

TEMPERATURE.

The mean temperature for the State was 12.5°, or 4.6° above the normal, and 4.8° higher than the mean for February, 1919. The highest mean reported was 21.3° at Bowman, Bowman County; the lowest was −4.0° at Pembina, Pembina County. The highest temperature reported was 53° at Hettinger, Adams County, on the 8th; the lowest was −36° at Hannah, Cavalier County, and Willow City, Bottineau County, on the 14th. The greatest monthly range was 73° at Beach, Golden Valley County; the least was 55° at Ellendale and Fullerton, Dickey County. The greatest daily range was 60° at Bowbells, Burke County, on the 16th.

PRECIPITATION.

The average precipitation for the State was 0.30 inch, or 0.19 inch below the normal, and 0.36 inch less than the average for February, 1919. The greatest monthly amount reported was 1.70 inches at Pembina, Pembina County; the least was a trace at seven stations. The greatest amount recorded in any twenty-four consecutive hours was 0.60 inch at Pembina, Pembina County, on the 19th. The average number of days with 0.01 inch or more of precipitation was 3. Practically all the precipitation was in the form of snow, and the average fall was 3.2 inches.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Wind.					
								Velocity, miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of anemometer.	Total movement, miles.	Average.	Highest.*	Direction.	Date.†
Bismarck	30.22	30.86	3	29.63	12	57	6,891	9.9	38	nw.	1
Devils Lake	30.15	30.92	3	29.43	12	44	7,231	10.4	38	n.	12
Ellendale	30.17	30.88	3	29.48	12	56	9,903	14.2	48	n.	13
Grand Forks	30.12	30.94	3	29.37	16	90	.....	.....	54	nw.	13
Williston	30.16	30.74	2	29.53	12	48	6,953	9.5	30	nw.	27
Moorhead, Minn	30.21	30.94	3	29.50	17	57	6,193	8.9	32	n.	13
Av'ges and extremes	30.17	30.94	3	29.37	16	.....	....	10.6	54	nw.	13

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	179.0	299.8	60	− 2	84	68	75	38	15
Devils Lake	228.3	297.9	77	+20	92	84	89	65	14
Ellendale	152.0	301.0	55	....	85	....	79	60	16
Grand Forks	....	....	....	....	94	...	93	...	
Williston	158.9	297.9	53	+ 1	90	84	84	58	3
Moorhead, Minn	....	....	....	....	89	...	85	...	....
Averages and extremes	179.6	299.2	61	+ 6	89	79	84	38	15

* And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P'cdy days.	Cl'dy days.	
1892	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893	− 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903	3.1	−4.8	46	−49	0.28	−0.11	3	19	4	5	nw.
1904	− 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908	13.9	+6.0	62	−34	0.99	+0.50	5	12	7	10	nw.
1909	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910	3.4	−4.5	50	−30	0.50	+0.01	4	14	7	7	nw.
1911	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915	17.4	+9.5	50	−26	0.62	+0.13	3	9	5	14	nw.
1916	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917	− 0.7	−8.6	42	−48	0.66	+0.17	5	10	8	10	nw.
1918	16.8	+8.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919	7.7	−0.2	58	−40	0.66	+0.17	5	10	8	10	nw.
1920	12.5	+4.6	53	−36	0.30	−0.19	3	11	9	9	nw.

Climatological Data for February, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	10.7	+3.7	32	28	−27	15	51	0.22	−0.16	0.15	2.2	3	12	5	12	n.	E. T. Carley.
Amidon	Slope		4																	M. J. Connolly.
Arnegard	McKenzie		1	13.1^{h}		35^{h}	18	24^{h}	14	36^{h}	0.62		0.20	6.0	6	14	5	10		Chas. A. Benson.
Ashley	McIntosh	2,001	22	17.2^{c}	+9.4	39^{c}	7	−21^{c}	14	42^{c}	0.20	−0.25	0.10	2.0	2				nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	20.6		50	1	−23	15	35	0.33	−0.19	0.23	4.2	2	14	5	10	w.	H. F. Yunker.
Berthold Agency ‡‡	McLean	2,082	25	16.6	+7.2	46	7	−25	14	43	0.18	−0.40	0.10	1.6	2	13	8	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	45	17.2	+8.9	42	16	−21	14	37	0.20	−0.32	0.08	2.0	4	9	11	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	10.8	+9.0	31^{a}	7	−33	14	52^{a}	0.32	−0.06	0.11		9	9	9	11	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	9.8		37	7	32	14	60	0.05		0.03	0.5	2					G. H. Phelps.
Bowman	Bowman		5	21.3		49	7	−15	15	34	0.20		0.06	3.1	8	11	6	12	nw.	M. W. Madsen.
Cando	Towner	1,488	18	6.2^{a}	+3.4	30^{a}	9	32^{a}	14	46^{a}	0.16	−0.08	0.11	1.6	2				nw.	A. J. Swanson.
Carson	Grant	2,500	7	16.6		35	1†	−22	15	34	0.06		0.05	0.6	2	11	11	7	nw.	J. W. Evens.
Colgate	Steele	1,177	5	12.6		36	13	−24	14	51	0.20		0.20	2.0	1	15	9	5	nw.	James McCann.
Cooperstown	Griggs	1,428	9								T.	−0.36	T.	T.	0	23	5	2	w.	S. Friswold.
Crosby	Divide	1,954	12	13.3	+6.2	35	8†	−25	14	33	0.15	−0.09	0.10	1.5	2	5	15	9	nw.	John Jensen.
Devils Lake	Ramsey	1,478	15	8.0	+3.5	34	1	−30	14	31	0.12	−0.41	0.05	2.0	5	9	8	12	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	17.9	+6.1	46^{a}	8	−18	15	37^{a}	0.05	−0.39	0.05	0.5	1	10	6	13	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	16.8^{1}	+9.8	36^{1}	1	−24^{1}	14	37^{1}	T.	−0.56	T.	T.	0					F. H. Wolsey.
Dunn Center	Dunn	2,191	4	18.6		42	7	−20	14†	42	0.20		0.20	T.	1	12	8	9	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	8.7	+5.3	36	1	−29	14	40	0.20	−0.24	0.10	2.0	2	13	9	7	nw.	J. G. Lamont.
Eckman	Bottineau		14	8.8	+2.4	31	12	−33	14	51	0.20	−0.19	0.10		2	14	5	10	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	11.6	+0.7	36	7†	−20	14	47	0.02	−0.32	0.02	0.2	1	9	9	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	16.0		38	12	−17	14	39	0.23	−0.39	0.08	3.0	8	5	9	15	nw.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	7								0.21		0.10	2.5	3	11	12	6	nw.	N. W. Solenberger.
Epping	Williams	2,224	11								0.04	−0.32	0.02		3	3	17	9	nw.	M. E. Uggen.
Fessenden	Wells	1,610	7	11.1		38	1	−31	14	43	0.15		0.05	1.5	3	15	3	11	nw.	G. T. Seymour.
Forman	Sargent	1,249	27																	H. T. Denk.
Fryburg	Billings	2,790	1								0.40		0.20	4.0	2	10	13	6	nw	Verne King.
Fullerton	Dickey	1,439	21	16.4	+7.1	36	8†	−19	14	44	0.07	−0.73	0.04	0.7	2	7	7	15	nw.	F. O. Alin.
Garrison	McLean	1,901	24	13.0	+4.6	36	7	−28	14	37	0.34	−0.18	0.21	3.5	3	11	10	8	nw.	G. L. Robinson.
Grafton	Walsh	827	27	7.6	+2.7	33	8	−28	14†	43	0.77	+0.18	0.48	8.6	5	14	4	11	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	6.9	+0.4	32	5	30	15	34	0.25	−0.30	0.13	2.5	6	15	4	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	12.0	+3.6	35	1†	−28	14	40	0.40	+0.06	0.10	4.0	4	7	15	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	5.6	+3.6	31	12	−36	14	37	0.80	+0.24	0.30	8.0	5	15	8	6	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	7.8	+4.1	35	7	28	14	40	0.39	+0.11	0.24	3.9	2	10	14	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	20.4	+7.2	53	8	18	16	37	0.05	−0.26	0.05		1	23	4	2	nw.	C. J. Downey.
Hillsboro	Traill	901	13	9.4	+0.9	31	8†	−26	15	41	0.40	−0.36	0.20	4.0	4	8	12	9	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	12	12.2	+6.2	36	7†	−28	14†	36	0.61	−0.10	0.31	6.1	3	16	8	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	12.6	+4.7	38	1	−29	14	39	0.25	−0.34	0.10	2.5	3	10	3	16	nw.	S. Calvelage.
Lakota	Nelson	1,579	18																	C. R. Pettes.
Lamoine	Kidder	1,936	11	11.4	+3.7	32	1	−30	14	38	0.50	+0.16	0.20	5.0	3	20	1	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	5.1	+2.1	30	8	−35	14	42	0.30	−0.38	0.20	3.0	3	14	8	7	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	9.8	+4.6	35	5	−30	14	46	0.85	+0.39	0.20	8.5	6	3	13	13	n.	Reuben Gray.
Linton	Emmons	1,711	1	16.4		47	21	−22	15	38	0.30		0.20	3.0	2					J. G. Sailer.
Lisbon	Ransom	1,091	15	10.8	+1.2	37	12	22	14	43	T.	−0.79	T.	T.	0	7	8	14	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1								0.55		0.20	5.5	4				nw.	Edw. Tapley.
McHenry	Foster	1,509	9	5.2		34	1	−30	15†	39	1.50		0.40	14.2	7	19	4	6	nw.	P. E. Trudeau.
McKinney ‡‡	Renville	1,640	25	12.2	+7.1	35	18	−27	14	32	T.	−0.30	T.	T.	0	5	23	1	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	14.0		35	7†	−24	15	32	0.34		0.17		9	14	3	12	nw.	J. G. Carlson.
Maddock	Benson	1,604	4	9.8		36	1	−32	14	41	0.23		0.23		1	4	21	4	nw.	A. T. Felland.
Mandan	Morton	1,644	5	16.5		39	1†	−20	14	53	0.09		0.04		4	6	7	16	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	11.0	+4.2	32	1†	−31	14	37	0.47	+0.02	0.10	4.7	7	9	9	10	nw.	P. B. Anderson.
Marmarth	Slope		10	20.4	+7.3	50	7	−17	15	34	0.78	+0.45	0.40	7.9	11	9	6	14	nw.	S. P. Grane.
Mayville	Traill	975	23	8.1	+0.4	33	8	−28	14†	35	0.50	+0.10	0.25		5	17	3	9	nw.	W. C. Gould.
Melville	Foster	1,590	21	11.4^{b}	+4.8	32^{b}	7	−24^{b}	15	42^{b}	0.05	−0.26	0.05	0.5	1				nw.	J. P. Kidder.
Minot	Ward	1,557	23	10.8	+2.9	36	1	−31	14	37	0.25	−0.22	0.10	2.5	3	20	7	2	w.	W. I. Faris.
Minto	Walsh	820	26																	C. M. Evans.
Mott	Hettinger	2,424	12	17.7	+5.9	46	1	−18	14	33	0.74	+0.19	0.21	6.0	9	8	10	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	14.0	+7.2	43	1	−28	14	42	0.10	−0.30	0.10	1.0	1	13	7	9	nw.	C. J. Hoof.
New England	Hettinger	2,400	25	19.3	+7.2	47	6	16	14	46	0.10	−0.47	0.10	1.0	1	10	3	16	nw.	W. C. McKenzie.
New Salem	Morton	2,163	14	16.8	+6.2	45	7	−24	14	36	0.15	−0.23	0.10	1.5	4	10	10	9	nw.	J. Christiansen.
Orange ‡‡	Adams	2,586	10																	J. E. Lowries.
Park River	Walsh	998	15																	C. B. Wright.
Parshall	Mountrail		4								0.10		0.10	1.0	1					J. A. Johnson.
Pembina	Pembina	789	45	− 4.0	−5.4	28	28	−28	8	44	1.70	+0.94	0.60	17.0	5	8	9	12	nw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	10.8	+6.2	38	1	−32	15	43	0.20	−0.11	0.10	2.0	3	5	9	15	nw.	A. O'Neill.
Power	Richland	1,020	26								0.45	−0.11	0.15	4.5	6					J. A. Power.
Powers Lake	Burke	2,205	4								0.35		0.15	3.5	4	3	9	17	w.	C. Frank.
Selfridge	Sioux										T.	−0.64	T.	T.	0	11	8	10	nw.	H. F. Solenberger.
Steele	Kidder	1,857	22	13.2	+6.1	43	1	−26	14	41	0.26	−0.16	0.20	2.0	2	8	18	3	w.	H. S. Wood.
Taylor	Stark	2,493	3	18.0		44	7	−21	15	36	0.14		0.03		7	8	8	13	nw.	H. Leutz.
Towner	McHenry	1,482	17	9.8	+4.6	36	1	−32	14	43	0.35	−0.01	0.20	3.5	3	13	11	5	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	12.4		35	19	−29	14	36	0.33		0.26	2.5	2	11	6	12	w.	A. T. Anderson.
Valley City	Barnes	1,245	1	10.1	+0.5	33	19	−30	14	41	0.35	+0.02	0.20	3.5	4	12	9	8	nw.	C. F. Schroeder.
Wahpeton	Richland	962	25	12.2	+2.3	35	29	−26	15	40	0.20	−0.36	0.10	2.0	3	8	11	10	nw.	G. C. Morehart.
Walhalla	Pembina	966	12	11.2	+7.4	40	1†	−29	14	44	0.70	+0.19	0.40	7.0	3					Ivan Lee.
Washburn	McLean	1,734	20	16.0	+6.5	43	9	−27	14	38	0.16	−0.25	0.06	3.5	4	12	5	12	nw.	Adolph Guenther.
Westhope	Bottineau	1,508	13	13.6	+10.3	32	1†	−33	15	41	T.	−0.23	T.	T.	0	4	17	8	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	16.0	+8.1	40	7	−22	15	33	0.13	−0.36	0.07	1.3	3	10	11	8	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	6.4	+3.7	30	8†	−36	14	56	0.50	+0.05	0.10	5.0	5	8	16	5	nw.	M. A. Ostby.
Zap	Mercer	1,800	6			42	7				T.	−0.27	T.	T.	0	19	4	6	n.	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	10.7	+3.7	35	29	−24	15	39	0.20	−0.56	0.09	3.1	8	8	8	13	n.	U. S. Weather Bureau.
Averages				12.5	+4.6	53	8	−36	14	60	0.30	−0.19	0.60	3.2	3	11	9	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for February, 1920.

Stations.	Watersheds.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Amenia ‖‖	Red																			.05						.15			.02				0.22
Amidon	Lit. Missouri																																
Arnegard	Missouri												.20	.20				.05	.02				.05					.10					0.62
Ashley	Missouri																	T.	.10									.10					0.20
Beach	Lit. Missouri								T.				.22						.11			T.		T.	T.			T.	T.				0.33
Berthold Agency	Missouri												T.					.08	.10			T.			T.	T.							0.18
Bismarck ***	Missouri								T.			T.	.03	.06				.03	.08			T.	T.	T.	T.	T.		T.					0.20
Bottineau ‖‖	Mouse		.01			T.			.11	T.		.01	.01	.08				T.	.05	.03	T.			.01		T.			.01				0.32
Bowbells ‖‖	Mouse				T.													.02	.03											T.			0.05
Bowman	Grand								T.				*	.06				T.	.03	T.	.05	.01			.02	.01		.02	T.				0.20
Cando	Sheyenne								.05									.11															0.16
Carson	Heart																	.01	.05														0.06
Colgate	Sheyenne				.20																												0.20
Cooperstown	Sheyenne													T.									T.			T.			T.				T.
Crosby	Mouse																	.05	.10														0.15
Devils Lake ***	Sheyenne								.05		T.		.02	.03				T.	T.				T.	T.	T.	T.		.01	.01				0.12
Dickinson ‖‖	Heart																		.05										T.				0.05
Donnybrook	Mouse							T.				T.	T.					T.						T.					T.				T.
Dunn Center	Knife												T.		T.				.20									T.					0.20
Dunseith	Mouse								T.				T.	.10				T.	T.	.10													0.20
Eckman	Mouse												.10															.10					0.20
Edgeley	James																		.02														0.02
Ellendale***	James		T.						T.				T.	.01				T.	.08	T.	.04		.01	T.	.02	.01		.03	.03				0.23
Energy	Missouri				T.	T.			T.			T.	.01	T.				.02	T.	T.	T.		T.	T.	T.	.01		T.	T.				0.04
Epping	Missouri				T.								T.					.05	.10	T.								.06					0.21
Fessenden	James									T.		T.	T.	.05				T.	.05					T.				T.	.05				0.15
Forman	Sheyenne																																
Fryburg	Lit. Missouri												.20						.20	T.	T.		T.										0.40
Fullerton	James													T.				T.	T.			T.	T.	T.	.04			.03	T.				0.07
Garrison	Missouri								T.			T.	.09					T.	.21							.04		T.					0.34
Grafton	Red								.07					.48						.12			.05			.05							0.77
Grand Forks ***	Red								T.	T.			T.	.13				.03		.03			.03	T.	.02	T.		T.	.01				0.25
Granville	Mouse							.10			T.		.10						.10						.10								0.40
Hannah	Pembina												.30	.20				.10		.10				T.	T.				.10				0.80
Hansboro	Red												.15							.24													0.39
Hettinger	Grand																		.05														0.05
Hillsboro	Red												T.	.10				T.					.05		T.	.20			.05				0.40
Howard	Missouri				T.			T.					*	.30				T.	T.		.31			T.	T.								0.61
Jamestown	James																		.10									.10	.05				0.25
Lakota	Sheyenne																																
Lamoine	Missouri											.10								.20								.20					0.50
Langdon	Pembina								.20	.05													.05	T.									0.30
Larimore	Red								.10				.10	.20				.20	.15									.10					0.85
Linton	Missouri											.20																		.10			0.30
Lisbon	Sheyenne												T.					T.	T.		T.				T.	T.			T.				T.
McClusky	Missouri									.10		.10	.15															.20					0.55
McHenry	James	.20							.40	.20			.10	.20						T.			.20							.20			1.50
McKinney	Mouse												T.						T.					T.									T.
McLeod	Sheyenne													*	.17			.04				.01	.01		*	.08		*	.03				0.34
Maddock	Sheyenne								.23																								0.23
Mandan ‖‖	Missouri								.01				T.		T.			T.	.03	.04		.01			T.	T.							0.09
Manfred	Sheyenne								.05			T.	T.	.10				.05	T.				.02		.05		.10	.10					0.47
Marmarth	Lit. Missouri								.02					.20	.01				.09			.40			.01	.01			.04				0.78
Mayville	Red														.25		.03						.02			.15			.05				0.50
Melville	James								.05	T.																							0.05
Minot *	Mouse																	.10	.05					.10									0.25
Minto	Red																																
Mott	Cannon Ball			.11				.04	.02	.21	.03								.16	.11					.02			.04					0.74
Napoleon	Missouri																		.10														0.10
New England ‖‖	Cannon Ball																	.10															0.10
New Salem	Heart								.01				.02	.10					.02					T.		T.		T.					0.15
Orange	Cannon Ball																																
Park River	Red																																
Parshall	Missouri																		.10														0.10
Pembina ‖‖	Red		.20							.20					.40					.60			.30										1.70
Pettibone	James													.10					T.					T.		T.		.05	.05				0.20
Power	Missouri														.05	.10	T.	.05							T.	.05		.05	.15				0.45
Powers Lake	Sheyenne				T.					T.		T.			T.		T.	.10	T.	.15			.05	.05			T.						0.35
Selfridge	Missouri												T.					T.	T.		T.					T.							T.
Steele	Missouri											T.	T.	.06				T.	T.									.20					0.26
Taylor	Heart												.02	.01				.02	.02	.02	.02					.03							0.14
Towner	Mouse																				.20				.10			.05					0.35
Turtle Lake	Missouri					T.							T.	T.				.07	.26	T.					T.			T.	T.				0.33
Valley City	Sheyenne								T.					.20				.05					T.	T.		.05		.05	T.				0.35
Wahpeton	Red												.05	.05							T.		T.		T.	.10							0.20
Walhalla	Pembina												.40	.20											.10								0.70
Washburn	Missouri								.05					.01					.04	.06													0.16
Westhope	Mouse												T.						T.									T.					T.
Williston ***	Missouri												.02			T.		T.	.07	.04				T.	T.	T.		T.					0.13
Willow City	Mouse								.10			T.	T.					.10	.10				.10	T.	T.	T.		.10					0.50
Zap	Knife																	T.	T.									T.					T.
Moorhead, Minn ***	Red	T.					T.		.01		T.	T.	T.	.02				.04		.02			.01	T.	.02	.07		.01	T.				0.20

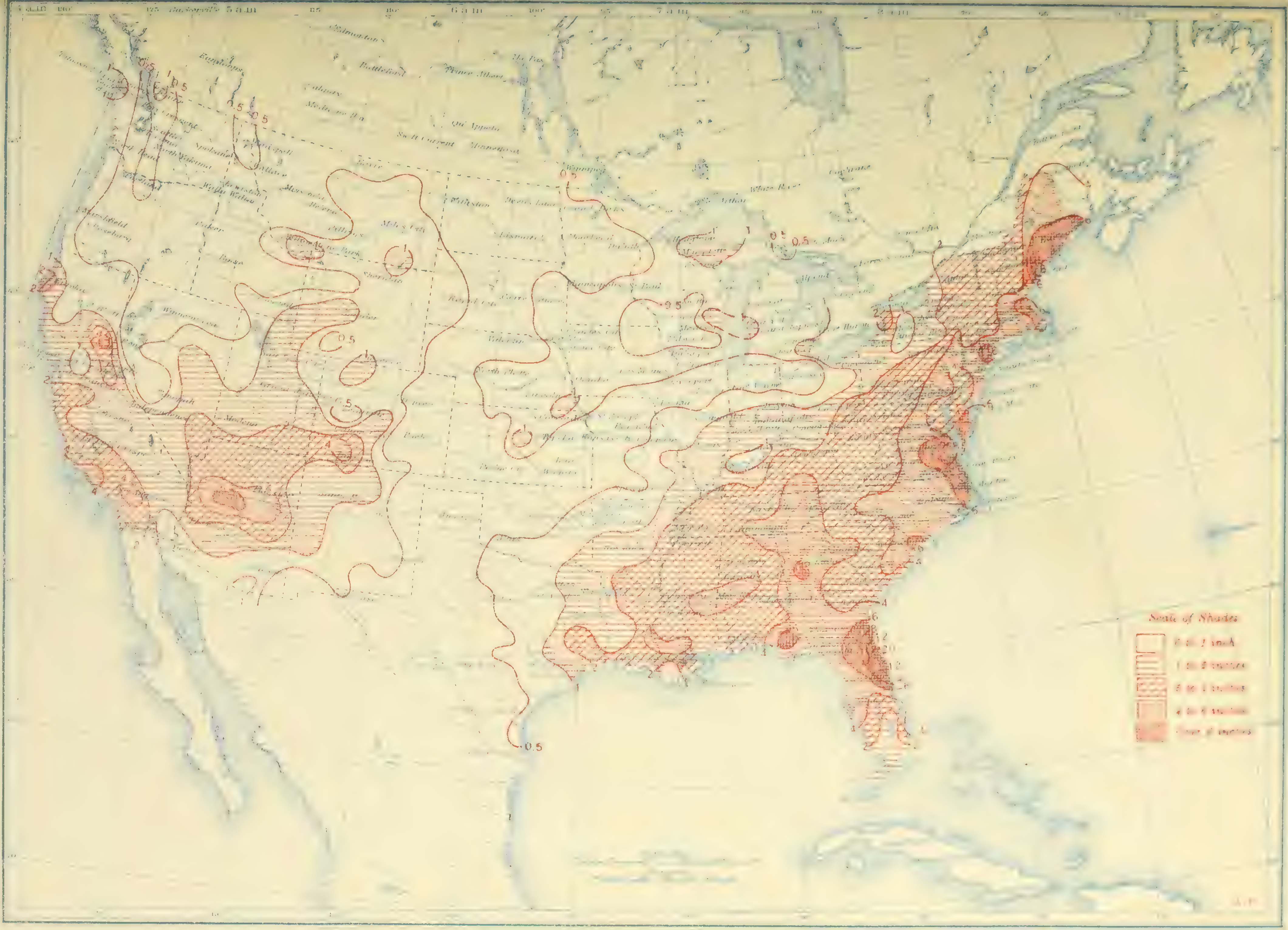
Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	30	24	23	27	24	28	30	27	24	20	25	29	17	19	24	28	20	20	31	28	30	24	24	18	15	19	22	32	30	....	....	24.6
	Minimum	3	-4	-14	21	20	5	13	8	2	10	-2	-6	-7	-25	-27	-17	6	-12	11	-4	-5	-4	8	5	-1	-17	14	-11	4	....	....	-3.2
Ashley	Maximum	35	28	19	26	25	36	39	36	....	33	26	38	32	-4	5	38	35	29	35	22	23	26	26	....	....	26	25	20	37	....	....	[c]27.5
	Minimum	12	5	-4	5	11	11	12	25	....	9	11	15	-6	-21	19	-4	18	21	20	8	6	5	6	....	....	13	5	9	6	....	....	[c]6.9
Beach	Maximum	50	30	30	42	42	40	47	37	37	37	34	32	30	12	12	35	36	38	37	32	19	20	22	22	22	30	23	20	31	....	....	31.0
	Minimum	24	9	5	11	13	25	22	20	16	20	10	23	-8	-22	-23	5	25	20	28	4	-2	11	5	12	9	6	12	4	2	....	....	10.2
Berthold Agency	Maximum	37	24	24	33	22	31	46	37	31	33	29	35	31	2	11	38	33	39	40	17	25	29	25	19	22	32	26	20	34	....	....	28.3
	Minimum	9	-7	8	10	7	-1	3	16	13	-1	18	15	-7	-25	-23	-4	25	23	12	-3	-8	11	12	9	9	-6	12	8	9	....	....	5.0
Bismarck	Maximum	41	17	22	29	24	27	40	35	31	33	26	38	15	-3	10	42	32	36	37	14	24	27	25	28	19	31	28	17	37	....	....	27.0
	Minimum	12	0	3	9	7	15	7	21	14	8	18	15	-13	-21	-17	5	19	23	13	3	2	12	8	15	5	0	13	7	11	....	....	7.5
Bottineau §§	Maximum	9	16	26	19	28	31	19	14	22	27	29	-7	-7	4	23	12	27	25	16	13	19	22	20	10	14	16	12	22	....	....	....	[a]17.5
	Minimum	3	-5	-13	-3	13	0	1	2	7	-3	-7	-7	-10	-33	-29	-24	1	4	9	-4	-13	-11	6	0	-6	-14	-3	7	2	....	....	4.1
Bowbells §§	Maximum	30	22	19	26	26	29	37	29	18	28	26	32	5	10	10	29	21	35	21	9	14	9	21	21	13	24	20	14	21	....	....	20.7
	Minimum	7	-10	-13	12	11	4	8	21	9	0	11	12	9	-32	-31	-31	9	12	10	-17	-16	-16	1	-2	3	-8	5	1	-1	....	....	-1.1
Carson	Maximum	35	18	17	35	27	30	35	30	30	30	22	29	28	-6	5	35	32	35	34	20	20	20	20	20	20	20	22	13	30	....	....	24.3
	Minimum	18	3	5	10	13	15	15	25	15	16	16	19	-6	-20	-22	2	25	24	20	3	0	15	5	15	7	-3	13	3	5	....	....	8.8
Crosby	Maximum	28	17	21	27	25	25	22	25	31	29	26	31	21	3	2	30	30	35	34	16	10	19	22	25	21	20	21	15	20	....	....	22.6
	Minimum	13	8	0	6	3	1	3	13	1	-1	10	18	12	-25	-24	0	25	24	15	6	-7	2	6	16	7	-2	14	2	7	....	....	4.0
Devils Lake	Maximum	34	18	8	25	25	24	29	32	19	17	11	30	7	-12	0	23	19	19	26	10	13	24	20	22	9	21	15	14	24	....	....	18.1
	Minimum	15	-9	-14	1	17	9	5	19	-5	-7	-5	-7	-22	-30	-29	0	2	1	5	-7	9	-2	3	6	10	10	3	4	6	....	....	2.0
Dickinson §§	Maximum	36	19	28	38	33	34	46	41	35	35	34	33	33	4	14	25	35	33	10	12	20	29	22	21	16	28	30	20	....	....	....	[a]27.8
	Minimum	12	5	9	11	12	15	15	19	16	18	17	17	-2	-17	-18	5	29	32	10	0	3	5	7	15	9	-9	4	2	4	....	....	8.0
Donnybrook	Maximum	36	20	29	25	33	30	38	34	28	32	29	34	27	-5	....	....	....	....	....	....	....	....	....	....	....	....	24	24	23	....	....	[l]26.7
	Minimum	15	-6	-4	-9	15	15	16	26	14	6	20	17	-10	-24	....	....	....	....	....	....	....	....	....	....	....	....	10	5	9	....	....	[l]6.8
Dunseith	Maximum	36	16	7	23	26	33	33	31	30	19	19	32	23	-18	-7	27	23	18	27	15	14	19	20	23	20	11	18	14	27	....	....	20.1
	Minimum	-3	-8	-14	-1	13	5	-3	17	5	-4	-6	7	-17	-29	-26	-12	3	-3	8	-4	-10	-11	12	2	2	-15	4	4	5	....	....	-2.7
Edgeley	Maximum	30	30	14	27	27	30	36	34	32	31	27	36	32	-5	5	35	33	27	36	28	24	26	22	25	21	24	26	24	35	....	....	19.7
	Minimum	-4	4	-7	1	10	13	11	22	16	4	5	7	-8	-20	-19	-14	-14	8	21	4	3	8	9	8	4	0	4	8	7	....	....	3.5
Ellendale	Maximum	30	24	14	27	29	24	35	36	31	33	29	38	21	-4	3	36	32	27	37	19	23	27	24	24	19	23	27	16	35	....	....	25.5
	Minimum	10	1	-4	13	19	15	8	21	12	6	7	13	-11	-17	-16	-3	15	9	18	7	7	6	9	9	3	3	5	9	10	....	....	6.4
Fessenden	Maximum	38	23	16	26	28	32	31	34	29	28	23	34	38	7	1	32	26	28	33	14	19	24	20	26	19	19	22	16	28	....	....	23.8
	Minimum	9	-1	-12	-3	7	3	2	18	9	-6	-7	12	-15	-31	-30	-3	4	5	11	-10	8	-3	5	5	2	-9	-1	1	1	....	....	-1.6
Forman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fullerton	Maximum	30	29	13	28	30	24	34	36	33	32	27	36	34	-4	4	35	33	29	36	32	20	26	23	22	24	23	26	16	34	....	....	26.4
	Minimum	11	6	-5	10	22	17	10	21	11	6	6	5	-10	-19	18	2	12	8	23	10	5	6	8	9	2	10	7	8	9	....	....	6.5
Garrison	Maximum	28	22	15	27	25	24	36	30	29	29	28	34	30	4	6	34	30	33	35	14	20	23	23	23	20	23	24	16	29	....	....	24.3
	Minimum	8	-10	2	6	9	1	3	15	9	4	14	15	-7	28	-26	-2	15	21	7	10	-12	-1	3	2	6	2	1	1	4	....	....	1.8
Grafton	Maximum	28	27	5	21	31	28	23	33	31	11	15	31	30	-5	-3	23	19	8	20	17	19	24	22	15	12	10	15	15	29	....	....	19.1
	Minimum	4	0	-25	-18	20	14	-3	12	7	-9	-4	0	-13	-28	-28	-12	2	-20	-1	-6	-11	10	12	5	-5	-21	3	-1	4	....	....	-3.9
Grand Forks	Maximum	29	15	10	24	32	25	24	33	29	12	11	29	9	8	-1	22	15	9	24	11	16	24	22	18	10	12	13	14	28	....	....	17.6
	Minimum	11	-10	-16	-10	22	20	6	19	-5	-9	1	-3	-21	-29	-30	-10	2	-15	7	-8	-9	8	6	6	-12	-21	0	0	6	....	....	-3.8
Granville	Maximum	85	20	20	15	20	27	30	55	30	27	28	33	28	-12	8	30	30	32	18	18	20	22	23	23	22	29	20	15	27	....	....	22.3
	Minimum	9	-6	3	10	0	3	10	20	10	0	8	16	-10	-28	-24	8	8	10	-10	-12	-5	0	8	7	2	-8	10	10	9	....	....	1.8
Hannah	Maximum	24	24	15	24	28	25	30	24	15	18	21	32	20	-17	-1	25	20	14	13	11	10	15	21	30	21	2	18	20	19	....	....	17.8
	Minimum	3	-17	-12	13	15	2	12	8	-10	-9	-10	11	-17	-36	-32	-11	0	-12	-9	-11	-17	-12	4	0	10	20	6	0	-4	....	....	-6.7
Hansboro	Maximum	35	16	-5	23	33	33	34	33	29	20	14	32	22	-14	5	27	23	16	23	7	20	24	19	22	18	15	20	15	32	....	....	20.4
	Minimum	0	-12	-18	8	12	0	4	15	4	-10	-8	0	-1	-28	25	-12	0	-15	7	-2	-16	10	10	10	-10	-18	0	0	5	....	....	-4.9
Hettinger	Maximum	42	45	30	39	38	48	43	53	43	43	46	36	36	30	11	17	25	42	40	38	16	22	16	17	14	18	23	17	33	....	....	31.7
	Minimum	17	15	9	11	10	11	12	16	25	20	20	19	26	-3	-15	-18	-10	24	26	8	8	14	8	9	3	10	-2	4	4	....	....	9.2
Howard	Maximum	25	14	23	28	25	25	36	34	22	23	20	30	24	-12	5	30	31	36	33	12	12	17	21	21	20	20	20	10	19	....	....	21.5
	Minimum	12	-20	9	10	9	10	11	16	10	10	0	12	-12	-28	-28	0	25	24	12	-5	-11	3	5	13	4	-2	7	-4	-2	....	....	3.0
Jamestown	Maximum	38	29	16	26	28	25	32	33	31	25	23	33	31	6	0	30	15	20	20	20	20	25	20	25	6	20	22	20	30	....	....	22.7
	Minimum	10	2	-5	2	17	15	8	21	16	0	1	2	8	-29	-22	-9	-10	5	17	10	12	2	10	5	5	-5	-10	5	5	....	....	2.5
Lakota	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Lamoine	Maximum	32	23	9	24	26	28	28	30	26	26	24	32	28	-10	2	29	27	26	32	13	15	22	20	21	18	18	23	19	24	....	....	21.8
	Minimum	13	-5	6	0	7	8	18	17	8	0	4	14	-10	-20	28	-8	9	16	6	-5	-7	-4	5	7	4	10	1	1	2	....	....	0.9
Langdon	Maximum	28	5	10	22	24	23	28	30	20	15	10	15	18	5	5	24	15	16	17	16	15	22	20	21	20	18	17	12	20	....	....	17.8
	Minimum	1	-11	-21	-10	-10	3	-1	20	3	12	-10	0	10	-35	34	-15	0	-15	-15	26	-12	-10	10	-2	-12	-19	11	7	-1	....	....	-7.6
Larimore	Maximum	28	26	17	28	35	25	32	32	30	20	15	32	28	-7	0	25	16	21	27	17	19	25	23	21	18	19	16	18	30	....	....	21.9
	Minimum	11	-4	-17	18	18	10	5	19	5	-8	-4	-2	-18	-30	-28	-10	2	-17	4	-4	9	-9	10	1	-3	-19	3	3	7	....	....	-2.3
Lisbon	Maximum	29	35	30	25	27	35	30	35	28	28	27	37	4	-3	6	15	29	31	35	31	31	24	24	22	20	20	25	18	34	....	....	25.3
	Minimum	6	3	-8	7	15	22	5	19	13	7	8	-6	-12	-22	21	-18	0	15	26	8	6	12	11	8	3	-10	6	8	8	....	....	3.6
McHenry	Maximum	34	5	9	22	11	14	24	32	10	19	10	31	3	-18	-5	-12	3	32	20	16	20	22	10	20	15	20	20	14	23	....	....	14.4
	Minimum	-5	-5	-11	-5	0	5	-7	-7	7	-9	-5	-3	-12	-30	-30	22	15	-4	15	-8	-7	-3	2	0	-3	-16	0	0	3	....	....	-4.0
McKinney	Maximum	28	25	16	25	33	22	34	34	26	28	28	32	22	-10	4	29	28	35	34	15	15	20	25	21	21	20	21	15	23	....	....	22.9
	Minimum	2	-17	-10	5	16	-6	6	20	12	-2	0	17	-10	27	25	0	11	15	12	14	-10	-10	5	5	15	5	7	5	9	....	....	1.4
Maddock	Maximum	36	26	10	26	26	25	31	31	29	19	20	30	31	0	-2	26	26	24	32	14	10	24	20	21	20	20	19	16	25	....	....	21.9
	Minimum	13	13	-14	0	9	3	5	20	10	8	-8	10	-10	-32	31	-3	5	4	0	-5	10	7	6	3	10	-8	-3	2	4	....	....	-2.3
Marmarth	Maximum	38	25	32	40	40	37	50	34	34	36	33	32	24	10	16	32	34	38	42	30	20	17	20	25	17	25	18	13	25	....	....	28.9
	Minimum	23	12	17	12	20	29	25	24	20	21	17	24	-7	-12	17	8	26	21	30	10	10	7	3	12	2	-9	13	2	2	....	....	11.9
Minot	Maximum	36	15	20	30	30	30	38	33	25	30	30	33	17	-10	4	32	31	35	35	14	18	23	23	24	20	22	24	15	22	....	....	24.1
	Minimum	5	11	8	1	3	-1	2	10	8	-4	8	10	-17	-31	-29	-1	7	10	5	13	19	1	0	1	0	-13	-1	2	6	....	....	-2.4
Mott	Maximum	46	34	30	23	28	32	36	31	34	33	17	12	8	10	18	26	32	37	38	28	26	20	23	24	20	27	23	21	26	....	....	26.3
	Minimum	13	4	0	4	7	21	20	22	19	11	5	0	-4	-18	-15	4	22	30	27	18	14	12	11	4	6	4	12	14	16	....	....	9.1
Napoleon	Maximum	43	32	14	27	25	21	33	34	27	28	26	36	30	2	3	36	32	30	36	16	22	25	20	24	22	21	26	14	35	....	....	25.8
	Minimum	18	-3	-9	2	9	9	4	12	10	2	8	9	-11	-28	27	-6	15	16	16	-2	-4	1	2	9	0	-5	8	0	5	....	....	2.1
New England §§	Maximum	28	29	38	27	37	37	35	35	36	34	34	21	6	19	36	35	39	39	20	23	20	20	23	15	27	22	22	20	39	....	....	28.8
	Minimum	10	13	11	11	13	19	20	20	22	18	18	6	-14	-16	-10	20	26	31	7	6	12	8	11	10	5	-1	5	6	7	....	....	9.8
New Salem	Maximum	39	20	27	29	25	30	45	36	30	33	32	35	24	-3	9	34	32	38	36	16	25	21	27	26	21	27	26	21	32	....	....	27.3
	Minimum	22	-5	5	5	15	5	10	21	12	12	12	17	-12	-24	-22	18	16	20	13	0	3	12	8	9	6	-6	10	6	3	....	....	6.4
Orange	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Park River	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pembina §§	Maximum	4	8	7	12	4	-2	-15	-8	4	-8	12	4	-5	8	25	-4	-4	22	10	18	22	29	21	12	15	5	12	28	15	....	....	7.6
	Minimum	-4	18	20	-18	-15	-22	-24	-28	-20	-18	26	-15	-18	-24	-20	-10	-15	-12	8	-18	-15	-12	-5	-8	10	-12	-18	-12	-5	....	....	-15.5
Steele	Maximum	43	36	20	27	27	20	33	35	33	31	37	37	5	7	-4	35	40	35	34	31	26	31	26	27	21	27	24	24	32	....	....	27.2
	Minimum	0	-5	-10	8	2	8	2	10	12	4	5	5	-7	-26	-18	-5	3	15	24	-5	5	6	6	2	-5	5	0	-5	-3	....	....	-0.8
Towner	Maximum	36	24	8	26	27	25	31	30	30	22	25	28	28	3	0	28	26	27	33	14	9	22	23	22	20	20	18	13	25	....	....	22.2
	Minimum	11	12	-15	0	16	0	-2	16	9	-7	-2	7	-12	-32	-31	-15	8	9	14	-12	-14	10	-6	3	3	-17	3	5	5	....	....	-2.7
Valley City	Maximum	30	23	9	23	26	27	29	31	25	28	10	32	27	-10	-5	27	25	14	33	22	16	24	21	23	21	19	17	12	29	....	....	20.9
	Minimum	15	3	-9	3	21	18	8	25	6	6	-3	0	-14	-30	-29	-10	5	-3	10	-3	-3	-3	9	0	-3	-14	-3	0	1	....	....	-0.9
Wahpeton	Maximum	30	10	15	25	32	28	32	33	30	20	10	29	6	6	5	30	16	17	32	15	19	32	22	22	10	17	27	14	35	....	....	——
	Minimum	16	8	-8	12	22	22	18	25	16	-4	0	-3	5	22	-26	-10	10	-5	10	8	3	-1	11	3	-3	-15	1	3	4	....	....	——
Westhope	Maximum	32	28	26	30	32	24	22	30	32	30	30	32	18	8	5	8	28	26	30	28	28	30	30	28	28	24	25	8	12	....	....	24.6
	Minimum	12	12	10	8	6	10	0	14	16	14	16	18	-15	-33	-33	-32	0	6	8	8	8	20	-5	-10	-5	5	5	5	4	....	....	2.5
Williston	Maximum	20	15	27	31	28	29	40	31	27	33	26	32	14	-3	9	32	33	39	34	10	20	22	21	24	20	25	22	15	25	....	....	24.6
	Minimum	7	-6	15	17	13	10	10	16	13	15	12	16	-19	20	-22	11	28	25	10	1	-4	10	12	17	7	6	4	4	6	....	....	7.4
Willow City	Maximum	27	3	7	27	22	21	26	30	15	15	25	30	20	-13	-2	24	16	24	28	10	6	20	22	20	12	22	26	12	24	....	....	17.9
	Minimum	2	-20	-18	-3	10	-1	6	9	8	10	-10	20	-10	-36	-32	7	7	4	11	-12	-18	-16	6	0	5	-12	-2	2	-1	....	....	-5.1
Zap	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.

Precipitation, Inches, February,



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CLIMATOLOGICAL DATA

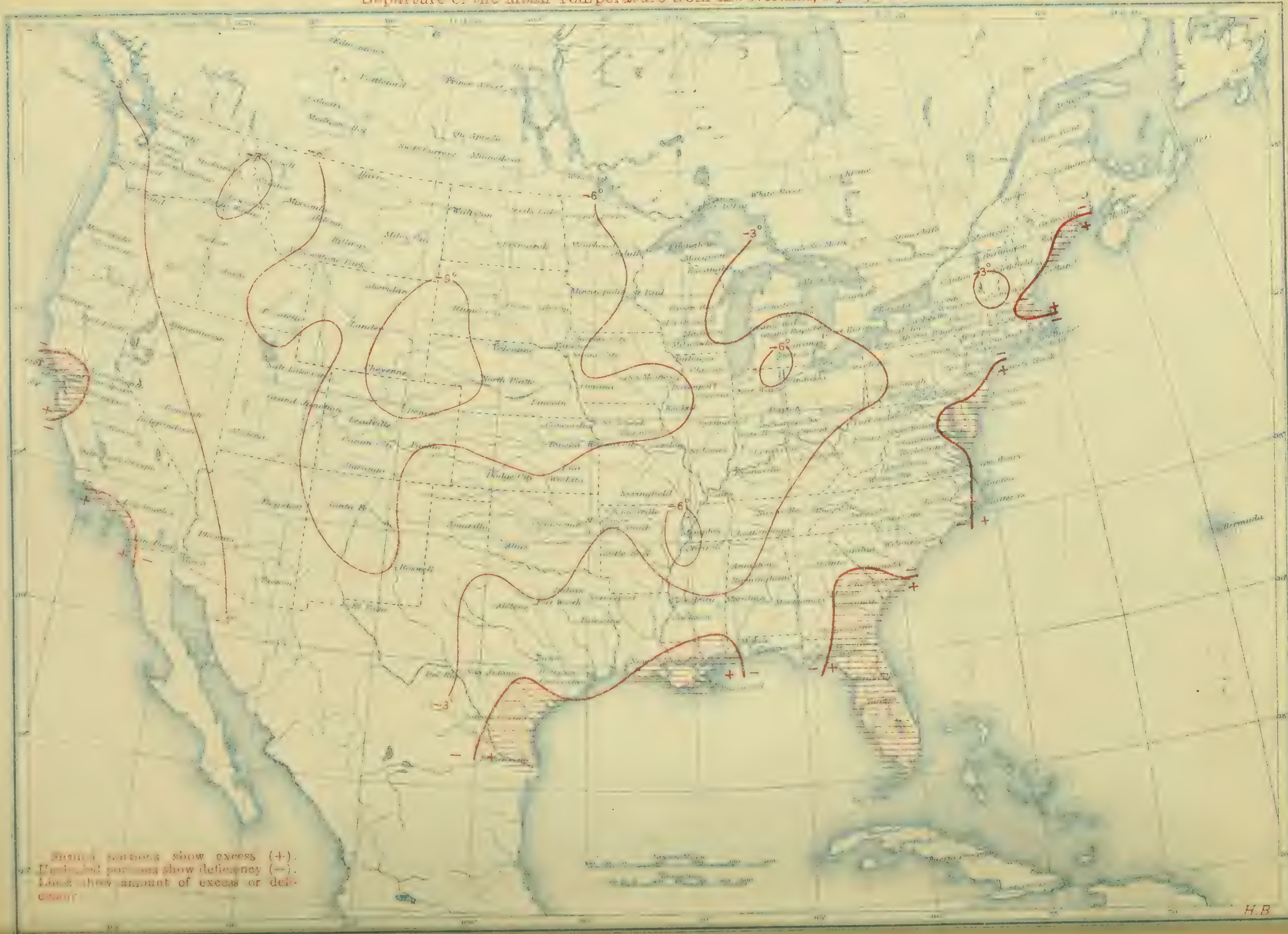
NORTH DAKOTA SECTION

APRIL, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JUNE 16, 1920.

Departure of the Mean Temperature from the Normal, April, 1920.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXIX. Bismarck, N. D., April, 1920. No. 4.

GENERAL SUMMARY.

The month opened with a cold wave, and the temperature dropped to zero or below at most stations, from the 2d to the 6th, inclusive, establishing new low records for April at many stations. After the first week there was considerable moderation, but the temperature remained below normal throughout the month. The day temperatures were uniformly low, as shown by the fact that the highest temperature reported was only 63°. The monthly mean of 32.1° is practically equal to the lowest recorded April mean of 31.9° in April, 1907. The precipitation during the first nineteen days of the month was scanty, only light scattered amounts falling during this period. From the 20th to the 25th, precipitation was general over the State, and the bulk of the precipitation of the month occurred during this period. Frozen and wet fields resulted in much delay to farm work, and the seeding of spring wheat was seriously delayed, resulting in a decreased acreage. Pastures were slow in starting, and livestock suffered from lack of forage.

TEMPERATURE.

The mean temperature for the State was 32.1°, or 9.6° below the normal, and 10.2° lower than the mean for April, 1919. The highest mean reported was 36.8° at Steele, Kidder County; the lowest was 26.5° at Bowbells, Burke County. The highest temperature reported was 63° at Beach, Golden Valley County, on the 13th, and at McKinney, Renville County, on the 28th; the lowest was −11° at Bowbells, Burke County, on the 3d and 5th, at Grafton, Walsh County, on the 3d, at Howard, Williams County, on the 5th, and at Westhope, Bottineau County, on the 4th. The greatest daily range was 46° at Hettinger, Adams County, on the 6th. The greatest monthly range was 73° at McKinney, Renville County; the least was 49° at Crosby, Divide County.

PRECIPITATION.

The average precipitation for the State was 0.83 inch, or 0.55 inch below the normal, and 0.67 inch less than the average for April, 1919. The greatest monthly amount reported was 2.39 inches at Hettinger, Adams County; the least was 0.10 inch at Pembina, Pembina County. The greatest amount recorded in any twenty-four consecutive hours was 0.90 inch at Bowman, Bowman County, on the 16th. The average snowfall was 2.4 inches. The average number of days with 0.01 inch or more of precipitation was 5. The distribution of precipitation over the State was fairly uniform, but the larger amounts were recorded in the extreme western and the extreme southern portions.

—E. G. L.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Elevation of Anemometer.	Winds.				
	Average.	Highest.	Date.	Lowest.	Date.		Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.02	30.51	18	29.44	21	57	7,585	10.5	31	nw.	6
Devils Lake	29.99	30.45	18	29.47	21	44	8,502	11.8	38	n.	1
Ellendale	29.96	30.38	3	29.37	20	56	10,954	15.2	43	n.	22
Grand Forks	29.96	30.39	18	29.47	20	90		......	38	nw.	2
Williston	29.99	30.54	18	29.45	20	48	7,258	10.1	38	se.	13
Moorhead, Minn	29.95	30.38	18	29.46	20	57	6,450	9.0	35	nw.	2
Av'ges and extremes	29.98	30.54	18	29.37	20	.....	....	11.3	43	n.	22

* For any five minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	256.3	408.5	63	+ 4	79	47	46	20	12
Devils Lake	319.7	410.5	78	+20	83	58	63	26	14
Ellendale	237.1	407.2	58	......	85	.....	52	28	7
Grand Forks	......	......	......	......	88	.....	76	.....	....
Williston	254.8	410.5	63	+ 4	81	58	58	31	26
Moorhead, Minn	......	......	......	...	87	* ...	64	.....	....
Averages and extremes	267.0	409.2	66	+ 9	84	54	60	20	12

* And other dates.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893...	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894...	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895...	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896...	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897...	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898...	41.9	+0.2	87	4	1.38	0.00	5	14	9	7	nw.
1899...	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900...	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901...	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902...	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903...	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904...	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905...	40.2	1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906...	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907...	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908...	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909...	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910...	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911...	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912...	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913...	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914...	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915...	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916...	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918...	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919...	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920...	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.

Climatological Data for April, 1920.

				Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.					
Stations.	Counties.	Elevation, feet.	Length of record, years.	Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	Observers.
Amenia	Cass	954	23	33.8^{d}	−8.5	61^{d}	17	3	4	38^{d}	0.44	+1.55	0.18	1.0	3	17	7	6	n.	E. T. Carley.
Amidon	Slope		4																	M. J. Connolly.
Arnegard	McKenzie		1	32.2		57	30	−4	5	30	0.95		0.26	2.0	7	10	9	11	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	32.5	−10.0	57	30	0	4	32	0.94	−1.08	0.40	8.0	3	14	6	10	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	32.8	−9.7	63	13	1	3†	40	1.64	+0.42	0.45		12	7	7	16	nw.	L. H. Claggett.
Berthold Agency‡‡	McLean	2,082	25	33.8	−9.9	61	28†	−1	5	40	0.53	−0.59	0.12	3.7	6	19	3	8	e.	C. L. Hall.
Bismarck	Burleigh	1,674	45	34.6	−8.0	59	30	4	4	31	0.45	−1.43	0.30	0.2	6	8	12	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	30.0	−9.4	57	19	−6	4	35	0.78	−0.11	0.28		6	15	5	10	nw.	H. F. Steinmeier.
Bowbells	Burke	1,958	7	26.5		52	28	−11	3†	38	1.54		0.69		6	15	0	15		G. H. Phelps.
Bowman	Bowman		5	35.1^{f}		60^{h}	8†	5^{k}	4†	33^{j}	1.80		0.90	T.	4	0	20	10	nw.	C. V. Hook.
Cando	Towner	1,488	18	31.9^{b}	−8.7	55^{l}	23†	1^{c}	5	42^{l}	0.54	−0.37	0.27	5.4	3				nw.	A. J. Swanson.
Carson	Grant	2,500	7	28.9		50	30	0	4	24	0.62		0.20	4.2	6	7	12	11	nw.	J. W. Evens.
Colgate	Steele	1,177	5	32.3		58	17†	−3	3	34	0.80		0.60	2.0	2	18	12	0	nw.	James McCann.
Cooperstown	Griggs	1,428	9								0.85	−0.15	0.75	4.0	2	19	9	2	nw.	S. Friswold.
Crosby	Divide	1,954	12	31.4	−9.2	51	28	2	1†	24	0.99	−0.03	0.28	2.0	6	13	4	13	e.	John Jensen.
Devils Lake	Ramsey	1,478	15	31.2	−7.0	55	28	2	2	29	0.54	−1.49	0.32	1.0	4	14	9	7	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	32.8	−10.1	56	13†	1	5	34	0.89	−0.32	0.21		9	8	15	7	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	31.3	−9.1	59	30	−2	4	36	0.57	−0.38	0.30	0.5	3	3	19	8	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	33.9^{b}		58	28	4^{e}	5	27^{e}	1.22		0.40	6.0	7	11	6	13	se.	W. H. Moede.
Dunseith	Rolette	1,682	23	28.8	−11.6	54	19†	−6	4	34	0.82	+0.02	0.42	T.	4	18	7	5	ne.	J. G. Lamont.
Eckman	Bottineau		14	29.4	−12.2	56	19†	−9	4	32	0.77	−0.26	0.34	2.0	4	16	7	7	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	33.8	−9.4	58	17†	0	4	36	1.10	−0.81	0.78		4	13	10	7	ne.	O. A. Thompson.
Ellendale	Dickey	1,449	21	33.8		57	30	4	29	29	1.48	−0.52	0.76	3.5	8	7	8	15	ne.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	7								0.22		0.15		5	1	24	5	nw.	N. W. Solenberger.
Epping	Williams	2,224	11								0.60	0.59	0.40	T.	4	12	6	12	ne.	M. E. Uggen.
Fessenden	Wells	1,610	7	31.2		58	24†	0	4	34	0.65		0.43	2.0	4	16	9	5	nw.	G. T. Seymour.
Forman	Sargent	1,249	27																	H. T. Denk.
Fryburg	Billings	2,790	1								0.74		0.15	2.5	8	12	10	8	ne.	Verne King.
Fullerton	Dickey	1,439	21	31.0	−8.8	57	17†	2	4	32	1.46	−0.51	0.55	0.5	4	11	12	7	nw.	F. O. Alin.
Garrison	McLean	1,901	24	32.6	−10.0	59	30	2	3†	33	1.07	−0.11	0.35	3.5	6	15	9	6	nw.	G. L. Robinson.
Grafton	Walsh	827	27	33.0	−7.3	60	24	−11	3	31	0.38	−1.11	0.35	1.4	2	20	4	6	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	32.4	−9.6	57	17†	−9	2	31	0.60	1.37	0.33	1.2	4	21	3	6	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	31.7	−10.8	60	28	0	2†	35	0.48	−0.51	0.31	4.0	4	7	12	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	30.2	−8.2	57	19	−5	3†	33	0.36	−0.96	0.15	1.5	4	22	3	5	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	28.7^{f}	−11.2	57^{h}	19	−5^{i}	3†	39^{i}	0.54	−0.80	0.27		3				nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	34.0	−10.8	59	14†	5	4	46	2.39	+1.66	0.73	T.	10	12	5	13	se.	U. J. Downey.
Hillsboro	Traill	901	13	32.7	−10.9	58	17	4	2	32	0.67	−1.44	0.53	T.	3	15	10	5	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	12	29.0	−10.8	55	19†	−11	5	31	1.22	−0.06	0.46	6.8	6	14	7	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	34.6	−7.9	59	13	2	4	39	0.80	−0.96	0.29	T.	4	18	3	9	nw.	S. Calvlage.
Lakota	Nelson	1,579	18																	C. R. Pettes.
Lamoine	Kidder	1,936	11	31.6	−11.0	56	24†	−4	4	34	0.98	+0.08	0.63	1.0	3	12	12	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	28.2	−9.9	56	24	9	2	31	0.42	−0.95	0.32	T.	3	20	4	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	33.2	−7.2	57	18†	1	2	35	0.98	−0.57	0.40		4	17	6	7	n.	Reuben Gray.
Linton	Emmons	1,711	1	32.0		60	30	4	3	27	1.26		0.60	4.0	5					J. G. Sailer.
Lisbon	Ransom	1,091	15	34.2	−8.5	60	30	0	4	37	0.87	−1.13	0.42	0.2	5	20	3	7	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1								0.43		0.20	2.0	4	13	11	6	nw.	Ela Tapley.
McHenry	Foster	1,509	9	32.4		58	28	1	2†	33	1.56		0.78	6.0	4	15	10	5	nw.	P. E. Trudeau.
McKinney ‡‡	Renville	1,640	25	29.8	−11.2	63	28	−10	4	30	0.35	−0.48		0	3	10	11	9	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	34.3		60	17	4	2†	38	0.77		0.35	T.	5	21	3	6	ne.	J. G. Carlson.
Maddock	Benson	1,604	4	32.6		56	21†	1	4	32	0.55		0.45		2	8	13	9	nw.	A. T. Felland.
Mandan	Morton	1,644	5	34.9		60	14†	0	4	42	0.58		0.30		7	8	9	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	32.2	−9.6	58	28	0	3†	33	0.72	−0.54	0.33	1.5	5	13	10	7	nw.	P. B. Anderson.
Marmarth	Slope		10	32.8	−10.0	60	13	5	5	40	1.44	+0.34	0.40	5.9	14	3	5	22	ne.	S. P. Grane.
Mayville	Traill	975	23	31.8	−11.4	59	24	4	2	33	0.25	−1.55	0.20		2	18	3	9	n.	W. C. Gould.
Melville	Foster	1,590	21	31.8^{c}	−8.3	58^{c}	17	2^{c}	4	30^{c}	0.50	−0.57	0.30	2.0	2				nw.	J. P. Kidder.
Minot	Ward	1,557	23	29.3	−12.4	56	19†	−3	3†	39	0.77	−0.53	0.53		5	11	12	4	ne.	W. I. Faris.
Minto	Walsh	820	26																	C. M. Evans.
Mott	Hettinger	2,424	12	31.2	−11.4	56	28	3	4	34	2.06	+0.64	0.46	2.0	9	8	8	14	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	32.4	−9.1	60	30	−3	4	31	0.69	−0.97	0.32	6.5	5	12	3	15	e.	C. J. Hoof.
New England	Hettinger	2,400	25	33.1	−10.0	56	13†	5	3	34	1.32	+0.37	0.40	3.0	7	8	3	19	se.	W. C. McKenzie.
New Salem	Morton	2,163	14	32.1	−10.4	58	28	0	4	32	0.35	−0.83	0.12	3.0	5	13	9	8	ne.	J. Christiansen.
Orange ‡‡	Adams	2,586	10																	J. E. Lowries.
Park River	Walsh	998	15																	C. B. Wright.
Parshall	Mountrail		4																	J. A. Johnson.
Pembina	Pembina	789	45								0.10	−1.46	0.10	0	1	18	6	6	nw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	32.2	−9.7	58	29†	−3	4	36	0.64	−0.84	0.30	T.	3	1	21	8	nw.	A. O'Neill.
Power	Richland	1,020	26								0.81	−1.00	0.59	1.0	2					J. A. Power.
Powers Lake	Burke	2,205	4								0.70		[illegible]	0	3	3	16	11	ne.	C. Frank.
Selfridge	Sioux										1.77	+0.10	0.40	4.0	7	12	10	8	ne.	H. F. Solenberger.
Steele	Kidder	1,857	22	36.8^{a}	−7.6	60	30	8^{i}	3†	27	0.59	−0.49	0.32	2.2	3	14	10	6	w.	H. S. Wood.
Taylor	Stark	2,493	3	32.0		56	28†	−1	5	30	1.09		0.39		10	8	7	15	ne.	H. Lentz.
Towner	McHenry	1,482	17	31.9	−9.5	58	24	1	3	35	0.30	−0.88	0.30	3.0	1	17	8	5	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	33.2		59	28	1	4	32	1.02		0.60	3.3	7	5	8	17	n.	A. T. Anderson.
Valley City	Barnes	1,245	1	32.3	−11.5	59	18	0	4	40	0.56	−1.16	0.45	0	2	21	5	4	nw.	C. F. Schroeder.
Wahpeton	Richland	962	25	35.3	−9.0	59	30	7	4	34	0.94	−1.27	0.53	0	3	11	11	8	n.	State School of Science.
Walhalla	Pembina	966	12	27.4	−12.5	53	23	−5	5	32	0.32	−0.98	0.23	0.5	5	20	4	6	n.	Ivan Lee.
Washburn	McLean	1,734	20																	Adolph Guenther.
Westhope	Bottineau	1,508	13	29.4	−10.3	60	28	11	4	37	0.47	−0.67	0.18	T.	3	17	6	7	nw	W. A. Meidlaugh.
Williston	Williams	1,875	40	32.5	−8.0	57	30	−3	5	28	0.86	−0.37	0.20	1.3	11	9	10	11	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	30.1	−10.1	57	19	−2	4	28	0.64	−0.30	0.37	T.	4	14	10	6	e.	M. A. Ostby.
Zap	Mercer	1,800	6								0.59	0.49	0.26		4					E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	34.5	−6.9	60	17	7	2	32	0.85	−1.48	0.51	2.5	8	17	5	8	n.	U. S. Weather Bureau.
Averages				32.1	−9.6	63	13†	11	3†	46	0.83	−0.55	0.90	2.1	5	13	8	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S D Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for April, 1920.

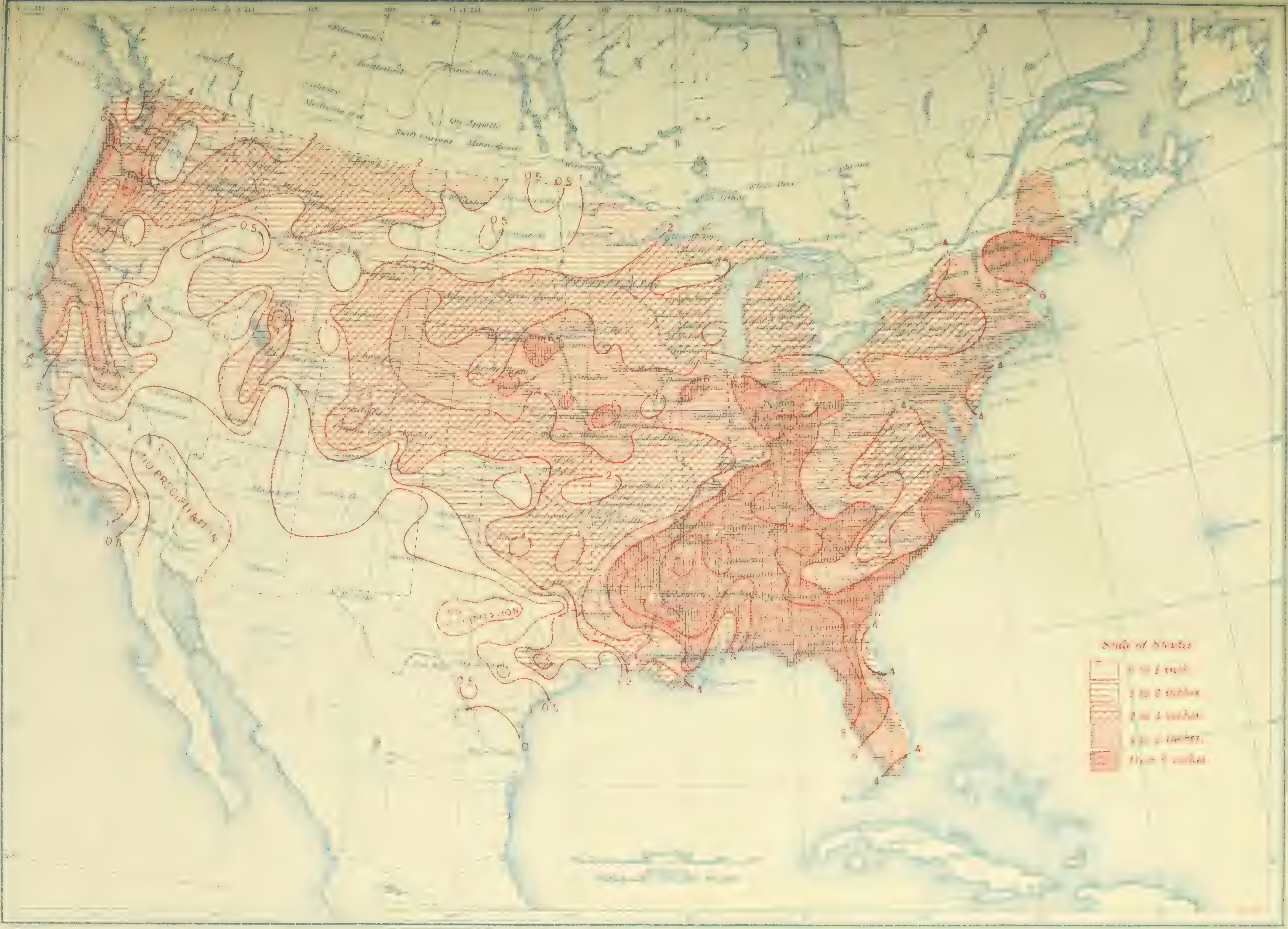
Stations.	Watersheds	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
ena	Red						T.														.10	T.	.18			.16							0.44
ton	Lit. Missouri																																
gard	Missouri				.10											.10					.14	.05	T.	.14	.14								[illegible]
ley	Missouri									.40											[illegible]		.18						T.				[illegible]
ch	Lit. Missouri				[illegible]					.07						.10	.45	[illegible]			.14	.11		.06	.08			.09	.09				[illegible]
thold Agency	Missouri					.01										.12					.10	.11		.09					.10				0.53
arck ***	Missouri	T.	T.			T.				.03					T.	T.				.12	.21	.04	.01	T.	.04				T.				[illegible]
[illegible]	Mouse																				.12	.14	[illegible]	.02	[illegible]	.28							[illegible]
[illegible]	Mouse	.69														.06						.40	.27	.05	.07								1.54
an	Grand			T.	T.			T.							.10		.90			.20									.60				1.80
[illegible]	Sheyenne																			.27	.18				.09								0.54
[illegible]	Heart					.02			[illegible]										[illegible]		.20		.10	[illegible]									0.62
gate	Sheyenne																			.20		.60											0.80
erstown	Sheyenne					T.														[illegible]					.10								0.85
sby	Mouse				T.											.20					.23	.13		T.	.28			T.	.12		.03		0.99
ls Lake ***	Sheyenne	T.					T.													T.	.32	.01	.09		.12								0.54
kinson	Heart		T.	T.		.10					.10					.21		.07			.11	.10	T.	T.	.12	.04				[illegible]			[illegible]
nybrook	Mouse														.07	T.					.20	.30	T.	T.	T.								0.57
Center	Knife		T.			.10					.05					.40					T.	.22	.05		.15					.25			1.22
seith	Mouse																				.21	.11			.42	.08							0.82
ean	Mouse	T.																			.34	.25	.03		.15								0.77
eley	James										.02										.78	.06	.24										1.10
ndale***	James	T.				T.				.10	.07									.47	.33	T.	.44	T.	.04	.01			.02				1.48
rgy	Missouri	T.					.01				T.					.02	T.				T.	.02	.15	T.	T.	.02				T.			0.22
ang	Missouri					.02	.10								.40						.08												0.60
ssenden	James	T.	T.				T.													T.	.43	.12	.04	.06	T.								0.65
rean	Sheyenne																																
burg	Lit. Missouri								.15								.12	T.			.10	.11	T.	.05	.10	T.	T.		.10	.01			0.74
rten	James					T.														.36	.55		.46		.09								1.46
rrison	Missouri					T.									.05					.35	.21	.26		.18	.02	T.							1.07
fton	Red							.03													.35												0.38
and Forks ***	Red	.02					T.														.33	.08			.17								0.60
anville	Mouse	T.																	.04		.31	.09	T.		.04								0.48
nnah	Pembina						T.														.15	.11			.04	.06							0.36
nsboro	Red																			.27	.18				.09								0.54
tinger	Grand				T.					.10					.13		.35	.73			.28	.24	.05	.05	.11				T.	.35			2.39
lsboro	Red	T.					T.														.52	.08			T.	.06							0.67
ward	Missouri	T.			.10									T.		.20	T.				.25	.04	T.	T.	.46	T.			T.	.17	T.		1.22
nestown||	James																				.21	.29	.05	.25									0.80
kota	Sheyenne																																
oine	Missouri					.10														T.	.63	T.			.25	T.							0.98
gdon	Pembina	T.																			.05	.32	.05										0.42
imore	Red																				.23	.40	.05			.30							0.98
ton	Missouri									.40									.60		.10		.11	.05									1.26
on	Sheyenne		.05								T.										.12	.22	.42	T.		.06							0.87
Clusky	Missouri					.05															.20	.10		T.	.08								0.43
Henry	James	T.	T.																		.78	.15	.08		.55								1.56
Kinney	Mouse																				*	*	.35		T.								0.35
Leod	Sheyenne	.01				T.														.33	.01		.35		.07								0.77
ddock	Sheyenne																				.45	.10											0.55
ndan||	Missouri					.01					.03				T.						.30	.16	T.	.01	.06	.01						T.	0.58
nfred	Sheyenne																				.33	.11	.09	.03	.15								0.71
rmarth	Lit. Missouri				.01	.03				.05					.01	.40	*	.20			*	.44		.05	.02	.01		T.	*	.22			1.44
yville	Red																					.20	.05										0.25
lville	James	T.	T.																		.20		.30		T.								0.50
not	Mouse																					.53	.03	.06	.10	.05							0.77
nto	Red																																
tt	Cannon Ball				.18					.25						.20		.32			.20	.16	T.	.21	.08				T.	.46			2.06
poleon	Missouri					.02					.05										.32	.05		.25									0.69
England	Cannon Ball									.30						.15		.40			.18	.04		.12						.13			1.32
w Salem	Heart									T.						.06				.10	.12	.03	.04										0.35
ange	Cannon Ball																																
rk River	Red																																
rshall	Missouri																																
mbina	Red																					.10	T.	T.									0.10
ttibone	James																					.30	.06			.28							0.64
wer	Missouri			T.		T.	T.													.59			T.	.28									0.87
wers Lake	Sheyenne				T.									T.									T.	.25	.35				.10				0.70
fridge	Missouri					T.				.12						.24		.22		.40	.40		.27	.12									1.77
[illegible]	Missouri																				.32		.07		.20								0.59
ylor	Heart				.02					.12						.39		.01			.10	.20	T.	.13	.01				.02	.09			1.09
ner	Mouse																				.30				T.								0.30
rtle Lake	Missouri	T.			T.	.08															.60	.18	.02	.03	.10	.01							1.02
lley City	Sheyenne	T.					T.													T.	.45	T.		.11	T.								0.56
peton	Red									T.											.53	T.	.19	T.	T.	.22							0.94
halla	Pembina						.05				.01										.23	.06	.02										0.37
shburn	Missouri																																
sthope	Mouse																				.18	.11			.18								0.47
lliston ***	Missouri	T.			.10										.05	.07					.16	.20		.03	.11			.02	.04	.01	.07		0.86
w City	Mouse	T.					T.														.37	.11			.10	.06							0.64
p	Knife														.15						.26	.16		T.	.02								0.59
orhead, Minn ***	Red	.01	T.		T.	.01														.10	.41	.04	.10		.14	.04							0.85

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of servation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	....	....	29	29	30	28	38	48	49	40	48	42	....	....	54	57	61	56	50	48	52	41	50	57	43	46	48	58	58	58	....	[d]47.0
	Minimum	26	5	4	3	8	11	10	12	14	17	19	16	15	20	21	25	23	26	28	30	30	32	36	34	30	23	20	22	26	28	....	20.5
Ashley	Maximum	40	25	24	29	27	30	40	49	49	33	40	46	45	53	46	51	55	53	46	37	44	40	49	52	45	42	50	41	52	57	....	43.1
	Minimum	16	6	4	0	10	9	13	24	15	29	15	18	15	16	32	25	28	28	30	30	32	32	35	30	32	19	18	30	34	28	....	21.9
Beach	Maximum	35	26	26	32	27	37	50	56	40	30	40	52	63	56	52	37	45	47	50	39	40	43	48	49	42	41	56	46	46	56	....	43.7
	Minimum	20	6	1	6	1	4	10	20	26	26	15	16	27	31	29	29	28	23	23	28	28	31	32	30	22	21	23	32	32	28	....	21.8
Berthold Agency	Maximum	40	23	21	30	26	30	41	49	43	39	45	50	54	54	50	54	53	53	60	42	47	46	50	54	40	47	54	61	55	61	....	45.7
	Minimum	14	5	4	2	− 1	7	10	19	19	23	17	19	26	31	28	28	28	24	20	32	32	32	36	37	25	18	18	32	34	34	....	21.8
Bismarck	Maximum	28	25	22	27	23	32	41	49	46	40	47	46	50	55	49	55	56	53	53	37	49	46	51	58	43	44	52	58	58	59	....	45.1
	Minimum	11	7	5	4	11	10	14	22	21	24	21	21	21	30	31	27	30	27	34	33	33	36	38	39	25	19	21	38	39	31	....	24.6
Bottineau §§	Maximum	17	16	14	19	21	25	32	35	39	37	45	43	40	48	43	52	49	50	57	39	45	44	50	52	39	42	50	56	53	55	....	40.2
	Minimum	9	1	− 1	− 6	− 2	7	4	8	13	22	24	8	20	23	28	29	28	20	24	32	32	32	33	35	30	20	22	32	33	32	....	19.7
Bowbells §§	Maximum	15	14	27	21	19	24	31	36	38	46	36	35	35	39	33	36	41	45	50	34	38	43	46	48	32	42	47	52	44	51	....	36.6
	Minimum	1	− 9	− 11	13	− 11	− 3	− 1	1	10	9	12	18	18	21	25	22	22	26	23	26	29	29	30	31	25	23	23	31	31	29	....	16.4
Carson	Maximum	32	15	15	20	20	22	32	35	35	30	32	32	38	40	40	40	43	40	45	35	38	46	40	40	38	40	44	45	43	50	....	35.5
	Minimum	12	5	2	0	5	5	8	24	21	25	15	20	22	30	28	28	30	25	30	30	30	36	33	34	32	20	20	35	35	29	....	22.3
Crosby	Maximum	19	25	17	25	19	25	32	35	32	34	39	42	37	40	35	38	41	45	48	43	48	45	47	46	45	46	46	51	44	50	....	40.0
	Minimum	2	5	3	5	2	5	8	21	20	20	18	25	25	30	27	29	29	28	30	32	33	34	35	35	28	27	26	34	34	32	....	22.7
Devils Lake	Maximum	28	15	17	23	24	24	32	39	41	37	44	38	43	48	46	53	52	51	54	39	45	40	50	55	42	40	48	55	54	54	....	41.0
	Minimum	5	2	4	3	6	9	9	16	15	24	23	17	18	26	26	27	27	26	26	32	36	34	35	37	28	23	22	26	32	27	....	21.4
Dickinson §§	Maximum	24	26	31	28	24	33	42	53	35	35	43	46	56	56	39	45	51	51	50	35	43	43	43	51	53	42	53	56	52	56	....	43.0
	Minimum	13	6	5	6	1	5	8	20	25	23	15	20	28	32	28	29	27	25	27	31	32	34	32	33	28	22	21	34	38	29	....	22.6
Donnybrook	Maximum	32	28	15	34	24	28	37	39	35	34	38	42	42	46	39	38	38	48	58	48	39	45	49	52	45	46	53	56	50	59	....	41.2
	Minimum	9	2	− 1	− 2	3	3	8	20	17	15	22	20	22	25	27	30	25	26	22	32	32	33	35	35	39	26	26	34	34	33	....	21.4
Dunseith	Maximum	32	12	12	19	21	21	30	33	41	35	43	39	37	44	40	48	47	47	51	52	43	46	48	48	49	39	47	54	51	53	....	39.5
	Minimum	6	− 3	4	− 6	− 3	− 4	2	12	9	21	21	14	17	27	24	26	27	20	20	31	32	33	33	35	28	17	21	30	29	27	....	18.1
Edgeley	Maximum	44	27	28	39	29	34	41	51	49	40	51	45	47	54	54	55	58	57	52	41	49	46	50	55	50	46	50	53	56	58	....	46.7
	Minimum	20	5	5	0	10	10	12	16	13	28	20	17	12	20	23	20	22	26	30	31	32	31	37	31	32	21	19	28	28	26	....	20.8
Ellendale	Maximum	35	26	26	29	27	33	41	48	44	37	49	39	45	53	49	55	57	55	44	42	50	41	47	51	49	44	48	49	54	57	....	44.1
	Minimum	16	7	8	4	14	12	14	23	16	30	23	20	16	27	31	28	28	28	32	32	32	37	36	30	27	22	21	28	33	28	....	23.4
Fessenden	Maximum	38	19	19	25	25	27	34	42	42	39	48	41	45	51	46	54	55	53	55	40	47	45	48	58	48	43	51	51	58	57	....	43.5
	Minimum	13	2	1	0	6	8	7	15	12	21	18	11	13	24	24	22	24	23	21	29	32	30	32	30	29	19	17	29	29	24	....	18.8
Forman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Fullerton	Maximum	40	26	26	28	28	32	40	48	47	39	49	39	46	52	52	54	57	55	47	43	48	42	49	53	48	43	49	54	55	57	....	44.9
	Minimum	21	6	7	2	14	11	13	20	15	30	23	19	16	24	28	26	26	27	33	32	32	34	38	36	35	22	21	26	31	27	...	23.0
Garrison	Maximum	41	20	18	26	25	30	37	43	43	38	44	15	46	51	49	54	52	48	54	48	43	41	49	53	44	42	53	58	54	59	....	43.8
	Minimum	12	4	2	2	2	5	5	22	19	22	18	19	22	32	29	25	27	23	21	26	32	32	35	37	29	19	22	30	35	32	....	21.4
Grafton	Maximum	37	24	20	25	26	25	33	40	44	39	45	38	43	47	46	53	56	53	56	47	48	47	55	60	50	44	48	56	57	56	....	43.9
	Minimum	19	4	11	1	7	6	5	16	18	25	24	20	18	23	27	29	30	29	29	32	39	39	37	37	36	24	25	23	30	28	....	22.1
Grand Forks	Maximum	34	15	22	25	29	24	34	40	43	38	44	37	44	47	46	53	57	54	53	47	48	45	51	57	50	47	44	53	57	54	....	43.1
	Minimum	7	− 9	4	6	10	8	9	16	18	26	24	19	20	23	26	26	26	30	28	32	32	37	32	37	38	25	22	26	28	28	....	21.8
Granville	Maximum	34	15	20	22	22	26	33	32	32	39	42	42	45	50	42	55	53	54	57	43	45	48	55	48	45	45	50	60	52	50	....	41.9
	Minimum	8	0	0	0	5	10	8	16	15	20	22	22	23	23	29	27	23	23	35	33	34	33	37	35	30	24	25	25	32	28	....	21.5
Hannah	Maximum	31	23	22	28	27	25	32	33	36	32	35	34	39	42	36	48	45	49	57	49	48	47	50	49	45	39	46	56	50	56	....	40.3
	Minimum	8	− 3	5	− 5	0	2	6	11	21	20	23	18	20	22	25	26	27	29	28	38	35	36	34	36	34	22	18	26	24	25	....	20.0
Hansboro	Maximum	28	10	20	17	20	28	28	....	36	35	40	38	....	42	41	48	46	48	57	48	48	45	52	51	50	40	50	56	54	52	....	[b]40.4
	Minimum	5	3	− 5	− 5	0	....	2	....	11	22	22	17	....	18	22	23	23	22	18	42	41	40	....	....	....	....	....	....	....	....	....	[k]17.0
Hettinger	Maximum	33	29	31	25	27	54	49	55	32	32	43	47	57	59	52	40	49	43	40	57	42	40	41	52	46	46	54	59	50	52	....	44.6
	Minimum	15	8	6	5	6	8	9	18	29	18	18	27	25	39	30	31	31	28	32	32	30	34	30	30	21	30	19	33	32	31	....	23.5
Howard	Maximum	22	15	19	26	20	25	37	40	32	34	42	41	48	44	40	36	42	47	55	40	38	43	47	45	39	45	44	51	41	55	....	38.4
	Minimum	12	4	− 1	1	− 1	0	6	22	19	11	15	21	22	28	25	21	21	24	24	29	30	33	35	36	24	18	24	32	30	31	....	19.5
Jamestown	Maximum	40	24	26	27	20	30	37	45	45	40	48	48	59	52	50	58	57	55	50	45	48	45	48	46	52	43	49	57	56	46	....	44.9
	Minimum	23	5	7	2	10	11	12	21	19	30	30	26	20	28	30	36	28	27	30	32	36	38	35	32	32	22	22	27	34	28	....	21.4
Lakota	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Lamoine	Maximum	40	20	18	24	23	28	36	42	45	46	35	47	50	50	48	52	54	50	54	54	48	44	48	56	40	42	51	56	56	54	....	43.7
	Minimum	12	3	0	4	6	7	6	8	11	12	15	13	26	26	26	21	26	24	28	32	34	32	34	32	29	15	18	34	32	26	....	19.4
Langdon	Maximum	21	14	14	21	22	21	30	33	39	38	41	36	41	42	39	49	47	49	55	38	45	42	52	56	44	40	47	54	51	51	....	39.1
	Minimum	11	− 9	− 8	− 4	2	2	2	6	12	24	10	13	18	17	22	24	29	21	24	28	32	34	33	34	31	20	18	24	24	23	....	17.2
Larimore	Maximum	33	24	25	28	42	21	38	42	40	40	45	46	46	48	47	55	56	57	57	41	50	42	52	50	57	44	52	54	55	55	...	44.8
	Minimum	24	1	5	4	8	2	3	15	16	25	25	15	15	22	24	25	28	27	25	31	32	37	35	40	35	24	19	28	28	27	....	21.5
Lisbon	Maximum	37	27	29	30	28	29	29	45	45	40	49	40	48	51	52	55	57	54	47	45	52	47	48	55	52	54	51	59	56	60	....	45.8
	Minimum	23	5	7	0	9	10	10	12	13	25	29	19	19	20	26	30	25	29	31	32	32	35	36	32	35	28	22	22	31	28	....	22.6
McHenry	Maximum	22	22	22	26	24	28	25	44	46	44	46	45	48	51	48	53	56	54	52	52	56	42	52	56	42	53	49	58	55	56	...	44.2
	Minimum	10	1	4	1	9	9	9	11	10	30	20	13	16	26	24	26	25	27	29	27	32	32	33	36	31	21	23	26	32	26	....	20.6
McKinney	Maximum	33	15	15	20	20	25	32	35	33	34	40	39	36	40	37	45	45	48	53	50	38	47	50	53	44	45	46	63	52	53	....	39.5
	Minimum	7	− 2	− 5	− 10	0	5	4	8	10	18	18	20	18	28	28	28	28	33	24	30	32	35	35	37	29	25	21	34	32	32	...	20.0
Maddock	Maximum	40	21	20	23	24	27	32	40	40	40	48	41	42	49	51	53	53	51	55	52	56	44	50	56	55	42	49	56	56	53	....	44.0
	Minimum	16	3	4	1	7	10	8	13	14	24	21	18	18	24	26	21	28	26	25	32	34	31	34	34	31	22	22	31	32	28	....	21.3
Marmarth	Maximum	28	28	22	30	23	31	46	51	....	33	41	48	60	58	48	34	40	44	43	33	40	45	45	48	39	46	51	52	45	54	....	[a]41.7
	Minimum	14	10	8	11	5	10	16	22	28	27	20	20	20	32	32	30	31	29	39	30	28	32	33	31	24	22	23	32	35	29	....	23.8
Minot	Maximum	32	12	10	23	23	28	32	39	33	38	44	43	46	48	41	51	50	49	56	48	41	47	48	56	46	43	52	53	53	55	....	41.3
	Minimum	5	0	− 3	− 3	0	4	2	14	12	15	17	17	18	25	24	21	22	20	17	27	28	30	30	30	25	18	17	30	29	27	...	17.3
Mott	Maximum	27	23	24	32	26	27	45	54	36	35	36	44	41	40	41	37	43	45	51	36	40	47	40	53	38	40	41	56	48	47	....	39.8
	Minimum	14	5	4	3	6	6	16	20	14	12	9	19	30	32	30	31	33	30	33	30	33	31	31	36	30	22	20	30	30	33	...	22.6
Napoleon	Maximum	40	25	25	28	27	31	40	50	47	40	38	43	49	54	50	50	55	55	54	37	45	41	53	55	46	45	53	53	58	60	....	45.1
	Minimum	18	3	0	− 3	6	5	10	18	14	28	16	12	12	27	25	21	24	24	33	30	30	29	34	28	32	15	15	32	32	24	...	19.8
New England §§	Maximum	26	25	21	30	21	34	44	53	48	38	40	46	56	55	49	42	47	45	49	42	40	41	44	50	40	43	54	55	51	56	...	42.8
	Minimum	7	6	5	18	7	8	11	19	28	26	14	21	23	30	31	32	31	29	32	32	32	34	32	34	23	24	27	33	37	30	....	24.1
New Salem	Maximum	16	13	20	28	29	31	40	45	31	36	39	45	51	53	45	50	55	49	53	37	48	44	46	40	52	42	52	58	55	54	....	41.9
	Minimum	3	2	1	0	5	18	14	26	17	24	17	19	19	27	25	26	29	25	32	33	32	36	39	28	23	16	26	28	35	27	...	22.3
Orange	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Park River	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	52	53	52	57	48	47	45	52	57	53	40	47	55	55	54	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	48	28	27	28	31	35	38	36	33	36	25	26	24	32	28	....	......
Pembina §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Steele	Maximum	18	22	22	35	27	30	38	28	31	48	46	48	52	55	49	56	53	59	58	42	45	43	54	58	40	41	55	55	[illegible]	60	....	44.6
	Minimum	14	11	8	18	11	8	17	....	....	34	28	22	27	31	30	37	36	32	33	28	35	37	29	42	36	40	32	40	41	42	...	[illegible]
Towner	Maximum	32	22	16	23	22	25	32	34	36	38	41	48	43	50	45	43	47	48	57	53	46	46	47	58	49	44	51	53	55	54	..	42.0
	Minimum	22	4	− 1	1	4	10	7	17	17	23	24	25	22	21	28	27	25	23	22	32	33	31	28	37	31	23	24	31	33	31	...	21.8
Valley City	Maximum	38	24	21	27	30	31	36	41	50	48	36	39	46	38	50	58	58	59	55	43	49	46	45	57	45	47	43	55	57	54	....	44.3
	Minimum	18	2	4	0	11	7	8	13	10	19	16	19	14	22	24	24	26	28	25	31	31	34	35	34	20	18	30	26	32	28	...	20.3
Wahpeton	Maximum	32	25	27	27	31	31	37	45	44	42	46	39	45	53	54	56	58	58	47	51	52	47	52	57	51	40	48	57	57	50	...	45.8
	Minimum	25	8	9	7	13	15	14	18	18	31	25	20	18	21	29	30	29	28	30	33	31	38	32	35	41	37	23	23	27	28	...	24.8
Westhope	Maximum	38	26	10	26	20	26	21	31	36	31	39	39	38	45	39	46	47	48	57	52	41	42	43	48	52	48	50	60	52	54	..	40.0
	Minimum	10	4	7	− 11	5	5	− 1	5	8	16	16	20	23	28	28	29	27	27	28	31	31	28	25	30	31	22	24	33	32	31	..	18.8
Williston	Maximum	22	20	21	28	19	28	40	45	38	36	46	48	51	48	36	44	45	49	54	39	42	45	48	48	37	43	[illegible]	54	44	57	..	41.0
	Minimum	10	8	5	0	− 3	7	12	28	26	22	20	23	30	32	30	31	24	25	26	32	32	35	38	35	24	21	[illegible]	36	35	36	...	21.0
Willow City	Maximum	15	10	14	18	20	24	31	34	39	36	44	40	40	47	42	51	50	49	57	35	42	45	48	52	38	41	[illegible]	48	52	54	...	39.1
	Minimum	10	3	0	− 2	0	8	6	15	14	24	24	20	21	28	28	29	28	24	24	31	33	31	34	35	[illegible]	20	[illegible]	32	32	29	...	21.1
Zap	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing; [b], 2 days, etc.


Scale of Shades
0 to 1 inch
1 to 2 inches
2 to 4 inches
4 to 6 inches
Over 6 inches
NO PRECIPITATION
NO PRECIPITATION
Edmonton
Battleford
Prince Albert
Calgary
Medicine Hat
Qu'Appelle
Swift Current
Minnedosa
Winnipeg

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

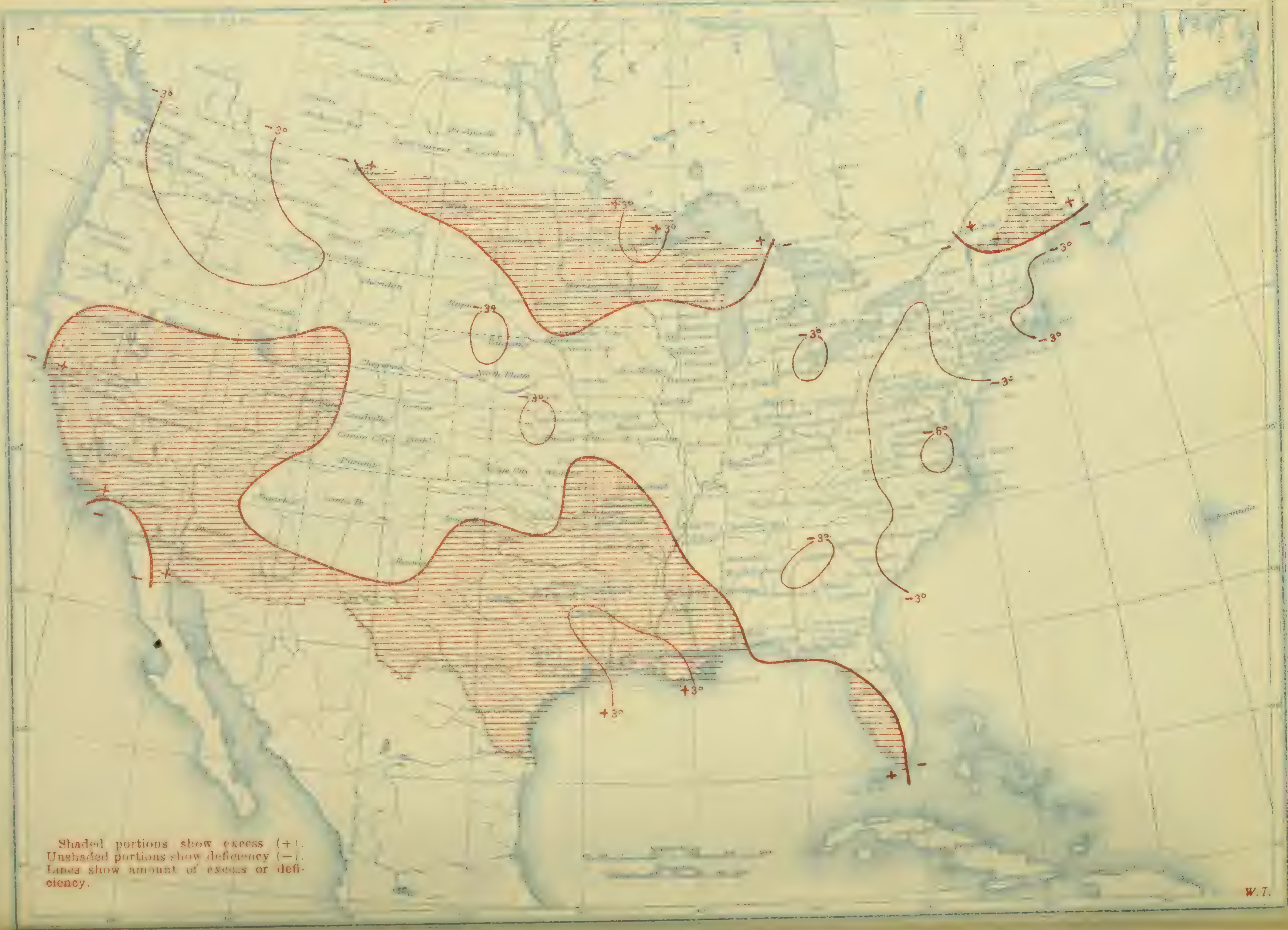
NORTH DAKOTA SECTION

MAY, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JULY 21, 1920.

Departure of the Mean Temperature from the Normal. May, 1920.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

W. 7.

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXIX. BISMARCK, N. D., MAY, 1920. No. 5.

GENERAL SUMMARY.

The weather during the month was generally pleasant and favorable for the advancement of farm work and other outdoor pursuits. The temperature averaged slightly above normal and was very uniform throughout the month. Freezing temperatures were not generally recorded after the 1st, and at seven stations the temperature did not reach the freezing point during the month. The day temperatures were also moderate. The wind movement was nearly the average, but there were few high winds and less than the usual number of thunderstorms. The precipitation was generally below normal, but was well distributed throughout the month in the form of light showers. The southeastern portion of the State received the greatest amount of precipitation, varying there from two to over three inches; the north-central portion received the least, most stations in that district reporting about one inch or less. Spring grain seeding, which had been considerably delayed by the inclement weather of April, made good advancement in May. Spring wheat germinated well, and made excellent growth generally. Flax seeding and germination were delayed by dry soil in some sections. Pastures and ranges were generally in good condition, and range stock improved during the month.

TEMPERATURE.

The mean temperature for the State was 53.9°, or 1.3° above the normal, and 1.6° lower than the mean for May, 1919. The highest mean reported was 58.0° at Pembina, Pembina County; the lowest was 47.4° at Carson, Grant County. The highest temperature reported was 89° at Howard, Williams County, on the 21st; the lowest was 20° at Colgate, Steele County, and at Minto, Walsh County, on the 1st. The greatest daily range was 57° at Minot, Ward County, on the 21st. The greatest monthly range was 64° at Colgate, Steele County; the least was 40° at Carson, Grant County.

PRECIPITATION.

The average precipitation for the State was 1.74 inches, or 0.81 inch below the normal, and 1.51 inches less than the average for May, 1919. The greatest monthly amount reported was 3.78 inches at Selfridge, Sioux County, and at Valley City, Barnes County; the least was 0.56 inch at Dunseith, Rolette County. The greatest amount recorded in any twenty-four consecutive hours was 1.31 inches at Lamoine, Kidder County, on the 25th. The average number of days with 0.01 inch or more of precipitation was 7. Snow in measurable quantities was reported at three stations, and traces of snow at five other stations.

E. G. L.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.04	30.46	14	29.47	21	57	9,166	12.3	38	s.	15
Devils Lake	29.99	30.43	13	29.45	22	44	8,730	11.7	42	w.	26
Ellendale	30.03	30.47	14	29.40	22	56	9,057	12.2	49	e.	11
Grand Forks	30.02	30.45	14	29.55	18	90	....	......	35	nw.	26
Williston	29.96	30.38	13	29.42	17	48	8,483	11.4	42	e.	11
Moorhead, Minn	30.06	30.48	14	29.43	22	57	6,010	8.1	30	nw.	22
Av'ges and extremes	30.02	30.48	14	29.40	22	.....	....	11.1	49	e.	11

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	246.5	467.3	53	−5	71	42	44	16	21
Devils Lake	329.6	471.0	70	+15	70	39	41	16	21
Ellendale	252.2	463.8	54	......	77	.....	51	26	23
Grand Forks	......	......	......	......	79	.....	67	......	....
Williston	322.5	471.0	68	+13	70	42	42	15	24
Moorhead, Minn	......	......	......	......	80	.....	50	......	....
Averages and extremes	287.7	468.3	61	+8	74	41	49	15	24

* And other dates.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir..
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893...	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894...	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895...	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896...	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897...	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898...	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899...	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900...	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901...	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902...	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903...	54.3	+1.7	96	11	3.08	+0.53	4	14	8	9	s.
1904...	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905...	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906...	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907...	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908...	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909...	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910...	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911...	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912...	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913...	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914...	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915...	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916...	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917...	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918...	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919...	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920...	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.

Climatological Data for May, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	54.6	+0.5	82	24	24	1	45	2.52	−0.30	0.96	0	9	17	12	2	n.	E. T. Carley.
Amidon	Slope	......	4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	M. J. Connolly.
Arnegard	McKenzie	......	1	53.3	......	85	21	27	11	46	1.20	......	0.50	0	8	13	9	9	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	53.6^{a}	+0.9	80^{a}	25	30^{a}	13	41^{a}	2.54	+0.06	0.80	0	7	......	......	......	se.	R. C. Miles.
Beach	Golden Valley	2,576	13	53.4	+3.3	85	21	32	20	47	1.46	−1.39	0.50	0	8	14	11	6	s.	I. H. Clagget.
Berthold Agency‡‡	McLean	2,082	25	54.8^{d}	+1.1	85^{c}	21	31^{d}	23	51^{d}	0.82	−1.74	......	0	7	19	5	7	se.	C. L. Hall.
Bismarck	Burleigh	1,674	45	54.8	−0.4	82	21	35	13	41	1.27	−1.23	0.55	0	7	8	8	15	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	53.2^{f}	+1.9	81	21	27^{l}	27	44^{l}	0.73	−1.38	0.36	0	5	18	4	9	se.	M. R. Shuler.
Bowbells	Burke	1,958	7	51.8	......	82	21	29	1	46	2.28	......	1.11	......	8	19	2	10	......	G. H. Phelps.
Bowman	Bowman	......	5	53.6^{d}	......	79^{d}	17	34^{d}	13†	38^{d}	1.70	......	0.60	0	4	......	......	......	se.	C. V. Hook.
Cando	Towner	1,488	18	53.2^{a}	+1.7	78^{a}	22	26^{a}	1	41^{a}	1.71	−0.73	0.43	......	6	......	......	......	se.	A. J. Swanson.
Carson	Grant	2,500	7	47.4	......	74	21†	34	13	34	0.92	......	0.35	0	7	7	15	9	se.	J. W. Evens.
Colgate	Steele	1,177	5	55.9	......	84	21†	20	1	44	2.39	......	0.74	0	5	14	14	3	s.	James McCann.
Cooperstown	Griggs	1,428	9	......	......	......	......	......	......	......	2.15	+0.14	0.90	0	6	17	10	4	ne.	S. Friswold.
Crosby	Divide	1,954	12	53.0	+2.6	84	21	30	2	42	1.27	−0.79	0.79	0	4	12	12	7	se.	John Jensen.
Devils Lake	Ramsey	1,478	15	54.4	+1.7	80	29	27	1	40	1.24	−0.96	0.66	0	8	11	10	10	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	52.5	+0.3	80	21	32	23	45	1.39	−1.10	0.35	0	13	10	10	11	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	55.7^{d}	+5.6	85^{h}	21	28^{g}	14	54^{h}	0.93	−1.40	0.60	0	3	......	......	......	......	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	52.7	......	83^{a}	21	28	22	49^{a}	0.90	......	0.20	T.	8	11	11	9	se.	W. H. Moede.
Dunseith	Rolette	1,682	23	53.0^{g}	+1.1	78^{g}	17†	28^{g}	1	48^{g}	0.56	−1.11	0.40	0	3	......	......	......	......	J. G. Lamont.
Eckman	Bottineau	......	14	53.4	+2.8	84	21	29	1†	51	1.22	−1.02	0.64	0	5	14	11	6	s.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	55.0	+1.5	81	21†	28	15	46	2.96	+0.31	0.83	......	7	4	13	14	ne.	O. A. Thompson.
Ellendale	Dickey	1,449	21	53.8	......	84	25	32	14	44	2.54	−0.24	0.65	0	11	6	11	14	s.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	7	......	......	......	......	......	......	......	1.09	......	0.50	......	5	5	22	4	se.	N. W. Solenberger.
Epping	Williams	2,224	11	......	......	......	......	......	......	......	2.83	+0.61	0.80	2.0	6	17	11	3	se.	M. E. Uggen.
Fessenden	Wells	1,610	7	52.5	......	83	29	22	1	51	0.82	......	0.55	0	4	16	12	3	se.	G. T. Seymour.
Forman	Sargent	1,249	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. T. Denk.
Fryburg	Billings	2,790	1	......	......	......	......	......	......	......	1.46	......	0.44	1.0	7	14	9	8	se.	Verne King.
Fullerton	Dickey	1,439	21	55.7	+2.4	85	25	30	1	42	3.45	+0.36	0.96	0	8	13	9	9	s.	F. O. Alin.
Garrison	McLean	1,901	24	53.2	+0.6	82	21	30	27	49	1.56	−0.55	0.65	T.	6	15	12	4	se.	G. L. Robinson.
Grafton	Walsh	827	27	55.2	+2.3	82	9†	24	1	42	1.87	−0.21	0.93	0	5	19	3	9	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	54.6	+1.2	80	29	22	1	40	2.03	−0.42	0.59	0	7	15	9	7	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	53.8	+2.4	84	21	32	1	49	1.36	−0.50	0.49	0	7	13	8	10	s.	W. A. Christianson.
Hannah	Cavalier	1,568	14	52.8	+2.4	80	28	23	1	45	0.86	−1.25	0.71	0	3	16	9	6	ne.	J. Moffatt.
Hansboro	Towner	1,597	11	52.5	+2.2	82	17	24	1	47	0.67	−1.53	0.25	0	4	12	16	3	s.	C. E. Blackorby.
Hettinger	Adams	2,253	11	53.0	+0.2	79	28	30	23	43	2.19	−0.04	0.60	0	10	15	6	10	se.	C. J. Downey.
Hillsboro	Traill	901	13	55.4	+2.2	79	24	25	1	43	3.08	−0.49	1.21	0	10	10	18	3	s.	F. E. Mayall.
Howard ‡‡	Williams	2,275	12	53.6	+4.2	89	21	30	1†	41	1.35	−0.78	0.56	3.0	6	8	10	13	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	55.2	+1.7	82	21†	30	1	48	2.11	−0.56	0.64	0	8	12	3	16	s.	S. Calvelage.
Lakota	Nelson	1,579	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. R. Pettes.
Lamoine	Kidder	1,936	11	52.4	+1.7	82	21	30	1	48	1.57	−0.62	1.34	0	4	......	......	......	e.	E. V. Virgin.
Langdon	Cavalier	1,615	23	52.3	+1.5	79	9	23	2	44	1.40	−0.90	0.65	T.	4	20	2	9	......	R. T. Burke.
Larimore	Grand Forks	1,134	24	54.2	+1.8	82	24†	22	1	46	1.94	−0.40	0.80	0	8	15	11	5	s.	Reuben Gray.
Linton	Emmons	1,711	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. G. Sailer.
Lisbon	Ransom	1,091	15	55.4	−2.5	84	24	28	1	41	2.20	1.06	0.60	0	7	14	6	11	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	......	......	......	......	......	......	......	1.28	......	0.40	0	9	......	......	......	se.	Edw. Tapley.
McHenry	Foster	1,509	9	53.5	......	78	10†	28	1	41	2.68	......	1.05	0	6	12	11	8	se.	P. E. Trudeau.
McKinney ‡‡	Renville	1,640	25	53.9	+1.9	85	21	26	14	49	0.80	−1.20	0.40	0	2	......	......	......	se.	N. P. Swenson.
McLeod	Ransom	1,075	7	54.3	......	82	25	26	1	40	3.07	......	1.04	0	10	18	4	9	se.	J. G. Carlson.
Maddock	Benson	1,604	4	54.2	......	85	21	27	1	53	0.93	......	0.37	0	4	6	14	11	se.	A. T. Felland.
Mandan	Morton	1,644	5	56.4	......	88	21	34	13†	54	1.72	......	0.59	0	8	5	11	15	s.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	53.2	+1.6	84	24	26	1	43	0.74	−1.63	0.33	0	4	16	8	7	s.	P. B. Anderson.
Marmarth	Slope	......	10	52.4	+2.4	79	21	32	4	40	1.76	−0.73	0.47	0	13	8	8	15	se.	S. P. Grane.
Mayville	Traill	975	23	52.9	−1.6	80	9†	23	1	43	3.11	+0.19	0.83	......	8	20	2	9	sw.	W. C. Gould.
Melville	Foster	1,590	21	53.4^{g}	+1.9	79^{g}	26	27^{g}	1	41^{h}	3.74	+1.28	1.12	0	6	......	......	......	sw.	J. P. Kidder.
Minot	Ward	1,557	23	51.7	−0.6	85	21	24	1	55	0.95	−1.03	0.43	0	6	18	9	4	e.	W. I. Faris.
Minto	Walsh	820	26	54.8	+1.4	81	8†	20	1	51	1.78	−0.56	0.79	0	6	15	10	6	se.	C. M. Evans.
Mott	Hettinger	2,424	12	52.2	+0.6	82	21	34	11†	37	1.72	−0.63	0.52	0	9	13	8	10	e.	O. H. Opland.
Napoleon	Logan	1,955	27	53.4	+1.0	83	21	31	13†	48	1.56	−0.84	0.65	0	7	9	5	17	s.	C. J. Hoof.
New England	Hettinger	2,400	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. C. McKenzie.
New Salem	Morton	2,163	14	52.2	+0.9	85	21	31	13†	49	1.08	−1.38	0.35	0	6	11	12	8	s.	J. Christiansen.
Orange ‡‡	Adams	2,586	10	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. E. Lowries.
Park River	Walsh	998	15	55.6	+3.4	82	29	25	1	42	1.27	−0.94	0.70	0	6	10	17	4	se.	C. B. Wright.
Parshall	Mountrail	......	4	......	......	......	......	......	......	......	0.66	......	0.51	0	2	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	45	58.0	+5.5	81	21	36	1†	42	2.38	−0.05	1.10	0	7	19	7	5	......	C. W. Shumaker.
Pettibone	Kidder	1,856	1	53.4^{b}	+2.9	81	21	27^{a}	1	48	3.13	+0.41	1.20	0	9	4	15	12	se.	A. O'Neill.
Power	Richland	1,020	26	......	......	......	......	......	......	......	2.53	−0.36	0.80	0	7	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	4	......	......	......	......	......	......	......	1.02	......	0.35	0	6	4	16	11	ne.	C. Frank.
Selfridge	Sioux	......	......	......	......	......	......	......	......	......	3.78	+2.01	0.75	0	10	9	11	11	se.	H. F. Solenberger.
Steele	Kidder	1,857	22	57.4	+3.6	77	24	32	2	35	1.34	−0.94	0.53	0	8	11	15	5	w.	H. S. Wood.
Taylor	Stark	2,493	3	53.5	......	80	17†	33	1	41	1.21	......	0.34	......	8	11	7	13	se.	H. Leutz.
Towner	McHenry	1,482	17	54.4	+2.1	77	17	32	26†	39	0.83	−1.57	0.66	0	3	16	9	6	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	53.2	......	82	21	31	21	51	0.98	......	0.45	T.	8	9	6	16	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	54.4	+1.8	79	29	26	1	39	3.78	+0.83	1.20	0	7	18	7	6	se.	C. F. Schroeder.
Wahpeton	Richland	962	25	55.8	+0.5	82	25	26	1	40	2.71	+0.03	1.30	0	9	6	20	5	se.	State School of Science.
Walhalla	Pembina	966	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Ivan Lee.
Washburn	McLean	1,734	20	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Adolph Guenther.
Westhope	Bottineau	1,508	13	51.6	+3.2	82	21	23	23	51	1.22	−0.84	0.46	0	9	21	0	10	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	54.9	+0.6	84	21	33	2	40	2.03	−0.23	0.49	T.	9	8	17	6	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	52.1	+0.6	80	21	26	21	54	1.22	−0.69	0.48	0	6	10	16	5	se.	M. A. Ostby.
Zap	Mercer	1,800	6	......	......	......	......	......	......	......	0.75	−1.72	0.56	0	7	......	......	......	......	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	55.6	+0.8	83	25	28	1	39	2.53	−0.42	0.67	0	11	17	8	6	se.	U. S. Weather Bureau.
Averages	......	......	......	53.9	+1.3	89	21	20	1	55	1.74	−0.81	1.34	0.1	7	13	10	8	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for May, 1920.

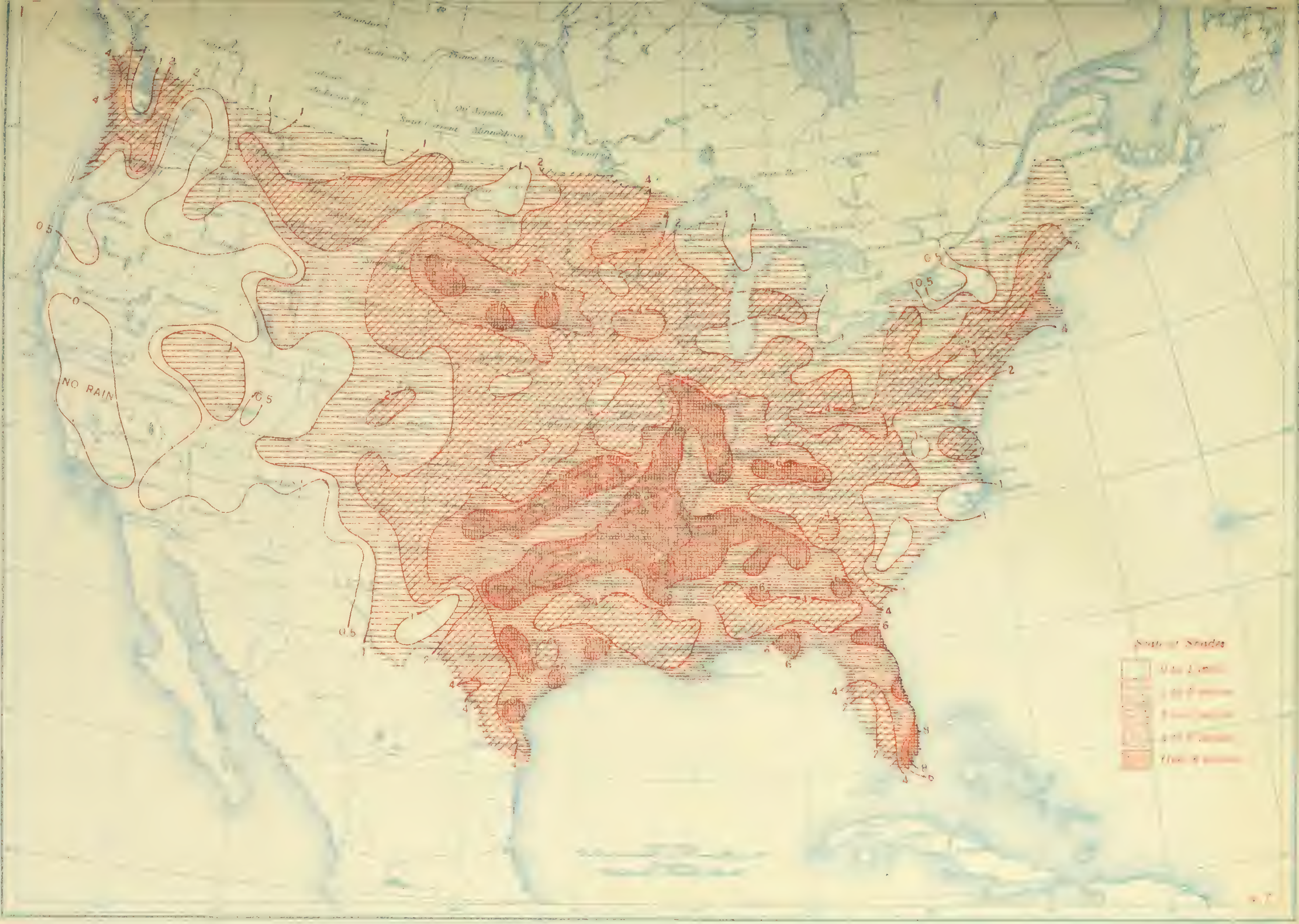
Stations.	Watersheds.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Amenia ‖	Red				.23	.10					.10	.25					T			.10	.11		.55				.96					.12	[illegible]
Amidon	Lit Missouri																																......
Armgard	Missouri	.04	.28	.50							.05									.01						T				.02	.05	[illegible]	1.20
Ashley	Missouri			.40	.20		.10													T			.80				.19				.20	.05	2.54
Beach	Lit. Missouri	.08	.02	.22							.22						.02		T	.08						.32					T	[illegible]	1.46
Berthold Agency	Missouri	.01	*	.53													.01	T		.05					T	.09				T	.10		[illegible]
Bismarck ***	Missouri	.09	.03	.54	.01											T			T	T	T	T	.03		T	.12					T	.05	1.47
Bottineau ‖	Mouse				.13	.03																					.58			.16		.13	0.73
Bowbells ‖	Mouse			.27	.21						.10							1.11					.05		.15		.30					.09	2.28
Bowman	Grand			.30			T				.60	T					.20									.60							[illegible]
Cando	Sheyenne				.26		.08				.38												.24						.43	.32			1.71
Carson	Heart	.02	.11	.35	.03																					.21					.02	.15	[illegible]
Colgate	Sheyenne										.40												.68				.71				.28	.29	[illegible]
Cooperstown	Sheyenne			.25						.30													.55			.50				.10	.25		2.15
Crosby	Mouse	T	.20	.79						T																.20	T				.08	T	1.27
Devils Lake ***	Sheyenne			.03	.22					.01									.02	.01	T		.06		T	.66				.23			1.24
Dickinson ‖	Heart	.01	.35	.20	.04												.13	.20	T	T	.12		.01		.05	.01	.04			.63	T	.17	1.39
Donnybrook	Mouse				.60						.20														T							.13	0.93
Dunn Center ‖	Knife		.20	.17	.12												.10	.04	T	T	T				.06		.15					.06	0.90
Dunseith	Mouse				.15															.01						.40							0.56
Eckman	Mouse			.64	.03																					.43				.10		.02	1.22
Edgeley	James				.45						.50	.02											.83				.22				.16	.77	2.96
Ellendale***	James	T	T	.59	.06					.09	.01	.04					T		.10		T		.23		T	.56	.03				.30	.53	2.54
Energy	Missouri	.07	.30	.50						T							T	T	T	T	T				.10	.12				T	T	T	1.09
Epping	Missouri	.50	.78	.80						T	T															.48					.07	.20	2.83
Fessenden ‖	James		T		.15			T											T	T	T		.02		T		.55			.10		T	0.82
Forman	Sheyenne																																......
Fryburg	Lit. Missouri	.10		.27	T												.06	T		.06	T		T		T	.41				T	.12	.11	1.46
Fullerton	James			.10	.32						.96								.20	.48						T	.56				.25	.58	3.45
Garrison	Missouri	T	.14	.65	.12															T					T	.40				.12	.13	T	1.56
Grafton	Red				.09															.20			.05				.93				.60		1.87
Grand Forks ***	Red				.09					T									.26	T			.59		.10	.48				.31	.15	.05	2.03
Granville	Mouse		T	.49	.12					.02	.05														T	.40				.16	.12		1.36
Hannah	Pembina				.10														T				T				.71				.05		0.86
Hansboro	Red				T															T			.07			.25	.24			.11			0.67
Hettinger	Grand	.09	.28	.18			.12					.60	.08										.15			.33					.11	.25	2.19
Hillsboro	Red				.13						.06						.02		.16	.04			1.21			.18	.70				.05	.53	3.08
Howard	Missouri	.30	.47	.56		.10				.19	T							T		T		T	T		T	.03	T				T	T	1.65
Jamestown ‖	James				.33						.23								.03	.02			.64	.08			.40					.38	2.11
Lakota	Sheyenne																																......
Lamoine	Missouri	T	*	*	.23														T	T			T		T	1.34				T	T	T	1.57
Langdon ‖	Pembina				.10														.05				T				.65	T			.60		1.40
Larimore ‖	Red				.04						.12									.25			.12	.04			.80				.36	.21	1.94
Linton	Missouri																																......
Lisbon ‖	Sheyenne				.36	T					.60	.06						T		.10	T		.32				.41					.35	2.20
McClusky	Missouri		.11	.15	.05		.12																.12		.07	.40	.08			.15			1.28
McHenry	James									.35						.25						.60				1.05	.08			.35			2.68
McKinney	Mouse		T	.40												T										T				.40			0.80
McLeod	Sheyenne				.42						1.04								.15	.03			.29		.20	.10	.16				.41	.27	3.07
Maddock	Sheyenne				.18																					.21	.37				.17		0.93
Mandan ‖	Missouri		.17	.22	.44	T											T				.02	.01	.19				.59					.08	1.72
Manfred	Sheyenne		T		.12																T		.06			.23	.33			T			0.74
Marmarth	Lit. Missouri	.02	.18	.21			.22				.35	.05	.02				.07			.02					.07	.03					.05	.47	1.76
Mayville	Red			.02							.15						T		.83	.23			.80				.42				.41	.25	3.11
Melville	James				.25					1.00									.10				.72			1.12					.55		3.74
Minot ‖	Mouse			.30	.43							.05											.01				.15					.01	0.95
Minto	Red				T														.27				.18			.06	.79				.45	.03	1.78
Mott	Cannon Ball	.40	.09	.52			.05					.03					.08						.33				.06				.16		1.72
Napoleon ‖	Missouri				.10														.05	.03			.65	.03			.27				.45		1.56
New England ‖	Cannon Ball																																......
New Salem	Heart		.34	.31												.01	T		T				.01			.35						.06	1.08
Orange	Cannon Ball																																......
Park River	Red				.08														.11				.03		.10		.70				.25	T	1.27
Parshall	Missouri	.51															.16																0.66
Pembina ‖	Red					.08													.10	.20			.04	.02			1.10				.84		2.38
Pettibone	James		.18		.15					.76	.08								.07	T			.38			1.20	.08				.23	T	3.13
Power	Missouri				.32					.80							T		.12	T			.15		.05	.64					.45		2.53
Powers Lake	Sheyenne		T	.05			.15			T	T											.25				.17	T				.05	.35	1.02
Selfridge	Missouri	.25	.05	.75	.04		.34					.60				T			T			.30	T			.53					.48	.44	3.78
Steele	Missouri		.03	.20	.10						.13								.03								.53				.30	.02	1.34
Taylor	Heart	.09	.21	.24													.12		T	.01			.01			.19	T				T	.31	1.21
Towner	Mouse			.10	T		T			T	.07						T									.66							0.83
Turtle Lake	Missouri		.05	.45	.03	T				T							.04		T				.10		.09	.18	.04				T	T	0.98
Valley City	Sheyenne			T	.36						.36						T	.10			T		1.20		T	1.10					.16	.50	3.78
Wahpeton ‖	Red	.03									1.30	.25						.02	.05		.07		.01	T			.32					.63	2.71
Walhalla	Pembina																																......
Washburn	Missouri																																......
Westhope	Mouse			.46	.06		.04										.06				.04					.23	.12			.14		.07	1.22
Williston ***	Missouri	.20	.48	.14			.08			T	.34							T	T	T		T			.01	.38				T	.10	.30	2.03
Willow City	Mouse			.04	.22					T	.32									T			T		.04	.48				.12			1.22
Zap	Knife	T	.08	.56		.03				T								.03				.03			.01							.01	0.75
Moorhead, Minn ***	Red				.14						.64						.01		.39	.01			.15		.03	.54	.13				.22	.27	2.53

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	56	62	65	53	66	72	76	81	80	68	68	60	66	71	70	60	70	64	71	73	80	66	72	82	80	68	66	77	80	68	63	69.
	Minimum	24	31	38	39	38	35	30	40	39	52	35	37	30	31	32	41	42	44	49	42	35	46	30	44	44	48	35	40	64	51	46	39.
Arnegard	Maximum	43	46	58	59	66	69	71	74	77	68	65	66	66	66	65	70	80	74	63	67	85	84	78	69	65	62	77	75	65	60	50	67.
	Minimum	34	33	38	41	39	40	39	40	43	50	27	38	36	35	40	45	42	40	42	38	39	47	34	33	42	39	32	44	50	41	40	39.
Ashley	Maximum	46	60	50	46	58	63	68	72	74	67	53	63	61	..	60	63	71	68	64	70	77	70	70	77	80	73	66	74	79	72	51	[a]65.
	Minimum	33	38	39	40	39	40	50	40	45	51	40	34	30	..	40	35	37	48	43	38	36	47	35	37	63	47	35	47	52	48	45	[a]41.
Beach	Maximum	50	48	49	62	62	65	69	73	80	68	60	62	68	65	62	71	83	72	62	70	85	76	80	72	70	65	79	73	70	60	53	67.
	Minimum	34	34	36	34	38	37	35	38	43	40	43	42	35	35	37	41	43	42	40	32	42	46	33	53	42	38	36	43	49	42	43	39.
Berthold Agency	Maximum	53	50	47	58	..	72	75	77	77	72	67	..	71	69	65	65	83	76	66	71	85	74	79	75	67	65	..	81	71	63	62	69.
	Minimum	36	32	40	41	36	..	36	..	47	48	42	32	..	36	38	45	42	52	38	34	34	49	31	53	36	43	33	..	49	43	47	40.
Bismarck	Maximum	48	48	47	52	62	64	72	73	77	69	62	64	66	65	62	61	78	70	62	72	83	72	74	76	75	64	72	80	76	55	59	66.
	Minimum	37	36	42	42	42	46	39	40	49	51	44	46	35	38	39	46	43	50	44	42	41	49	36	50	42	46	36	49	48	43	48	43.
Bottineau §§	Maximum	51	58	54	59	66	74	75	77	79	73	70	69	64	69	67	57	79	70	68	68	81	68	75	73	67	54	71	79	65	61	65	67.
	Minimum	30	33	38	40	43	37	37	43	45	53	41	40	39	39	36	38	37	36	..	..	..	..	..	..	..	..	27	..	..	..	..	[l]38.
Bowbells §§	Maximum	49	43	49	52	66	72	74	72	77	71	65	68	65	67	66	67	76	64	61	64	82	75	73	71	61	57	73	74	62	64	65	66.
	Minimum	29	30	35	36	35	37	41	42	42	45	35	34	34	31	36	42	41	46	38	35	36	44	33	41	38	36	31	41	47	34	41	37.
Bowman	Maximum	49	47	50	60	56	53	74	69	77	73	70	58	62	..	..	..	79	73	..	56	74	61	74	74	71	64	74	75	70	60	62	[d]65.
	Minimum	38	36	42	36	43	45	41	60	45	49	43	39	34	..	..	..	41	44	..	34	36	41	36	45	45	38	38	45	52	42	40	[d]41.
Cando	Maximum	51	59	57	57	65	71	72	73	73	69	65	64	61	67	67	66	74	75	64	63	77	78	70	70	71	51	..	74	74	53	59	[a]66.
	Minimum	26	31	40	41	39	39	43	42	42	42	38	39	35	34	36	45	42	57	43	38	36	47	34	47	38	44	..	32	51	41	41	[a]40.
Colgate	Maximum	54	54	57	58	67	72	78	79	80	72	74	73	69	70	70	65	72	70	71	72	84	74	70	80	76	74	71	78	84	74	65	71.
	Minimum	20	28	35	38	40	42	40	38	45	42	38	40	29	26	30	34	33	50	48	42	56	52	38	42	42	36	46	57	50	53	49	40.
Crosby	Maximum	47	42	49	55	65	66	68	71	76	68	64	64	65	66	60	69	77	68	63	64	84	64	76	78	64	68	75	75	72	61	62	66.
	Minimum	31	30	36	35	40	42	46	43	45	46	40	38	38	36	35	44	43	48	40	43	42	38	39	46	39	39	36	44	43	38	38	40.
Devils Lake	Maximum	54	59	57	50	63	71	72	76	79	73	69	67	63	67	68	55	75	69	64	68	79	70	73	79	68	57	66	78	80	57	58	67.
	Minimum	27	31	40	42	42	42	42	48	48	48	38	39	35	36	42	46	46	53	45	41	39	45	38	50	39	40	34	47	47	42	42	41.
Dickinson §§	Maximum	40	45	48	58	60	62	70	72	78	74	60	63	66	64	60	62	79	68	67	68	86	63	76	71	68	64	78	77	67	58	58	65.
	Minimum	35	35	36	40	44	43	34	41	47	49	45	43	34	36	38	43	40	45	40	35	37	46	32	37	37	40	33	46	42	44	42	40.
Donnybrook	Maximum	..	..	..	..	..	..	..	76	81	72	69	69	64	69	67	66	80	70	63	68	85	78	..	76	60	61	76	78	64	64	60	[h]70.
	Minimum	..	..	..	..	..	..	..	46	48	56	46	36	32	28	36	46	44	54	42	44	31	48	31	44	36	37	30	46	43	36	46	[g]41.
Dunn Center §§	Maximum	41	46	50	58	62	68	72	73	77	70	65	66	67	65	65	63	81	65	61	68	83	64	77	70	..	63	76	77	66	62	58	[a]66.
	Minimum	34	32	35	40	37	39	36	37	43	48	40	38	32	37	37	40	41	43	36	37	35	52	28	51	37	41	30	45	51	43	45	39.
Dunseith	Maximum	50	58	55	49	64	68	74	75	76	72	67	66	61	67	65	62	78	73	64	68	78	77	73	71	..	..	..	..	..	..	..	[g]67.
	Minimum	28	31	40	39	38	37	37	39	40	52	40	41	35	37	38	42	39	53	38	38	30	48	32	40	..	..	..	..	..	..	..	[g]38.
Edgeley	Maximum	54	57	56	47	62	66	75	77	78	73	60	65	64	65	65	60	71	73	68	73	81	78	71	79	81	79	67	75	80	76	56	68.
	Minimum	29	40	38	42	42	39	45	44	38	56	41	41	35	33	28	45	39	53	44	40	35	49	38	43	40	50	33	38	46	46	45	41.
Ellendale	Maximum	50	61	53	47	61	65	72	74	77	60	55	62	62	64	63	58	67	72	68	72	82	69	70	79	84	65	66	74	78	62	58	66.
	Minimum	32	41	40	41	42	45	43	41	40	45	43	40	33	32	35	46	43	44	40	41	38	49	41	48	43	47	38	38	46	48	46	41.
Fessenden	Maximum	53	48	54	49	65	71	76	77	80	68	68	68	69	67	67	58	78	71	67	69	81	75	75	78	64	60	70	81	83	57	60	68.
	Minimum	22	32	37	38	36	34	41	39	37	50	35	37	29	32	30	43	40	50	36	33	30	47	30	45	32	40	28	42	45	39	42	37.
Fullerton	Maximum	55	61	55	48	64	67	72	76	78	63	58	64	64	66	59	70	72	71	70	71	83	69	72	80	85	78	71	76	80	67	58	68.
	Minimum	30	41	38	40	42	42	42	42	50	50	41	39	34	33	44	40	45	48	40	41	54	50	39	46	43	52	37	38	46	58	46	42.
Garrison	Maximum	46	43	44	49	63	74	75	74	79	74	68	67	67	65	62	59	79	68	64	68	82	72	74	74	67	61	72	78	73	61	62	66.
	Minimum	31	32	39	39	38	39	38	43	45	47	40	42	35	37	37	44	46	40	40	38	33	47	31	51	35	41	30	41	52	46	42	39.
Grafton	Maximum	55	61	62	60	65	71	75	80	82	75	71	70	65	70	73	67	75	71	70	71	78	71	75	80	73	61	68	78	82	59	60	70.
	Minimum	24	25	32	43	40	35	42	42	45	50	40	35	35	28	35	40	48	52	42	43	38	53	31	46	40	46	35	42	51	44	43	40.
Grand Forks	Maximum	54	61	62	49	65	72	74	78	78	72	68	65	62	70	71	57	70	66	70	70	77	67	71	79	72	62	71	77	80	76	63	68.
	Minimum	22	31	34	43	41	36	41	42	48	49	38	39	36	30	35	38	47	50	46	42	38	43	38	46	43	40	36	43	50	48	46	40.
Granville	Maximum	55	43	45	50	66	71	75	78	75	72	70	78	65	65	70	65	80	70	68	67	84	66	65	73	66	72	70	78	66	61	60	67.
	Minimum	32	40	40	42	33	39	40	44	43	45	39	38	33	34	33	34	38	53	45	40	35	45	48	50	37	33	38	50	47	38	40	40.
Hannah	Maximum	52	54	58	55	64	68	73	77	78	70	73	70	62	68	71	65	79	68	66	68	79	68	72	77	71	60	65	80	66	65	60	67
	Minimum	23	30	34	36	40	38	35	41	45	46	39	38	36	31	40	41	46	38	34	33	34	42	29	35	40	40	32	41	51	42	40	37.
Hansboro	Maximum	51	58	56	54	65	73	75	79	78	72	68	68	64	71	70	63	82	75	65	72	81	73	74	78	65	60	68	80	65	58	62	68.
	Minimum	25	24	41	41	41	36	38	42	41	48	34	28	32	26	30	43	45	30	40	36	34	48	30	31	31	36	33	43	45	39	40	36
Hettinger	Maximum	41	50	50	61	56	52	60	66	72	73	57	59	64	64	52	60	78	68	61	68	78	77	73	73	78	71	73	79	69	59	55	64.
	Minimum	38	37	36	39	46	46	44	45	42	53	40	40	33	34	39	40	40	44	50	33	38	48	30	53	41	39	37	46	52	43	42	41.
Hillsboro	Maximum	54	63	62	59	64	70	77	77	77	75	69	67	64	68	70	67	69	67	67	69	79	77	68	79	72	69	63	75	78	74	62	69.
	Minimum	25	31	36	40	40	36	44	43	39	52	62	36	34	36	33	38	44	50	48	41	36	53	40	44	44	47	36	40	47	48	43	41.
Howard	Maximum	50	42	55	57	65	67	70	72	73	66	57	65	64	66	66	70	80	69	61	64	89	65	71	76	59	60	72	76	62	57	60	65
	Minimum	30	30	34	35	39	37	40	44	41	51	50	37	35	52	54	54	50	48	34	38	48	42	46	42	40	40	36	44	44	41	38	41
Jamestown	Maximum	60	52	57	48	63	70	74	77	79	63	64	65	65	67	67	59	73	71	68	70	82	66	72	79	72	72	68	76	82	73	57	68
	Minimum	30	38	40	42	43	42	45	43	42	52	40	44	36	34	33	46	41	52	44	42	34	51	40	49	41	56	36	41	50	42	46	42.
Lamoine	Maximum	53	44	44	46	63	68	73	76	..	67	65	66	63	67	65	56	77	70	63	74	82	75	78	75	67	60	68	78	81	57	56	[a]65
	Minimum	30	32	36	38	41	38	41	44	..	52	40	40	31	37	38	38	38	52	38	32	34	46	32	34	35	44	31	48	48	38	43	[a]39
Langdon	Maximum	51	59	58	50	64	72	71	72	79	78	78	65	62	70	70	56	76	70	65	66	78	68	73	75	68	54	56	78	76	55	60	66
	Minimum	24	23	29	40	36	37	38	41	43	51	34	35	30	33	34	40	41	48	40	35	35	38	30	50	36	45	26	36	52	40	49	37
Larimore	Maximum	60	64	63	51	64	74	76	78	81	71	69	67	65	75	73	59	73	69	69	71	80	67	67	82	70	62	68	78	82	55	60	69
	Minimum	22	27	34	41	40	34	33	38	50	51	36	36	30	29	37	35	45	50	50	43	34	53	33	43	38	45	35	38	48	44	44	39
Lisbon	Maximum	57	59	62	52	65	71	75	78	80	57	62	66	67	67	69	60	71	71	73	75	83	63	75	84	83	65	70	80	82	71	64	69
	Minimum	28	34	35	41	40	36	49	42	43	42	37	40	35	29	30	45	41	46	40	41	52	51	40	46	45	52	35	39	45	52	50	41
McHenry	Maximum	56	58	53	49	63	72	74	74	76	78	74	67	71	68	56	55	72	66	65	67	77	76	70	71	66	56	66	70	75	78	56	66
	Minimum	28	33	40	40	45	39	42	44	40	38	42	38	44	34	45	44	42	50	40	42	38	35	33	30	42	47	33	43	47	44	42	40
McKinney	Maximum	52	45	45	50	65	72	73	75	76	75	67	70	65	68	67	64	79	73	68	68	85	63	76	72	70	62	73	78	72	72	..	[a]68
	Minimum	30	33	40	40	32	35	39	45	40	52	42	38	45	26	32	46	42	50	40	40	36	35	28	47	56	40	29	42	42	53	..	[a]39
Maddock	Maximum	54	55	55	55	64	71	73	75	77	74	74	68	67	67	67	69	77	75	68	68	85	78	74	78	74	59	67	80	82	67	60	69
	Minimum	27	32	40	40	34	34	45	39	38	49	40	37	33	30	29	44	40	54	40	38	32	48	31	48	32	48	29	44	48	38	42	38
Marmarth	Maximum	43	46	50	60	56	55	63	69	76	72	53	58	62	60	55	68	77	72	60	67	79	72	75	67	72	65	75	75	66	52	52	63
	Minimum	35	37	41	32	38	44	38	41	42	51	41	39	41	37	37	44	42	42	44	37	40	56	35	48	43	34	36	45	52	40	42	41
Minot	Maximum	52	48	46	50	65	70	73	76	80	59	67	67	65	68	66	65	80	71	65	68	85	70	77	72	68	61	74	78	68	66	65	67
	Minimum	24	29	35	36	37	32	35	40	48	42	34	32	29	29	37	41	39	47	33	37	28	36	27	49	28	38	26	47	48	35	41	36
Mott	Maximum	48	55	46	50	46	58	76	71	78	50	43	48	69	66	57	52	63	62	69	73	82	73	74	77	79	72	74	79	75	70	72	64
	Minimum	35	35	37	34	36	37	42	42	48	40	34	37	44	36	38	40	45	41	41	34	46	43	37	40	46	36	41	45	38	41	43	39
Napoleon	Maximum	48	57	50	53	64	65	76	75	78	70	61	67	67	67	66	58	75	74	64	73	83	74	72	80	79	68	72	79	80	55	54	67
	Minimum	32	35	40	38	40	35	34	47	41	52	50	40	31	34	34	43	38	53	40	35	35	46	31	49	40	45	32	46	50	44	41	39
New Salem	Maximum	50	44	48	49	59	64	70	73	77	70	60	62	66	65	64	57	70	70	59	68	85	68	77	76	73	63	71	81	64	59	59	65
	Minimum	32	33	34	36	37	40	40	40	49	49	40	41	31	35	31	39	40	51	36	38	36	40	33	49	45	40	43	36	42	37	43	3
Pembina §§	Maximum	56	61	62	64	68	78	72	78	74	72	73	69	68	78	71	62	72	74	69	71	81	58	74	79	63	59	76	75	79	61	69	6
	Minimum	36	36	42	48	50	54	48	57	52	57	42	42	39	36	49	49	44	47	43	47	46	56	36	51	51	48	36	46	49	51	41	4
Steele	Maximum	52	40	48	56	64	65	74	73	74	64	64	64	66	67	65	75	76	71	70	74	74	70	72	77	73	63	73	76	64	67	73	6
	Minimum	36	32	36	42	46	51	49	52	53	53	45	45	54	55	52	53	53	53	55	63	62	48	38	50	46	42	46	47	45	42	40	4
Towner	Maximum	52	52	50	53	66	68	74	76	76	71	68	65	62	64	64	63	77	75	68	68	65	69	71	74	73	56	71	73	68	69	64	6
	Minimum	35	33	35	42	45	38	50	46	45	46	40	38	34	38	40	45	42	56	56	35	36	40	42	45	40	32	32	48	51	50	44	4
Valley City	Maximum	58	56	60	55	63	71	73	76	79	63	63	61	67	68	69	70	72	68	70	63	79	67	73	67	71	73	68	75	79	72	61	6
	Minimum	26	34	36	38	39	40	38	40	42	49	36	35	33	38	38	42	44	54	50	36	42	46	38	46	44	44	34	43	40	46	44	4
Wahpeton	Maximum	59	63	63	53	64	71	76	79	79	65	61	64	61	67	68	60	65	63	72	74	79	74	72	81	82	68	70	75	78	61	62	6
	Minimum	36	41	37	42	39	43	40	39	44	55	42	38	37	34	39	48	43	49	42	39	41	55	39	47	46	55	37	44	49	53	48	4
Westhope	Maximum	53	54	51	48	67	73	76	76	79	75	70	69	74	71	76	63	80	75	65	67	82	73	74	71	67	55	72	75	65	80	63	6
	Minimum	30	34	41	40	40	42	43	43	43	46	39	38	42	40	58	41	40	50	28	38	35	38	23	50	33	41	32	48	44	51	44	4
Williston	Maximum	44	47	56	60	67	67	72	72	77	68	64	65	65	66	64	72	80	66	64	65	84	63	79	68	63	60	78	74	63	60	60	6
	Minimum	34	33	39	43	44	40	41	46	50	50	44	42	44	44	44	48	48	47	43	41	49	44	39	47	43	42	40	46	46	43	44	4
Willow City	Maximum	51	56	49	48	65	70	74	74	79	70	65	66	68	67	66	66	76	69	65	66	80	64	74	72	68	56	74	76	70	58	62	6
	Minimum	28	32	41	40	34	40	34	37	42	47	36	40	32	33	34	29	37	52	37	34	26	49	29	48	32	42	29	49	50	36	38	3
Moorhead, Minn	Maximum	58	61	64	50	66	73	75	80	80	61	68	67	63	70	70	60	67	62	72	72	79	68	73	82	83	66	67	77	80	67	65	6
	Minimum	28	37	36	42	38	40	42	45	43	44	40	39	34	33	38	46	43	48	42	42	40	50	42	46	48	44	39	45	49	49	49	4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, e


Scale of Shades
NO RAIN
0
0.5
1
2
4
6
8

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

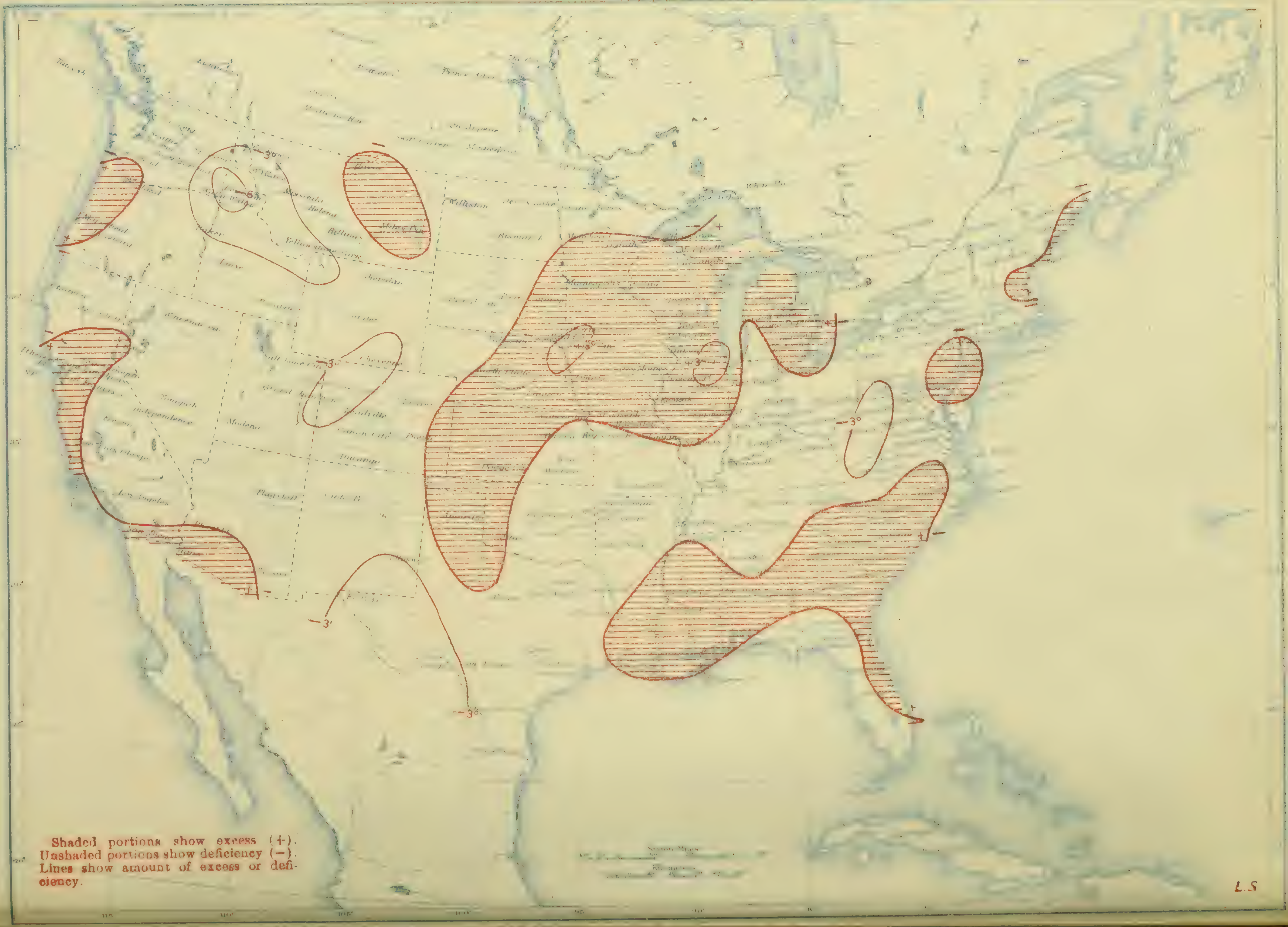
NORTH DAKOTA SECTION

JUNE, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
AUGUST 21, 1920.

Departure of the Mean Temperature from the Normal, June, 1920.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXIX. Bismarck, N. D., June, 1920. No. 6.

GENERAL SUMMARY.

The weather approximated the normal in most respects during the month, and as a result crops and other vegetation made excellent growth generally. Scattering frost occurred on the 2d, 3d and 4th, but no damage of consequence was reported. During the remainder of the month the temperature was moderate generally; only a few stations reported maximum temperatures in excess of 90°. The precipitation averaged slightly above normal, and was well distributed throughout the month, except that there was a deficiency in many sections during the first half of the month. The distribution over the State was good; the greater portion of the State received between three and four inches of rainfall, but considerable areas in the west-central, east-central and extreme southeastern portions received from four to over seven inches, and areas in the south-central, extreme northeastern and extreme southwestern portions received less than two inches. Crops generally made excellent progress, except that grains in the drier areas were thin and short in places. Grasshoppers were reported in damaging numbers in some western localities. Pastures and livestock were in excellent condition generally.

Much damage was done by a severe windstorm in Cass and portions of adjacent counties on the 8th. Damage to farm buildings was general over the storm area. A tornado cloud was observed during the storm between Gardner and Grandin, Cass County. One man was killed and four injured in that vicinity.

TEMPERATURE.

The mean temperature for the State was 62.2°, or 0.6° below the normal, and 5.0° lower than the mean for June, 1919. The highest mean reported was 65.4° at Mandan, Morton County; the lowest was 59.7° at Minot, Ward County. The highest temperature reported was 98° at Mott, Hettinger County, on the 8th; the lowest was 26°, also at Mott, on the 3d, a range of 72° for the month. The least monthly range was 47° at Pembina, Pembina County. The greatest daily range was 50° at Eckman, Bottineau County, on the 13th.

PRECIPITATION.

The average precipitation for the State was 3.62 inches, or 0.12 inch above the normal, and 1.31 inches more than the average for June, 1919. The greatest monthly amount reported was 7.42 inches at Epping, Williams County; the least was 0.50 inch at Pembina, Pembina County. The greatest amount recorded in any twenty-four consecutive hours was 4.02 inches at Epping, Williams County, on the 15th. The average number of days with 0.01 inch or more of precipitation was 11. Showery conditions prevailed during the entire month, and general rains occurred on the 20th and 21st and on the 25th and 26th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction	Date.
Bismarck	29.97	30.29	2	29.64	8	57	6,703	9.3	34	sw.	25
Devils Lake	29.93	30.26	3	29.51	8	44	5,960	8.3	50	w.	14
Ellendale	29.96	30.29	3	29.58	6	56	8,614	12.0	49	n.	8
Grand Forks	29.92	30.33	5	29.65	6	90	......	......	...	......	...
Williston	29.90	30.25	3	29.56	8	48	6,009	8.3	38	w.	23
Moorhead, Minn	29.96	30.30	3	29.59	8	57	4,515	6.3	46	nw.	8
Av'ges and extremes	29.94	30.33	5	29.52	8	....	....	8.8	....	......	....

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	291.7	475.1	61	0	81	47	50	18	7
Devils Lake	343.1	478.7	72	+13	80	55	59	27	4
Ellendale	262.0	470.9	56	......	87	.....	67	46	4
Grand Forks	......	....	......	......	82	.....	74	......	....
Williston	373.9	478.7	78	+16	79	49	46	20	8
Moorhead, Minn	......	....	......	......	88	.....	65	......	....
Averages and extremes	317.7	475.8	67	+14	83	50	60	18	7

* And other dates.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892...	60.5	−2.3	94	28	3.55	+0.05	10	8	11	9	nw.
1893...	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894...	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895...	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896...	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897...	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898...	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899...	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900...	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901...	61.6	−1.2	95	22	6.16	+2.66	15	10	11	9	nw
1902...	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903...	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904...	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905...	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906...	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907...	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908...	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909...	62.9	+0.1	98	28	2.21	−1.29	10	12	11	7	e.
1910...	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911...	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912...	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913...	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914...	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915...	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916...	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917...	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918...	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919...	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920...	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.

Climatological Data for June, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	62.6	−0.9	91	12	36	3	37	3.77	−0.24	0.88	0	8	12	15	3	se.	E. T. Carley.
Amidon	Slope	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	M. J. Connolly.
Arnegard	McKenzie	...	1	60.8	...	90	8†	33	4	39	3.41	...	0.67	0	14	12	14	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	62.1^{b}	+0.1	90	13	37^{c}	2	35^{c}	6.56	+3.10	1.55	0	12	11	9	10	se.	R. C. Miles.
Beach	Golden Valley	2,576	13	61.6	+0.5	96	8	31	2	43	1.23	−2.58	0.22	0	10	7	19	4	w.	I. H. Clagget.
Berthold Agency‡‡	McLean	2,082	25	63.1	+0.5	93	13	35	3	46	4.13	0.00	1.22	0	14	19	9	2	se.	C. L. Hall.
Bismarck	Burleigh	1,674	45	64.4	+0.2	89	13	38	2	35	2.05	−1.49	0.54	0	12	7	16	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	61.6	+0.6	89	13	32	3	43	3.74	+0.51	1.68	0	11	13	9	8	se.	M. R. Shuler.
Bowbells	Burke	1,958	7	60.1	...	87	14	35	4	36	2.93	...	0.72	0	10	18	2	10	...	G. H. Phelps.
Bowman	Bowman	...	5	61.7^{j}	...	94^{h}	8	35^{k}	3†	38^{k}	2.61	...	0.98	0	12	12	4	14	se.	C. V. Hook.
Cando	Towner	1,488	18	61.4	+0.2	84	8	34	3	36	3.34	0.43	1.25	0	11	12	12	6	se.	A. J. Swanson.
Carson	Grant	2,500	7	60.8	...	96	8	31	2	46	3.05	...	0.90	0	7	11	16	3	se.	J. W. Evens.
Colgate	Steele	1,177	5	62.4	...	87	12†	36	3	37	3.94	...	1.40	0	9	15	14	1	se.	James McCann.
Cooperstown	Griggs	1,428	9	...	...	...	...	...	...	...	4.05	+0.36	2.00	0	8	17	10	3	nw.	S. Friswold.
Crosby	Divide	1,954	12	61.8	+1.2	85	13	39	2	33	2.88	−0.14	0.57	0	14	10	15	5	se.	John Jensen.
Devils Lake	Ramsey	1,478	15	62.4	−0.2	86	13	37	3	36	4.69	+1.16	3.30	0	10	12	7	11	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	61.6	+0.3	93	9	31	4	42	4.32	+1.17	1.12	0	12	11	16	3	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	64.4^{d}	+3.9	92^{d}	12	36^{d}	3	46^{d}	4.83	+1.92	1.30	0	14	...	...	...	se.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	63.2	...	90	13	32^{a}	4	44	4.74	...	1.30	0	11	19	5	6	se.	W. H. Moede.
Dunseith	Rolette	1,682	23	61.1^{b}	−0.1	86^{b}	7	30^{b}	3	38^{b}	4.05	+1.04	1.53	0	11	...	...	...	sw.	J. G. Lamont.
Eckman	Bottineau	...	14	60.4	−0.9	90	13	31	3	50	2.61	−0.32	0.67	0	11	10	8	12	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	62.4	0.4	87	8	36	9	40	3.65	+0.25	0.64	0	17	3	19	8	se.	O. A. Thompson.
Ellendale	Dickey	1,449	21	62.4	...	87	8	39	2	31	3.45	+0.05	0.65	0	15	2	13	15	ne.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	7	...	...	...	...	...	...	...	3.89	...	1.65	0	16	2	26	2	se.	N. W. Solenberger.
Epping	Williams	2,224	11	...	...	...	...	...	...	...	7.42	+4.29	4.02	0	14	9	18	3	w.	M. E. Uggen.
Fessenden	Wells	1,610	7	61.4	...	91	7	30	3	47	3.02	...	1.02	0	12	16	8	6	se.	G. T. Seymour.
Forman	Sargent	1,249	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. T. Denk.
Fryburg	Billings	2,790	1	...	...	...	...	...	...	...	2.40	...	0.53	0	15	15	11	4	se.	Verne King.
Fullerton	Dickey	1,439	21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	F. O. Alin.
Garrison	McLean	1,901	24	61.6	−0.6	89	13	30	2	39	5.41	+2.04	2.05	T.	14	8	17	5	se.	G. L. Robinson.
Grafton	Walsh	827	27	63.2	+0.7	88	12	37	3	39	2.72	−0.62	0.85	0	8	21	0	9	se.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	27	63.4	+0.5	88	12	30	3	37	1.49	−2.10	0.67	0	7	14	9	7	sw.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	61.2	−1.9	89	13	34	3	40	2.62	−0.30	1.07	0	12	1	19	10	se.	W. A. Christianson.
Hannah	Cavalier	1,568	14	61.0	+1.5	86	7	32	3	46	3.71	+0.26	1.09	0	8	17	11	2	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	60.4	0.0	88	12†	31	3†	45	5.76	+3.38	3.10	0	8	11	14	5	sw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	61.4	−0.7	96	8	31	4	45	3.57	+0.06	0.88	0	12	16	8	6	se.	U. J. Downey.
Hillsboro	Traill	901	13	63.4	−1.0	88	14	38	3	33	3.78	+0.22	1.95	0	10	7	22	1	se.	F. E. Mayall.
Howard‡‡	Williams	2,275	12	63.0	+3.3	90	8	33	4	37	1.61	−1.24	0.53	0	5	6	17	7	se.	C. P. Ainsbaugh.
Jamestown	Stutsman	1,390	27	63.6	+0.5	89	14	37	2	34	3.57	−0.12	1.37	0	13	12	3	15	e.	S. Calvelage.
Lakota	Nelson	1,579	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. R. Pettes.
Lamoine	Kidder	1,936	11	60.9^{b}	+0.4	86	7	31^{i}	2	45	4.06	+0.61	1.10	0	10	9	17	4	se.	E. V. Virgin.
Langdon	Cavalier	1,615	23	60.2	+0.5	88	13	33	3	43	1.30	−2.32	0.34	0	8	24	1	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	63.2	+1.1	89	12†	34	3	40	2.12	−1.47	0.55	0	11	14	2	14	s.	Reuben Gray.
Linton	Emmons	1,711	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. G. Sailer.
Lisbon	Ransom	1,091	15	63.5	+0.4	90	8	36	2†	41	4.89	+0.43	1.18	0	13	15	9	6	...	W. S. Adams.
McClusky	Sheridan	1,943	1	...	...	...	...	...	...	...	4.34	...	1.55	0	11	...	...	...	...	Edw. Tapley.
McHenry	Foster	1,509	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	P. E. Trudeau.
McKinney‡‡	Renville	1,640	25	60.4	−0.3	87	13	37	19	38	3.31	−0.03	0.50	0	12	...	...	...	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	63.2^{b}	...	88^{h}	13	38^{i}	2	36	4.49	...	0.99	0	16	15	8	7	ne.	J. G. Carlson.
Maddock	Benson	1,604	4	61.4	...	87	7	29	3	40	3.26	...	0.66	0	13	4	20	6	se.	A. T. Felland.
Mandan	Morton	1,644	5	65.4	...	93	14	36	2	40	1.63	...	0.49	0	11	9	13	8	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	61.6	+0.1	90	7	32	3	43	3.17	−0.47	0.85	0	15	16	7	7	se.	P. B. Anderson.
Marmarth	Slope	...	10	61.6	+1.3	95	8	32	4	40	1.79	1.64	0.31	0	14	7	12	11	nw.	S. P. Grane.
Mayville	Traill	975	23	60.9	−3.6	88	12	34	3	37	2.76	−0.88	0.81	0	10	18	3	9	...	W. C. Gould.
Melville	Foster	1,590	21	62.0^{c}	−0.9	86^{c}	14	36^{c}	3	33^{c}	4.04	+0.43	2.05	0	9	...	...	...	nw.	J. P. Kidder.
Minot	Ward	1,557	23	59.7	−2.8	91	13	28	3	42	3.81	+0.41	0.92	0	14	...	...	...	e.	W. I. Faris.
Minto	Walsh	820	26	62.8^{c}	−1.1	90^{c}	13	36^{c}	3	37^{d}	2.42	−0.97	1.25	0	5	15	9	6	nw.	C. M. Evans.
Mott	Hettinger	2,424	12	65.0	+2.0	98	8	26	3	41	4.09	+0.65	1.40	0	11	9	12	9	e.	O. H. Opland.
Napoleon	Logan	1,955	27	62.2	0.0	88	3†	34	2	39	3.73	−0.02	1.53	0	14	15	7	8	se.	C. J. Hoof.
New England	Hettinger	2,400	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. C. McKenzie.
New Salem	Morton	2,163	14	64.5	+1.7	92	29	30	2	36	3.97	−0.08	2.42	0	5	13	14	3	se.	J. Christiansen.
Orange‡‡	Adams	2,586	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. E. Lowries.
Park River	Walsh	998	15	62.9	−0.3	87	7	34	5	36	3.51	+0.02	1.29	0	11	13	10	7	se.	C. B. Wright.
Parshall	Mountrail	...	4	...	...	...	...	...	...	...	6.62	...	2.59	0	11	12	14	4	nw.	J. A. Johnson.
Pembina	Pembina	789	45	64.6	+2.0	88	12†	41	2†	39	0.50	−3.08	0.10	0	7	12	12	6	...	C. W. Shumaker.
Pettibone	Kidder	1,856	1	61.8	+1.6	88	14	32	2	35	4.95	+1.72	1.20	0	12	0	23	7	se.	A. O'Neill.
Power	Richland	1,020	26	...	...	...	...	...	...	...	4.77	+0.75	1.34	0	13	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	4	...	...	...	...	...	...	...	1.80	...	0.55	0	10	15	13	2	se.	C. Frank.
Selfridge	Sioux	...	...	...	...	...	...	...	...	...	3.92	+0.26	1.33	0	16	9	19	2	se.	H. F. Solenberger.
Steele	Kidder	1,857	22	63.1	+0.7	87	8†	34	2†	37	4.92	+1.53	0.97	0	14	13	14	3	...	H. S. Wood.
Taylor	Stark	2,493	3	62.2^{a}	...	92^{a}	8	32^{a}	5	40^{a}	2.31	...	0.60	0	14	...	...	...	sw.	H. Leutz.
Towner	McHenry	1,482	17	61.7	−0.5	86	13	34	3	38	2.04	1.20	0.78	0	7	18	7	5	se.	B. Bagley.
Turtle Lake	McLean	1,899	5	62.0	...	89	7†	31	2	40	2.99	...	0.85	0	14	5	9	16	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	63.3	+0.1	91	14	43^{a}	20	34^{a}	4.52	+1.24	2.25	0	11	15	9	6	e.	C. F. Schroeder.
Wahpeton	Richland	962	25	64.2	0.6	89	11†	37	5	33	6.60	+2.65	2.00	0	17	6	14	10	s.	State School of Science.
Walhalla	Pembina	966	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Ivan Lee.
Westhope	Bottineau	1,508	13	61.6	0.0	89	8	35	4	40	3.11	+0.13	1.32	0	11	17	9	4	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	62.8	−0.7	90	8	37	4	33	3.50	−0.07	2.30	0	12	11	15	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	59.9	−1.1	90	13	30	3	49	3.93	+0.63	1.33	0	12	9	14	7	se.	M. A. Ostby.
Zap	Mercer	1,800	6	...	...	...	...	...	...	...	4.29	+0.29	2.16	0	9	...	...	...	...	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	64.8	+0.4	90	13	39	5	34	5.89	+1.76	2.80	0	14	13	11	6	s.	U. S. Weather Bureau.
Averages	...	...	...	62.2	−0.6	98	8	26	3	50	3.62	+0.12	4.02	T.	11	12	12	6	se.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for June, 1920.

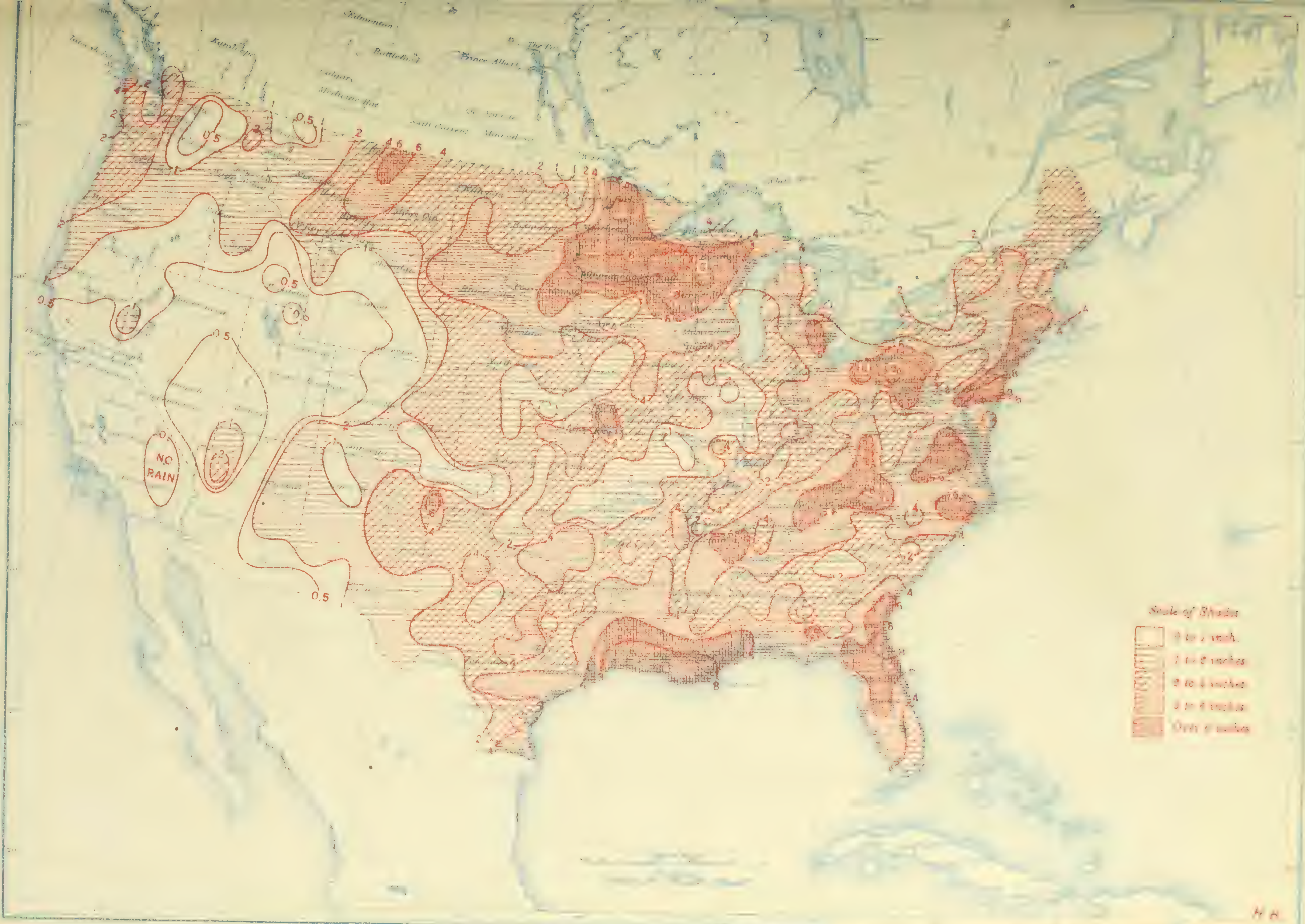
Stations.	Watersheds	Day of Month																														Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia	Red	.34	T		[illegible]		.36			.20		.13	T		T.								.88			T	T.	.74	.25				3.77
Antelope	Lit. Missouri																																
Arnegard	Missouri	.67		.10		.12					.05	.25	.35		.15		.11	.12		.04	.18				.17	.46	.34						3.11
Ashley	Missouri	.64		[illegible]		T	.18		.25		.93				.29	.06					.39				.29	.19	1.51				[illegible]		[illegible]
Beach	Lit. Missouri	.05		.12					T		.15					T.	T	.01	.10	.08	.17	T.			T		.22		.18		.12		[illegible]
Berthold Agency	Missouri	.28	.04	[illegible]		.32			.19	.07	T	T	T	T.	T.	1.22	.21			.11				.03		.66		.25	T		.12		[illegible]
Bismarck ***	Missouri	T		[illegible]		.05	T	T	T		.27	.01	.10								.13	.10		.02	.23	.18	.36		T		.31		[illegible]
Bottineau‖ ‖	Mouse			.08			T	T.		.03		T	.02		.51	.62					.28	.12			.28	.63	[illegible]		.08				[illegible]
Bowbells	Mouse		1.06	[illegible]	.05		.07			.72		.34				.07							.14		.03		.18						[illegible]
Bowman	Grand	.02				.01				.03		.02		.02		.21	.30		.30		.10					.40		.98	.31				2.70
Cando	Sheyenne	.08							.57		.02	.07			1.25						.13	.58	.03		.34	.10	.17						3.34
Carson	Heart	.15									.50	.03					.90										.66		.25		[illegible]		[illegible]
Colgate	Sheyenne				.28		.34		1.40		.24	.15			.85						T	.15			T.		.30				.23		3.94
Cooperstown	Sheyenne		.20				.28		2.00	.10	.12										.25	1.00				.10							4.05
Crosby	Mouse	.25	.22	.57	.02				.06		.09	.13		.02		.30				T.					.35	.05	.02	.18		.02			[illegible]
Devils Lake ***	Sheyenne	.02		T.	T	T.	.04	T	.26		T.	T.	T.	T.	3.30	.06					.20	.48			.10	.01	.22		T				4.69
Dickinson	Heart	.26	.04		.11		.81				T.	.38			T.		.06	1.06			.14	.19	.02				1.12				.13		4.32
Donnybrook	Mouse	.53	.25	.25			.22		.25				.15	1.30		.30	.05	T.			.05	T.	T.		.28		.15	.32	.70				[illegible]
Dunn Center	Knife	.52	.10		.17		.25			.28	T.	.06	T.		.33		.55	1.10	T.			.10					1.30						4.74
Dunseith	Mouse						.04	.03	.01			.11			1.53						.18	.36			.46	.13	1.13		.01				4.05
Eckman	Mouse	.01		.01						T.		.10			.15						.45	.13			.67	.06	.59	.32	.06				2.61
Edgeley	James	.03		.25	.04		.38	.12	.01	.47	.53	.02				.21	.01					.51			.03	.16	.01	.64			.26		3.65
Ellendale***	James	.02		.64	.01	.26	.17				.51		T		.29	.24					.05	.07			.14	.03	.26	.32		T.	.41		3.45
Energy	Missouri	.15		.32	.02	.02			.38			.24		.12	.05	.10	.22				1.65	.13			.07	.20	.13	.09					3.89
Epping	Missouri	.60		.18		.03	.06				.18	.16	.58	.06		4.02	.15				.12				1.00		.03	.25					7.42
Fessenden ‖	James	T.	T.	.13			.07		.41	.27			.03		T.	T.					1.02	.35	.01		.27	.09	.35			.02			3.02
Forman	Sheyenne																																
Fryburg	Lit. Missouri	.07		.14		.53			T.	T.	.21	.61			T.	.11	.03		.19	.23	.11	.04				.25	.09	T.	.07	T.	.32		2.40
Fullerton	James																																
Garrison	Missouri	T.		.45	.06	.02			.17	.16	.05	.14		.29	.41	T.	.02				1.04				.03		2.05		.52				5.41
Grafton	Red		.15				.34			.85					.33	.16						.07	.40			.40							2.72
Grand Forks ***	Red				.03		.10		.60		.01				.06	.67										T.	.02						1.49
Granville	Mouse	.11	.09	.10		T.	.06		.05		T.	.06		T.							.52	.11			.15		1.07		.20	T.	.10		2.62
Hannah	Pembina		.64				.12		T.			.11			1.09							.25			1.07	.09	.34						3.71
Hansboro	Red	.16					.26		.10			.18			3.10										.55	.36	1.05						5.76
Hettinger	Grand	.24	.02	T.		.12	.01	T.	T.	.23								T.	.45	.24	.88				.08		.46		.75	.09			3.57
Hillsboro	Red	.09		T.	.18		.21	T.	T.	1.95	.32				.43						T.	.10	.09			T.	.30				.11		3.78
Howard	Missouri	.47		.18					T.		.06	.53		T.	T.	T.	T.	T.		.40		T.				T.							1.64
Jamestown‖ ‖	James	.12			.18			.02		.73	.04	.08				.24						.40	.03		.03	.13	.20	1.37					3.57
Lakota	Sheyenne																																
Lamoine	Missouri	T.		*	1.10				.38	.07					.10						.92	.06			.20	.43	.80						4.06
Langdon‖ ‖	Pembina	.05	.09							.09		.02				.31						.25				.23	.23						1.30
Larimore‖ ‖	Red	.06	.03				.18			.55				.19		.11	.02					.35	.50			.08	.05						2.12
Linton	Missouri																																
Lisbon‖ ‖	Sheyenne	.51			.38	T.	.11	.58		.77	.15	.32				.04	.11					.35	T.			.05	T.	1.18	.34				4.89
McClusky	Missouri	.30		.10	.40	.05			1.55	.15		.15									.90	.10			.04		.60			T.			4.34
McHenry	James																																
McKinney	Mouse	.35	.35	.20		.18	T.		.50		T.	.20			.35	T.					T.	.25			.08		.20	.30	T.		.35		3.31
McLeod	Sheyenne			.74	.18		.36	.02	.37	.12	.99				.12						.30	.08	.12		.03	.37	.09	.16			.44		4.49
Maddock	Sheyenne			.46		[illegible]			.07	.12	.09	.02			.38						.24	.33			.15	.41	.66			.21			3.26
Mandan ‖	Missouri			.01		.04				T.	.27	T.	.07								.16	.05		.10		.27	.01	.49			.16		1.63
Manfred	Sheyenne		.04	.14	.06	T.	.11		.32	.18		.02	.02								.85	.35	.03		.23	.17	.63			.02			3.17
Marmarth	Lit. Missouri	.03				.07	T.					.12				.31	.05	.27	.06	.13		.01				.22	.06	.01	.15		.30		1.79
Mayville	Red			.20			.25		.81		.22	.02				.51					.10	.33					.29				.03		2.76
Melville	James								2.05	.10	.20			.18	.23							.33	.20		T.	.33	.42			T	T.		4.04
Minot	Mouse	.01	.18	.03	.52					.59	.01				.20							.57	.09		.04		.92		.13	.60	.01		3.81
Minto	Red	.20					.37		1.25						.25							T.			T.	.35	T.						2.42
Mott	Cannon Ball			.07		.16					.20	.14				.45	.08				.63	T.				.15	.83		1.40		.08		4.09
Napoleon ‖	Missouri	.12			.08	.11	.08			.18	.15	.08				.40					T.	.20			.03	.20	.55	1.53			.02		3.73
New England ‖ ‖	Cannon Ball																																
New Salem	Heart	T.						T.	T.		T.				T.		2.42				.36	T.				.03	.43				.73		3.97
Orange	Cannon Ball																																
Park River	Red	.02					.12	.05	1.29			.06			.55						.35	.48	.04			.48	.07						3.51
Parshall	Missouri	.08		.65		.16			.85	.05				.03		.98	2.59				.79						.30	.14					6.62
Pembina ‖ ‖	Red	T.	.10				.08	.10		.04						.10										.04	.04						0.50
Pettibone	James			.43	.04				.65	.17	.28		.04		.17						.80				1.20	.17	.77				.23		4.95
Power	Missouri		*	.40			*	*	*	*	1.86		T.		.06					.07	.12				T.	1.34	.51				.41		4.77
Powers Lake	Sheyenne	.25	.55		.05			T.			.10		.30	.03			T.				T.			.22	.09	.16		T.		T.	.02		1.80
Selfridge	Missouri	T.		.28		.78	T.		.02		.07										.12	T.		T.	1.10	.08	1.33	T.	.12		.02		3.92
Steele	Missouri			.36	.57		.38			.49		.33	.03				.26	.02			.12	.48			.97	.58	T.		.05	T.	.28		4.92
Taylor	Heart	.02	.12			.08	.20				.08		.13	.11			.60	.05		.01	.29		.01				.43		T.		.18		2.31
Towner	Mouse		.37	T.					T.						.19						.32	.18			.08	.78		.12					2.04
Turtle Lake	Missouri	.02		.32	.02	.02			.85	.04		.04	.02	.11							.80	.02			.07		.65		.01				2.99
Valley City	Sheyenne			T.	.17		.30		2.25		.54	.05			.04	.02						T.			T.	.14	.95	.01		T.	.02		4.52
Wahpeton	Red	.40	.04		.77	.15	.24			2.00	.35	.30	T.			.25	.02					.15	.05			.12	.21	.05	1.25		.25		6.60
Walhalla	Pembina																																
Westhope	Mouse	.17	.11			.04				.10		.08			1.32							.30			.26	.24	.41		.08				3.11
Williston ***	Missouri	.40		.09		T.	T.		T.		.10	.01	.12		T.	.12	.03	.03		.09	.09			2.30		.12		T.	T.				3.50
Willow City	Mouse	.15	.02				.22	.04		.05		T.			1.18						.30	.10			.37	.03	1.33		.14				3.93
Zap	Knife	.07		.12		T.			.01		T.	.15		T.	.31		2.16				.86			.35			.26				T.		4.29
Moorhead, Minn ***	Red	.04		.31	.30		.45		.61	.02	.39				.32							.03			.09	.10	2.72	.36			.15		5.89

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	62	58	65	63	70	72	86	85	78	65	81	91	89	90	80	74	75	65	67	76	72	73	76	71	77	73	67	78	83	79	....	74.7
	Minimum	48	39	36	44	39	44	50	54	50	52	49	54	57	74	58	56	45	43	46	46	53	47	43	52	58	58	55	56	55	55	....	50.5
Arnegard	Maximum	57	57	56	68	57	74	83	90	72	65	80	77	90	84	80	65	70	65	68	70	70	73	81	74	73	70	77	75	82	85	....	72.9
	Minimum	41	35	37	33	34	47	49	57	50	50	52	55	51	59	59	60	55	49	53	49	45	43	47	52	47	50	48	51	48	55	....	48.7
Ashley	Maximum	60	62	51	63	65	73	82	84	74	68	83	87	90	89	79	74	69	71	73	75	70	69	84	79	77	77	73	80	84	89	....	75.1
	Minimum	40	37	42	42	38	52	50	58	50	51	55	57	59	54	59	56	45	43	43	43	..	..	..	51	53	47	47	47	47	59	....	[c]49.1
Beach	Maximum	60	62	60	70	65	70	87	96	77	67	85	81	95	90	84	78	62	62	62	70	70	75	82	75	80	70	80	81	84	87	....	75.6
	Minimum	40	31	40	32	41	40	44	56	45	49	52	47	53	61	56	52	58	57	49	43	41	37	51	50	52	47	48	49	48	57	....	47.5
Berthold Agency	Maximum	58	62	57	71	72	74	88	85	79	70	86	83	93	88	87	68	74	71	74	72	71	77	81	74	82	72	78	81	86	82	....	76.6
	Minimum	42	36	35	36	45	48	43	52	54	53	55	54	47	56	59	59	53	49	50	54	48	43	56	56	47	54	49	51	49	56	....	49.6
Bismarck	Maximum	60	61	63	67	71	79	87	88	78	68	82	85	89	88	84	77	73	70	73	70	68	74	81	73	85	71	73	83	84	76	....	76.0
	Minimum	44	38	43	44	46	53	53	64	55	52	55	60	54	64	59	56	48	48	48	56	51	49	49	60	60	58	50	58	55	58	....	52.9
Bottineau §§	Maximum	55	59	60	70	74	77	87	85	76	76	69	85	89	79	79	75	72	73	77	69	65	74	77	76	78	70	76	79	80	81	....	74.7
	Minimum	43	36	32	44	35	41	44	54	52	51	51	54	52	54	56	56	49	50	46	50	50	47	47	50	51	54	53	45	50	55	....	48.4
Bowbells §§	Maximum	59	56	60	70	69	72	82	81	76	71	78	79	86	87	76	77	72	70	74	79	67	73	80	72	76	75	73	74	83	81	....	74.3
	Minimum	40	37	36	35	43	48	46	54	42	52	47	48	50	52	53	50	48	45	42	49	41	40	47	55	41	42	48	44	50	52	....	45.9
Bowman	Maximum	57	60	62	67	67	74	86	94	78	67	82	80	88	85	83	75	..	..	..	..	..	..	..	..	78	78	75	79	77	82	....	[b]76.1
	Minimum	41	44	35	35	43	46	48	..	..	..	44	42	53	52	55	53	..	..	..	..	..	..	..	..	43	42	46	52	53	71	....	[k]47.3
Cando	Maximum	51	56	54	66	66	70	83	84	72	72	70	82	82	81	76	76	69	69	73	74	73	72	74	73	78	74	75	81	82	81	....	73.0
	Minimum	45	40	34	41	41	53	47	55	57	52	52	50	50	58	54	54	48	45	45	49	51	42	46	59	55	60	50	55	54	54	....	49.9
Carson	Maximum	60	50	50	55	65	56	55	96	86	80	85	85	86	85	85	80	85	75	70	65	65	75	80	78	80	70	68	77	77	78	....	73.4
	Minimum	42	31	32	38	40	42	43	50	55	50	52	60	52	65	50	55	48	45	50	50	45	43	45	50	55	55	50	53	50	50	....	48.2
Colgate	Maximum	63	58	63	62	67	64	86	82	78	66	74	87	87	86	77	74	72	72	73	77	71	72	75	69	79	71	69	78	84	79	....	73.8
	Minimum	48	38	36	42	43	42	50	55	56	51	52	50	55	54	53	56	53	51	55	54	54	45	45	55	59	58	58	55	55	52	....	51.1
Crosby	Maximum	55	56	57	69	75	79	80	83	75	72	75	75	85	79	77	74	79	70	72	72	68	77	81	74	74	72	78	75	79	84	....	74.0
	Minimum	44	39	40	44	49	50	51	56	54	48	54	56	52	55	56	54	56	50	48	48	46	44	53	46	44	46	50	51	50	53	....	49.6
Devils Lake	Maximum	52	59	64	68	71	72	86	82	75	69	70	85	86	83	78	72	71	72	74	71	68	71	74	76	77	70	75	78	80	79	....	73.6
	Minimum	41	39	37	42	44	53	50	59	58	53	52	52	53	59	56	52	48	46	47	53	52	45	48	60	56	56	52	56	57	58	....	51.1
Dickinson §§	Maximum	62	63	66	70	77	78	88	93	74	64	84	82	90	87	88	66	70	65	61	66	67	72	81	68	78	69	75	79	80	81	....	74.8
	Minimum	34	32	36	31	41	49	46	52	52	53	52	51	51	57	59	59	54	50	50	50	49	42	50	50	48	53	50	51	49	55	....	48.5
Donnybrook	Maximum	55	56	55	70	72	74	84	84	..	..	84	92	82	..	80	74	75	75	..	70	75	75	84	82	82	76	80	78	85	81	....	[d]79.2
	Minimum	43	39	36	39	46	47	46	51	..	..	51	46	55	..	59	54	50	45	..	54	49	40	41	58	44	51	44	46	46	57	....	[d]49.5
Dunn Center §§	Maximum	56	59	55	67	69	72	86	88	74	67	83	80	90	82	81	61	69	67	70	70	70	71	80	69	80	70	75	80	84	80	....	73.6
	Minimum	42	33	36	32	41	51	45	53	..	53	54	61	46	65	61	60	55	52	58	53	63	49	63	65	50	52	61	55	64	59	....	[a]52.8
Dunseith	Maximum	..	..	61	70	70	75	86	80	82	73	70	85	86	84	75	74	72	71	73	63	61	69	74	69	75	75	70	78	78	78	....	74.2
	Minimum	..	..	30	32	39	50	47	63	50	48	50	53	53	54	61	52	50	48	42	46	50	41	48	48	50	56	42	46	47	48	....	48.0
Edgeley	Maximum	62	61	59	66	69	74	83	87	75	73	80	84	84	83	77	73	70	71	74	71	71	69	82	75	79	79	74	77	81	80	....	74.8
	Minimum	48	37	39	44	41	41	52	57	36	50	54	54	54	60	59	59	44	43	41	48	48	50	42	60	61	59	54	57	56	54	....	50.1
Ellendale	Maximum	62	60	53	64	69	74	82	87	77	64	84	83	85	81	76	71	67	68	71	65	69	67	76	72	76	72	63	76	80	73	....	72.2
	Minimum	45	39	44	46	40	54	54	56	56	50	57	56	59	62	61	53	47	47	44	49	52	52	45	60	62	61	58	59	52	55	....	52.5
Fessenden	Maximum	62	62	68	71	72	79	91	86	76	68	71	87	87	85	86	77	71	73	76	66	63	70	78	75	78	74	72	84	85	74	....	76.1
	Minimum	44	33	30	37	37	51	43	53	54	51	50	49	47	58	54	51	39	43	37	44	49	42	39	57	54	54	46	52	52	48	....	46.7
Fullerton	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Grafton	Maximum	59	59	67	69	73	68	87	80	79	73	78	88	87	82	82	76	71	75	79	76	76	72	78	75	76	75	78	81	82	85	....	76.2
	Minimum	48	42	37	40	42	52	49	52	57	52	53	51	55	59	57	56	46	43	46	47	51	46	46	54	59	61	51	47	56	51	....	50.2
Grand Forks	Maximum	60	58	68	65	70	73	86	87	78	72	81	88	87	87	81	72	70	73	77	78	74	73	75	74	76	74	74	78	87	79	....	75.8
	Minimum	47	40	36	48	49	53	49	57	58	49	53	53	58	57	59	55	48	46	48	57	50	43	45	51	59	52	51	48	59	49	....	51.0
Granville	Maximum	56	59	57	69	72	73	87	74	74	71	69	84	89	77	85	79	76	74	76	63	60	70	78	75	80	70	85	78	69	80	....	73.6
	Minimum	42	37	34	38	42	48	47	55	55	52	50	54	49	50	55	55	44	45	45	53	48	43	45	55	50	54	48	50	55	62	....	48.7
Hannah	Maximum	59	61	60	70	71	72	86	75	74	72	76	84	80	75	79	72	70	71	76	70	67	70	74	73	74	71	76	79	83	80	....	73.3
	Minimum	41	43	32	41	42	51	40	60	55	45	44	56	65	60	55	54	45	39	45	52	50	39	42	54	52	57	44	50	52	50	....	48.8
Hansboro	Maximum	65	60	69	72	74	76	86	77	74	73	66	88	88	80	77	70	72	73	75	66	64	75	74	72	75	71	76	78	78	80	...	74.1
	Minimum	41	41	31	31	41	53	52	54	52	51	46	48	43	53	51	50	45	41	43	41	51	39	51	57	50	50	46	51	50	51	...	46.8
Hettinger	Maximum	59	63	67	67	68	77	87	96	76	72	82	82	88	78	87	80	78	60	62	67	69	71	69	66	80	73	68	82	77	79	....	74.3
	Minimum	36	34	42	31	45	45	42	60	55	49	53	52	52	60	50	53	52	59	51	48	46	43	41	51	50	51	50	51	51	60	....	48.5
Hillsboro	Maximum	60	59	63	63	67	69	84	84	76	75	79	85	86	88	81	78	75	75	75	71	71	72	74	74	76	76	72	77	82	81	....	75.0
	Minimum	50	40	38	46	39	52	51	56	57	53	51	54	58	63	59	57	45	47	48	48	53	46	45	55	61	59	54	54	57	55	...	51.7
Howard	Maximum	57	55	60	70	70	78	78	90	73	70	74	77	86	78	78	74	78	68	80	78	78	77	72	71	78	77	80	82	83	86	....	75.2
	Minimum	42	34	34	33	47	57	51	57	44	54	51	51	58	58	61	58	61	52	54	56	57	55	56	47	48	48	50	48	50	52	....	50.8
Jamestown	Maximum	60	59	62	66	70	77	87	87	74	71	75	85	87	89	79	73	71	73	71	74	68	70	78	74	82	74	67	78	83	81	....	74.8
	Minimum	49	37	38	45	38	54	53	56	59	52	53	55	58	66	59	60	49	49	44	46	54	48	41	60	59	61	54	57	57	56	....	52.3
Lamoine	Maximum	57	59	..	..	70	75	86	80	72	64	76	83	80	84	84	72	70	68	73	68	66	68	74	74	78	78	78	78	80	78	....	[b]74.0
	Minimum	41	31	..	..	40	41	41	56	54	52	51	55	52	53	54	48	46	48	42	48	49	41	41	58	55	50	48	53	49	50	....	[b]47.8
Langdon	Maximum	51	55	63	69	74	70	84	79	75	70	72	80	88	78	75	71	63	74	75	71	67	74	77	75	74	69	80	79	80	84	....	73.3
	Minimum	43	38	33	38	38	50	48	52	55	51	55	47	53	58	52	50	45	45	45	47	50	42	41	55	53	46	44	50	51	41	....	47.2
Larimore	Maximum	60	62	68	70	73	72	87	88	78	69	79	89	89	85	82	75	74	75	77	74	75	74	76	73	79	72	76	82	85	79	...	76.6
	Minimum	45	40	34	43	45	52	50	57	56	53	51	49	54	59	57	55	56	42	45	42	41	41	45	55	53	57	50	46	59	52	....	49.9
Lisbon	Maximum	65	62	63	69	75	66	85	90	76	63	86	86	89	88	80	74	73	76	79	74	73	72	80	70	81	74	65	78	82	75	...	75.6
	Minimum	47	36	36	47	37	48	45	56	58	52	52	54	63	65	62	59	56	40	42	49	53	50	39	53	59	63	59	55	53	55	....	51.4
McHenry	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
McKinney	Maximum	64	72	58	70	72	76	85	83	74	72	74	80	87	80	79	75	75	73	75	75	63	73	80	72	71	70	77	75	80	80	....	74.7
	Minimum	44	42	38	48	50	52	58	50	50	45	45	51	55	54	57	51	49	43	37	38	46	38	43	48	40	40	40	42	43	48	....	46.2
Maddock	Maximum	59	59	65	67	73	72	87	84	75	75	72	85	86	83	80	76	73	72	75	73	67	72	75	75	79	74	73	78	80	76	....	74.7
	Minimum	46	35	29	39	40	53	49	53	59	51	51	50	46	59	56	57	43	40	39	44	46	40	40	59	52	58	47	54	54	50	....	48.0
Marmarth	Maximum	55	60	61	69	65	73	85	95	78	70	84	80	91	85	82	77	62	55	62	72	66	71	78	68	76	68	76	80	76	85	....	73.5
	Minimum	40	35	41	32	45	47	45	61	47	53	54	48	55	58	58	51	55	50	56	52	44	39	51	54	57	50	50	52	59	65	....	49.7
Minot	Maximum	60	56	56	70	72	75	89	78	74	71	78	83	91	79	83	78	74	74	76	66	65	74	80	76	80	74	76	79	83	80	....	75.0
	Minimum	38	34	28	32	39	39	41	49	50	49	48	49	49	53	59	51	41	40	42	42	44	37	41	55	41	49	49	44	46	52	....	41.4
Mott	Maximum	76	50	52	78	67	80	86	98	77	78	84	83	87	76	79	78	78	87	80	83	82	85	88	85	93	82	85	83	78	81	...	80.0
	Minimum	45	37	26	38	43	46	54	57	52	50	60	50	54	47	43	52	49	48	42	44	45	48	55	57	62	57	60	61	55	58	....	49.9
Napoleon	Maximum	60	62	60	66	72	78	84	88	76	66	81	85	88	88	78	78	72	71	73	67	70	73	79	82	81	70	70	80	82	76	...	75.2
	Minimum	42	34	37	41	40	51	50	56	55	48	52	55	52	61	51	56	45	41	43	50	49	50	40	58	55	56	49	54	51	54	....	49.3
New Salem	Maximum	71	60	59	65	71	78	87	88	76	70	82	90	88	90	87	77	67	68	70	76	68	74	77	76	80	78	76	90	92	88	....	77.3
	Minimum	42	30	35	35	35	53	58	64	54	48	52	63	62	58	57	57	42	45	43	58	43	52	57	56	58	57	54	63	66	54	....	51.7
Pembina §§	Maximum	58	61	72	69	73	71	84	71	72	76	78	88	82	74	82	79	78	88	81	78	72	78	82	74	82	77	82	82	82	86	....	77.1
	Minimum	48	41	41	44	44	49	54	56	57	49	49	52	61	59	57	52	48	49	52	58	57	46	46	54	57	59	54	56	57	58	....	52.1
Steele	Maximum	63	62	65	66	72	74	82	87	83	79	83	85	87	86	83	86	76	75	73	69	70	70	69	70	80	71	74	81	79	74	...	75.8
	Minimum	48	34	34	38	40	44	45	50	48	54	55	54	60	58	56	60	53	50	50	48	48	47	48	52	56	56	55	58	60	50	....	50.4
Towner	Maximum	64	48	62	70	73	72	85	84	75	70	71	84	86	78	81	78	73	75	74	72	71	76	78	76	78	78	78	75	80	80	....	74.9
	Minimum	40	35	34	40	45	46	48	51	50	53	53	56	48	50	54	55	44	48	50	54	60	56	45	50	50	45	42	48	51	55	...	48.5
Valley City	Maximum	61	59	63	67	68	71	83	85	73	65	78	84	81	91	81	75	70	76	81	83	71	76	78	78	79	72	70	78	82	78	...	75.3
	Minimum	49	36	38	44	46	48	51	62	..	53	51	54	60	59	59	55	46	50	47	43	50	48	45	46	56	60	54	62	55	60	....	51.3
Wahpeton	Maximum	65	59	60	61	67	73	85	88	79	62	89	89	88	84	74	73	70	73	77	76	74	72	76	69	76	75	65	76	83	77	...	74.5
	Minimum	48	40	39	45	37	53	52	59	59	55	57	61	63	68	63	56	48	46	49	55	50	52	49	56	62	60	60	60	56	55	...	53.8
Westhope	Maximum	63	60	60	70	71	73	85	89	88	75	74	82	88	79	78	75	76	75	76	68	63	70	75	74	76	71	71	80	81	80	....	74.9
	Minimum	39	41	38	35	52	41	48	51	55	45	50	55	48	55	55	55	48	50	48	42	50	51	55	53	48	53	49	47	42	52	...	48.4
Williston	Maximum	57	57	57	68	69	77	83	90	74	66	78	78	89	84	78	72	72	67	67	69	69	74	81	69	72	71	78	77	83	86	....	73.7
	Minimum	41	38	42	37	50	50	50	57	51	54	53	58	59	59	63	60	57	55	55	50	46	44	55	52	49	52	56	53	53	60	...	52.0
Moorhead, Minn	Maximum	62	60	65	62	68	74	87	86	80	65	86	87	90	88	82	73	73	75	78	78	76	73	78	71	78	74	66	76	85	80	...	75.9
	Minimum	46	41	40	46	39	54	53	57	59	54	53	61	62	64	62	54	48	46	51	50	53	52	46	58	63	62	60	58	59	57	...	53.6
....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...	.....
....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...	.....

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a, 1 day missing. b, 2 days, etc.


Edmonton
Battleford
Prince Albert
Calgary
Medicine Hat
Swift Current
0.5
1
2
4
6
8
NO RAIN
Scale of Shades
0 to 1 inch.
1 to 2 inches
2 to 4 inches
4 to 8 inches
Over 8 inches
H.H.

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WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

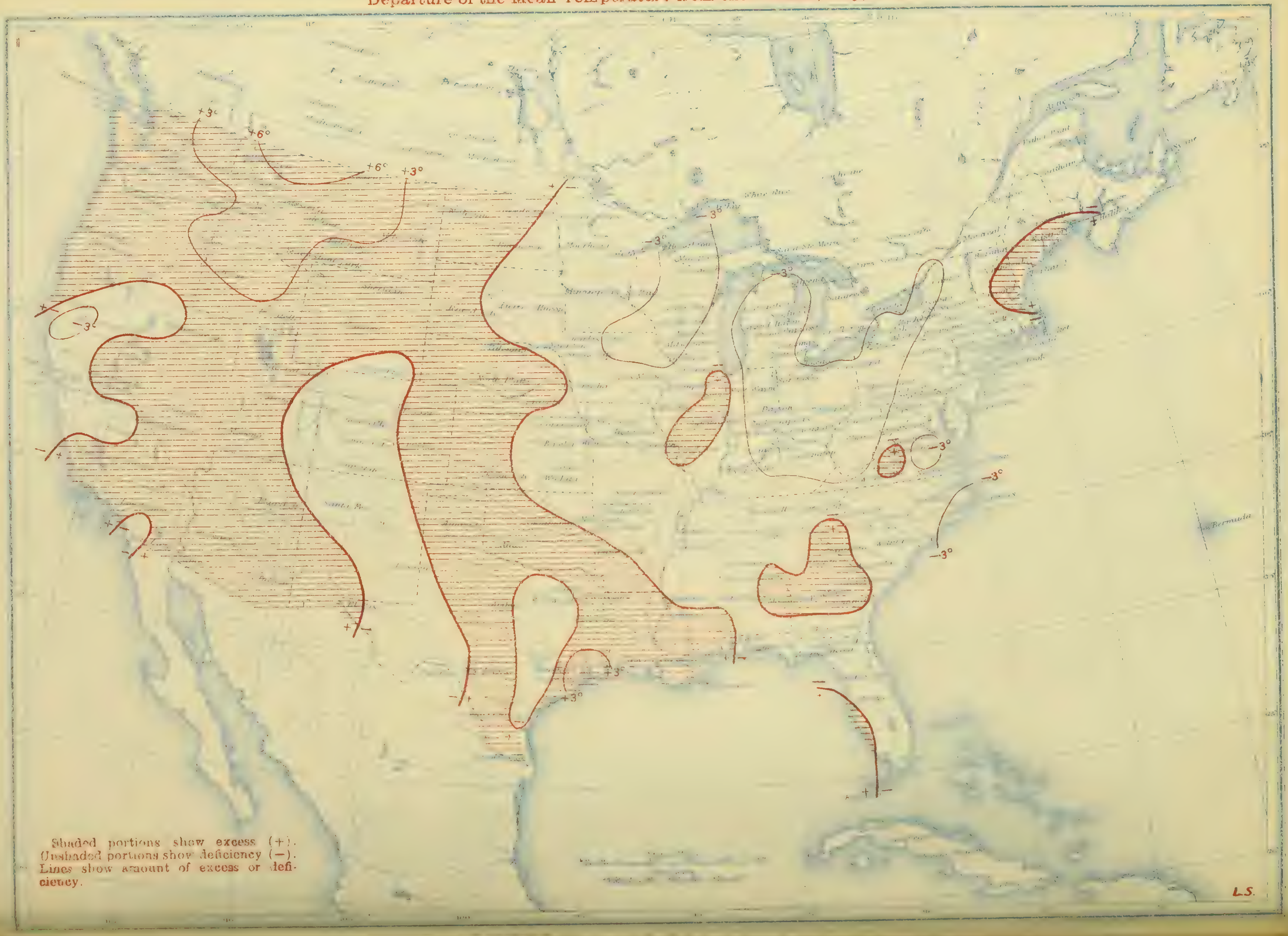
JULY, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

1862 1889

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
SEPTEMBER 21, 1920.

Departure of the Mean Temperature from the Normal, July, 1920.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXIX. Bismarck, N. D., July, 1920. No. 7.

GENERAL SUMMARY.

Cool weather characterized the weather at the opening of the month, and this condition prevailed during the first decade. Higher temperature followed, and continued throughout the month. The weather during the first part of the month was beneficial to all crops, especially late sown grains. The higher temperatures which followed ripened grain rapidly, too rapidly in some parts, and were especially beneficial to corn, of which there is a greatly increased acreage in North Dakota this year. Considerable damage to potatoes was reported from insects, the hot weather apparently being favorable for their propagation. Local hailstorms were reported from various parts of the State, the damage being considerable. Harvesting of all small grains was well advanced at the close of the month, and some threshing of rye and early wheat was reported. Pastures, ranges and meadows were in excellent condition generally; first crop of alfalfa was in stack, some cutting of second crop and prairie hay was reported.

TEMPERATURE.

The mean temperature for the State was 68.3°, or 0.8° above the normal, and 2.9° lower than the mean for July, 1919. The highest mean reported was 72.7° at Bowman, Bowman County; the lowest was 65.0° at Langdon, Cavalier County. The highest temperature reported was 103° at Mandan, Morton County, on the 22d; the lowest was 37° at Hannah and Langdon, both in Cavalier County, on the 31st. The greatest monthly range of temperature was 61° at Beach, Golden Valley County; the least was 42° at Steele, Kidder County.. The greatest daily range was 47° at Beach, Golden Valley County, and at Hettinger, Adams County, on the 27th and 3d, respectively.

PRECIPITATION.

The average precipitation for the State was 2.16 inches, or 0.46 inch below the normal, and 0.35 inch more than the average for July, 1919. The greatest monthly amount reported was 4.89 inches at Fullerton, Dickey County; the least was 0.78 inch at Beach, Golden Valley County, and at Minto, Walsh County. The greatest amount recorded in any twenty-four consecutive hours was 2.13 inches at Lisbon, Ransom County, on the 1st. The average number of days with 0.01 inch or more of precipitation was 7. Although the precipitation was unevenly distributed geographically, the distribution throughout the month was quite uniform.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
						Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour			
	Average.	Highest.	Date.	Lowest.	Date.			Average.	Highest.*	Direction.	Date.
Bismarck	30.02	30.32	9	29.59	22	57	6,011	8.1	32	ne.	13
Devils Lake	29.98	30.24	9	29.59	1	44	6,132	8.2	34	ne.	16
Ellendale	30.00	30.25	15	29.58	22	56	7,733	10.4	58	nw.	3
Grand Forks	29.95	30.24	15	29.64	1	90	......	......	...	......	...
Williston	29.96	30.31	9	29.59	1	48	5,213	7.0	36	w.	22
Moorhead, Minn	29.99	30.30	15	29.51	22	57	4,491	6.0	30	ne.	13
Av'ges and extremes	......	......	...	......	...	......	......	......	...	......	...

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	346.5	479.2	71	+ 1	87	47	48	22	11
Devils Lake	419.7	483.1	87	+19	80	50	53	28	24
Ellendale	317.9	475.2	67	......	90	.....	64	35	28
Grand Forks	......	......	......	......	....	.....	....	.....	....
Williston	410.7	483.1	83	+13	79	44	41	22	22
Moorhead, Minn	......	......	......	......	87	.....	60	.....	....
Averages and extremes	......	......	......	......	....	.....	....	.....	....

* And other dates.

AURORAS.

The only aurora reported was at Devils Lake on the 5th.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.

Climatological Data for July, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	67.6	−1.1	90	11†	44	15	44	1.06	−2.12	0.72	0	4	20	11	0	s.	E. T. Carley.
Amidon	Slope	......	4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	M. J. Connolly.
Arnegard	McKenzie	......	1	69.2	......	98	3	40	12	39	2.19	......	0.98	0	8	22	6	3	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	68.0	−0.4	96	22	48	13	36	3.21	+0.57	1.00	0	8	22	7	2	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	70.8	+3.5	102	27	41	9	47	0.78	−1.06	0.20	0	7	16	12	3	w.	I. H. Clagget.
Berthold Agency‡‡	McLean	2,082	25	71.2	+2.3	101	27	47	8	41	2.76	+0.82	0.90	0	10	23	7	1	se.	C. L. Hall.
Bismarck	Burleigh	1,674	45	71.0	+0.8	102	22	51	13	36	2.72	+0.58	1.20	0	9	14	13	4	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	68.0	+2.2	92	27	44	15	39	1.98	−0.40	0.55	0	12	15	12	4	se.	M. R. Shuler.
Bowbells	Burke	1,958	7	66.9[a]	......	95[b]	27	41	7	39[b]	1.68	......	0.37	0	12	21	4	6	......	G. H. Phelps.
Bowman	Bowman	......	5	72.7[a]	......	97[a]	22	46[a]	14	37	1.85	......	0.82	0	5	16	6	9	se.	C. V. Hook.
Cando	Towner	1,488	18	68.4	+2.3	93	27	41	31	36	2.33	−0.28	0.51	0	7	20	9	2	nw.	A. J. Swanson.
Carson	Grant	2,500	7	67.6	......	96	22	48	9†	36	2.51	......	0.83	0	5	17	13	1	se.	J. W. Evens.
Colgate	Steele	1,177	5	69.4	......	97	3	42	15†	39	1.15	......	0.90	0	3	23	7	1	nw.	James McCann.
Cooperstown	Griggs	1,428	9	......	......	......	......	......	......	......	2.95	+0.13	0.95	0	7	25	6	0	w.	S. Friswold.
Crosby	Divide	1,954	12	69.4	+3.5	96	18	47	7	36	0.99	−0.93	0.28	0	8	16	12	3	sw.	John Jensen.
Devils Lake	Ramsey	1,478	15	67.2	−0.9	91	27	43	31	32	2.51	−1.27	1.16	0	5	17	12	2	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	67.3	−0.7	98	22	44	15†	42	2.76	+0.36	1.45	0	8	16	13	2	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	70.6	+4.8	97	27	45	8	46	2.30	0.50	0.75	0	9	6	24	1	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	70.6	......	97	22	47	14	40	0.93	......	0.70	0	5	......	......	......	se.	W. H. Moede.
Dunseith	Rolette	1,682	23	65.6	+1.2	91	27	40	7†	38	0.84	−1.60	0.29	0	9	22	5	4	nw.	J. G. Lamont.
Eckman	Bottineau	......	14	67.8	+2.0	93	27	41	7	38	3.17	+0.60	1.18	0	11	12	17	2	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	67.4	−1.1	92	22†	46	15	35	2.57	−0.17	0.95	0	9	6	19	6	n.	O. A. Thompson.
Ellendale	Dickey	1,449	21	67.4	......	98	22	49	14	36	2.64	−0.26	1.01	0	10	7	18	6	nw.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	7	......	......	......	......	......	......	......	1.00	......	0.20	0	8	3	27	1	se.	N. W. Solenberger.
Epping	Williams	2,224	11	......	......	......	......	......	......	......	1.80	−0.18	0.56	0	7	12	18	1	w.	M. E. Uggen.
Fessenden	Wells	1,610	7	66.8	......	94	11	43	8†	41	2.12	......	1.22	0	9	22	9	0	nw.	G. T. Seymour.
Forman	Sargent	1,249	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. T. Denk.
Fryburg	Billings	2,790	1	......	......	......	......	......	......	......	1.27	......	0.54	0	7	24	6	1	nw.	Verne King.
Fullerton	Dickey	1,439	21	69.2	+0.8	95	22	49	14†	33	4.89	+1.72	1.55	0	5	19	11	1	nw.	F. O. Alin.
Garrison	McLean	1,901	24	69.2	+1.1	95	22	49	7†	34	1.94	−0.14	1.20	0	5	14	16	1	nw.	G. L. Robinson.
Grafton	Walsh	827	27	68.0	+0.5	93	19	42	15	39	2.08	−0.42	0.60	0	6	26	1	4	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	68.0	+0.6	93	11	40	31	38	1.32	−1.38	1.16	0	5	......	......	......	......	U. S. Weather Bureau.
Granville	McHenry	1,504	12	68.3	+1.2	95	27	44	31	36	2.34	+0.24	0.72	0	11	5	25	1	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	66.8	+2.2	94	27	37	31	36	1.63	−0.81	0.76	0	6	24	6	1	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	66.0	+0.6	94	27	38	31	44	1.29	−0.85	0.50	0	7	18	13	0	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	69.8	+0.3	102	22	45	9†	47	3.23	+0.43	1.08	0	6	21	8	2	se.	U. J. Downey.
Hillsboro	Traill	901	13	68.5	−1.0	91	11	45	15	34	0.83	−1.95	0.63	0	3	8	22	1	nw	F. E. Mayall.
Howard ‡‡	Williams	2,275	12	69.8	+4.3	98	18	42	14†	44	1.30	−0.26	0.79	0	6	9	20	2	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	69.0	+0.5	92	19	48	15†	36	3.20	+0.46	1.13	0	9	16	5	10	s.	S. Calvelage.
Lakota	Nelson	1,579	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. R. Pettes.
Lamoine	Kidder	1,936	11	67.8	+1.9	90	27	45	15	32	2.65	+0.08	0.98	0	4	15	16	0	se.	E. V. Virgin.
Langdon	Cavalier	1,615	23	65.0	+0.5	94	27	37	31	43	0.85	−1.81	0.26	0	7	......	......	......	......	R. T. Burke.
Larimore	Grand Forks	1,134	24	67.8	+1.1	93	19	40	31	36	2.45	−0.54	1.20	0	4	19	8	4	n.	Reuben Gray.
Linton	Emmons	1,711	1	69.2	......	101	22	48[a]	23	45[a]	3.30	......	1.60	0	4	......	......	......	......	J. G. Sailer.
Lisbon	Ransom	1,091	15	68.7	+0.5	94	22	47	10†	39	4.32	+0.84	2.13	0	7	25	5	1	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	......	......	......	......	......	......	......	1.89	......	1.05	0	5	......	......	......	......	Edw. Tapley.
McHenry	Foster	1,509	9	66.0	......	94	19†	42	9†	46	2.86	......	0.75	0	8	23	4	4	nw.	P. E. Trudeau.
McKinney ‡‡	Renville	1,640	25	67.3	+1.3	92	17†	48	10	43	2.20	+0.16	0.65	0	8	17	12	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	68.5	......	90	17†	45	31	36	2.24	......	1.22	0	10	23	3	5	ne.	J. G. Carlson.
Maddock	Benson	1,604	4	67.4	......	93	19†	43	7†	44	1.60	......	0.88	0	8	10	21	0	nw.	A. T. Felland.
Mandan	Morton	1,644	5	71.4	......	103	22	50	13	38	2.68	......	1.10	0	7	14	13	4	n.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	66.4	0.5	92	27	44	31	37	2.71	+0.46	0.98	0	8	19	12	0	nw.	P. B. Anderson.
Marmarth	Slope	......	10	69.4	+1.6	101	21	45	14	39	1.47	0.35	0.74	0	5	14	11	6	e.	S. P. Grane.
Mayville	Traill	975	23	66.9	−2.5	94	19	42	15†	36	1.30	−1.78	0.80	0	5	25	3	3	n.	W. C. Gould.
Melville	Foster	1,590	21	67.6[d]	−0.3	92[d]	11†	46[d]	15	40[d]	1.96	−0.94	1.25	0	4	......	......	......	nw.	J. P. Kidder.
Minot	Ward	1,557	23	67.4	−0.7	99	27	41	7	43	1.20	−0.69	0.40	0	9	19	12	0	nw.	W. I. Faris.
Minto	Walsh	820	26	68.1[a]	+1.0	94[a]	11†	40[a]	15†	43[a]	0.78	−2.03	0.43	0	3	24	5	2	n.	C. M. Evans.
Mott	Hettinger	2,424	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	O. H. Opland.
Napoleon	Logan	1,955	27	67.9	−0.4	96	22	47	10	38	4.41	+1.93	1.10	0	11	19	5	7	se.	C. J. Hoof.
New England	Hettinger	2,400	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. C. McKenzie.
New Salem	Morton	2,163	14	69.2	−0.1	100	22	45	10	44	1.97	−0.22	1.56	0	7	17	13	1	se.	J. Christiansen.
Orange ‡‡	Adams	2,586	10	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. E. Lowries.
Park River	Walsh	998	15	67.8	0.0	94	27	42	15	38	1.50	−0.94	0.83	0	7	17	11	3	nw.	C. B. Wright.
Parshall	Mountrail	......	4	......	......	......	......	......	......	......	1.20	......	0.63	0	10	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	45	66.4	−1.3	94	22	40	24	42	1.60	−0.98	0.64	0	5	18	9	4	....	C. W. Shumaker.
Pettibone	Kidder	1,856	1	66.0[c]	+0.2	91[c]	27	46[c]	15	33[c]	3.82	+1.03	1.81	0	10	......	......	......	nw.	A. O'Neill.
Power	Richland	1,020	26	......	......	......	......	......	......	......	2.52	0.87	1.10	0	7	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	4	......	......	......	......	......	......	......	0.86	......	0.25	0	7	21	10	0	ne.	C. Frank.
Selfridge	Sioux	......	......	......	......	......	......	......	......	......	1.45	−1.07	0.70	0	4	17	12	2	n.	H. F. Solenberger.
Steele	Kidder	1,857	22	67.4	−2.0	90	22	48	9†	37	3.73	+0.92	1.70	0	9	19	12	0	w.	H. S. Wood.
Taylor	Stark	2,493	3	69.6[a]	......	98[a]	22	47[a]	6†	40[a]	2.95	......	1.09	0	9	......	......	......	se.	H. Leutz.
Towner	McHenry	1,482	17	68.8	+1.7	95	27†	45	7†	39	1.59	−0.80	0.97	0	6	23	7	1	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	68.7	......	96	27	48	15†	37	2.23	......	0.96	0	11	11	8	12	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	70.2	+2.2	94	19	46	31	38	1.73	−1.23	0.78	0	6	25	5	1	nw.	C. F. Schroeder.
Wahpeton	Richland	962	25	68.8[a]	−0.5	91[a]	22	41[a]	31	33[a]	1.98	−1.86	0.70	0	5	17	13	1	nw.	State School of Science.
Walhalla	Pembina	966	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Ivan Lee.
Westhope	Bottineau	1,508	13	67.0	+0.9	92	27	40	31	39	3.25	+1.28	1.05	0	10	23	5	3	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	70.8	+1.4	98	27	47	9	34	0.96	−1.07	0.51	0	9	19	11	1	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	66.0	+0.6	95	27	39	31	41	1.78	−0.27	1.12	0	8	11	20	0	nw.	M. A. Ostby.
Zap	Mercer	1,800	6	......	......	100	22	......	......	......	3.59	+1.42	1.40	0	8	20	11	0	e.	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	68.9	+0.2	90	17	48	15	32	2.92	−0.82	1.09	0	8	25	4	2	n.	U. S. Weather Bureau.
Averages	......	......	......	68.3	+0.8	103	22	37	31	47	2.16	0.46	2.13	0	7	18	11	2	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D. Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for July, 1920.

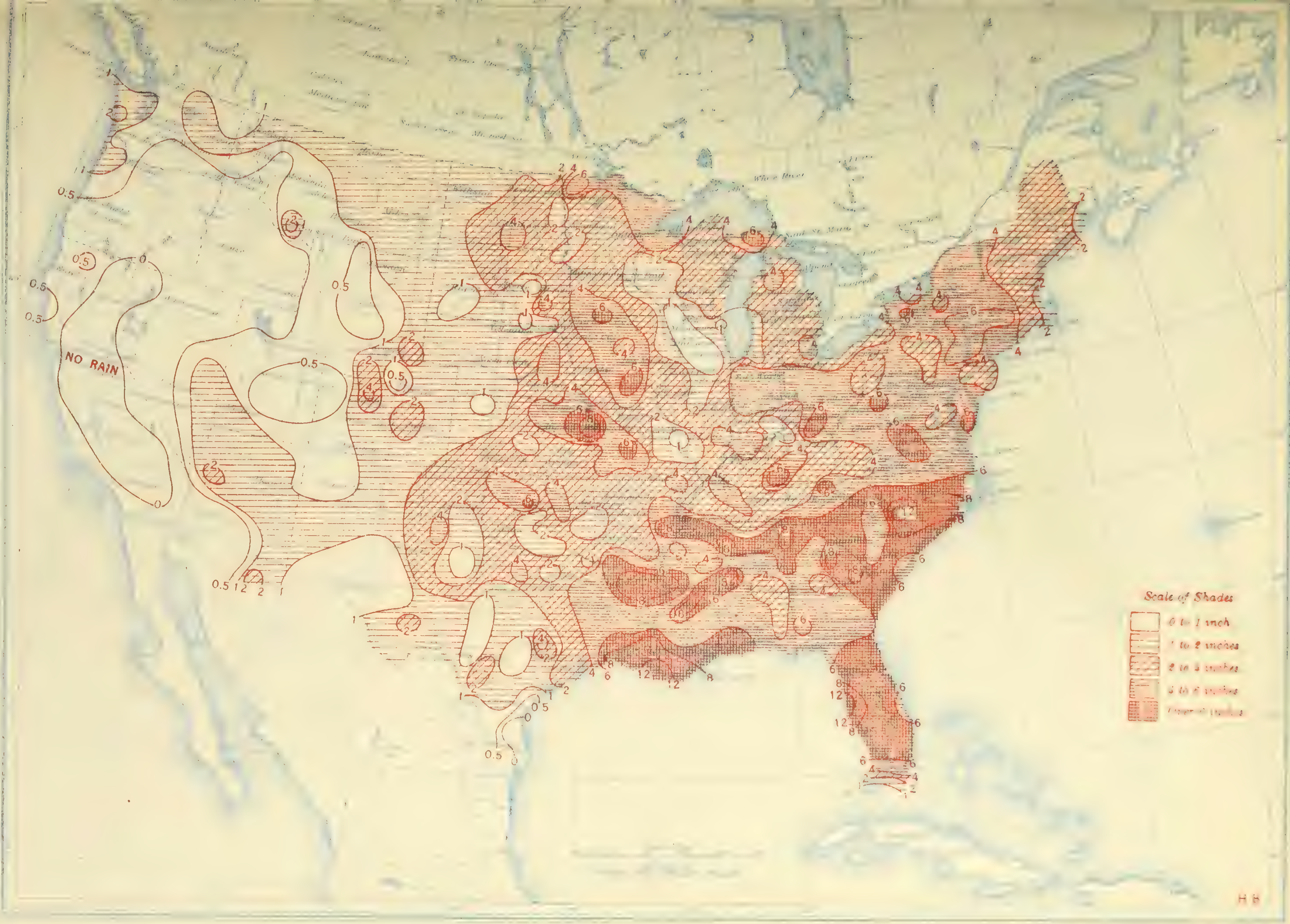
Stations.	Watersheds.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia	Red	.01	T		T	.23							T.	.72	T			.10															1.06
Amidon	Lit. Missouri																																
Arnegard	Missouri		.04		.02	.11	.05	T	T.					.98						.24		.27										.18	2.19
Ashley	Missouri					1.00	.14	.20				.34	.70							.06	.33					.15						T	3.21
Beach	Lit. Missouri				.20	.04	T	.02				.11		.14						.19										.05			0.78
Berthold Agency	Missouri	.02		.23		.24	.22	T	.45				T	.90			.01			.06		.02										.41	2.76
Bismarck ***	Missouri		.03	T	.15		.12	.07				.35	T	1.20						.04								.01				.75	2.72
Bottineau	Mouse	.33			.55			.12	.08	.03			.02	.08				.11					.04	.22	.05								1.58
Bowbells	Mouse	.27	.20				.05		.04				.06	.13						.02		.05		.33	.06			.37	.02				1.68
Bowman	Grand							.33	.03			.11		.82			.23															.10	1.85
ando	Sheyenne	.51			.41				.27			.40		.29			.23							.12									2.38
arson	Heart				.83		.10	.13	.35					.80																			2.51
olgate	Sheyenne				.15									.90									.10										1.15
ooperstown	Sheyenne		.15		.35			.30	.70					.95			.45			.05													2.95
rosby	Mouse	.05	.17				.23		.09					.12					T								.28	.03			.02		0.99
evils Lake ***	Sheyenne	.53		T.	T			.03				T.	T.	.74			1.16			.05		T	T.	T					T				2.51
ickinson	Heart	.10	T.				.03	.63	T.	T.			.05	1.45				.33			.10								.07				2.76
onnybrook	Mouse	.75	.35	.05			.12		.20					.25								.10	.01				.47				T		2.30
unn Center	Knife					.08	.04						.70					.08		.03													0.93
unseith	Mouse	.29		.08				.18	.02			.07		.08				T.		.03		T		.08	.01				T.				0.84
ckman	Mouse	.41	.09	.24								.05		.13			.68			.13		.05	1.18		.05			.16			T		3.17
dgeley	James				.15	.33	.91	.05	.02				.02	.95							.12											.02	2.57
llendale***	James			.11	.57		.08	.16				.07	.17	.84						.52	.01					T.				T.		.08	2.64
nergy	Missouri	.15		.11	T.		.20	.11	.20			.05	T.							.06		T.						T.				.12	1.00
pping	Missouri	.33	.20				.28		.16					.56													.18				.09		1.80
essenden	James	.06	.06	.08	.03				.03			.21	.03	1.22								T.	.37								T.		2.12
orman	Sheyenne																																
ryburg	Lit. Missouri			T.	.05	.10	.19	.23				T.		.54			T.			.14							T.			.02			1.27
ullerton	James			.30	1.28		.28							1.55						1.48													4.89
arrison	Missouri		.38	T.			.05	.20	.11			T.		1.20						T.		T.								T.			1.94
rafton	Red	.07			.60									.60										.40	.35				.06				2.08
rand Forks ***	Red	.07		T.								.01	.03	1.16			.05							T.				T.					1.32
ranville	Mouse	.20		.18	.03			.04	.40				T		.44		.06			T		T.	.72		.05			.18			.04		2.31
annah	Pembina	.04		.76						.16		.24								.09		T.		.34									1.63
ansboro	Red	.10		.50				.15	.05			.28					.11			.10													1.29
ettinger	Grand				1.00			1.08	.05				.15	.81			T.								.14								3.23
illsboro	Red				.10								.10	.63			T.							T.									0.83
oward	Missouri	.01			T.	T.	.79	T.	.02			T.	T.	T.					T.	T	T.	T.	.14				.11	.23			T.	T.	1.30
amestown	James	.25	.18			1.13		.58	.08				.14	.81									.01				.02						3.20
akota	Sheyenne																																
amoure	Missouri	.98			.26		T.	T.	T.			.48		.93						T.											T.		2.65
angdon	Pembina	.02			.24					.11			.26	.10						.06				.06									0.85
arimore	Red	.07												1.20				1.12							.06								2.45
inton	Missouri							1.05					.10	1.60						.55													3.30
isbon	Sheyenne	2.13	.05	T.	.71	.21		T.	.08				.02	1.12							T.		T.										4.32
cClusky	Missouri		.25	T.								.43		1.05						T.		T.	T.					T.	.05		T.	.11	1.89
cHenry	James	.47			.20			.25					.15		.16		.75			.55									.33				2.86
cKinney	Mouse	.10	.11	.59					T.					.15			T.					.14	.65				.45				.10		2.20
cLeod	Sheyenne	.04	.20	.44	.18								.03	1.22			.02			.03		.05				.03							2.24
addock	Sheyenne	.31	.05				.07	.20	.03					.88				.02		.04													1.60
andan‖ ‖	Missouri		.02		T.	.14	T.	.03	.01				.31	1.10						T.												1.07	2.68
anfred	Sheyenne	.14	.05	.33	.05		T.		.10				.16	.98									.90										2.71
armarth	Lit. Missouri				T.	.02	.49	.12	T.					.74			T.								T.				.10				1.47
ayville	Red	.13	.03		.07									.80				.27															1.30
elville	James		.13		.18									1.25									.40										1.96
inot ‖	Mouse	.13	.15					.01	.15				.40							.10		.05		.06			.15						1.20
into	Red	.12												.43										.23									0.78
ott	Cannon Ball																																
apoleon	Missouri	1.10			.60	.70		.75	.05				.05	.78						.02	.07						.04					.25	4.41
ew England ‖ ‖	Cannon Ball																																
ew Salem	Heart						.06	.11				.07		1.56														.07	.02	T.	.08		1.97
range	Cannon Ball																																
ark River	Red	.13			.83					.09				.06			.13						T.	.16					.10				1.50
arshall	Missouri	.06		.08		.05	.20							.63			.05			.02	.04	.03	.04										1.20
embina ‖ ‖	Red				.04					.10				T										.64	.42			.40					1.60
ettibone	James	.09	.29	.33	.22		.37	.05				.23	.23	1.81										.20									3.82
ower	Missouri			.16	.22			.02	.02			.20		1.10						T.						.80							2.52
owers Lake	Sheyenne	.20	.15						.01					.25						T.	T.		.13			.09	T.				.03		0.86
elfridge	Missouri				T.	T.	T.	.31	T.				T.	.70				.28	T.	T.					T.	.16							1.45
teele	Missouri			.41	.58		.03	.75				.05	T.	1.70					T.	.03								T.	.03			.12	3.73
aylor	Heart		T.				.21	.54	.03			.15	.04	1.09			.77			.02								.10					2.95
owner	Mouse	.97	.17	.16	T.												.14	.11		.04													1.59
urtle Lake	Missouri		.33	.27	.05	T.	.22	.21	.03			.10		.96						.02		.02	T.					.02					2.23
alley City	Sheyenne		.01	T.	.54		T.	.01	.35			T.		.78				.04				T.	T.										1.73
ahpeton‖ ‖	Red	.70				.50						.15	.41					.22															1.98
alhalla	Pembina																																
esthope	Mouse	1.05	.04		.05		.14	.20						.10			.76						.63		.13			.15					3.25
illiston ***	Missouri	.03				T.	T.	.01	.01			.15	.15	.06					.09			.13	T.							T.		.03	0.96
illow City	Mouse	1.13	.07		.13		T.	.08				T.		.08				.15		.02		T.	T.		.12			T.					1.78
p	Knife			1.40			1.03		.13			T.		.53						.07	.20	.01						.22					3.59
oorhead, Minn ***	Red		.02	.06	.20							1.07		1.09			.01	.36					.11										2.92

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the -hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	86	84	87	83	76	75	76	81	76	84	90	74	71	78	74	82	89	78	90	84	85	88	85	81	82	84	89	89	86	76	76	81.9
	Minimum	54	58	54	60	45	52	49	52	54	47	46	52	50	51	44	46	49	54	58	57	55	65	68	54	51	54	55	62	53	56	48	53.3
Arnegard	Maximum	84	86	98	79	70	75	73	74	77	88	88	72	71	79	82	87	92	97	82	90	87	94	85	74	86	89	97	87	88	82	79	83.6
	Minimum	57	54	60	53	50	52	51	50	45	52	51	40	50	51	51	61	53	62	64	56	64	67	59	55	54	58	59	55	59	54	56	54.9
Ashley	Maximum	86	83	89	81	80	68	69	74	72	87	78	67	75	78	79	79	80	85	90	85	83	96	82	78	69	78	85	82	78	79	70	79.5
	Minimum	58	59	69	60	59	51	54	51	52	51	58	50	48	52	51	62	60	58	58	56	57	61	59	62	59	51	62	58	56	56	51	56.5
Beach	Maximum	90	90	98	86	67	75	74	80	79	90	94	77	70	80	86	92	94	100	88	93	95	100	88	80	85	90	102	94	84	91	85	87.0
	Minimum	55	50	56	56	51	45	45	44	41	52	53	55	49	55	60	62	66	60	59	58	63	67	59	48	50	52	55	52	61	52	57	54.5
Berthold Agency	Maximum	86	87	95	79	79	75	75	75	78	86	91	78	73	80	86	89	92	97	84	92	91	100	88	81	88	90	101	92	90	87	78	85.9
	Minimum	59	57	62	56	49	52	52	47	52	53	56	55	57	48	50	60	58	60	64	52	65	67	61	58	60	58	60	58	55	50	56	56.4
Bismarck	Maximum	83	86	92	74	75	78	73	75	76	83	92	72	70	79	83	84	90	93	92	88	88	102	87	80	81	83	91	88	83	84	72	83.1
	Minimum	63	61	63	58	54	56	56	55	53	55	60	59	51	53	55	62	66	63	67	60	64	66	62	56	62	59	58	67	56	56	53	59.0
Bottineau §§	Maximum	80	81	86	77	77	70	73	76	76	84	85	71	76	83	79	87	89	86	89	89	85	88	74	79	84	90	92	85	89	77	79	81.8
	Minimum	56	54	55	65	51	56	45	47	45	53	52	53	50	45	44	48	59	60	65	56	60	64	57	55	56	59	57	60	50	54	45	54.1
Bowbells §§	Maximum	81	82	92	81	80	68	77	73	78	86	78	68	78	81	84	....	....	94	91	91	89	89	79	74	86	91	95	84	90	63	74	[b]82.0
	Minimum	52	49	53	51	46	49	41	43	51	51	55	51	46	46	47	59	55	56	62	55	62	61	58	50	50	56	58	51	51	46	45	51.8
Bowman	Maximum	84	85	95	....	85	88	69	74	72	85	88	82	71	75	81	84	87	93	82	87	93	97	84	77	73	78	93	90	82	87	82	[a]83.4
	Minimum	58	60	62	....	59	51	50	60	48	69	72	57	49	46	58	70	60	75	63	72	64	78	69	63	57	55	65	75	68	55	73	[a]62.0
Cando	Maximum	81	81	86	82	77	76	77	75	76	81	88	73	73	81	79	87	92	92	91	86	84	92	80	81	83	88	93	92	88	85	78	83.2
	Minimum	58	57	56	59	54	52	45	51	48	50	57	52	51	50	45	53	61	56	61	53	59	56	61	47	46	59	60	61	55	51	41	53.7
Carson	Maximum	78	88	90	88	75	70	68	65	68	75	85	66	64	70	78	75	80	88	86	80	80	97	85	80	76	75	85	85	77	82	78	78.6
	Minimum	60	58	60	52	55	55	52	50	48	55	56	56	48	50	48	60	70	70	65	58	60	62	52	55	56	55	55	60	60	54	55	56.5
Colgate	Maximum	87	85	97	86	80	83	78	80	80	85	92	72	72	79	80	83	78	82	94	84	87	95	85	79	83	87	90	88	88	77	78	83.7
	Minimum	56	54	73	68	68	50	46	54	53	46	58	54	56	52	42	48	52	54	58	53	64	70	60	52	47	50	52	67	55	54	42	55.1
Crosby	Maximum	80	82	93	81	77	68	74	73	78	84	84	73	72	81	86	88	94	96	93	89	91	95	81	74	86	86	89	85	88	82	75	83.2
	Minimum	54	52	59	49	52	52	47	53	53	54	54	53	49	53	53	58	63	60	57	60	61	70	60	55	51	54	69	55	58	52	51	55.5
Devils Lake	Maximum	79	81	86	72	74	73	76	74	74	79	89	71	70	79	74	83	87	79	89	84	79	84	74	78	80	86	91	83	86	71	75	79.4
	Minimum	59	60	58	56	52	54	47	51	49	55	58	50	50	52	44	56	64	57	61	54	61	62	57	48	49	60	62	61	58	50	43	54.9
Dickinson §§	Maximum	83	82	94	73	68	73	69	73	72	81	88	70	68	75	80	81	87	90	80	85	89	98	83	75	80	83	95	86	83	83	80	80.9
	Minimum	58	56	55	58	46	47	52	49	50	51	55	57	51	48	44	44	57	59	62	54	64	64	51	50	58	56	53	56	56	50	55	53.7
Donnybrook	Maximum	84	90	92	82	78	70	72	78	84	88	84	68	75	83	89	94	95	96	93	92	95	91	84	79	90	92	97	92	90	75	82	85.6
	Minimum	59	58	68	60	56	56	52	45	50	49	54	53	51	54	46	58	69	58	65	54	58	62	52	55	56	53	62	55	54	56	48	55.7
Dunn Center §§	Maximum	85	85	80	90	73	76	73	75	75	75	85	90	89	78	82	84	91	94	80	89	89	97	85	75	83	87	96	89	86	81	77	83.7
	Minimum	67	70	68	60	55	57	54	57	53	59	60	64	54	47	49	60	57	60	61	52	62	62	54	53	58	54	56	55	56	51	55	57.4
Dunseith	Maximum	80	81	84	77	74	67	78	72	75	80	85	66	72	78	75	78	88	84	85	85	80	86	76	74	80	86	91	87	85	73	74	79.2
	Minimum	56	53	52	55	48	52	40	47	45	46	50	50	47	50	45	50	62	56	61	58	55	61	55	49	52	57	56	58	53	50	40	51.9
Edgeley	Maximum	84	81	85	80	71	73	71	75	73	77	88	81	69	76	75	81	87	82	90	82	83	92	92	76	75	81	87	87	86	81	75	80.5
	Minimum	54	57	50	56	57	52	51	49	53	49	58	58	50	51	46	50	61	59	55	57	55	58	60	49	55	52	56	66	55	52	49	51.2
Ellendale	Maximum	82	81	83	77	72	72	69	76	71	77	83	74	67	76	73	80	88	80	92	80	83	98	84	75	67	78	84	86	83	80	74	78.9
	Minimum	58	57	58	61	58	54	53	55	53	51	60	58	52	49	50	51	57	60	56	60	58	63	58	52	59	51	53	63	58	56	50	56.0
Fessenden	Maximum	83	84	86	75	79	79	79	78	78	82	94	72	74	79	75	88	90	82	92	88	81	86	81	75	81	85	93	85	87	78	78	82.3
	Minimum	54	57	52	54	45	51	46	43	49	47	55	49	47	47	43	49	60	57	59	53	51	58	55	51	47	52	52	59	50	50	43	51.3
Fullerton	Maximum	82	82	85	80	71	72	71	77	73	79	89	77	68	77	73	83	85	88	92	82	84	95	83	77	73	81	86	85	87	80	76	80.4
	Minimum	58	65	62	63	62	54	55	54	58	58	62	63	60	49	49	50	55	62	62	62	58	67	65	50	58	54	60	65	57	56	50	58.1
Garrison	Maximum	82	80	78	86	74	75	72	74	72	83	87	73	70	76	82	83	89	91	84	88	87	95	86	82	83	84	94	87	86	78	86	82.1
	Minimum	59	59	64	66	62	54	49	50	52	55	57	52	49	50	49	51	56	60	66	58	53	63	55	53	53	52	60	60	61	60	54	56.2
Grafton	Maximum	87	88	83	78	80	74	81	80	80	82	93	78	73	81	74	86	90	80	93	85	80	85	80	77	81	88	91	87	88	80	75	82.5
	Minimum	55	57	54	58	50	51	54	52	50	47	60	53	51	50	42	47	59	52	60	54	55	58	61	45	47	51	63	66	57	53	43	53.4
Grand Forks	Maximum	85	85	83	80	79	73	88	81	87	80	93	76	71	82	72	80	88	76	92	76	80	85	80	76	80	85	90	86	90	73	74	81.5
	Minimum	54	60	53	61	50	50	50	53	51	50	60	60	51	51	43	47	56	54	59	53	55	59	66	54	48	54	65	68	56	54	40	54.4
Granville	Maximum	80	82	90	72	74	72	77	70	75	83	87	70	72	80	78	87	91	90	89	90	85	90	78	72	80	88	95	83	87	70	76	81.1
	Minimum	59	55	58	56	52	55	48	52	54	51	59	51	52	52	48	55	62	62	64	54	64	62	58	55	54	60	59	58	57	52	44	55.5
Hannah	Maximum	84	83	86	83	84	75	73	78	78	79	87	77	75	85	82	84	85	86	89	86	87	89	70	71	83	89	94	86	78	74	76	81.8
	Minimum	51	50	54	51	50	39	41	44	48	50	61	50	48	50	51	52	54	60	60	58	61	60	50	38	50	58	60	57	54	52	37	51.7
Hansboro	Maximum	81	81	84	78	75	73	78	74	76	79	84	66	73	79	76	86	90	82	88	84	81	88	79	77	84	91	94	82	87	75	76	80.7
	Minimum	55	55	55	57	52	48	43	52	45	48	59	51	50	51	39	48	55	55	63	55	55	56	56	40	49	54	60	58	55	45	38	51.4
Hettinger	Maximum	82	86	98	94	67	68	69	73	72	83	89	81	89	74	82	87	89	91	88	86	93	102	92	72	75	76	85	71	86	92	81	83.1
	Minimum	67	59	51	51	53	49	51	46	45	56	60	56	61	45	61	61	66	62	60	53	63	65	52	52	57	58	58	58	65	55	54	56.5
Hillsboro	Maximum	83	85	84	83	80	77	75	80	76	77	91	89	72	78	78	80	89	86	90	88	80	87	80	77	81	83	88	87	87	86	78	82.4
	Minimum	55	60	54	60	53	58	48	52	53	51	59	55	51	59	45	48	56	54	58	55	51	58	53	47	50	54	63	62	54	56	52	51.6
Howard	Maximum	84	85	97	76	76	77	76	77	79	94	90	80	72	80	85	92	96	98	90	92	94	91	88	74	87	89	94	86	90	80	82	85.6
	Minimum	52	52	63	53	54	53	48	47	49	46	50	52	50	42	42	56	62	54	62	56	68	68	64	55	50	60	60	50	53	52	53	54.1
Jamestown	Maximum	82	81	85	84	80	80	72	75	74	80	90	80	69	78	75	81	86	80	92	85	85	88	82	85	80	83	89	85	87	80	76	81.6
	Minimum	57	63	55	59	54	55	53	55	54	49	54	57	51	54	48	52	59	59	60	64	58	63	62	56	57	54	60	67	55	55	48	56.4
Lamoine	Maximum	78	80	85	73	74	74	71	73	73	80	88	68	68	74	77	83	85	84	87	88	83	86	84	74	79	84	90	84	86	78	82	79.8
	Minimum	50	55	56	54	50	49	50	50	50	48	56	52	48	54	45	56	60	63	63	64	61	63	64	63	56	57	59	62	60	56	54	55.7
Langdon	Maximum	80	82	85	74	75	68	77	73	74	76	84	72	72	79	75	87	88	83	89	85	78	86	70	76	86	88	94	82	86	72	72	79.6
	Minimum	56	50	53	55	48	49	41	47	42	45	53	49	49	47	40	44	54	55	60	51	52	59	64	42	46	55	57	60	53	49	37	50.4
Larimore	Maximum	86	88	87	81	80	76	81	82	80	82	91	86	73	81	73	82	90	76	93	85	80	83	81	80	82	86	91	86	90	75	76	82.7
	Minimum	52	60	53	57	50	50	48	48	50	47	57	55	47	53	42	47	55	54	58	53	55	58	65	45	46	52	65	65	55	54	40	52.8
Lisbon	Maximum	84	82	87	82	73	75	74	79	75	84	88	74	69	78	76	85	89	84	91	85	86	94	85	80	81	85	88	89	92	79	77	82.3
	Minimum	53	59	55	58	59	54	55	53	52	47	57	51	51	50	50	50	56	60	57	62	56	62	63	60	52	50	54	65	53	56	47	55.1
McHenry	Maximum	86	79	84	78	78	72	69	78	76	72	80	83	77	80	63	80	88	90	91	88	71	82	92	78	91	88	79	81	79	82	90	81.1
	Minimum	46	43	53	47	46	48	50	51	42	45	46	56	50	52	50	47	60	47	62	59	57	50	54	47	60	42	45	48	60	50	63	50.8
McKinney	Maximum	80	80	90	80	71	70	75	75	75	80	83	75	80	80	83	90	92	92	88	90	85	89	88	75	74	90	92	84	88	72	73	81.9
	Minimum	53	52	50	50	49	52	52	52	50	48	55	51	50	51	43	50	49	52	64	51	62	65	55	52	52	52	58	54	55	50	55	52.7
Maddock	Maximum	78	79	84	80	77	76	76	73	75	85	89	75	71	78	77	85	90	88	93	87	85	88	83	76	82	86	91	93	87	85	78	82.3
	Minimum	57	56	53	56	47	52	43	51	47	46	45	51	50	50	48	54	63	58	60	51	57	60	60	55	50	51	52	60	51	52	43	52.5
Marmarth	Maximum	84	89	95	80	67	70	65	73	75	88	90	80	67	75	82	90	90	95	82	91	101	96	75	75	78	83	97	91	82	89	85	83.2
	Minimum	50	58	57	60	55	48	50	48	56	55	57	56	50	45	53	60	63	58	60	56	65	64	57	56	57	53	58	57	56	51	58	55.7
Minot	Maximum	84	82	92	74	75	74	77	76	77	85	86	70	72	80	84	88	92	92	89	93	89	92	85	82	85	91	99	85	89	72	78	83.5
	Minimum	54	51	52	51	47	50	41	48	50	47	52	48	46	50	44	51	60	55	60	50	62	60	53	50	53	57	58	52	49	48	42	51.3
Mott	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Napoleon	Maximum	80	81	85	78	70	74	71	74	75	78	88	84	68	75	82	84	86	87	93	86	85	96	86	81	81	82	88	86	82	83	75	81.3
	Minimum	56	59	56	58	54	55	51	50	50	47	58	55	48	48	49	52	60	60	59	54	58	62	55	52	57	53	59	65	52	52	53	54.5
New Salem	Maximum	84	86	88	81	66	68	69	77	76	80	89	68	68	75	72	81	83	90	88	81	93	100	87	78	79	75	89	81	88	82	84	80.8
	Minimum	60	61	52	59	53	56	52	48	56	45	62	52	48	50	57	68	62	62	50	57	58	55	62	67	61	57	67	65	60	56	58	57.6
Pembina §§	Maximum	83	84	81	82	80	76	79	79	81	82	84	81	78	80	82	85	81	82	92	87	83	94	79	82	81	82	92	84	84	81	82	82.4
	Minimum	....	56	54	54	56	51	47	54	46	54	54	51	51	51	42	48	54	54	57	52	56	57	61	40	46	51	58	61	56	51	42	[a]52.2
Steele	Maximum	81	82	86	83	87	75	71	75	73	77	87	85	84	78	82	84	86	88	86	85	84	90	77	79	89	82	79	85	84	85	75	81.8
	Minimum	56	55	60	56	58	54	50	52	48	50	52	52	52	49	52	57	52	51	54	51	56	60	62	59	50	51	48	52	50	48	48	53.0
Towner	Maximum	76	76	87	86	74	75	77	84	76	85	85	72	76	76	78	87	90	90	88	89	86	90	82	80	81	88	95	95	87	74	85	82.9
	Minimum	57	55	53	55	49	52	45	45	49	51	55	52	55	52	45	55	60	61	63	53	62	62	58	53	53	60	59	58	58	54	56	51.7
Valley City	Maximum	85	83	85	92	85	78	75	80	79	83	93	74	71	78	79	85	92	80	94	85	84	89	88	86	80	84	89	86	90	80	75	83.5
	Minimum	56	58	62	56	51	57	52	53	53	56	61	54	49	56	60	64	59	55	56	57	60	60	66	53	56	54	60	62	52	64	46	56.8
Wahpeton	Maximum	84	83	84	84	79	74	70	72	76	79	83	78	68	81	72	79	90	75	85	86	83	91	86	89	....	83	87	89	89	77	74	[a]80.7
	Minimum	59	60	57	64	63	55	52	52	55	51	62	60	53	50	50	51	59	54	60	63	56	65	[illegible]	55	....	56	57	65	59	55	41	[a]56.8
Westhope	Maximum	80	81	88	77	70	67	74	76	78	84	83	69	75	81	81	87	90	88	85	88	82	85	73	76	81	87	92	81	85	72	79	80.5
	Minimum	57	54	57	51	50	56	43	48	46	49	51	51	49	44	46	54	60	61	64	56	66	64	60	54	53	59	59	53	54	48	40	53.5
Williston	Maximum	85	84	96	75	68	74	75	72	78	86	84	70	72	81	83	87	93	95	86	90	88	94	86	73	86	89	98	88	87	80	77	83.2
	Minimum	58	57	63	57	52	55	53	53	47	57	57	54	53	54	51	63	63	64	62	61	67	65	59	59	56	65	64	59	63	58	58	58.4
Moorhead, Minn	Maximum	85	85	85	83	76	75	75	82	78	80	87	74	71	80	72	80	90	75	88	82	84	86	84	78	80	83	88	88	87	76	75	81.0
	Minimum	58	61	58	64	61	54	50	54	57	52	62	60	53	52	48	50	58	54	61	60	58	65	60	54	53	58	61	63	56	56	53	56.9

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.


Scale of Shades
0 to 1 inch
1 to 2 inches
2 to 4 inches
4 to 6 inches
Over 6 inches
NO RAIN
H B

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

CLIMATOLOGICAL DATA

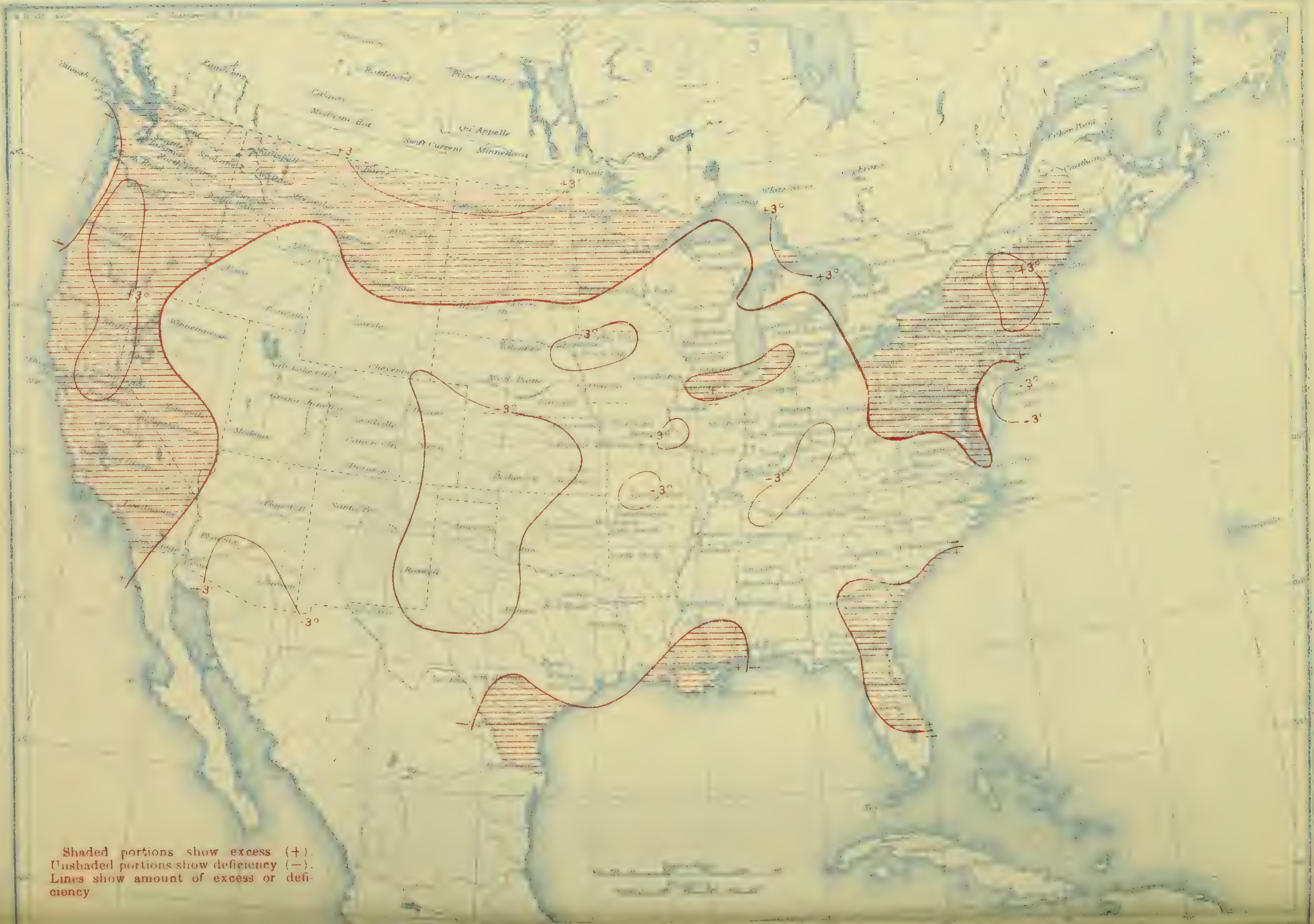
NORTH DAKOTA SECTION

AUGUST, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
OCTOBER 13, 1920.

Departure of the Mean Temperature from the Normal, August, 1920.



Shaded portions show excess (+).
Unshaded portions show deficiency (—).
Lines show amount of excess or deficiency.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXIX. Bismarck, N. D., August, 1920. No. 8

GENERAL SUMMARY.

The month was warm and dry, with abundant sunshine. The daily range of temperature was usually large, with high day temperatures and cool nights. There was an average of ten days with 90° or above, well distributed through the month. Although the rainfall was only 68 per cent. of the normal, drought conditions were more severe than this would indicate, due to the fact that the most generally beneficial rains came near the end of the month. The showers, which occurred in scattered areas, chiefly on the 3d, 10th and 19th, were mostly light, although heavy in limited areas. Of the total monthly amounts, the heavier falls occurred over the north-central portion, where the amounts exceeded three inches over considerable areas from Bottineau County to Wells County; while most of the lighter amounts occurred in the Red River Valley, where the totals were less than one inch at most stations. The drought caused serious deterioration of corn, flax, potatoes and late grains. Rust seriously affected the spring wheat crop in all sections, but chiefly in the eastern portion. Grasshopper damage to crops was serious in the north-central section and in scattered localities elsewhere. With favorable harvesting weather, and labor plentiful, the grain harvest was completed before the end of the month in most sections. —E. G. L.

TEMPERATURE.

The mean temperature for the State was 68.8°, or 3.4° above the normal, and 0.9° lower than the mean for August, 1919. The highest mean reported was 71.6° at Mott, Hettinger County; the lowest was 65.6° at Linton, Emmons County. The highest temperature reported was 108° at Arnegard, McKenzie County, on the 17th; the lowest was 28° at Minto, Walsh County, on the 22d. The greatest monthly range was 72° at Minto, Walsh County; the least was 54° at Carson, Grant County. The greatest daily range was 57° at Berthold Agency, McLean County, on the 25th, and at Minto, Walsh County, on the 22d.

PRECIPITATION.

The average precipitation for the State was 1.56 inches, or 0.72 inch below the normal, and 0.06 inch less than the average for August, 1919. The greatest monthly amount reported was 4.83 inches at Bottineau, Bottineau County; the least was 0.14 inch at Pembina, Pembina County. The greatest amount recorded in any twenty-four consecutive hours was 3.07 inches at Bottineau, Bottineau County, on the 19th. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS.

Auroras were observed at Devils Lake on the 3d, at Bismarck and Fullerton on the 7th, and at Bismarck, Energy, McHenry and McKinney on the 21st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.98	30.33	12	29.50	28	57	7,343	9.9	35	se.	28
Devils Lake	29.95	30.29	16	29.50	29	44	6,833	9.2	32	s.	18
Ellendale	29.99	30.28	12	29.46	29	56	8,916	10.6	49	sw.	10
Grand Forks	......	......	...	......	...	90	......	......	36	se.	18
Williston	29.88	30.24	12	29.40	17	48	5,575	7.5	38	nw.	17
Moorhead, Minn	30.00	30.27	22	29.48	29	57	5,239	7.0	27	s.	18
Av'ges and extremes	29.96	30.33	12	29.40	17	.....	....	8.4	49	sw.	10

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	345.7	439.4	81	+14	77	40	40	20	9
Devils Lake	339.1	442.0	77	+13	80	44	46	20	9
Ellendale	330.1	437.4	76	......	87	.....	50	30	26
Grand Forks	......	......	......	......	82	.....	59	....	....
Williston	363.8	442.0	82	+13	68	37	34	19	9*
Moorhead, Minn	......	......	......	......	91	.....	50	....	....
Averages and extremes	346.9	440.2	79	+13	81	40	46	19	9*

* And other dates.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892...	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	−0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918...	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919...	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920...	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.

Climatological Data for August, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	68.0	+1.7	100	9	35	21	46	0.50	−2.31	0.15	0	4	26	2	3	s.	E. T. Carley.
Amidon	Slope	....	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	M. J. Connolly.
Arnegard	McKenzie	....	1	70.2	....	108	17	39	21	51	1.08	....	0.66	0	5	22	5	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	66.8	+0.9	92	9	36	21	43	0.85	−1.47	0.50	0	2	26	3	2	se.	R. C. Miles.
Beach	Golden Valley	2,576	13	70.0	+5.0	102	17	38	30	50	1.07	−0.98	0.62	0	5	20	9	2	nw.	I. H. Clagget.
Berthold Agency‡‡	McLean	2,082	25	71.3	+3.6	103	17	36	20	57	1.87	+0.09	1.28	0	6	27	3	1	se.	C. L. Hall.
Bismarck	Burleigh	1,674	45	70.4	+2.3	98	17	38	21	41	0.59	−1.39	0.39	0	6	22	4	5	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	68.6	+5.0	101	17	38	20	47	4.83	+2.82	3.07	0	8	22	6	3	se.	M. R. Shuler.
Bowbells	Burke	1,958	7	67.5	....	97	14†	35	21	51	1.52	....	0.40	0	6	26	1	4	....	G. H. Phelps.
Bowman	Bowman	....	5	71.0^{b}	....	98^{a}	17	40^{b}	30	39^{b}	0.69	....	0.57	0	4	17	3	11	se.	C. V. Hook.
Cando	Towner	1,488	18	69.7	+5.8	97	9	37	21	39	1.30	−0.97	0.67	0	6	18	9	4	se.	A. J. Swanson.
Carson	Grant	2,500	7	67.6	....	92	17	38	19	36	1.42	....	1.00	0	4	19	11	1	s.	J. W. Evens.
Colgate	Steele	1,177	5	68.8	....	100	9	32	21	48	1.07	....	0.40	0	3	23	8	0	se.	James McCann.
Cooperstown	Griggs	1,428	9	....	....	....	....	....	....	....	1.40	−0.97	0.50	0	5	25	4	2	se.	S. Friswold.
Crosby	Divide	1,954	12	68.8	+5.1	99	17	40	21	40	1.20	−1.17	0.45	0	8	18	8	5	nw.	John Jensen.
Devils Lake	Ramsey	1,478	15	68.4	+3.3	96	9	39	21	39	2.21	−0.55	1.16	0	6	22	6	3	s.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	68.0	+1.7	101	17	36	20	50	2.35	+0.40	1.21	0	7	22	6	3	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	70.6	+7.3	105	24	34	21	52	1.92	−0.24	0.48	0	7	14	14	3	s.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	68.7	....	99	17	38	21	52	3.50	....	2.27	0	3	26	2	3	se.	W. H. Moede.
Dunseith	Rolette	1,682	23	67.6	+4.0	97	17	31	21	43	1.11	−1.18	0.32	0	5	23	5	3	nw.	J. G. Lamont.
Eckman	Bottineau	....	14	67.4^{f}	+4.1	98^{d}	25	33^{g}	21	50^{g}	3.01	+0.77	1.00	0	8	24	4	3	....	J. Nussbaum.
Edgeley	LaMoure	1,468	18	67.9	+1.5	97	9	32	21	43	0.53	−1.78	0.19	0	4	17	9	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	66.5	....	93	9	37	21	41	0.73	−1.79	0.25	0	6	16	10	5	s.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	7	....	....	....	....	....	....	....	1.98	....	0.79	0	5	18	11	2	se.	N. W. Solenberger.
Epping	Williams	2,224	11	....	....	....	....	....	....	....	1.15	−1.25	0.88	0	4	20	9	2	se.	M. E. Uggen.
Fessenden	Wells	1,610	7	68.0	....	100	9	34	21	48	2.36	....	0.96	0	8	25	4	2	se.	G. T. Seymour.
Forman	Sargent	1,249	27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	H. T. Denk.
Fryburg	Billings	2,790	1	....	....	....	....	....	....	....	2.20	....	1.36	0	5	26	2	3	nw.	Verne King.
Fullerton	Dickey	1,439	21	69.5	+3.2	93	8	34	21	41	1.43	−1.30	0.58	0	5	24	6	1	s.	F. O. Alin.
Garrison	McLean	1,901	24	69.5	+3.8	99	17	35	21	46	1.19	−0.83	0.58	0	3	19	10	2	nw.	G. L. Robinson.
Grafton	Walsh	827	27	69.0	+4.5	100	9	35	21	43	1.63	−0.99	1.24	0	6	24	4	3	se.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	27	68.5	+3.6	99	9	35	21	43	0.24	−2.22	0.16	0	5	19	10	2	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	69.5	+5.6	100	17	35	21	43	2.26	+0.07	0.85	0	6	21	6	4	s.	W. A. Christianson.
Hannah	Cavalier	1,568	14	69.0	+6.5	97	17	31	21	47	1.00	−0.86	0.71	0	4	25	4	2	s.	J. Moffatt.
Hansboro	Towner	1,597	11	68.0	+5.2	98	17	32	21	43	2.06	−0.12	1.15	0	5	23	6	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	70.6	+3.6	101	24	38	21	52	1.04	−0.37	0.73	0	3	24	2	5	se.	C. J. Downey.
Hillsboro	Traill	901	13	69.2	+2.3	98	9	38	21	44	0.65	−2.20	0.27	0	4	20	11	0	s.	F. E. Mayall.
Howard‡‡	Williams	2,275	12	71.3	+7.8	101	17	37	21	50	1.74	+0.20	0.84	0	4	13	10	8	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	69.2	+3.0	98	9	39	21	45	1.56	−1.02	0.91	0	4	21	2	8	se.	S. Calvelage.
Lakota	Nelson	1,579	18	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	C. R. Pettes.
Lamoine	Kidder	1,936	11	67.2	+3.3	98	17	35	21	42	1.37	−0.57	0.71	0	4	24	5	2	se.	E. V. Virgin.
Langdon	Cavalier	1,615	23	67.2	+5.5	98	9	33	21	53	1.29	−1.37	0.64	0	5	28	0	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	68.8	+4.5	101	9	35	21	49	0.74	−1.91	0.27	0	5	22	4	5	s.	Reuben Gray.
Linton	Emmons	1,711	1	65.6	....	94	9†	38	12	50	2.10	....	0.61	0	6	....	....	....	....	J. G. Sailer.
Lisbon	Ransom	1,091	15	69.0	+2.5	98	9	38	21†	48	1.82	−0.43	0.98	0	5	26	2	3	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	....	....	....	....	....	....	....	1.05	....	0.32	0	6	....	....	....	....	Edw. Tapley.
McHenry	Foster	1,509	9	68.0	....	99	9	36	21	44	2.09	....	0.53	0	7	21	5	5	se.	P. E. Trudeau.
McKinney‡‡	Renville	1,640	25	68.3	+4.8	96	17	29	21	51	1.93	+0.26	0.83	0	4	19	9	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	68.3	....	96	9	37	21	40	1.76	....	1.07	0	4	24	4	3	se.	J. G. Carlson.
Maddock	Benson	1,604	4	68.9	....	98	17	35	21	43	3.70	....	1.72	0	8	21	5	5	s.	A. T. Felland.
Mandan	Morton	1,644	5	70.6	....	100	17	39	21	42	1.80	....	1.06	0	5	19	6	6	s.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	67.4	+3.1	97	17	36	21	40	3.45	+1.19	1.10	0	8	21	7	3	nw.	P. B. Anderson.
Marmarth	Slope	....	10	69.6	+4.0	100	17	35	30	46	0.88	−0.90	0.28	0	6	16	11	4	w.	S. P. Grane.
Mayville	Traill	975	23	67.3	+1.0	99	9	33	21	43	0.54	−2.22	0.40	0	2	26	1	4	....	W. C. Gould.
Melville	Foster	1,590	21	68.7^{c}	+2.3	99^{c}	9	37^{c}	21	42^{c}	1.45	−0.54	0.82	0	3	....	....	....	sw.	J. P. Kidder.
Minot	Ward	1,557	23	67.7	+2.6	101	17	32	21	52	2.17	−0.08	0.60	0	6	25	4	2	e.	W. I. Faris.
Minto	Walsh	820	26	69.1	+4.5	100	9	28	22	57	0.51	−1.96	0.18	0	5	21	8	2	se.	C. M. Evans.
Mott	Hettinger	2,424	12	71.6	+5.7	100	17†	38	19	42	1.62	+0.01	0.93	0	4	22	3	6	se.	O. H. Opland.
Napoleon	Logan	1,955	27	68.6	+2.6	98	9	35	21	46	0.89	−1.53	0.28	0	6	24	4	3	s.	C. J. Hoof.
New England	Hettinger	2,400	25	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	W. C. McKenzie.
New Salem	Morton	2,163	14	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. Christiansen.
Orange‡‡	Adams	2,586	10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. E. Lowries.
Park River	Walsh	998	15	68.8^{a}	+3.3	98	9	35	21	43	0.75	−1.58	0.48	0	4	....	....	....	nw.	C. B. Wright.
Parshall	Mountrail	....	4	....	....	....	....	....	....	....	0.99	....	0.49	0	3	....	....	....	....	J. A. Johnson.
Pembina	Pembina	789	45	70.0	+5.9	98	7†	33	21	44	0.14	−2.19	0.10	0	2	22	3	6	....	C. W. Shumaker.
Pettibone	Kidder	1,856	1	66.6^{c}	+4.2	96^{c}	17	37^{c}	12	41^{c}	2.93	+0.56	1.32	0	5	....	....	....	se.	A. O'Neill.
Power	Richland	1,020	26	....	....	....	....	....	....	....	0.92	−1.65	0.64	0	2	....	....	....	....	J. A. Power.
Powers Lake	Burke	2,205	4	....	....	....	....	....	....	....	1.37	....	0.50	0	6	26	1	4	e.	C. Frank.
Selfridge	Sioux	....	....	....	....	....	....	....	....	....	1.74	−0.23	1.20	0	6	21	8	2	se.	H. F. Solenberger.
Steele	Kidder	1,857	22	67.0	+0.2	95	17	36	1	39	2.18	−0.08	1.95	0	4	26	3	2	w.	H. S. Wood.
Taylor	Stark	2,493	3	69.4^{a}	....	100^{a}	17	40^{a}	20	41^{a}	1.54	....	0.80	0	5	....	....	....	se.	H. Leutz.
Towner	McHenry	1,482	17	70.2	+5.8	97	9	32	21	43	3.12	+1.07	1.80	0	6	23	6	2	s.	B. Bagley.
Turtle Lake	McLean	1,899	5	69.5	....	99	17	37	21	42	1.09	....	0.42	0	6	17	9	5	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	69.2	+3.6	98	9	38	21	45	0.28	−2.19	0.12	0	3	26	2	3	nw.	C. F. Schroeder.
Wahpeton	Richland	962	25	68.2	+1.3	97	9	39	21	43	0.90	−2.14	0.65	0	4	19	9	3	s.	State School of Science.
Walhalla	Pembina	966	12	69.4	+5.0	99	17	33	21	46	1.32	−1.16	0.45	0	6	22	5	4	w.	Ivan Lee.
Westhope	Bottineau	1,508	13	67.5	+3.4	98	17	31	21	49	3.19	+1.00	1.43	0	6	28	0	3	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	71.0	+3.1	102	17	43	21	50	0.81	−0.50	0.70	0	3	17	10	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	67.0	+3.5	97	17	30	21	45	2.31	+0.25	0.60	0	7	23	4	4	se.	M. A. Ostby.
Zap	Mercer	1,800	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	68.5	+2.6	98	9	44	22	41	1.33	−1.77	0.66	0	7	26	3	2	se.	U. S. Weather Bureau.
Averages	....	....	....	68.8	+3.4	108	17	28	22	57	1.56	−0.72	3.07	0	5	22	6	3	se.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for August, 1920.

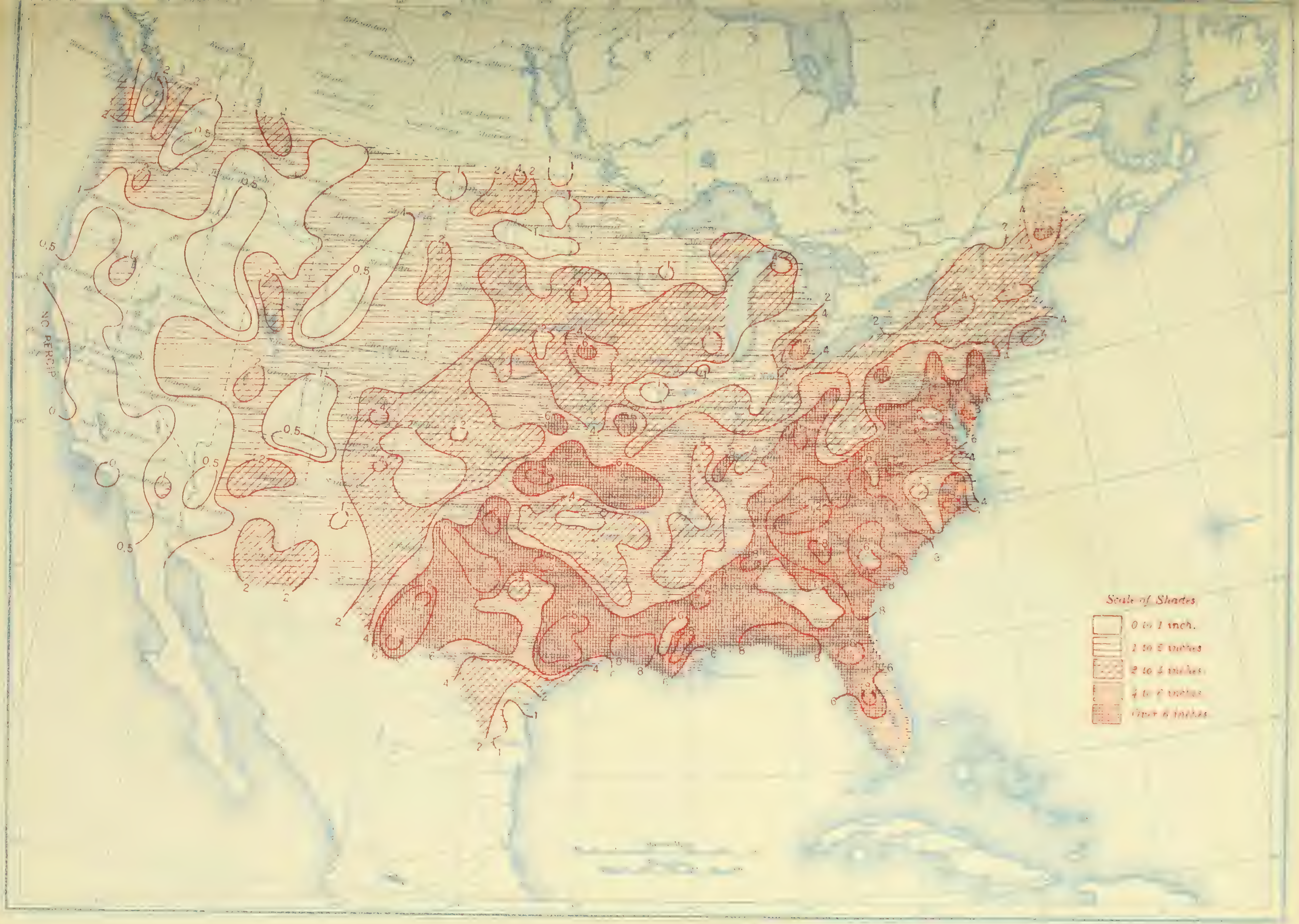
Stations.	Watersheds	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red				T.							.15																		.15	.10	.10	0.50
Amidon	Lit. Missouri																																.....
Arnegard	Missouri								.04		.09																		.20	.66	.09		1.08
Ashley	Missouri			T.							.35																		T.	.50			0.85
Beach	Lit. Missouri	.07									.62									T.									.17	.15		.06	1.07
Berthold Agency	Missouri		.02						.21		.18																		.14	1.28		.04	1.87
Bismarck ***	Missouri			T.							.13	.01								.05									.24	.15		.01	0.59
Bottineau ‖	Mouse				.50	.40				.10		.32					.12	.02		3.07											.30		4.83
Bowbells ‖	Mouse					.27						.23					.40													.06	.27	.29	1.52
Bowman	Grand	.02									.08																		.57	.02			0.69
Cando	Sheyenne			.07							.29									.67										.14	.11	.02	1.30
Carson	Heart	.02										.30																	.10	1.00			1.42
Colgate	Sheyenne			.40																										.40	.27		1.07
Cooperstown	Sheyenne			.20							.42								.18											.10	.50		1.40
Crosby	Mouse			.01		.23					.27	.04					.04													.45	.09	.07	1.20
Devils Lake ***	Sheyenne			.03							.21						.38	T.		1.16										.21	.22	T.	2.21
Dickinson ‖	Heart	.05		.04						.13		.85																		1.21	.03	.04	2.35
Donnybrook	Mouse		.48	.05		.25					.32					.29		T.												.20	.33		1.92
Dunn Center ‖	Knife		T.						T.		2.27								T.										.93	.30			3.50
Dunseith	Mouse			.17		.22					.33							.07													.32		1.11
Eckman	Mouse			.17		.24					.64					.68	.15	.03												.10	1.00		3.01
Edgeley	James					.01					.19									.17										.16			0.53
Ellendale***	James			T.		.23			.03		.18									.01									.03	.22			0.73
Energy	Missouri		T.			.10					.22								.79										.17	.59		.11	1.98
Epping	Missouri					.12					.11																			.88	.04		1.15
Fessenden ‖	James			.29		.10			T.		.32						.04			.96										.38	.14	.13	2.36
Forman	Sheyenne																																.....
Fryburg	Lit. Missouri	T.	T.		T.							.12																	1.36	.58	.03	.11	2.20
Fullerton	James			T.		.18			.40		.22								.05										T.	.58			1.43
Garrison	Missouri		T.			.28					.33																		T.	.58	T.	T.	1.19
Grafton	Red			.06	.03	.03						1.24					T.			.06											.21		1.63
Grand Forks ***	Red			.03		.01					.11	.05					T.			.02										.02	T.	T.	0.24
Granville	Mouse		T.	.12	.20						.42						.25		T.										.42	.85			2.26
Hannah	Pembina			.12							.09									.71										T.	.08		1.00
Hansboro	Red			.28							.23									1.15										.30		.10	2.06
Hettinger	Grand																												.73	.19		.12	1.04
Hillsboro	Red				.28							.05					T.													.27	.05		0.65
Howard	Missouri				.58						.22	T.				.10			T.									T.	T.	.84	T.		1.74
Jamestown ‖	James				.08						.06									.51											.91		1.56
Lakota	Sheyenne																																.....
Lamoine	Missouri			T.		T.					*	.71							.43											.23			1.37
Langdon ‖	Pembina			.03	.09							.25								.64										.28			1.29
Larimore ‖	Red				.04							.17						.20		.06											.27		0.74
Linton	Missouri										.45				T.				.10	.55								.61		.35	.04		2.10
Lisbon ‖	Sheyenne						.98			T.		.48								T.	.11									.15	.10		1.82
McClusky	Missouri					.20					.05	.32						.10												.25	.13	T.	1.05
McHenry	James			.52	.12						.33						.32		.53											.17	.10		2.09
McKinney	Mouse				.55						.55																			*	.83		1.93
McLeod	Sheyenne					.45						.17								1.07										.07			1.76
Maddock	Sheyenne			.58		.16					.30	.07					.43			1.72										.09	.35		3.70
Mandan ‖	Missouri	T.										.58	.01							.03										1.06	.12		1.80
Manfred	Sheyenne			.76		.13					.33						.22			1.10										.61	.25	.05	3.45
Marmarth	Lit. Missouri	.15			.01	T.					.25																		.16		.03	.28	0.88
Mayville	Red											.14																		.40			0.54
Melville	James			T.		T.					.30						T.			.82										.33			1.45
Minot ‖	Mouse					.15						.32					.25			.35											.50	.60	2.17
Minto	Red				T.	.03					.18	.10					T.			.12										.08			0.51
Mott	Cannon Ball										.46																		.20	.93	.03	T.	1.62
Napoleon ‖	Missouri	.11			.02							.08								.15										.25	.28		0.89
New England ‖	Cannon Ball																																.....
New Salem	Heart																																.....
Orange	Cannon Ball																																.....
Park River	Red			T.		T.					.48									.13									.11		.03		0.75
Parshall	Missouri					.16					.34																			.49			0.99
Pembina ‖	Red											.04																			.10		0.14
Pettibone	James				.45	.34														1.32											.64	.18	2.93
Power	Missouri										.28									.64									T.	T.			0.92
Powers Lake	Sheyenne	.05				.50					.17					.13														.38	.14	T.	1.37
Selfridge	Missouri		T.	.08		T.				T.	.17									1.20									.05	.22		.02	1.74
Steele	Missouri		T.	.16							.05									1.95										T.		.02	2.18
Taylor	Heart	.01									T.	.34																	.28	.80		.11	1.54
Towner	Mouse			.40		.18			.15		.32						.27														1.80		3.12
Turtle Lake	Missouri					.16					.16	.04								.42										.30	.01	T.	1.09
Valley City	Sheyenne										.08	.12								T.										.08	T.		0.28
Wahpeton ‖	Red						.12					.02									.65									.11			0.90
Walhalla	Pembina			.45	.03	.07						.16								.21											.40		1.32
Westhope	Mouse			.29		.41					.60						.02													1.43	.44		3.19
Williston ***	Missouri		T.	T.	T.						.10								T.	T.									.01	.70			0.81
Willow City	Mouse			.30		.31			.30		.38						.31	T.		T.										.11	.60		2.31
Zap	Knife																																.....
Moorhead, Minn ***	Red					.22					.22	.09								.66										.07	.05	.02	1.33

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	82	85	90	86	92	84	90	94	100	93	79	76	86	87	89	89	95	93	86	75	73	83	88	91	90	86	87	85	70	71	80	85.6
	Minimum	43	45	52	58	53	50	53	51	54	57	57	44	44	46	51	50	51	62	67	44	35	38	47	50	58	49	48	46	48	58	49	50.3
Arnegard	Maximum	82	90	90	91	82	88	93	88	96	80	73	82	91	97	87	99	108	90	74	74	82	90	94	92	100	96	95	80	54	70	59	86.0
	Minimum	57	63	61	59	54	51	54	59	55	60	53	44	50	58	58	62	67	61	49	43	39	49	50	59	49	66	62	52	49	47	46	54.4
Ashley	Maximum	75	85	88	85	84	82	86	88	92	86	70	73	82	82	91	86	90	84	78	75	75	80	85	90	87	85	82	76	61	73	70	81.5
	Minimum	45	43	54	53	56	58	49	53	56	58	54	42	48	50	48	56	65	60	62	44	36	46	51	55	56	57	53	55	50	51	49	52.0
Beach	Maximum	90	92	85	94	84	92	95	90	95	86	70	81	90	98	92	100	102	80	75	78	87	93	96	96	100	97	97	82	65	72	68	87.8
	Minimum	56	57	60	53	53	48	54	66	52	55	53	45	49	54	59	62	64	58	48	41	42	51	46	56	51	60	60	42	45	38	44	52.3
Berthold Agency	Maximum	87	92	96	93	85	91	98	93	100	90	76	82	92	99	93	98	103	90	75	78	87	95	98	102	100	96	98	80	65	74	63	89.3
	Minimum	56	58	57	56	57	45	49	52	50	64	53	40	53	56	53	61	65	66	54	36	37	49	55	56	43	63	57	60	50	53	47	53.3
Bismarck	Maximum	78	86	91	90	84	86	92	92	96	85	67	78	86	89	90	91	98	89	77	75	79	87	91	93	92	87	88	78	61	74	66	84.4
	Minimum	57	57	61	60	60	51	53	60	59	63	54	44	52	58	58	60	66	70	53	46	38	53	57	57	63	61	62	61	51	56	50	56.5
Bottineau §§	Maximum	84	91	91	86	76	85	95	93	96	75	71	77	87	96	87	83	101	94	69	66	74	86	86	90	93	87	88	80	71	65	69	83.6
	Minimum	49	54	59	60	61	50	54	57	60	69	51	42	45	54	54	53	54	64	56	38	39	40	54	57	59	57	56	56	56	57	50	53.7
Bowbells §§	Maximum	83	93	90	89	76	88	96	91	95	85	72	81	91	97	81	89	97	84	74	71	81	91	93	97	97	91	93	81	68	61	66	85.3
	Minimum	45	59	60	55	53	45	47	51	53	54	43	43	46	51	47	54	55	53	48	38	35	47	57	56	46	48	56	58	49	45	43	49.7
Bowman	Maximum	87	88	89	90	87	88	....	79	90	89	71	78	85	80	78	82	98	92	72	76	82	90	75	97	94	92	91	83	67	77	59	^{a}83.5
	Minimum	55	57	58	76	61	54	....	63	58	69	54	45	62	52	56	....	77	55	60	65	48	51	53	68	72	80	67	54	48	40	42	^{b}58.6
Cando	Maximum	83	87	90	85	84	85	93	95	97	95	70	78	88	94	92	82	96	93	87	69	71	84	86	89	93	89	88	85	79	69	72	85.4
	Minimum	45	51	57	58	58	51	52	56	56	56	53	42	49	57	57	52	64	62	61	42	37	45	51	59	62	58	56	55	59	58	53	54.0
Carson	Maximum	78	85	88	88	82	82	88	88	90	83	70	70	80	85	86	86	92	85	72	75	80	85	80	80	85	90	87	75	70	75	75	81.7
	Minimum	55	55	65	58	55	50	52	58	55	53	55	40	50	52	50	60	65	58	38	45	55	55	50	65	60	70	58	46	47	44	44	53.6
Colgate	Maximum	81	86	92	88	91	87	90	93	100	91	73	76	86	89	88	86	96	93	80	75	72	75	88	91	92	87	88	89	89	73	76	85.8
	Minimum	38	44	58	68	54	52	54	70	55	56	55	41	41	54	56	46	62	67	65	42	32	36	40	57	59	50	46	55	56	57	44	51.9
Crosby	Maximum	84	91	91	86	81	85	91	90	94	81	68	77	85	92	81	91	99	80	75	68	75	88	88	87	90	90	90	82	67	63	68	83.2
	Minimum	51	57	63	54	54	51	55	63	57	58	52	52	51	57	53	51	63	58	52	43	40	45	51	57	50	67	63	64	48	54	48	54.4
Devils Lake	Maximum	80	85	92	84	82	83	91	93	96	81	69	77	88	93	85	78	95	90	71	65	69	82	86	89	91	85	86	80	64	64	71	82.1
	Minimum	42	55	60	58	59	51	56	60	60	56	51	40	55	60	56	53	64	64	55	42	39	49	52	60	62	58	56	58	59	56	52	54.8
Dickinson §§	Maximum	81	87	91	90	85	88	93	90	91	80	68	76	85	91	88	96	101	83	72	75	82	90	94	99	96	94	92	68	55	71	56	84.2
	Minimum	51	52	58	53	56	46	48	54	49	53	55	41	46	55	58	60	61	64	56	36	38	50	50	49	49	56	61	61	48	44	44	51.7
Donnybrook	Maximum	88	92	90	90	80	86	93	94	102	84	70	83	93	99	92	103	89	77	76	70	85	94	96	105	101	98	95	85	74	61	68	87.5
	Minimum	42	50	67	57	57	48	57	58	59	56	50	42	55	61	54	67	65	51	55	39	34	45	58	56	49	65	52	60	53	55	46	53.7
Dunn Center §§	Maximum	82	90	92	88	84	88	93	90	94	82	70	77	86	91	85	94	99	84	70	75	82	90	93	98	97	94	92	69	58	71	51	84.2
	Minimum	56	56	63	55	54	46	48	56	56	66	51	46	50	56	57	58	62	61	55	55	40	38	47	53	51	45	52	58	58	51	47	53.2
Dunseith	Maximum	80	89	86	80	77	81	91	96	95	75	67	77	88	95	84	79	97	91	68	61	72	85	84	86	92	85	87	79	75	69	70	82.0
	Minimum	48	56	60	55	60	51	53	58	59	54	49	40	47	52	55	52	62	61	54	37	31	46	56	60	56	60	56	53	60	56	49	53.1
Edgeley	Maximum	78	87	92	89	90	86	89	94	97	93	73	76	84	86	93	88	94	87	82	77	74	83	89	92	89	85	86	82	69	76	73	81.9
	Minimum	43	49	54	54	54	49	51	53	55	61	55	41	46	57	53	50	58	57	65	45	32	40	48	52	57	46	46	49	54	55	50	50.9
Ellendale	Maximum	76	85	89	88	87	82	86	90	93	90	68	74	80	84	91	88	92	85	81	75	71	81	88	89	86	83	85	81	61	76	73	82.5
	Minimum	44	48	56	56	53	52	51	55	56	54	52	43	45	48	51	56	61	64	55	48	37	40	50	57	57	46	45	53	52	55	49	51.3
Fessenden	Maximum	81	89	93	86	83	85	95	93	100	85	74	81	92	95	87	85	98	92	77	72	72	86	89	93	93	87	89	83	71	67	71	85.3
	Minimum	39	49	52	55	55	43	48	53	52	55	51	37	45	52	53	52	61	64	57	40	34	43	47	53	62	57	56	51	54	55	44	50.6
Fullerton	Maximum	78	87	90	88	89	82	89	93	92	91	72	74	82	82	83	88	91	86	81	74	74	80	87	88	87	83	84	82	63	73	74	82.8
	Minimum	44	48	56	64	64	62	64	57	57	56	59	43	53	55	58	62	65	70	56	47	34	39	58	68	66	62	59	55	53	58	51	56.2
Garrison	Maximum	80	87	94	88	81	86	92	90	85	87	75	77	87	93	89	93	99	89	76	72	81	88	91	96	94	92	91	79	65	79	65	85.5
	Minimum	47	54	56	57	58	46	51	53	58	57	51	42	61	55	57	57	65	67	55	42	35	45	53	52	52	61	66	57	51	51	47	53.5
Grafton	Maximum	80	87	92	90	87	82	93	94	100	86	71	76	89	93	85	77	98	93	85	68	70	82	87	90	93	87	88	83	76	76	79	85.1
	Minimum	41	47	58	58	55	52	51	58	58	55	55	43	46	55	59	48	60	68	65	41	35	40	56	58	63	54	53	47	59	57	53	53.0
Grand Forks	Maximum	78	84	92	84	90	81	88	91	99	91	71	74	86	91	84	78	95	92	85	76	70	82	85	89	90	85	85	82	77	77	77	84.2
	Minimum	42	46	57	59	54	51	50	58	57	58	53	41	46	53	57	50	61	68	68	42	35	39	49	57	64	53	52	51	61	54	51	52.8
Granville	Maximum	82	90	90	76	80	84	90	93	98	75	70	78	90	97	83	87	100	92	71	68	78	89	93	97	97	90	92	85	66	63	68	84.4
	Minimum	44	55	59	59	58	48	56	55	58	58	52	43	52	58	53	65	69	68	57	40	35	49	53	54	54	62	58	58	57	56	49	54.6
Hannah	Maximum	80	85	80	93	86	88	94	94	95	80	68	80	90	96	80	81	97	94	80	72	71	82	89	90	94	90	91	84	72	75	72	84.6
	Minimum	41	54	52	53	55	53	60	54	60	57	50	33	50	61	57	52	55	62	60	39	31	43	54	61	63	62	60	64	58	54	51	53.5
Hansboro	Maximum	82	89	84	83	78	85	94	95	95	79	76	78	90	96	87	78	98	91	84	76	72	85	88	89	94	87	89	86	77	67	73	84.8
	Minimum	39	46	58	55	56	54	53	57	52	50	51	38	53	56	52	46	57	68	59	42	32	45	56	50	55	55	53	46	55	56	52	51.3
Hettinger	Maximum	83	81	92	93	92	92	92	93	92	93	92	79	73	96	93	97	99	90	78	78	83	89	92	101	98	95	92	78	70	77	70	87.8
	Minimum	57	51	64	56	61	54	49	54	50	65	58	48	51	52	52	57	60	64	58	39	38	52	48	49	59	61	55	55	49	40	45	53.3
Hillsboro	Maximum	78	83	90	87	92	85	88	90	98	97	88	74	84	87	86	83	93	93	89	78	68	80	85	88	88	86	85	83	79	75	76	85.0
	Minimum	44	45	54	61	54	51	52	56	54	59	55	44	45	55	59	56	62	68	69	48	38	46	48	59	61	51	49	49	60	55	51	53.3
Howard	Maximum	94	95	90	91	84	88	93	89	96	78	71	80	90	97	95	96	101	85	74	71	82	89	92	95	100	96	93	82	85	69	72	87.5
	Minimum	71	72	64	57	51	55	51	54	58	59	46	45	66	59	87	60	55	54	43	38	37	45	56	50	50	50	58	62	53	53	54	55.1
Jamestown	Maximum	80	87	92	87	89	84	93	93	98	94	74	71	88	90	88	87	96	91	80	71	75	85	87	94	91	87	88	84	75	70	71	85.2
	Minimum	45	50	56	58	59	53	54	55	56	61	56	43	43	53	53	55	62	64	65	47	39	43	48	52	58	54	55	53	57	55	51	53.3
Lamoine	Maximum	80	88	92	86	82	83	90	89	97	84	64	68	87	90	86	90	98	88	74	72	68	68	80	93	92	87	88	84	64	68	62	82.0
	Minimum	42	52	52	52	58	48	58	58	52	56	52	42	47	60	58	56	68	68	54	50	35	40	51	55	60	45	54	50	54	53	43	52.5
Langdon	Maximum	82	89	95	82	82	81	92	96	98	81	66	78	91	95	82	75	97	93	68	65	71	85	91	90	95	88	90	82	70	67	74	83.6
	Minimum	42	50	54	56	56	51	53	57	55	55	51	33	38	50	55	52	53	65	63	41	33	46	53	53	61	56	56	57	55	55	54	51.9
Larimore	Maximum	81	86	96	86	90	86	92	94	101	89	78	78	89	92	87	79	96	93	82	71	84	80	88	90	93	86	88	85	65	75	80	85.8
	Minimum	41	44	55	56	55	54	56	56	60	55	54	40	45	57	58	47	55	63	64	39	35	39	49	56	60	52	50	48	58	56	50	51.9
Lisbon	Maximum	83	89	94	90	93	84	93	96	98	94	79	75	85	88	92	89	96	91	83	77	75	86	90	93	91	87	90	82	69	75	81	86.7
	Minimum	44	48	47	60	52	60	53	53	57	57	57	42	44	48	52	56	54	67	67	42	38	38	44	56	61	47	45	49	54	52	46	51.3
McHenry	Maximum	78	80	91	85	84	80	91	92	99	89	72	75	85	90	87	85	91	89	75	74	72	85	89	90	91	85	83	84	63	66	68	82.8
	Minimum	52	49	47	58	50	55	58	57	58	57	56	43	48	52	57	58	62	66	43	40	36	52	60	58	57	50	50	57	56	57	47	53.1
McKinney	Maximum	80	90	88	85	82	85	92	93	95	86	76	79	88	95	83	87	96	87	75	69	80	90	90	95	95	92	92	85	72	68	65	85.0
	Minimum	50	53	50	54	54	55	57	50	60	60	50	42	52	65	50	55	54	55	54	38	29	38	45	52	50	60	56	55	55	55	48	51.6
Maddock	Maximum	81	87	93	84	80	82	90	95	97	93	70	77	87	92	92	82	98	95	85	69	71	84	87	92	93	90	87	86	77	63	69	84.8
	Minimum	41	47	53	57	59	50	52	57	54	55	53	40	49	58	56	53	64	65	52	44	35	44	49	58	62	56	52	56	56	57	50	53.0
Marmarth	Maximum	82	91	88	90	86	87	91	87	91	86	70	80	86	95	93	99	100	85	74	76	84	90	92	95	97	94	92	80	66	75	54	85.7
	Minimum	56	55	58	60	58	58	53	60	60	60	55	44	48	53	58	60	60	58	53	43	53	48	52	51	51	61	60	48	48	35	45	53.6
Minot	Maximum	85	91	91	86	78	85	93	92	100	78	69	80	91	97	84	91	101	91	72	70	80	90	93	99	97	93	94	85	68	65	67	85.7
	Minimum	40	55	58	52	52	41	50	49	48	52	42	36	50	52	52	50	65	62	52	35	32	45	53	53	45	60	59	55	52	50	44	49.7
Mott	Maximum	83	93	89	88	92	89	87	91	93	86	75	80	84	96	95	97	100	92	80	83	87	89	94	100	91	93	88	77	78	72	67	87.4
	Minimum	55	62	65	62	66	52	60	67	65	51	43	48	62	67	68	70	72	65	38	42	46	50	58	58	53	57	50	50	43	44	42	55.8
Napoleon	Maximum	80	86	92	87	85	85	90	92	98	91	70	78	90	92	94	90	96	88	78	76	80	85	90	94	91	86	88	80	62	72	71	85.1
	Minimum	45	50	55	53	58	44	45	55	54	58	55	37	44	53	50	60	65	64	65	38	35	50	53	56	62	58	56	55	48	52	45	52.2
New Salem	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Pembina §§	Maximum	79	91	92	88	84	82	98	96	94	82	71	78	84	92	86	84	98	94	81	66	73	84	87	92	94	90	90	86	72	78	80	85.
	Minimum	48	46	61	58	59	53	54	61	58	58	54	41	51	54	62	51	58	64	62	44	33	43	54	58	62	59	57	52	59	61	58	54.
Steele	Maximum	75	80	80	86	84	83	86	88	92	86	81	76	84	87	87	86	95	88	74	73	75	74	85	87	89	84	83	79	74	70	69	81.9
	Minimum	36	48	50	54	50	48	50	55	55	52	48	48	56	52	52	52	65	66	50	48	50	50	54	60	63	56	52	50	46	55	50	52.
Towner	Maximum	83	90	90	80	85	87	83	90	97	87	71	77	87	94	93	87	98	92	83	73	75	89	88	91	94	93	91	87	81	64	70	85.
	Minimum	53	54	57	56	65	48	50	59	54	59	53	40	59	56	57	57	67	67	55	43	32	46	52	57	62	60	56	56	64	58	50	54.
Valley City	Maximum	80	85	91	87	90	87	91	95	98	92	71	77	87	87	84	86	94	90	80	74	71	85	88	90	89	84	85	82	74	72	71	84.
	Minimum	62	59	63	57	55	47	59	67	58	65	55	39	42	52	52	51	61	61	59	39	38	41	50	57	60	55	59	50	56	56	46	53.
Wahpeton	Maximum	80	83	85	90	88	84	85	88	97	92	70	75	84	85	91	87	90	90	83	73	67	77	84	86	85	83	83	82	65	75	80	82.
	Minimum	43	50	60	60	54	50	53	57	54	63	66	43	42	51	50	58	60	66	68	48	39	41	50	59	59	50	50	54	59	56	50	53.
Westhope	Maximum	82	89	85	85	75	83	91	91	94	70	70	94	94	86	87	83	98	90	71	67	79	72	92	93	96	91	91	83	69	62	60	83.
	Minimum	46	53	58	55	57	49	53	51	57	52	50	45	45	48	55	55	63	60	53	35	31	51	54	54	50	59	55	56	56	58	48	52.
Williston	Maximum	87	92	90	90	80	88	93	91	96	78	70	81	89	96	84	98	102	82	75	72	80	90	92	90	100	92	94	76	56	71	60	85.
	Minimum	61	69	63	60	56	50	55	62	59	58	54	52	53	64	62	65	71	61	51	44	43	51	56	61	50	68	65	52	51	49	49	56.
Moorhead, Minn	Maximum	80	83	88	88	88	82	86	88	98	92	68	75	84	85	86	86	90	90	83	73	69	77	84	86	86	82	83	81	66	73	79	82.
	Minimum	48	50	60	62	58	54	55	57	57	60	56	46	45	51	53	54	61	68	58	51	40	44	51	60	61	52	51	54	61	58	53	54.

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ^{a}, 1 day missing. ^{b}, 2 days, etc.


Scale of Shades
0 to 1 inch.
1 to 2 inches
2 to 4 inches
4 to 6 inches
Over 6 inches
NO PRECIP.

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CLIMATOLOGICAL DATA

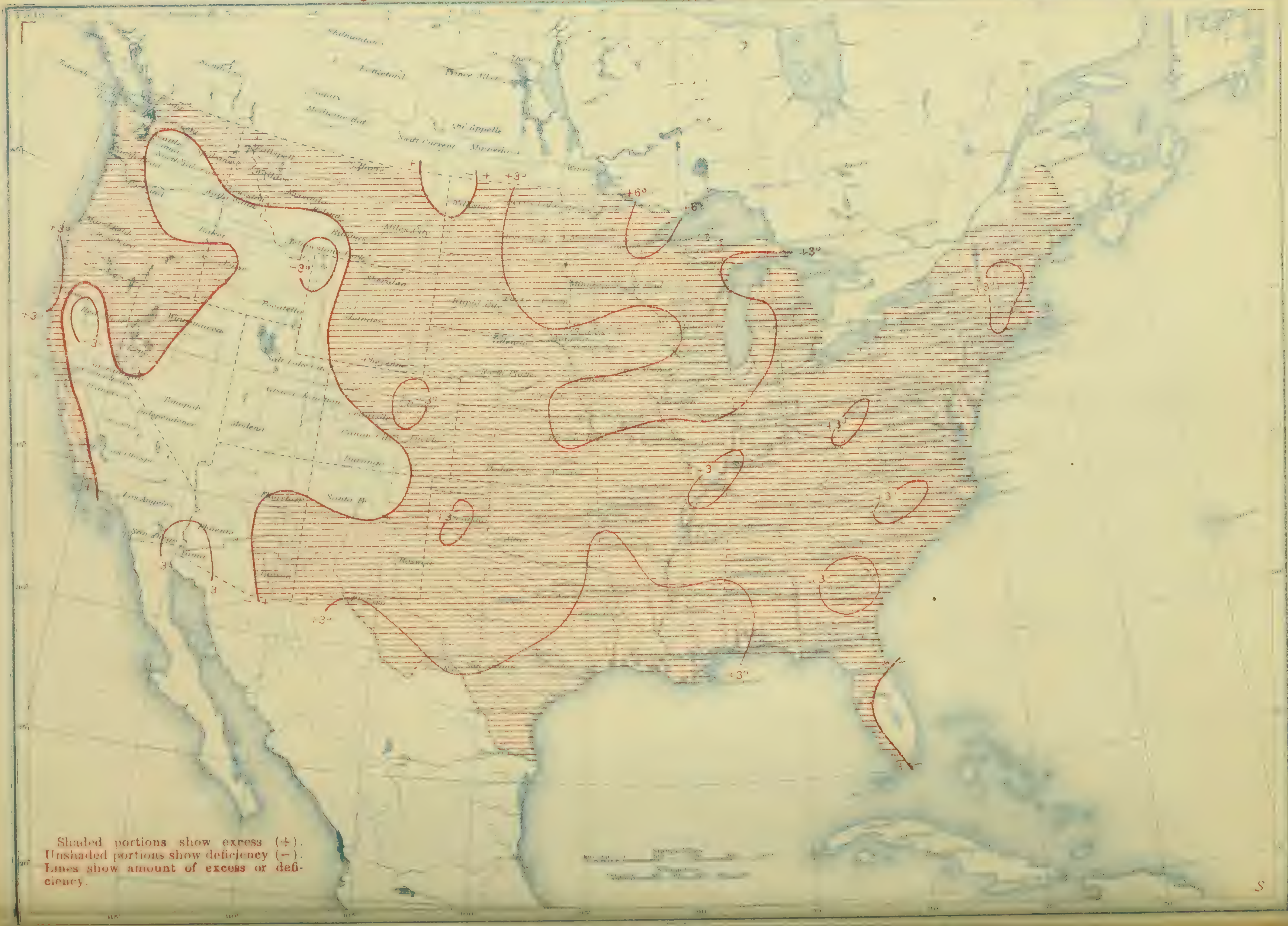
NORTH DAKOTA SECTION

SEPTEMBER, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
NOVEMBER 10, 1920.

Departure of the Mean Temperature from the Normal, September, 1920.



U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXIX. Bismarck, N. D., September, 1920. No. 9

GENERAL SUMMARY.

Generally seasonable weather conditions prevailed over the greater portion of the State during the month. The mean temperature averaged 2.6° above normal, due mostly to high night temperatures, as the day temperatures were moderate and not generally above normal. Killing frosts were not recorded until the cold period beginning on the 28th. At some northeastern stations no killing frosts were recorded. The rainfall was generally light during the first seventeen days of the month. A rainy period set in on the 18th and lasted until the 26th, followed by fair weather until the end of the month. During the above-mentioned rainy period heavy falls occurred in the eastern third of the State, the monthly amounts exceeding four inches over several counties in the northeastern portion and in parts of some southeastern counties. Although delayed by rains in some sections, threshing made good progress generally, and was nearing completion at the end of the month. The corn crop improved generally, and was well matured before frosts occurred. Conditions were favorable for fall plowing in the eastern portion, but it was too dry over much of the western and central portions. —E. G. L.

TEMPERATURE.

The mean temperature for the State was 59.0°, or 2.6° above the normal, and 0.4° higher than the mean for September, 1919. The highest mean reported was 62.0° at McLeod, Ransom County, and at Wahpeton, Richland County; the lowest was 55.2° at Bowman, Bowman County. The highest temperature reported was 99° at Linton, Emmons County, on the 17th; the lowest was 19° at Hettinger, Adams County, on the 29th. The greatest monthly range was 77° at Hettinger, Adams County; the least was 57° at Hannah, Cavalier County. The greatest daily range was 59° at Berthold Agency, McLean County, on the 17th.

PRECIPITATION.

The average precipitation for the State was 2.26 inches, or 0.62 inch above the normal, and 1.34 inches more than the average for September, 1919. The greatest monthly amount reported was 7.38 inches at Larimore, Grand Forks County; the least was 0.46 inch at Willow City, Bottineau County. The greatest amount recorded in any twenty-four consecutive hours was 3.84 inches at Devils Lake, Ramsey County, on the 18th and 19th. The average number of days with 0.01 inch or more of precipitation was 8. With the exception of traces of snow at several stations on the 28th, all precipitation was in the form of rain.

AURORAS.

Auroras were observed as follows: On the 3d at Beach, Bismarck and Energy; on the 4th at Arnegard and Energy; on the 7th at Energy and Howard; on the 8th at Beach, Berthold Agency, Devils Lake, Donnybrook, Grand Forks, Howard and Linton; on the 9th at Devils Lake, Eckman and Grand Forks; on the 10th and 11th at Eckman; on the 14th at Berthold Agency, Energy and Westhope; on the 15th at Bismarck and Wahpeton; on the 16th at Ellendale, Berthold Agency and Energy; on the 17th at Linton; on the 20th at Energy; on the 22d at Beach and Bismarck; on the 26th at Ellendale; on the 28th at Howard, and on the 29th and 30th at Valley City.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Wind.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.94	30.56	29	29.37	23	57	6,386	8.9	35	nw.	28
Devils Lake	29.88	30.44	29	29.27	24	44	6,590	9.2	34	e.	18
Ellendale	29.91	30.42	29	29.36	23	56	8,329	11.6	54	nw.	14
Grand Forks	......	30.34	29	29.33	24	90	......	......	31	nw.	15
Williston	29.87	30.55	29	29.34	23	48	5,372	7.5	36	nw.	28
Moorhead, Minn	29.90	30.44	29	29.31	24	57	5,134	7.1	29	s.	25
Av'ges and extremes	29.90	30.56	29	29.27	24	......	......	8.9	54	nw.	14

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	239.8	376.6	64	+2	81	47	50	20	16
Devils Lake	203.6	377.2	54	-5	84	47	61	19	16
Ellendale	191.2	376.0	51	......	88	....	67	32	15
Grand Forks	......	......	......	......	86	....	60	......	......
Williston	309.0	377.2	82	+29	76	42	42	16	17
Moorhead, Minn.	......	......	......	......	92	....	69	......	......
Averages and extremes	235.9	376.8	63	+9	84	44	58	16	17

* And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw.
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw
1903...	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919...	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920...	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.

Climatological Data for September, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	60.2	+2.9	90	17	24	30	54	3.37	+1.36	1.17	0	9	18	11	1	e.	E. T. Carley.
Amidon	Slope		4																	M. J. Connolly.
Arnegard	McKenzie		1	58.6		97	17	22	28†	44	1.21		0.85	0	5	18	8	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	59.6	+2.3	92	17	26	30	44	2.04	+0.99	0.47	0	6	19	6	5	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	58.5	+2.2	98	17	22	29	53	0.61	−0.75	0.52	0	3	18	11	1	w.	I. H. Clagget.
Berthold Agency‡‡	McLean	2,082	25	59.0	+2.0	98	17	24	29	59	2.00	+0.55	1.55	0	6	21	6	3	se.	C. L. Hall.
Bismarck	Burleigh	1,674	45	60.3	+3.2	94	17	25	30	48	1.20	+0.01	0.65	T.	7	12	9	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	57.6	+2.1	90	17	29	27	51	0.96	−0.70	0.32	T.	10	14	8	8	se.	M. R. Shuler.
Bowbells	Burke	1,958	7	56.6		95	17	24	29	55	2.40		1.70	T.	5	18	3	9		G. H. Phelps.
Bowman	Bowman		5	55.2^{c}		97^{a}	20	23^{c}	29	42^{c}	1.28		0.85	0	4	10	9	11	ne.	C. V. Hook.
Cando	Towner	1,488	18	59.4	+3.8	90	17	30	30	47	1.86	+0.37	0.72	0	10	12	13	5	nw.	A. J. Swanson.
Carson	Grant	2,500	7																	J. W. Evens.
Colgate	Steele	1,177	5	60.7		91	13	25	29	52	2.96		0.81	0	6	15	12	3	se.	James McCann.
Cooperstown	Griggs	1,428	9								3.45	+1.73	1.05	0	8	13	11	6	w.	S. Friswold.
Crosby	Divide	1,954	12	57.4	+3.7	90	17	26	29	46	1.81	+0.57	1.55	0	5	16	11	3	sw.	John Jensen.
Devils Lake	Ramsey	1,478	15	59.4	+3.8	90	17	33	30	41	5.34	+3.95	3.84	T.	10	15	6	9	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	57.0	+0.5	94	17	21	29	56	1.77	+0.69	1.33	0	7	16	7	7	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	60.1	+6.1	96	17	28	29	56	0.47	−1.36	0.30	0	4	9	20	1	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	57.3		93	17	22	30	57	1.33		0.90	0	4	18	8	4	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	57.0	+2.2	85	17	27	27†	48	1.02	−0.62	0.57	0	9	17	7	6	nw.	J. G. Lamont.
Eckman	Bottineau		14	59.4^{a}	+3.9	91^{a}	16†	28^{a}	30	53^{a}	0.71	−0.53	0.20	0	6	16	8	6	e.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	59.6	+2.1	90	17	24	30	47	2.87	+1.11	0.68	0	8	4	14	12	se.	O. A. Thompson.
Ellendale	Dickey	1,449	21	60.2		91	17	26	29	44	3.19	+1.61	0.89	T.	12	6	12	12	nw.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	7								2.52		1.16	0	5	16	10	4	se.	N. W. Solenberger.
Epping	Williams	2,224	11								1.66	+0.25	1.60	0	2	18	11	1	w.	M. E. Uggen.
Fessenden	Wells	1,610	7	58.0		92	17	23	30	51	1.09		0.48	0	6	16	9	5	nw.	G. T. Seymour.
Forman	Sargent	1,249	27																	H. T. Denk.
Fryburg	Billings	2,790	1								0.87		0.58	0	4	25	4	1	nw.	Verne King.
Fullerton	Dickey	1,439	21	60.4	+3.7	87	13†	25	30	44	4.81	+2.70	0.75	0	14	7	15	8	nw.	F. O. Alin.
Garrison	McLean	1,901	24	57.4	+0.6	92	17	25	29	50	1.32	−0.06	0.38	0	7	16	10	4	s.	G. L. Robinson.
Grafton	Walsh	827	27	60.6	+4.7	93	13	28	30	49	4.15	+2.36	1.03	0	9	18	3	9	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	59.8	+3.6	88	17	25	30	44	3.10	+1.31	1.49	0	14	14	6	10	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	57.1	+2.7	90	17	30	30	49	0.72	−0.63	0.28	0	5	7	14	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	60.4	+6.5	85	14	28	30	45	2.97	+0.83	1.21	0	8	16	12	2	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	57.8	+3.7	88	16	27	30	48	2.11	+0.31	0.50	0	5	13	13	4	se.	C. E. Blackorby.
Hettinger	Adams	2,253	11	59.7	+1.7	96	19	19	29	54	0.64	−0.90	0.28	0	4	21	2	7	nw.	U. J. Downey.
Hillsboro	Traill	901	13	61.0	+2.0	90	17	24	30	44	2.96	+0.22	1.31	0	11	11	12	7	s.	F. E. Mayall.
Howard ‡‡	Williams	2,275	12	58.4	+4.6	90	20	22	29	45	2.46	+1.03	1.36	0	2	18	9	3	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	27	60.6	+3.9	90	17†	24	30	46	3.74	+2.21	0.80	0	9	15	3	12	nw	S. Calvelage.
Lakota	Nelson	1,579	18																	C. R. Pettes.
Lamoine	Kidder	1,936	11	57.3	+0.7	89	17	24	30	49						21	4	5	se.	E. V. Virgin.
Langdon	Cavalier	1,615	23	59.0	+5.5	89	13	28	30	49	2.70	+0.66	0.68	0	7	22	2	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	59.4	+4.2	92	13	25	30	46	7.38	+5.67	2.60	0	9	12	6	12	s.	Reuben Gray.
Linton	Emmons	1,711	1	60.6		99	17	24	30	55	2.17		0.60	0	12	15	10	5	nw.	William Malpass.
Lisbon	Ransom	1,091	15	60.4	+2.7	91^{a}	13	25	30	43^{a}	4.35	+2.10	1.06	0	11	17	4	9		W. S. Adams.
McClusky	Sheridan	1,943	1								1.18		0.50	0	5					Edw. Tapley.
McHenry	Foster	1,509	9	59.9		91	14	24	30	41	2.55		0.90	T.	12	14	8	8	se.	P. E. Trudeau.
McKinney ‡‡	Renville	1,640	25																	N. P. Swenson.
McLeod	Ransom	1,075	7	62.0		90	13	24	30	40	5.23		1.35	0	12	18	3	9	se.	J. G. Carlson.
Maddock	Benson	1,604	4	59.2		90	17	26	30	47	0.98		0.38	0	6	8	14	8	se.	A. T. Felland.
Mandan	Morton	1,644	5	59.9		93	17	25	30	51	1.30		0.83	0	6	16	7	7	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	57.2	+1.3	89	17	24	30	46	1.05	−0.42	0.57	0	5	16	12	2	nw.	P. B. Anderson.
Marmarth	Slope		10	58.5	+2.9	96	17	23	29	53	1.07	−0.20	0.79	0	6	14	8	8	w.	S. P. Grane.
Mayville	Traill	975	23	58.1	+0.7	88	16	25	30	44	3.65	+1.31	1.44	T.	7	17	4	9	sw.	W. C. Gould.
Melville	Foster	1,590	21	57.0^{g}	+0.6	87^{g}	14	26^{g}	30	46^{g}	1.57	+0.13	0.46	0	4					J. P. Kidder.
Minot	Ward	1,557	23	56.5	−0.2	94	17	22	30	58	1.25	−0.33	0.40	0	8	18	10	2	w.	W. I. Faris.
Minto	Walsh	820	26	61.2	+4.8	94	13	28	30	45	4.14	+2.14	1.26	0	10	17	7	6	se.	C. M. Evans.
Mott	Hettinger	2,424	12	56.4	+0.1	95	17	20	29	44	1.72	+0.15	1.01	0	8	14	10	6	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	59.5	+2.6	94	17	23	30	52	1.48	+0.19	0.60	0	13	13	8	9	se.	C. J. Hoof.
New England	Hettinger	2,400	25																	W. C. McKenzie.
New Salem	Morton	2,163	14																	J. Christiansen.
Orange ‡‡	Adams	2,586	10																	J. E. Lowries.
Park River	Walsh	998	15	61.1^{a}	+4.2	92^{a}	13	30^{a}	30	44^{a}	3.64	+2.08	0.98	0	9	13	8	9	se.	C. B. Wright.
Parshall	Mountrail		4								1.55		1.55	0	1					J. A. Johnson
Pembina	Pembina	789	45	60.8	+7.0	93	13	32	30	47	4.14	+2.34	2.10	0	7	12	5	13	ne.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	58.6	+4.9	92	17	21	30	51	1.21	−0.31	0.30	0	10	12	10	8	se.	A. O'Neill.
Power	Richland	1,020	26								4.72	+2.70		0	11					J. A. Power.
Powers Lake	Burke	2,205	4								2.00		1.55	0	4	13	13	4	sw.	C. Frank.
Selfridge	Sioux										1.38	+0.41	0.55	0	6	19	10	1	se.	H. F. Solenberger.
Steele	Kidder	1,857	22	59.5	+1.7	91^{a}	17	28	30	46^{a}	1.25	−0.02	0.46	0	9	17	13	0	se.	H. S. Wood.
Taylor	Stark	2,493	3	58.4		92	17	31	29†	45	1.98		1.30	0	8	14	4	12	se.	H. Lentz.
Towner	McHenry	1,482	17	58.8	+3.0	91	17	27	30	50	0.66	−1.00	0.35	0	3	12	12	6	se.	B. Bagley.
Turtle Lake	McLean	1,899	5	58.7		92	17	24	30	47	1.74		1.09	0	9	11	9	10	s.	A. T. Anderson.
Valley City	Barnes	1,245	1	59.4	+1.2	90	13	26	30	43	3.27	+1.55	0.94	T.	11	15	6	9	se.	C. F. Schroeder.
Wahpeton	Richland	962	25	62.0	+3.4	91	13	25	30	45	3.89	+1.59	0.90	0	13	7	16	7	se.	State School of Science.
Walhalla	Pembina	966	12	58.6	+2.7	90	13	28	30	44	3.35	+1.50	0.82	0	10	15	10	5	w.	Ivan Lee.
Westhope	Bottineau	1,508	13	58.2	+3.4	90	17	27	30	52	0.74	−0.62	0.33	0	8	22	4	4	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	58.8	−0.7	96	17	25	29	52	0.60	−0.31	0.47	0	6	15	12	3	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	56.4	+2.1	93	17	26	30	57	0.46	−1.20	0.25	0	4	14	13	3	se.	M. A. Ostby.
Zap	Mercer	1,800	6																	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	61.5	+5.0	91	13	26	30	39	3.46	+1.16	1.25	0	15	16	2	12	se.	U. S. Weather Bureau.
Averages				59.0	+2.6	99	17	19	29	59	2.26	+0.62	3.84	T.	8	15	9	6	se.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for September, 1920.

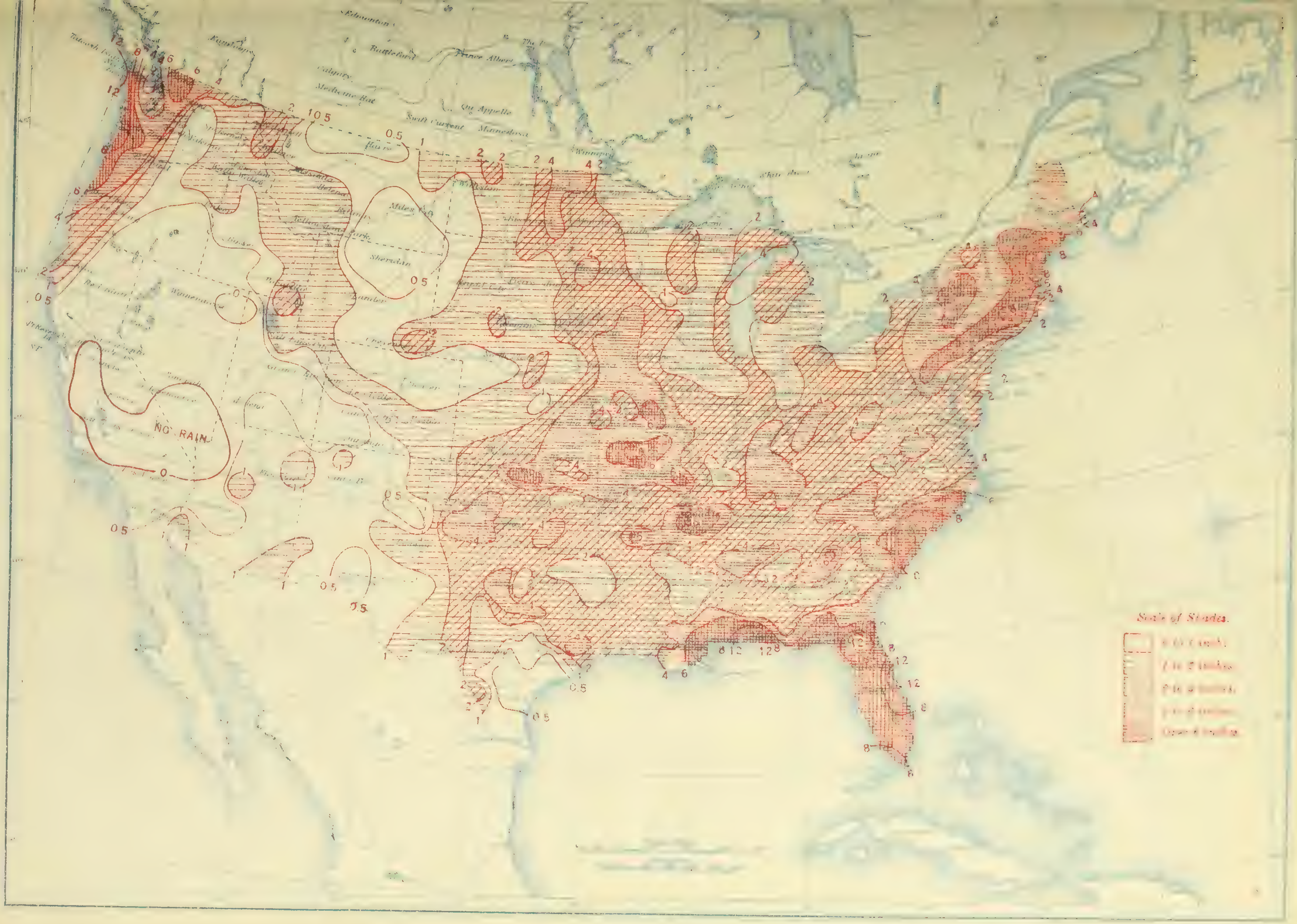
Stations.	Watersheds	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Amenia	Red	T	.10	.20	T				.20			.20	T			T.				1.00	.10	T	.20	.20	1.17		T						3.37
Amidon	Lit. Missouri																																
Arnegard	Missouri	.15						.12																.85	.04	.05							1.21
Ashley	Missouri	.40	.10	.40																			.47	.42	T	.25							2.04
Beach	Lit. Missouri	.08						T															T	.52		.01	T						0.61
Berthold Agency	Missouri	.10	.07					.18			.02				T				T		T		T	1.55		.08							2.00
Bismarck ***	Missouri	.08	.37	.01								.01			T				.01	.04	T		T	.65		T		T.	T				1.20
Bottineau	Mouse	.26	.05	.06					.07			.12				.02				.32	.02	.01			.03				T				0.96
Bowbells	Mouse								.05			.22								.12					1.70	.31			T				2.40
Bowman	Grand	.26	.11																					.85		.06							1.28
Cando	Sheyenne							.16	.06							.05				.72	.03	.16		.20	.43	.01	.04						1.86
Carson	Heart																																
Colgate	Sheyenne	.31	.10					.67												.80		.27	.81										2.96
Cooperstown	Sheyenne	.10	.25	.15				.65											.25				1.05	.90		.10							3.45
Crosby	Mouse	.15						.07			.02	.02			T.									1.55									1.81
Devils Lake ***	Sheyenne	.02	.03					.50				T			.05				.04	3.80	T.		.19	.48	.20	.03			T				5.34
Dickinson	Heart	.03	.04	.02					.21										.07						1.33	.07	T						1.77
Donnybrook	Mouse	.02	.05								T.								T	.30						.10							0.47
Dunn Center	Knife		.07						.26						T				T	T.					.90	.10							1.33
Dunseith	Mouse							.07				.04			.05					.57	.15		.02	.02	.05		.05						1.02
Eckman	Mouse	.19						.20					.01		T.				.12	.15				T.		.04							0.71
Edgeley	James	.03	.33	.57					.66		.08												.36	.16	.68								2.87
Ellendale***	James	.45	.50	.49	.03			.46	.01		.38				T.				T.		.02	.02	.11	.66	.03	T.		T.	T.				3.19
Energy	Missouri	.81						.10			.33				T.								T.	1.16		.12		T.	T.				2.52
Epping	Missouri							.06																1.60									1.66
Fessenden‖ ‖	James	.13	.20					.48											T.				T.	.15	.05	.08							1.09
Forman	Sheyenne																																
Fryburg	Lit. Missouri	.13	T.					.04							T.				T.					.58	T	.12		T.					0.87
Fullerton	James	.48	.75	.66	.07	.08		.54			.34		.06			.22					.03	.04	.32	.60	.62	T.							4.81
Garrison	Missouri	.27	.03					.19				.06							T.					.37	.38	.02							1.32
Grafton	Red	.05							.05							.06			T.	1.03		.06	1.00	.78	.86		.26						4.15
Grand Forks ***	Red	.06	.19	T.					.07			.06			.03	.05			.03	1.46	.02	.03	.11	.69	.23	.07			T.				3.10
Granville	Mouse	T.	T.					.22			.10				.10				.28					.02		T.		T.					0.72
Hannah	Pembina	T.						.84					.56			.09		.07			.11			.09	*	1.21							2.97
Hansboro	Red	.30										.36										T.		.50	.45		.50						2.11
Hettinger	Grand	.20	.10																						.28	.06							0.64
Hillsboro	Red		.27	.04					.22		.03								.05	.36	.02	.01	.32	1.31	.33								2.96
Howard	Missouri		1.10								T.										T	T.		1.36									2.46
Jamestown‖ ‖	James		.57	.47					.70					.12							.05		.07	.80	.78			.18					3.74
Lakota	Sheyenne																																
Lameine	Missouri	.23					T.					T.							T.		T.		T.	T.		T							0.23
Langdon‖ ‖	Pembina	.05							.53						T.	.31				.40		.26		.47	.68								2.70
Larimore	Red		.25	.02					.30											2.60		.03	.08	2.35	1.60		.15						7.38
Linton	Missouri	.60	.11	.11	.05			T.			.55	.02				.04			T.	T.	.08		.05	.41	.08	.07		T					2.17
Lisbon	Sheyenne	T.	.66	1.06	.05	T.			.55		.76	.08				.24				T.	T.	.03	.12	.12	.68								4.35
McClusky	Missouri	.40	T.	.08				.50		.10	T.			T.										.10		T.							1.18
McHenry	James	.13	.15	.17			.10					.15					.20			.08	.15	.10	.25	.90		.17			T.				2.55
McKinney	Mouse																																
McLeod	Sheyenne	.14	.17	1.35	.04						.68					.07				.78	.09	.02	.20	.92	.77								5.23
Maddock	Sheyenne		.04					.38											.03	.37				.13		.03							0.98
Mandan	Missouri	.01	.31	.11	.02				T.							T.			.02	T.					.83								1.30
Manfred	Sheyenne	.19	.10	.06				.57											T.		T.			T.		.13							1.05
Marmarth	Lit. Missouri	.12	.06					.06				.02			T.				T.		T.		.02	.79				T.					1.07
Mayville	Red		.02						.31						.03				.56				.11	1.18	1.44					T.			3.65
Melville	James	T.	T.	T.				.35											T.				.33	.46	.43	T.							1.57
Minot	Mouse		.11					.38		.40	.05				.01	.10			.16							.04							1.25
Minto	Red	.10			.03			.03								.02				1.26		.10	.83	.87	.68		.22						4.14
Mott	Cannon Ball	.08	.02					.32				.04							.11		.08			1.01	.06								1.72
Napoleon‖ ‖	Missouri	.02	.10	.07	.16						.02	.03				.04				.23	.02		.01	.10	.60		.08						1.48
New England‖ ‖	Cannon Ball																																
New Salem	Heart																																
Orange	Cannon Ball																																
Park River	Red							.15				T.				.37			T.	.98		.03	.48	.87	.50		.23		.03				3.64
Parshall	Missouri																							1.55									1.55
Pembina‖	Red		2.10						T.						T.	.10				.04	T.	T.	T.	.20	1.20	.30	.20						4.14
Pettibone	James	.03	.04	.09				.09								.04			.07				.17	.28	.30	.10							1.21
Power	Missouri	.12	.56	.70				.38			.20									*	*	*	*	2.68			.08						4.72
Powers Lake	Sheyenne	T.	.15								T.						.10							1.55	.20								2.00
Selfridge	Missouri	.02	.50	.24				.02							T.						T.			.55		.05							1.38
Steele	Missouri		.23	.12				T.				.03	T.			.05			T.	.03			.13	.14	.46		.06						1.25
Taylor	Heart	.15	.02	T.				.13		.09		T.			.01	T.					T.			1.30	.20	.08							1.98
Towner	Mouse		T.					.11							T.				.20	.35									T.				0.66
Turtle Lake	Missouri	1.09	.02	.02				.06			.23				T.				.07					.17	.04	.04							1.74
Valley City	Sheyenne	.03	T.	.94	.02				.45			.02							T.	.50	.02	.01	.18	.42	.68	T			T.				3.27
Wahpeton‖ ‖	Red		.25	.36	.45				.04			.30				.02				.90	.12	.05	.07	.50	.76		.07						3.89
Walhalla	Pembina		T.						.59			.10			.07	.06				.06		.18	.58	.82	.65	.24							3.35
Westhope	Mouse	.14	.01						T.			.09			.01				.03	.33				.06		.07							0.74
Williston ***	Missouri	.09	.01					.01			.01				T.				T.				T.	.47		.01		T.					0.60
Willow City	Mouse		T.					.08				.03		T.	T.				.10	.25	T		T.	T.		T.			T.				0.46
ap	Knife																																
Moorhead, Minn ***	Red	.09	.13	.03	.01						.56	.02				.16			.01	.33		.41	.25	1.07	.31	.07	.01						3.46

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the -hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	70	60	73	74	76	77	83	72	79	74	80	83	91	88	78	85	90	69	63	65	83	78	65	76	81	71	75	54	47	66	....	74.2
	Minimum...	44	46	50	45	42	40	40	46	47	46	47	44	58	52	52	39	36	46	48	49	50	60	57	56	56	54	37	38	34	24	....	46.1
Arnegard	Maximum...	69	67	69	72	75	82	85	73	79	82	68	87	71	73	71	92	97	84	71	89	76	75	60	69	60	61	64	53	56	69	....	73.3
	Minimum...	51	44	41	41	46	52	53	48	40	45	48	46	51	49	53	48	67	45	41	45	41	37	48	43	47	38	37	22	22	29	....	43.9
Ashley	Maximum...	63	62	68	67	66	71	80	72	76	77	77	82	84	85	72	83	92	84	80	68	88	72	70	70	71	67	65	56	48	61	....	72.6
	Minimum...	48	46	52	48	36	45	49	52	41	53	50	44	52	55	50	39	48	50	50	50	59	57	55	48	51	41	38	37	30	26	....	46.7
Beach	Maximum...	65	65	67	73	75	85	70	79	82	83	73	88	78	75	76	93	98	85	80	80	92	81	62	70	62	65	68	51	65	73	....	75.3
	Minimum...	46	43	33	34	42	45	52	34	40	45	40	46	45	48	37	42	45	62	49	52	48	46	48	37	42	33	35	30	22	29	....	41.7
Berthold Agency	Maximum...	70	72	73	78	77	82	70	76	80	84	72	88	79	81	73	92	98	79	81	85	82	81	64	76	70	64	65	57	56	70	....	75.8
	Minimum...	44	47	42	40	44	45	40	39	40	49	48	42	48	43	41	38	39	53	42	44	48	50	50	46	51	37	32	37	24	27	....	42.3
Bismarck	Maximum...	63	63	64	72	72	77	70	72	77	83	74	87	83	84	74	89	94	77	77	78	81	79	74	76	65	66	65	51	51	64	....	73.4
	Minimum...	49	52	51	44	45	47	56	47	40	54	52	44	55	52	49	41	47	55	50	53	60	54	54	49	45	41	36	38	32	25	....	47.2
Bottineau §§	Maximum...	72	71	74	75	76	76	72	74	77	79	69	85	80	77	74	87	90	65	61	75	81	67	65	74	61	64	65	42	54	70	....	71.7
	Minimum...	50	50	41	45	46	45	46	47	40	39	55	37	42	50	40	39	39	48	45	47	49	55	48	49	52	31	29	30	31	36	....	43.5
Bowbells §§	Maximum...	73	71	75	76	76	79	72	77	79	82	66	86	76	74	73	88	95	64	73	86	79	77	61	69	68	59	63	43	54	68	....	72.7
	Minimum...	44	44	42	40	39	43	41	34	36	43	45	40	52	49	42	40	40	44	35	41	46	44	42	47	47	39	35	30	24	27	....	40.5
Bowman	Maximum...	68	61	62	68	72	79	53	52	58	60	50	65	65	64	..	69	74	79	81	97	80	76	73	76	73	61	65	58	56	67	....	^{a}67.7
	Minimum...	47	43	40	39	43	45	39	39	47	45	45	44	45	44	..	40	47	58	53	55	..	..	..	..	45	35	45	36	23	28	....	^{e}42.8
Cando	Maximum...	72	71	74	76	75	75	80	74	75	78	77	85	82	82	77	86	90	86	54	67	80	76	62	73	71	65	63	61	52	66	....	73.5
	Minimum...	46	49	45	44	44	42	47	51	39	46	53	40	51	54	45	39	46	49	46	50	58	52	47	54	52	39	36	33	33	30	....	45.3
Carson	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Colgate	Maximum...	74	76	71	75	79	78	83	85	76	76	78	80	91	83	81	85	91	75	74	76	85	73	76	74	79	63	63	54	63	68	....	76.4
	Minimum...	46	44	51	41	42	40	46	50	43	48	48	54	41	48	42	39	39	38	42	56	51	54	52	53	57	52	38	39	25	28	....	45.0
Crosby	Maximum...	69	68	69	70	72	76	65	68	72	79	64	83	71	71	68	82	90	78	70	87	76	72	52	64	58	57	60	60	52	65	....	69.6
	Minimum...	51	50	53	45	46	50	55	37	42	49	47	43	52	51	46	42	44	48	42	45	53	47	49	50	48	40	36	35	26	31	....	45.1
Devils Lake	Maximum...	68	67	72	74	74	73	80	72	74	78	73	85	84	84	74	86	90	65	58	66	86	64	62	73	70	66	62	49	46	64	....	71.3
	Minimum...	45	52	50	41	44	45	51	51	46	49	52	45	55	54	48	47	49	51	46	49	58	54	53	53	52	44	42	35	34	33	....	47.6
Dickinson §§	Maximum...	69	64	65	69	71	79	64	69	78	80	70	80	76	85	71	90	94	84	79	86	78	76	61	74	54	60	63	46	54	..	....	^{a}72.0
	Minimum...	47	47	43	38	40	46	48	36	40	47	48	40	45	43	39	37	38	45	46	47	53	50	52	41	48	34	34	36	21	27	....	41.9
Donnybrook	Maximum...	70	72	74	79	78	83	74	81	83	84	72	90	79	79	75	80	96	75	74	85	85	80	60	74	64	67	65	55	55	70	....	75.3
	Minimum...	47	44	40	39	44	47	53	36	40	49	49	42	55	50	48	49	40	45	60	41	50	50	47	50	50	59	40	33	28	30	....	44.9
Dunn Center §§	Maximum...	70	65	66	71	71	79	66	70	77	81	70	86	75	78	71	90	93	70	78	85	78	74	61	74	60	62	64	42	55	66	....	71.6
	Minimum...	46	44	48	46	40	43	43	48	38	38	40	49	41	43	42	45	36	42	54	45	44	51	52	52	44	47	37	32	37	22	....	43.0
Dunseith	Maximum...	75	70	70	73	73	73	70	72	74	78	70	83	81	77	72	84	85	71	58	66	71	67	58	67	68	60	60	63	49	52	....	69.7
	Minimum...	60	44	40	46	41	45	50	42	36	53	54	38	52	51	45	36	52	46	43	47	55	50	45	50	51	35	27	35	30	27	....	44.2
Edgeley	Maximum...	70	60	63	70	67	74	79	71	76	71	78	83	88	84	76	78	90	80	71	66	84	80	66	75	73	68	65	56	43	62	....	72.2
	Minimum...	45	45	52	47	40	45	47	56	45	51	48	43	52	53	54	43	43	47	52	51	57	58	50	50	55	44	40	38	33	24	....	46.9
Ellendale	Maximum...	65	60	63	69	63	72	78	70	75	75	78	83	88	86	75	85	91	86	69	70	85	71	71	75	73	68	65	52	43	61	....	72.7
	Minimum...	46	50	53	51	42	44	47	55	49	56	50	44	57	52	54	46	47	50	54	52	62	56	56	51	52	41	39	38	26	26	....	48.2
Fessenden	Maximum...	65	64	70	75	74	75	80	76	79	81	76	89	84	83	76	89	92	68	74	75	90	72	63	78	75	71	65	52	51	70	....	74.4
	Minimum...	49	48	45	36	42	36	45	43	37	43	51	37	45	48	45	37	41	49	43	41	52	48	45	48	45	34	31	32	31	23	....	41.7
Fullerton	Maximum...	70	59	61	69	66	72	78	70	74	74	77	84	87	85	74	80	87	82	68	70	84	77	68	72	73	67	65	60	40	58	....	71.7
	Minimum...	50	49	52	49	44	44	60	56	56	54	49	55	43	63	55	43	46	50	58	50	59	57	55	50	53	42	36	38	32	25	....	49.1
Garrison	Maximum...	65	67	65	73	72	77	66	72	77	77	70	85	80	78	73	73	92	83	78	82	80	75	68	73	68	67	56	48	49	65	....	71.8
	Minimum...	49	49	40	39	43	45	50	39	37	44	50	42	42	44	47	41	42	50	45	46	50	48	50	46	50	37	35	34	25	27	....	42.9
Grafton	Maximum...	77	73	75	78	80	78	85	78	80	80	76	87	93	85	77	87	90	71	50	60	83	75	65	74	77	67	62	56	48	65	....	74.4
	Minimum...	51	52	40	39	40	42	45	61	38	44	47	45	56	49	52	38	46	51	47	51	57	57	54	59	55	45	39	38	36	28	....	46.7
Grand Forks	Maximum...	71	70	74	77	75	76	83	74	77	75	78	83	87	84	76	84	88	78	56	62	82	64	66	76	71	69	66	45	45	62	....	72.5
	Minimum...	50	54	50	45	42	44	47	53	41	45	49	46	54	51	44	40	48	52	47	51	60	58	56	56	55	44	41	39	30	25	....	47.2
Granville	Maximum...	69	70	71	72	74	72	65	70	76	77	70	77	80	80	72	89	90	63	73	80	80	70	65	75	68	65	65	47	54	68	....	71.6
	Minimum...	45	49	53	42	44	48	50	40	40	52	40	52	40	52	38	40	43	39	44	45	40	40	40	50	35	38	38	36	34	30	....	42.6
Hannah	Maximum...	70	76	80	76	82	80	75	72	76	72	74	83	81	85	81	84	83	82	84	77	84	82	70	72	71	68	70	60	45	70	....	75.5
	Minimum...	48	50	47	39	46	50	42	40	39	41	39	38	59	62	50	41	43	60	56	49	46	59	42	51	48	41	38	31	32	28	....	45.2
Hansboro	Maximum...	72	71	73	76	77	74	78	77	78	77	71	85	83	79	74	88	87	73	65	69	76	72	60	70	68	65	62	45	49	68	....	72.1
	Minimum...	56	45	38	42	41	45	43	38	41	40	50	46	45	51	48	40	44	47	47	50	53	47	40	53	50	38	35	31	32	27	....	43.5
Hettinger	Maximum...	65	61	59	67	71	78	80	70	78	81	86	86	80	85	85	89	87	95	96	91	88	80	80	68	78	60	64	67	54	56	....	76.2
	Minimum...	48	46	40	49	45	48	54	42	41	43	42	44	43	41	44	38	44	41	52	54	46	53	55	38	48	37	38	37	19	22	....	43.2
Hillsboro	Maximum...	74	62	73	72	72	74	82	75	76	73	79	81	89	88	80	83	90	87	63	62	82	75	63	74	81	72	67	61	46	60	....	73.9
	Minimum...	47	52	54	44	43	43	46	59	43	45	50	44	59	52	52	41	46	51	48	52	58	61	57	58	58	45	39	39	36	24	....	48.2
Howard	Maximum...	70	71	70	71	78	76	68	72	80	82	80	76	77	77	76	79	82	84	85	90	82	80	81	78	89	70	70	63	55	57	....	75.6
	Minimum...	44	46	46	46	45	46	42	39	38	37	38	42	41	40	42	41	41	42	42	52	52	46	44	42	40	42	45	27	22	28	....	41.3
Jamestown	Maximum...	65	60	66	70	70	73	80	74	76	78	80	85	85	82	80	85	90	90	85	80	82	78	68	74	67	65	60	55	50	51	....	73.5
	Minimum...	45	52	53	36	45	46	49	53	46	53	50	42	51	53	52	43	44	53	49	51	58	52	52	54	54	45	55	36	36	24	....	47.8
Lamoine	Maximum...	64	61	64	71	70	71	73	70	74	80	73	86	83	83	73	88	89	70	73	79	87	72	68	77	68	64	60	50	49	65	....	71.8
	Minimum...	39	40	49	40	40	39	38	41	40	51	51	39	52	50	46	39	49	50	46	46	58	51	50	48	46	30	32	31	29	24	....	42.8
Langdon	Maximum...	74	73	73	79	82	78	82	71	80	81	82	84	89	80	72	86	85	66	58	69	84	81	78	70	70	66	64	51	47	67	....	74.2
	Minimum...	50	45	42	44	42	43	44	51	41	44	51	38	51	51	46	37	42	45	43	45	51	52	49	50	53	40	34	30	30	28	....	43.7
Larimore	Maximum...	79	69	71	78	78	78	83	76	79	76	80	86	92	85	76	87	90	67	57	64	82	61	64	75	78	68	64	45	47	65	....	73.2
	Minimum...	45	45	49	41	42	41	47	47	40	43	46	46	54	48	52	41	44	50	46	50	52	60	54	54	51	44	40	36	33	25	....	45.5
Lisbon	Maximum...	69	65	72	73	74	76	84	74	78	71	82	85	91	90	77	85	88	72	62	70	87	80	67	76	78	71	65	45	45	..	....	^{a}74.2
	Minimum...	45	48	49	50	40	39	45	49	55	50	47	44	50	50	51	42	45	50	50	50	50	60	56	54	52	41	35	40	34	25	....	46.5
McHenry	Maximum...	72	65	70	74	74	81	86	90	80	77	75	82	88	91	89	75	87	60	64	67	66	68	64	70	65	55	69	46	47	60	....	71.9
	Minimum...	47	50	50	47	45	40	50	55	52	56	51	52	56	53	51	53	52	42	40	44	46	50	47	57	41	40	53	33	35	24	....	47.1
McKinney	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Maddock	Maximum...	69	66	71	74	75	74	79	71	75	79	78	85	82	84	83	87	90	87	64	68	82	74	66	75	74	68	63	67	49	66	....	74.2
	Minimum...	45	52	47	41	40	39	41	44	39	46	55	44	51	50	45	41	43	49	47	45	56	52	47	52	46	38	36	34	34	25	....	44.2
Marmarth	Maximum...	56	60	62	68	75	81	67	73	80	80	71	86	75	83	71	92	96	90	80	92	76	77	61	75	60	60	65	55	56	70	....	73.1
	Minimum...	48	41	38	35	40	45	53	39	44	45	48	44	48	51	41	42	43	60	54	53	55	60	50	35	44	35	39	37	23	27	....	43.9
Minot	Maximum...	68	68	70	75	77	86	71	73	79	82	68	85	80	86	80	91	94	65	75	83	80	75	65	75	67	63	65	54	55	69	....	74.1
	Minimum...	38	38	35	34	45	45	47	32	38	48	40	36	45	45	44	34	36	45	39	38	45	40	42	45	40	33	33	30	28	22	....	38.9
Mott	Maximum...	60	57	52	66	70	78	76	79	82	84	76	78	83	73	86	90	95	81	79	81	85	83	74	74	77	68	66	46	47	61	....	73.6
	Minimum...	40	35	37	42	43	46	42	37	41	42	35	38	44	34	45	46	47	43	42	43	45	40	42	35	36	35	37	33	20	30	....	39.2
Napoleon	Maximum...	70	62	62	72	72	75	78	73	83	85	77	87	87	88	76	89	94	80	76	75	91	72	70	76	72	68	65	52	49	65	....	74.7
	Minimum...	45	43	47	42	38	42	50	50	37	53	50	41	45	51	46	37	43	51	48	48	60	53	50	46	48	39	36	34	32	23	....	44.3
New Salem	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Pembina §§	Maximum...	72	75	78	80	82	78	84	75	81	81	84	88	93	86	72	86	85	64	55	63	85	60	64	74	62	68	62	47	46	..	....	^{a}73.4
	Minimum...	58	58	42	48	43	44	42	58	42	41	41	41	55	53	53	42	51	50	44	43	51	52	54	52	52	51	44	38	36	32	....	48.2
Steele	Maximum...	69	67	63	68	68	75	74	72	76	80	84	85	80	83	82	84	91	78	76	..	86	76	74	76	67	65	64	59	59	63	....	^{a}73.9
	Minimum...	45	48	46	45	46	48	48	50	50	57	48	46	34	39	42	54	50	48	46	50	48	46	44	43	45	49	35	35	34	28	....	45.1
Towner	Maximum...	69	70	72	74	74	75	74	71	77	78	75	85	82	81	74	89	91	87	65	74	78	75	66	76	63	65	65	61	53	72	....	73.
	Minimum...	47	49	45	40	41	46	52	40	37	56	53	42	49	49	44	40	41	40	40	45	54	46	50	53	50	32	33	35	34	27	....	43.7
Valley City	Maximum...	74	62	67	72	70	74	81	69	76	75	78	82	90	85	76	83	89	80	60	60	84	61	63	73	75	76	73	54	43	63	....	72.
	Minimum...	47	49	51	44	41	43	52	54	47	43	35	40	53	54	54	41	47	52	47	51	55	50	55	51	52	52	46	36	29	26	....	46.
Wahpeton	Maximum...	60	63	69	70	70	75	80	74	79	77	80	79	91	88	78	84	89	84	59	72	90	82	66	76	82	72	69	48	41	60	....	73.
	Minimum...	48	51	53	52	50	43	50	58	53	52	49	46	46	56	55	41	55	50	53	49	63	65	62	57	62	46	39	41	38	25	....	50.
Westhope	Maximum...	71	70	75	75	76	74	73	75	78	80	68	86	78	76	76	88	90	75	68	76	80	80	62	72	62	61	64	55	60	70	....	73.
	Minimum...	51	48	43	44	44	43	45	37	39	50	50	39	50	50	43	36	43	50	43	46	47	46	48	52	46	39	33	35	35	27	....	43.
Williston	Maximum...	70	68	72	72	74	82	68	72	79	78	68	85	72	73	71	89	96	71	76	89	73	71	60	68	59	61	65	43	56	69	....	71.
	Minimum...	52	48	44	45	50	52	48	38	43	49	51	49	57	51	49	48	44	52	47	48	50	46	54	46	44	40	40	29	25	34	....	45.
Moorhead, Minn	Maximum...	62	61	72	72	72	75	80	72	77	72	80	80	91	85	78	81	87	76	59	68	85	80	66	74	83	72	66	52	48	60	....	72.
	Minimum...	50	50	54	48	45	47	50	60	53	50	51	46	61	57	51	42	54	51	50	52	62	61	60	58	56	47	38	41	33	23	....	50.

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ^{a}, 1 day missing. ^{b}, 2 days, etc.


Edmonton
Battleford
Prince Albert
Calgary
Medicine Hat
Swift Current
Qu'Appelle
Minnedosa
Winnipeg
Kamloops
Miles City
Sheridan
Lander
Winnemucca
NO RAIN
Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 8 inches.
Over 8 inches.

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CLIMATOLOGICAL DATA

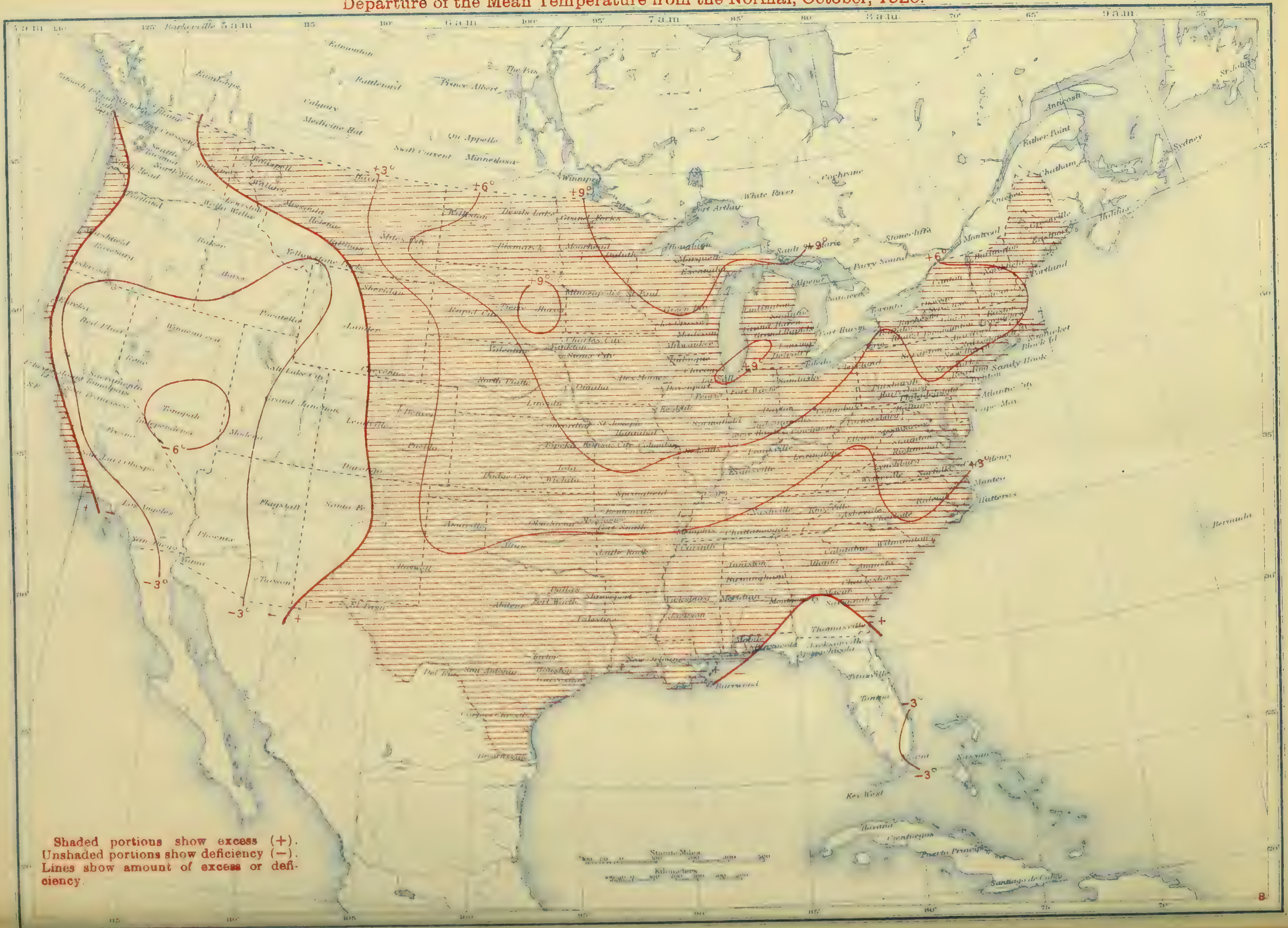
NORTH DAKOTA SECTION

OCTOBER, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
DECEMBER 9, 1920.

Departure of the Mean Temperature from the Normal, October, 1920.



Shaded portions show excess (+).
Unshaded portions show deficiency (−).
Lines show amount of excess or deficiency.

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXIX. BISMARCK, N. D., OCTOBER, 1920. No. 10

GENERAL SUMMARY.

The month was the second warmest October of record in North Dakota since the State climatological service was established in 1892. The warmest October was that of 1914, with a mean temperature of 50.0°, compared with 49.3° in 1920, and 33.5° in 1919, which was the coldest October of record. The first week of the month was especially warm, temperatures of 90° and over being recorded at many stations on the 5th, 6th and 7th. Cooler weather came on the 8th, but the temperature remained moderate and hard freezes occurred only during the last five days of the month. The precipitation was very light generally, only a few stations in the extreme western and the extreme southeastern portions reporting more than one inch, while seven stations in the east-central portion reported no precipitation or merely traces. Most of the precipitation, which was practically all in the form of rain, occurred during the period from the 21st to the 23d, inclusive, the rest of the month being generally fair. As a result of the favorable weather threshing was finished in good season and other outside activities made good progress. Fall plowing was hindered by dry soil in many sections.

TEMPERATURE.

The mean temperature for the State was 49.3°, or 5.5° above the normal, and 15.8° higher than the mean for October, 1919. The highest mean reported was 53.4° at Wahpeton, Richland County; the lowest was 44.6° at McKinney, Renville County. The highest temperature reported was 95° at New Salem, Morton County, on the 6th; the lowest was 6° at Napoleon, Logan County, on the 28th. The greatest monthly range was 95° at Fessenden, Wells County, Napoleon, Logan County, and New Salem, Morton County; the least was 41° at Pembina, Pembina County. The greatest daily range was 55° at Eckman, Bottineau County, on the 4th, and at McKinney, Renville County, on the 15th and 16th.

PRECIPITATION.

The average precipitation for the State was 0.46 inch, or 0.54 inch less than the normal, and 0.62 inch less than the average for October, 1919. The greatest monthly amount reported was 1.51 inches at Beach, Golden Valley County; there was none at Cooperstown, Griggs County, Lamoine, Kidder County, Maddock, Benson County, and Parshall, Mountrail County. The greatest amount recorded in any twenty-four consecutive hours was 1.11 inches at Beach, Golden Valley County, on the 22d. The average number of days with 0.01 inch or more of precipitation was 3. Sixteen stations reported traces of snowfall, but only two stations in the extreme western portion reported measurable amounts of snow.

AURORAS.

Auroras were observed at Eckman on the 2d, at Devils Lake on the 5th, at Eckman on the 6th, at Devils Lake and Berthold Agency on the 7th, at Amenia, Berthold Agency, Devils Lake and Valley City on the 9th, at Towner and Valley City on the 10th, at Valley City on the 14th and 15th, and at Towner on the 24th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea-level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.96	30.43	30	29.40	22	57	6,989	9.4	35	s.	22
Devils Lake	29.91	30.40	31	29.45	22	44	7,664	10.3	48	sw.	8
Ellendale	29.95	30.41	5	29.53	12	56	10,747	14.4	48	sw.	22
Grand Forks	29.91	30.41	5	29.53	12	90	....	......	39	sw.	8
Williston	29.91	30.44	30	29.38	1	48	6,119	8.2	38	w.	8
Moorhead, Minn	29.96	30.46	5	29.50	12	57	6,385	8.6	26	s.	6
Av'ges and extremes	29.93	30.46	5	29.38	1	....	....	10.2	48	sw.	8†

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	223.4	336.9	66	+ 7	76	43	51	21	7
Devils Lake	220.4	335.6	66	+13	82	50	58	23	8
Ellendale	230.5	338.3	68	......	82	51	65	23	9
Grand Forks	......	......	......	......	86	.....	63	.....	..
Williston	237.8	335.6	71	+18	72	47	52	24	10
Moorhead, Minn.	......	......	......	......	82	.....	63	.....	..
Averages and extremes	228.0	336.6	68	+13	80	*48	58	21	7

* And other dates.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894	43.0	0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898	38.8	−5.0	81	8	1.25	+0.25	6	8	8	15	nw.
1899	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908	43.0	0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.

Climatological Data for October, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	51.2	+6.9	90	6	12	28	48	0.59	−0.75	0.36	0	3	25	4	2	se.	E. T. Carley.
Amidon	Slope		4																	M. J. Connolly.
Arnegard	McKenzie		1	47.0		87	5	24	28†	47	1.24		0.51	0	3	19	5	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	50.6	+6.9	87	7	9	28	43	0.15	−0.89	0.15	0	1	23	2	6	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	47.4	+3.4	91	5	22	31	48	1.51	+0.59	1.11	3.0	2	9	18	4	w.	I. H. Clagget.
Berthold Agency‡‡	McLean	2,082	25	49.9^{a}	+5.2	89^{a}	6†	18^{a}	16	50^{a}	0.22	−0.67	0.15	T.	3	18	7	6	se.	C. L. Hall.
Bismarck	Burleigh	1,674	45	50.6	+6.5	91	6	17	31	44	0.26	−0.77	0.17	T.	3	15	7	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	49.8	+6.2	91	7	15	28	46	0.27	−0.77	0.15	0	3					M. R. Shuler.
Bowbells	Burke	1,958	7	45.4		85	6	20	31	46	0.52		0.25		4	19	0	12		G. H. Phelps.
Bowman	Bowman		5	48.7		80	4	21	28	42	0.08		0.08	T.	1				nw	C. V. Hook.
Cando	Towner	1,488	18	48.9	+2.2	91	7	14	28	43	0.15	−0.65	0.15	0	1	11	12	8	nw.	A. J. Swanson.
Carson	Grant	2,500	7	49.0		90	7	17	28†	40	0.47		0.15	0	4	24	4	3	nw.	J. W. Evens.
Colgate	Steele	1,177	5	49.6		89	6	12	28	40	0.24		0.24	0	1	18	13	0	se.	James McCann.
Cooperstown	Griggs	1,428	9								0.00	−1.00	0.00	0	0				nw.	S. Friswold.
Crosby	Divide	1,954	12	46.6	+5.1	81	6	25	16†	38	0.83	+0.10	0.55	0	3	15	8	8	sw.	John Jensen.
Devils Lake	Ramsey	1,478	15	48.9	+8.4	89	6	20	28	42	0.23	−1.00	0.13	T.	4	18	4	9	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	47.9	+4.0	91	5	24	20†	53	1.11	+0.32	0.85	T.	3	14	8	9	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	49.7^{c}	+7.6	88^{c}	6	19^{c}	28	50^{c}	0.46	−0.51	0.40	0	2				nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	47.3		87	5†	22	16†	50	0.81		0.25	0	4	19	5	7	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	49.8	+8.7	88	7	13	28	41	0.17	−0.60	0.09	0	3	20	5	6	nw.	J. G. Lamont.
Eckman	Bottineau		14	48.2^{a}	+5.5	92^{a}	7	18^{a}	28	55^{a}	0.69	−0.15	0.58	0	3	17	8	6	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	51.4	+5.5	90	7	12	28	44	0.10	−0.89	0.05		2	4	20	7	se.	O. A. Thompson.
Ellendale	Dickey	1,449	21	50.9		89	6	16	28	43	0.81	−0.36	0.39	T.	5	10	12	9	s.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	7								0.24		0.22		2	14	12	5	w.	N. W. Solenberger.
Epping	Williams	2,224	11								1.00	+0.23	0.35	T.	4	18	9	4	w.	M. E. Uggen.
Fessenden	Wells	1,610	7	48.1		93	6†	8	28	50	T.		T.	0	0	22	5	4	nw.	T. D. Monsen.
Forman	Sargent	1,249	27																	H. T. Denk.
Fryburg	Billings	2,790	1								1.09		0.76	T.	2	24	3	4	nw.	Verne King.
Fullerton	Dickey	1,439	21	51.4	+7.1	88	6	14	28	43	0.97	−0.35	0.76	T.	3	12	13	6	nw.	F. O. Alin.
Garrison	McLean	1,901	24	48.2^{a}	+4.4	88^{a}	6	15^{a}	28	44^{a}	0.04	−0.89	0.04	0	1	15	10	6	nw.	G. L. Robinson.
Grafton	Walsh	827	27	50.0	+7.3	88	6	14	28	39	0.47	−0.44	0.20	0	6	22	9	0	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	49.2	+5.7	88	6	15	28	40	0.49	−0.75	0.32	T.	5	13	4	14	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	49.8	+5.7	90	6†	15	31	46	0.70	−0.18	0.43	0	2				nw.	W. A. Christianson.
Hannah	Cavalier	1,568	14	48.6	+8.1	88	6	15	28	39	0.47	−0.51	0.26	0	3	23	2	6	s.	J. Moffatt.
Hansboro	Towner	1,597	11	51.4^{k}	+10.1	89^{h}	7	25^{t}	28	44^{t}	0.55	−0.35	0.20	0	5	19	7	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	46.6	+0.2	78	7	22	31	46	0.66	−0.04	0.61	0	2	19	8	4	nw.	U. J. Downey.
Hillsboro	Traill	901	13	50.6	+4.6	88	6	14	28	41	0.99	−0.03	0.65	T.	4	11	15	5	se.	F. E. Mayall.
Howard ‡‡	Williams	2,275	12																	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	50.6	+5.8	85	6†	10	28	46	T.	−0.99	T.	0	0	22	1	8	e.	S. Calvelage.
Lakota	Nelson	1,579	18																	C. R. Pettes.
Lamoine	Kidder	1,936	11	51.3^{k}	+8.2	91^{k}	7	12^{k}	28†	43^{k}	0.00	−0.70	0.00	0	0					E. V. Virgin.
Langdon	Cavalier	1,615	23	48.2	+7.8	89	7	13	28	43	0.27	−0.72	0.22	0	2	21	2	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	48.8	+5.5	87	6	11	28	44	0.31	−0.93	0.17	0	4	15	5	11	s.	Reuben Gray.
Linton	Emmons	1,711	1	52.1		88	6†	10	28	46	0.09		0.08	0	2	13	16	2	nw.	William Malpass.
Lisbon	Ransom	1,091	15	48.8	+3.5	78	12	12	30	39	0.62	−0.52	0.50	0	2	10	13	8	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1								0.30		0.20	0	2					Edw. Tapley.
McHenry	Foster	1,509	9																	P. E. Trudeau.
McKinney ‡‡	Renville	1,640	25	44.6	+2.9	85	8	16	26	55	T.	−0.83	T.	0	0	13	16	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	52.6		89	6	13	28	40	1.22		0.41	0	6	18	5	8	se.	J. G. Carlson.
Maddock	Benson	1,604	4	49.4		92	6	9	28	46	0.00		0.00	0	0	15	8	8	nw.	A. T. Felland.
Mandan	Morton	1,644	5	50.6		91	6†	14	28	44	0.25		0.18	0	2	22	4	5	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	48.6	+5.3	90	7	11	28	43	0.04	−0.86	0.04	0	1	13	17	1	sw.	P. B. Anderson.
Marmarth	Slope		10	47.3	+3.2	88	5	19	31	49	0.62	0.13	0.56	4.7	5	13	9	9	w.	S. P. Grane.
Mayville	Traill	975	23	49.0	+4.1	88	6	13	28	39	0.38	−0.80	0.38	0	1	19	2	10	sw.	W. C. Gould.
Melville	Foster	1,590	21	47.8	+4.2	86	7	14	28	40	T.	−0.91	T.	0	0				nw.	J. P. Kidder.
Minot	Ward	1,557	23	46.1	+2.5	90	6	15	28	49	0.48	−0.46	0.48	0	1	23	5	3	w.	W. I. Faris.
Minto	Walsh	820	26	50.2	+7.0	88	6	13	28	44	0.27	−0.87	0.14	T.	5	14	9	8	se.	C. M. Evans.
Mott	Hettinger	2,424	12	49.0	+5.3	90	5	22	31	46	0.70	−0.52	0.45	0	4	11	10	11	se.	O. H. Opland.
Napoleon	Logan	1,955	27	49.8	+7.9	91	7	6	28	48	0.06	−0.91	0.06	0	1	21	4	6	s.	C. J. Hoof.
New England	Hettinger	2,400	25																	W. C. McKenzie.
New Salem	Morton	2,163	14	50.0	+5.7	95	6	10	30	41	0.26	−0.79	0.14	0	3	15	10	6		J. Christiansen.
Orange ‡‡	Adams	2,586	10																	J. E. Lowries.
Park River	Walsh	998	15	50.2^{b}	+5.9	88^{b}	6	18^{b}	28	38^{b}	0.72	−0.32	0.46	0	4				se.	C. B. Wright.
Parshall	Mountrail		4								0.00		0.00	0	0					J. A. Johnson.
Pembina	Pembina	789	45	51.9	+11.0	72	5†	31	20	36	0.30	−1.19	0.20	0	2	21	7	3	sw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1																	S. C. Shanks.
Power	Richland	1,020	26								1.06	−0.44		0	5					J. A. Power.
Powers Lake	Burke	2,205	4								0.38		0.38	0	1	9	14	8	nw.	C. Frank.
Selfridge	Sioux																			Sigur Robertson.
Skaar	McKenzie										0.75		0.70	T.	2	10	13	8	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	22	53.2	+13.2	88	6	16	28	41	1.05	+0.19	1.04	0	2	25	6	0	s.	H. S. Wood.
Taylor	Stark	2,493	3	48.6		87	5	21	31	42	0.54		0.20		3	15	11	5	nw.	H. Leutz.
Towner	McHenry	1,482	17	49.2	+6.8	91	6†	15	28	48	0.03	−0.93	0.03	0	1	16	9	6	sw.	B. Bagley.
Turtle Lake	McLean	1,899	5	49.3		90	6†	15	28	43	0.34		0.29	T.	2	12	7	12	w.	A. T. Anderson.
Valley City	Barnes	1,245	1	49.5	+4.3	88	6	11	28	37	0.23	−0.69	0.21	T.	2	22	3	6	se.	C. F. Schroeder.
Wahpeton	Richland	962	25	53.4	+7.5	88^{a}	6	15	28	39^{a}	0.56	−0.99	0.24	0	5	13	10	8	se.	State School of Science.
Walhalla	Pembina	966	12	47.2^{b}	+4.2	89	6	15^{c}	26	45^{c}	0.27	−0.74	0.21	0	2					Ivan Lee.
Westhope	Bottineau	1,508	13	47.7	+6.3	90	6†	18	16†	48	0.63	−0.11	0.39	0	4				nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	47.8	+4.9	86	5	24	31	44	0.92	+0.15	0.55	0	6	11	13	7	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	46.8	+5.1	92	6	17	29	47	0.20	−0.51	0.20	0	1	15	8	8	se.	M. A. Ostby.
Zap	Mercer	1,800	6																	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	51.3	+8.5	89	6	18	28	40	1.03	−1.04	0.51	T.	6	8	11	12	s.	U. S. Weather Bureau.
Averages				49.3	+5.5	95	6	6	28	55	0.46	−0.54	1.11	0.1	3	16	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Selfridge, McLaughlin, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for October, 1920.

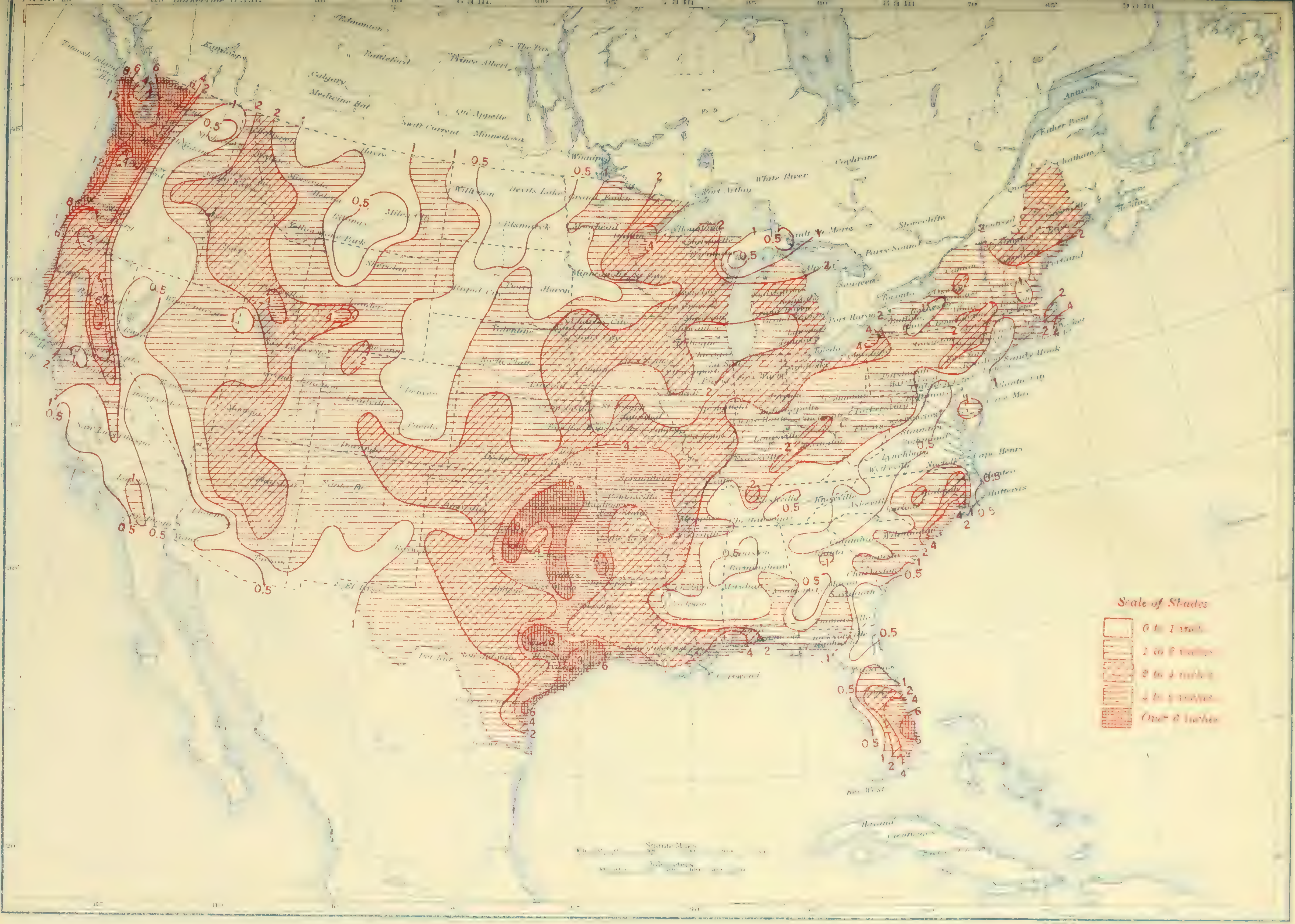
Stations.	Watersheds.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red													.13	T								.36	.10									0.59
Amidon	Lit. Missouri																																.....
Arnegard	Missouri																	T.				T.	.48	.51			.25						1.24
Ashley	Missouri													T.								.15											0.15
Beach	Lit. Missouri													T.								T.	1.11	.40									1.51
Berthold Agency	Missouri									T.			T.			T.				T.		.15	.05				.02				T.	T.	0.22
Bismarck ***	Missouri		.09										T.	T.					T.			.14	.03									T.	0.26
Bottineau ‖	Mouse																				.05	.07	.15										0.27
Bowbells ‖	Mouse																	.07					.15	.25	.05								0.52
Bowman	Grand																						.08									T.	0.08
Cando	Sheyenne																						.15										0.15
Carson	Heart	.15														.15						.13	.04										0.47
Colgate	Sheyenne																					.24											0.24
Cooperstown	Sheyenne																																0.00
Crosby	Mouse																		T.			.10	.55	.18									0.83
Devils Lake ***	Sheyenne															T.	.01		T.	T.		.06	.07	.09		T.						T.	0.23
Dickinson ‖	Heart																						.16	.85	T.		.10					T.	1.11
Donnybrook	Mouse		T.																				.40	.06									0.46
Dunn Center ‖	Knife																					.18	.25	.18			.20						0.81
Dunseith	Mouse																		.05				.09	.03									0.17
Eckman	Mouse																		.04				.58	.07							T.		0.69
Edgeley	James														.05							T.	.05										0.10
Ellendale***	James		T.							T.		T.		.39			.05		T.	T.	.18	.18	.01									T.	0.81
Energy	Missouri		T.										T.			T.				T.		T.	.22	.02								T.	0.24
Epping	Missouri																					.05	.35	.34			.26						1.00
Fessenden ‖	James																			T.		T.		T.									T.
Forman	Sheyenne																																.....
Fryburg	Lit. Missouri	T.																					.76	.33									1.09
Fullerton	James													.10			.11			T.		.76										T.	0.97
Garrison	Missouri		T.							T.									T.				.04										0.04
Grafton	Red																.05		.06	.05			.20	.01		.10							0.47
Grand Forks ***	Red												T.				.02		.10	T.		.12	.22	T.		.03		T.					0.49
Granville	Mouse																						.43	.27		T.					T.		0.70
Hannah	Pembina																			.12			.09			.26							0.47
Hansboro	Red		.07																.01	.07			.20			.20							0.55
Hettinger	Grand																					.05	.61										0.66
Hillsboro	Red												.23	.03					T	.08			.65					T.					0.99
Howard	Missouri																																.....
Jamestown ‖	James													T.						T.	T.												T.
Lakota	Sheyenne																																.....
Lamoine	Missouri																																0.00
Langdon ‖	Pembina																			.05				T.			.22						0.27
Larimore ‖	Red																		.12	.01			.01	.17									0.31
Linton	Missouri		.01											T.					T.				.08									T.	0.09
Lisbon ‖	Sheyenne		T.																			.12	.50										0.62
McClusky	Missouri									T.													.20	.10									0.30
McHenry	James																																.....
McKinney	Mouse																	T.				T.											T.
McLeod	Sheyenne												.41	.06	.10		.04					.37	.24										1.22
Maddock	Sheyenne																																0.00
Mandan ‖	Missouri		.07																				.18										0.25
Manfred	Sheyenne		T.																	T.			.04										0.04
Marmarth	Lit. Missouri			T.					T.			.01							T.		T.	T.	*	.56			.03					.02	0.62
Mayville	Red																						.38										0.38
Melville	James																		T.	T.			T.	T.									T.
Minot ‖	Mouse																						.48										0.48
Minto	Red																.04		.04	.01			.14			.04		T.					0.27
Mott	Cannon Ball	.08											.09							T.		.08	.45										0.70
Napoleon ‖	Missouri																					.06											0.06
New England ‖	Cannon Ball																																.....
New Salem	Heart		.09									T.	T.						T.			.14	.03								T.		0.26
Orange	Cannon Ball																																.....
Park River	Red																T.		T.	.06			.46	.08	.12								0.72
Parshall	Missouri																																0.00
Pembina ‖	Red																			.10	T.			.20									0.30
Pettibone	James																																.....
Power	Missouri												.12	.14						T.	*	*	.80										1.06
Powers Lake	Sheyenne																					.38	T.										0.38
elfridge	Missouri																																.....
kaar	Lit. Missouri													T.				T.				.05	.70				T.					T.	0.75
teele	Missouri			.01															T.	T.		1.04											1.05
aylor	Heart		T.										T.					T.						.14		.20	.20				T.		0.54
owner	Mouse																		T.			T.	T.		.03								0.03
urtle Lake	Missouri																					T.	.29	.05								T.	0.34
alley City	Sheyenne		T.											.02								T.	.21										0.23
ahpeton ‖	Red													.24	.07		T.	.03		T.			.15	.07									0.56
alhalla	Pembina																								.06				.21				0.27
esthope	Mouse															T.		.12		.03			.39	.09									0.63
illiston ***	Missouri									T.		.01				T.						.12	.41	.17		.19	.02						0.92
illow City	Mouse																	T.	T.	T.			T.	.20		T.							0.20
ap	Knife																																.....
oorhead, Minn ***	Red		T.										.25	.10			.05			.12		.23	.28					T.					1.03

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the -hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	66	81	78	77	80	90	88	70	72	84	77	76	78	76	67	76	80	79	78	60	62	66	56	60	55	46	40	43	46	57	43	68.0
	Minimum...	25	28	44	36	35	42	50	48	31	38	43	47	42	37	33	40	39	39	34	36	33	43	36	28	31	32	26	12	13	18	26	34.4
Arnegard	Maximum...	78	68	68	80	87	85	84	65	65	72	62	67	54	58	56	59	63	61	56	54	57	52	34	53	54	45	48	54	50	40	29	59.9
	Minimum...	38	44	37	35	40	45	44	46	35	30	50	47	39	38	38	26	32	34	26	25	27	33	31	28	32	32	26	24	26	28	24	34.2
Ashley	Maximum...	68	68	69	75	85	86	87	76	73	80	78	66	66	61	62	71	72	67	58	54	56	59	49	58	62	47	48	40	56	40	38	63.7
	Minimum...	28	48	45	35	45	58	48	33	37	46	52	40	40	33	42	40	36	48	29	45	42	41	36	35	33	32	24	9	21	32	28	37.5
Beach	Maximum...	81	72	70	83	91	90	84	68	73	73	67	70	55	62	57	62	62	66	55	57	52	43	40	49	57	46	50	55	53	41	32	61.8
	Minimum...	35	43	35	37	43	50	48	42	38	27	30	41	33	31	32	25	40	38	28	24	23	32	29	24	31	32	32	24	26	27	22	33.0
Berthold Agency	Maximum...	78	71	70	80	87	89	89	74	75	75	75	63	61	63	57	66	71	73	64	59	55	62	53	59	58	47	..	55	56	44	37	^{a}65.5
	Minimum...	35	48	34	30	43	51	45	54	33	26	49	48	29	27	33	18	29	38	41	24	23	45	36	23	31	34	..	20	24	34	24	^{a}34.3
Bismarck	Maximum...	72	70	69	78	88	91	91	69	77	76	77	62	66	63	66	64	71	74	60	51	56	61	45	60	61	47	48	50	53	41	33	64.2
	Minimum...	36	48	44	34	53	56	53	44	36	37	53	45	38	34	36	37	42	36	37	28	35	40	33	29	34	32	24	18	24	33	17	37.0
Bottineau	Maximum...	70	68	69	75	82	90	91	84	87	75	74	73	62	63	64	61	60	66	60	60	62	66	62	61	53	50	48	49	52	48	32	65.1
	Minimum...	35	36	34	38	47	52	45	47	43	34	50	48	30	32	30	31	29	40	45	25	25	44	36	22	31	28	26	15	24	22	23	34.4
Bowbells §§	Maximum...	74	64	66	75	84	85	84	63	66	68	72	62	61	60	67	57	59	55	60	57	58	49	40	51	60	45	40	54	55	36	21	59.6
	Minimum...	32	40	33	31	38	45	46	46	35	31	34	37	33	29	30	25	27	30	38	25	28	29	32	29	31	26	22	21	23	21	20	31.2
Bowman	Maximum...	75	69	68	80	65	62	60	75	72	71	63	67	68	63	57	60	67	68	63	54	57	47	45	54	58	48	49	54	75	35	27	60.5
	Minimum...	34	37	58	40	50	40	40	33	30	52	51	51	55	32	32	35	54	42	30	32	35	37	33	28	30	33	22	21	30	24	23	36.9
Cando	Maximum...	65	66	67	71	79	89	91	83	74	74	73	72	68	61	62	63	62	58	60	58	59	62	56	59	49	46	42	42	50	44	35	62.6
	Minimum...	32	40	36	34	43	53	48	49	34	35	44	48	39	32	33	27	34	41	51	26	30	47	39	25	35	29	19	14	22	29	23	35.2
Carson	Maximum...	75	70	70	70	70	85	90	75	80	70	70	75	65	60	64	65	70	75	60	55	54	55	48	48	60	50	50	47	57	50	38	63.6
	Minimum...	40	45	36	40	45	55	55	42	40	30	45	40	40	32	34	32	40	40	32	22	35	35	30	25	32	30	18	17	17	28	18	34.5
Colgate	Maximum...	62	67	74	75	76	89	82	74	72	70	69	74	69	70	69	68	73	67	60	63	62	59	65	62	59	54	50	56	54	60	48	66.2
	Minimum...	38	40	42	33	38	50	48	43	40	38	38	34	36	30	33	35	37	38	30	28	32	32	34	29	28	30	28	12	15	20	18	33.1
Crosby	Maximum...	70	66	67	74	80	81	78	62	63	68	69	60	54	55	52	52	58	55	52	51	55	46	44	55	47	45	41	49	52	42	31	57.2
	Minimum...	41	48	36	36	45	45	46	48	35	45	34	46	38	33	37	25	31	35	39	27	29	43	34	30	39	30	25	27	35	29	26	36.1
Devils Lake	Maximum...	65	61	87	70	80	89	87	65	73	76	74	70	68	61	68	63	65	60	60	54	60	66	46	60	47	43	40	46	50	38	29	61.3
	Minimum...	35	41	41	34	47	59	52	45	35	34	46	48	41	36	40	38	38	38	37	29	31	43	33	30	36	30	21	20	24	29	21	36.5
Dickinson §§	Maximum...	76	64	68	79	91	86	86	65	75	72	68	68	62	62	58	60	66	69	52	54	49	49	42	54	56	43	47	52	54	35	30	61.1
	Minimum...	35	48	34	32	38	48	50	48	34	26	50	50	30	35	30	28	37	43	40	24	27	37	34	27	30	32	25	24	24	30	26	34.7
Donnybrook	Maximum...	75	70	70	78	86	88	86	74	70	75	73	71	64	60	60	..	60	55	..	58	..	60	48	52	49	53	48	52	58	46	39	^{c}63.5
	Minimum...	38	46	39	28	43	58	48	50	35	29	46	58	36	35	38	..	23	30	..	30		32	36	34	35	30	25	19	30	29	24	^{c}35.9
Dunn Center	Maximum...	75	70	69	78	87	87	82	66	73	71	69	65	61	60	56	63	65	70	63	56	53	53	43	55	56	43	47	52	55	42	33	61.9
	Minimum...	31	31	33	32	37	42	38	50	30	28	53	50	30	30	30	22	32	39	39	26	21	41	32	27	30	30	25	22	26	32	23	32.7
Dunseith	Maximum...	64	57	62	57	71	85	88	63	65	66	65	65	53	51	51	49	50	53	53	47	53	54	51	46	46	41	41	39	45	45	31	55.1
	Minimum...	34	37	38	36	45	54	47	45	30	42	47	49	35	38	30	22	36	40	42	29	28	43	36	25	25	28	27	13	22	29	21	31.6
Edgeley	Maximum...	68	68	73	74	84	88	90	72	78	78	84	70	64	63	69	63	70	74	63	54	55	63	50	60	62	49	47	43	53	42	38	64.8
	Minimum...	25	42	47	43	43	54	56	47	34	46	46	43	44	37	29	43	38	37	54	32	43	45	39	27	31	35	25	12	18	37	25	38.0
Ellendale	Maximum...	69	68	71	73	83	89	89	71	76	77	85	68	63	62	67	59	72	75	64	53	58	65	51	58	61	48	47	42	56	45	35	64.5
	Minimum...	27	45	42	40	42	57	54	43	33	44	47	41	37	38	34	42	41	39	46	34	46	42	39	29	28	31	20	16	22	35	20	37.3
Fessenden	Maximum...	69	68	74	78	84	93	93	75	80	77	74	75	73	65	70	68	67	66	62	55	59	63	54	61	56	46	42	48	54	33	27	64.8
	Minimum...	27	35	37	25	41	59	42	45	30	33	43	44	32	28	31	31	33	33	40	23	23	45	28	23	29	29	20	8	16	29	12	31.4
Fullerton	Maximum...	66	68	70	71	81	88	85	72	75	77	83	67	64	60	66	70	72	74	66	53	58	63	50	58	59	48	45	41	52	44	35	63.9
	Minimum...	27	43	44	39	38	54	64	47	44	50	53	45	38	38	41	39	45	50	46	32	45	47	38	28	28	28	27	14	21	32	22	38.9
Garrison	Maximum...	72	70	68	75	83	88	83	75	75	73	73	67	67	58	62	68	68	65	63	57	..	62	47	58	39	46	46	40	45	44	39	^{a}62.5
	Minimum...	34	43	37	31	41	50	44	47	38	30	50	31	32	31	21	35	42	41	41	25	..	41	34	25	30	31	22	15	22	27	24	^{a}33.8
Grafton	Maximum...	65	66	70	70	78	88	83	75	72	75	75	72	72	63	71	65	65	63	65	60	60	69	56	61	52	44	41	43	49	42	36	63.4
	Minimum...	33	42	43	32	39	53	49	38	35	36	44	49	44	35	36	35	35	44	56	29	31	48	39	32	31	33	31	14	22	23	25	36.6
Grand Forks	Maximum...	65	67	69	69	75	88	83	68	72	76	76	66	67	63	69	65	68	64	67	51	60	68	48	59	49	44	40	41	52	42	33	62.2
	Minimum...	27	43	41	35	38	55	52	41	33	36	47	47	41	35	34	40	40	41	48	23	34	43	33	31	33	30	20	15	24	29	19	36.1
Granville	Maximum...	67	70	80	80	85	90	90	67	78	74	76	67	63	65	60	64	62	60	58	58	60	63	45	60	53	..	50	..	60	40	30	^{b}64.7
	Minimum...	38	30	38	40	45	50	48	47	32	34	45	42	35	32	31	28	28	35	34	25	38	43	33	33	33	..	20	..	28	30	15	^{b}34.8
Hannah	Maximum...	67	68	60	70	74	88	66	71	69	72	74	70	69	69	68	62	67	65	61	60	60	65	55	56	54	50	49	49	51	48	50	63.1
	Minimum...	30	36	31	36	41	60	48	32	38	40	38	42	39	35	34	30	34	40	37	33	28	49	32	28	29	27	25	15	20	25	28	34.2
Hansboro	Maximum...	58	64	68	70	78	79	89	79	72	74	74	72	71	62	68	62	64	60	60	..	..	68	58	58	55	51	52	50	52	47	43	^{b}64.2
	Minimum...	32	38	34	28	40	44	45	44	..	..	..	..	..	..	..	..	..	..	..	..	..	50	..	..	..	..	..	25	32	..	..	^{t}38.5
Hettinger	Maximum...	71	64	59	63	70	62	78	54	71	72	68	70	70	62	60	63	72	72	64	55	51	49	44	55	62	48	49	52	58	46	35	60.3
	Minimum...	37	36	34	33	36	41	40	39	29	26	46	47	30	32	27	32	34	41	38	26	39	33	33	26	29	34	22	23	23	30	22	32.8
Hillsboro	Maximum...	62	65	70	70	75	88	86	80	72	78	76	73	59	61	66	62	70	68	66	63	60	60	55	58	57	49	38	38	50	47	38	63.2
	Minimum...	28	45	47	35	36	53	49	52	33	37	45	49	40	37	34	42	42	39	59	35	38	53	38	30	31	35	31	14	15	30	26	38.0
Howard	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Jamestown	Maximum...	67	66	69	69	82	85	85	84	78	79	71	70	67	63	72	68	71	71	67	54	56	65	47	59	61	48	41	41	52	41	36	64.0
	Minimum...	29	42	40	39	42	56	52	50	32	44	42	47	40	36	32	40	42	37	50	30	38	45	41	27	29	35	25	10	20	34	23	37.1
Lamoine	Maximum...	..	..	..	..	..	90	91	87	80	77	74	70	70	60	66	67	68	64	63	60	70	..	..	..	..	..	58	56	52	48	..	^{k}68.6
	Minimum...	..	..	..	..	..	55	48	50	48	44	35	30	36	30	32	30	38	38	40	35	36	..	..	..	..	..	15	12	12	15	..	^{k}34.0
Langdon	Maximum...	66	63	68	72	78	86	89	76	73	75	71	73	71	63	69	64	62	59	62	52	62	67	54	58	43	41	39	43	51	42	32	62.1
	Minimum...	32	38	34	42	46	47	47	45	30	40	42	48	38	37	37	30	33	42	45	25	27	45	36	25	28	28	25	13	15	23	22	34.4
Larimore	Maximum...	62	66	70	70	80	87	85	67	74	78	65	68	65	63	70	67	65	65	60	58	60	51	48	60	58	44	40	44	52	42	28	61.7
	Minimum...	37	33	45	36	36	49	51	50	32	37	45	46	40	37	33	36	40	38	50	29	36	54	35	29	35	31	28	11	12	24	25	35.8
Lisbon	Maximum...	65	68	68	65	66	60	64	66	68	70	76	78	74	74	72	67	65	70	72	67	68	64	58	60	62	56	48	52	40	36	38	63.1
	Minimum...	29	38	39	40	42	39	38	40	39	35	42	48	45	42	46	40	39	42	46	32	30	29	30	28	23	32	25	28	18	12	16	34.6
McHenry	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
McKinney	Maximum...	67	67	76	78	80	75	80	85	70	60	66	80	65	60	75	75	60	50	60	55	45	50	51	50	40	42	40	41	35	40	36	59.8
	Minimum...	29	32	25	34	36	35	40	34	27	40	40	35	35	33	20	20	20	31	30	20	30	32	31	25	26	16	32	31	32	20	29	29.4
Maddock	Maximum...	67	66	70	73	82	92	91	89	75	76	75	73	69	60	68	64	66	63	63	56	59	60	55	62	52	46	43	47	51	50	39	64.6
	Minimum...	29	42	37	27	46	60	43	44	29	35	45	44	34	32	35	29	35	39	48	26	27	46	35	26	33	29	21	9	17	33	24	34.2
Marmarth	Maximum...	78	68	66	81	88	85	83	65	73	77	61	66	58	61	56	60	65	70	50	53	48	45	40	51	56	43	48	55	52	40	28	60.3
	Minimum...	45	43	41	37	39	50	48	39	32	33	48	39	38	32	31	31	37	35	34	27	38	30	30	27	27	31	23	22	28	28	19	34.3
Minot	Maximum...	69	70	78	80	85	90	89	75	77	77	75	62	63	63	57	63	67	68	59	59	57	65	47	60	50	48	46	53	61	43	32	64.1
	Minimum...	22	30	31	23	40	50	41	38	28	24	38	40	30	24	30	23	18	34	28	18	18	36	27	25	29	25	20	15	21	25	20	28.1
Mott	Maximum...	58	61	57	77	90	88	80	68	73	77	78	75	70	78	81	83	80	71	63	74	62	48	51	48	45	42	46	44	48	38	38	64.3
	Minimum...	30	34	31	38	44	46	40	34	33	36	38	37	37	35	41	42	37	34	32	35	34	33	33	30	23	25	27	26	31	23	22	33.6
Napoleon	Maximum...	65	70	70	79	89	90	91	72	79	79	82	70	64	63	68	68	75	73	68	51	54	63	48	60	63	48	47	47	55	48	36	65.6
	Minimum...	30	49	38	31	49	60	56	43	32	30	48	36	34	27	29	36	38	39	40	22	34	38	36	23	32	33	18	6	20	30	21	34.1
New Salem	Maximum...	72	70	69	78	88	95	91	69	77	76	77	62	66	62	66	64	71	74	60	51	56	61	45	60	61	47	48	50	44	35	46	64.2
	Minimum...	36	48	44	34	53	56	53	44	36	37	53	45	38	34	36	37	42	36	37	28	31	40	33	29	34	32	24	18	15	10	16	35.8
Pembina §§	Maximum...	58	62	61	68	72	68	64	62	70	72	70	68	72	72	68	71	67	60	58	55	69	59	55	60	62	51	58	61	60	59	53	65.4
	Minimum...	41	40	38	36	38	41	40	34	38	37	38	41	38	36	44	42	46	41	36	31	32	50	48	44	46	43	41	43	44	42	42	40.4
Steele	Maximum...	72	73	75	73	83	88	78	75	75	80	78	75	72	68	65	65	67	69	65	67	60	65	69	65	63	65	56	47	50	55	52	68.1
	Minimum...	41	42	43	42	42	50	52	46	44	46	48	46	43	40	40	40	42	44	45	38	40	40	40	30	28	28	26	16	18	22	22	38.2
Towner	Maximum...	69	65	69	76	86	91	91	86	72	76	73	75	61	61	61	62	67	65	60	54	56	69	54	61	57	58	55	56	57	54	35	65.5
	Minimum...	35	41	32	28	43	45	44	41	32	29	42	40	34	32	31	23	30	38	46	24	28	45	30	30	33	28	31	15	23	33	25	32.9
Valley City	Maximum...	63	66	70	72	78	88	85	76	74	76	76	68	62	60	67	60	71	68	66	55	58	57	58	59	58	46	41	42	52	50	29	62.9
	Minimum...	31	39	40	39	41	52	57	45	39	37	42	46	36	33	31	41	39	38	49	29	37	42	37	26	31	33	21	11	20	38	19	36.1
Wahpeton	Maximum...	63	70	73	73	75	88	86	72	73	79	78	60	69	61	67	59	79	72	71	59	69	68	58	59	61	45	43	42	54	47	..	^{a}65.8
	Minimum...	32	46	46	41	40	56	55	48	37	40	50	54	44	40	36	40	46	55	59	39	49	58	38	30	31	38	28	15	24	30	29	41.1
Westhope	Maximum...	75	68	69	76	83	90	90	68	70	75	75	69	62	61	57	61	66	68	50	60	61	67	46	47	48	48	59	51	40	45	..	^{a}63.5
	Minimum...	32	35	32	28	45	48	46	43	29	36	48	40	38	32	33	18	28	28	31	28	22	44	32	34	36	30	18	30	23	20	..	^{a}32.9
Williston	Maximum...	78	68	68	80	86	85	81	65	66	69	61	68	53	59	56	56	64	59	50	44	53	49	43	55	54	45	47	55	52	38	28	59.5
	Minimum...	44	45	41	36	47	44	42	45	38	30	48	44	41	36	35	29	43	42	35	29	25	34	30	30	36	30	26	30	30	27	24	36.0
Moorhead, Minn	Maximum...	63	69	73	71	75	89	86	72	70	80	75	61	66	60	66	59	77	69	68	56	64	67	48	59	56	45	40	40	53	44	35	63.1
	Minimum...	31	46	45	36	40	53	54	47	32	40	51	49	43	40	37	44	46	53	52	38	46	45	40	31	32	31	24	18	25	33	23	39.5

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a, 1 day missing. b, 2 days, etc.


Scale of Shades
0 to 1 inch
1 to 2 inches
2 to 4 inches
4 to 6 inches
Over 6 inches
Edmonton
Battleford
Prince Albert
Calgary
Medicine Hat
Kamloops
Tatoosh Island
Qu'Appelle
Swift Current
Minnedosa
The Pas
Winnipeg
White River
Cochrane
Port Arthur
Parry Sound
Father Point
Chatham
Halifax
Portland
Sandy Hook
Cape May
Cape Henry
Hatteras
Havre
Williston
Devils Lake
Bismarck
Moorhead
Miles City
Yellowstone Park
Sheridan
Rapid City
Huron
Valentine
North Platte
Denver
Pueblo
Santa Fe
El Paso
Yuma
San Luis Obispo
Springfield
Knoxville
Asheville
Charleston
Savannah
Jacksonville
Key West
Havana
0.5
1
2
4
6
8

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CLIMATOLOGICAL DATA

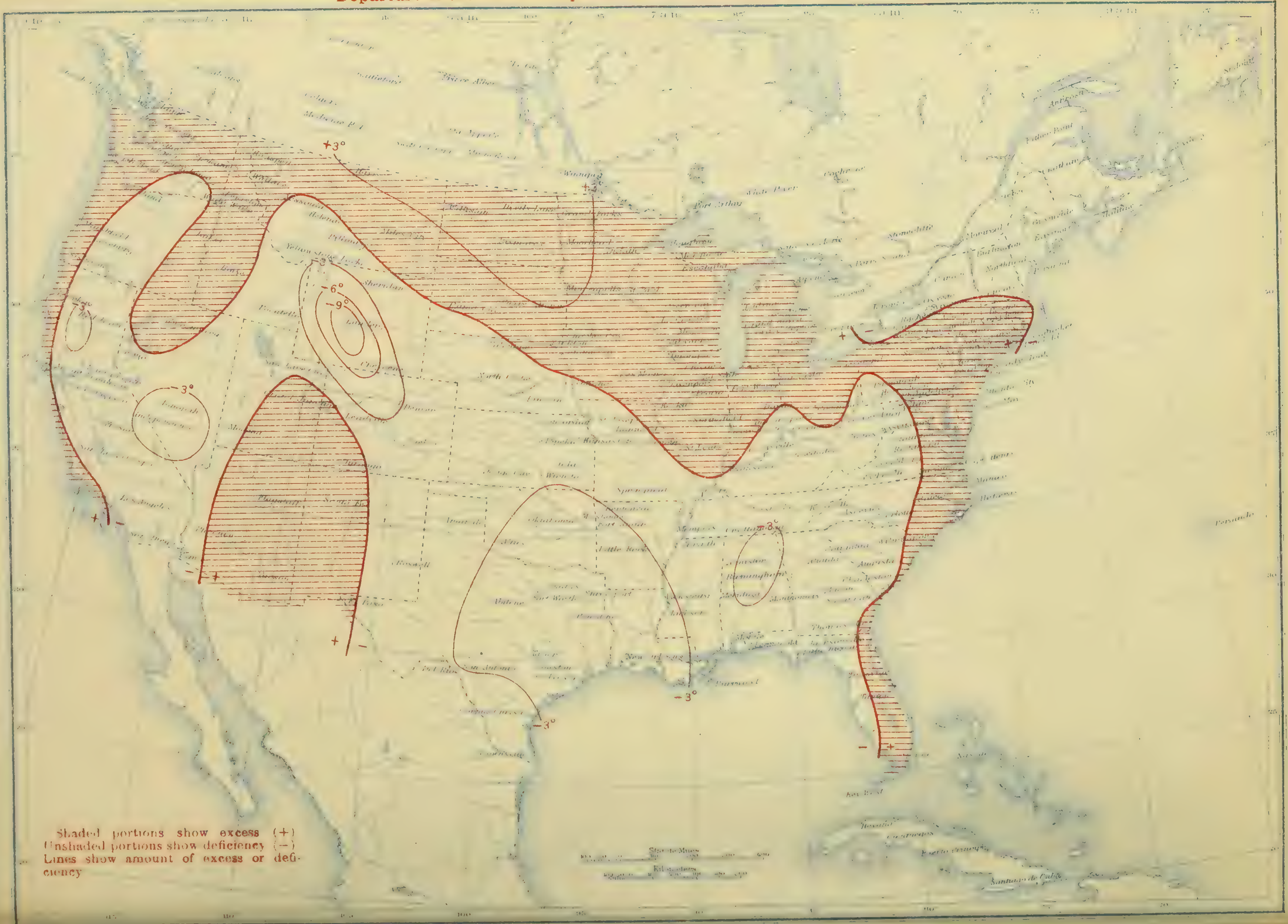
NORTH DAKOTA SECTION

NOVEMBER, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
JANUARY 10, 1921.

Departure of the Mean Temperature from the Normal, November, 1920.



Shaded portions show excess (+)
Unshaded portions show deficiency (−)
Lines show amount of excess or deficiency

U S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXIX. BISMARCK, N. D., NOVEMBER, 1920. No. 11

GENERAL SUMMARY.

Excepting the cold week beginning on the 9th, the temperature during the month averaged considerably above the normal, the precipitation was generally light, but there was more than the usual cloudiness. A cold wave occurred on the 9th, and low temperatures continued until the 15th, during which period sub-zero readings were recorded at most stations, but on all other dates the temperature was moderate. The precipitation was generally scanty, but in the northeastern portion the falls were above the normal at most stations, the totals ranging near one inch in the extreme northeastern counties. About two-thirds of the precipitation was in the form of snow. The low temperatures of the period from the 9th to 15th, inclusive, caused the Missouri River to freeze over, and ice to the thickness of from six to ten inches formed. The warm weather during the latter half of the month caused the ice to soften and break. The break-up at Bismarck occurred on the 28th, and the temporary trestle bridge used in the construction of a wagon bridge at this point was carried away. —E. G. L.

TEMPERATURE.

The mean temperature for the State was 28.0°, or 1.4° above the normal, and 12.4° higher than the mean for November, 1919. The highest mean reported was 33.2° at Steele, Kidder County; the lowest was 22.8° at Dunseith, Rolette County. The highest temperature reported was 65° at Steele, Kidder County, on the 3d and 4th; the lowest was -14° at Dunn Center, Dunn County, on the 9th. The greatest monthly range was 71° at Beach, Golden Valley County, Dunn Center, Dunn County, and Hettinger, Adams County; the least was 38° at Pembina, Pembina County. The greatest daily range was 48° at Fessenden, Wells County, on the 3d.

PRECIPITATION.

The average precipitation for the State was 0.37 inch, or 0.21 inch less than the normal, and 0.79 inch less than the average for November, 1919. The greatest monthly amount reported was 1.10 inches at Langdon, Cavalier County; the least was a trace at Bowbells, Burke County, Donnybrook, Ward County, and Dunn Center, Dunn County. The greatest amount recorded in any twenty-four consecutive hours was 0.80 inch at Pembina, Pembina County, on the 28th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 2.1 inches.

AURORAS.

Auroras were observed at Linton on the 4th, at Berthold Agency on the 5th, at Pettibone on the 7th, at Valley City on the 8th, at Devils Lake, Larimore and Pettibone on the 12th, at Ellendale on the 13th, at Devils Lake and Ellendale on the 17th, at Steele on the 19th, and at Arnegard and Marmarth on the 26th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
								Average.	Highest.*	Direction.	Date.
Bismarck	30.20	30.85	11	29.63	27	57	5,907	8.2	33	nw.	3
Devils Lake	30.12	30.71	12	29.44	3	44	6,772	9.4	44	n.	8
Ellendale	30.16	30.76	12	29.60	3	56	9,660	13.4	48	n.	9
Grand Forks	30.12	30.68	11	29.46	3	90	......	......	53	nw.	4
Williston	30.14	30.82	9	29.58	3	48	4,927	6.8	40	w.	3
Moorhead, Minn	30.16	30.77	12	29.57	3	57	5,641	7.8	27	n.	9
Av'ges and extremes	30.15	30.85	11	29.44	3	.....	....	9.1	53	nw	4

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent.			Lowest observed.	Date.
					7 a. m.	Mean noon.	7 p. m.		
Bismarck	129.5	281.1	46	− 7	82	63	71	26	3
Devils Lake	98.5	278.2	35	−14	87	70	77	13	3
Ellendale	98.2	284.1	35	......	86	71	77	34	3
Grand Forks	......	......	......	......	91	.....	82	....	....
Williston	144.3	278.2	52	+ 6	79	65	70	33	3
Moorhead, Minn	......	......	22	.....	88	.....	81	....	....
Averages and extremes	117.6	280.4	38	− 5	86	67	76	13	3

* And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	nw.
1899	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	s.
1900	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901	26.8	+.02	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910	23.9	2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918	28.9	+2.3	71	−18	1.04	+0.46	4	13	6	11	nw.
1919	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920	28.0	+1.4	65	-14	0.37	−0.21	3	10	9	11	nw.

Climatological Data for November, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	27.8	+1.5	60	6	3	13	40	0.30	-0.16	0.20	T.	2	18	10	2	n.	E. T. Carley.
Amidon	Slope		4	28.6		61^a	19	-5	14	36^a	0.05		0.05	0.5	1	12	11	7	sw.	Charles Eastgate.
Arnegard	McKenzie		1	27.2		55	3	-12	10	36	0.24		0.10	2.0	3	18	3	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	29.0	+1.3	62	3	0	13	34	0.21	-0.29	0.21	T.	1	15	5	10	nw.	R. C. Miles.
Beach	Golden Valley	2,576	13	29.2	-2.2	63	19	-8	9	38	0.14	-0.34	0.14	1.5	1	10	17	3	nw.	I. H. Claggett.
Berthold Agency‡‡	McLean	2,082	25	29.3	+0.5	60	3	-7	13	39	0.12	-0.39	0.08	0.3	2	11	11	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	45	29.7	+3.7	61	3	0	13	35	0.39	-0.29	0.22	T.	3	8	10	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	26.2	+2.6	57	3	-10	12	38	0.26	-0.29	0.15		2	17	6	7	nw.	M. R. Shuler.
Bowbells	Burke	1,958	7	25.6		54	3	-9	9	37	T.		T.	T.	0	20	0	10		G. H. Phelps.
Bowman	Bowman		5																	W. W. Barr.
Cando	Towner	1,488	18	28.0	+1.5	55	3	5	9	33	0.56	+0.10	0.34		2	5	9	16	nw.	A. J. Swanson.
Carson	Grant	2,500	7	30.4		60	18	-4	13	40	0.39		0.30	1.0	4	14	7	9	nw.	J. W. Evens.
Colgate	Steele	1,177	5																	W. F. Strong.
Cooperstown	Griggs	1,428	9								0.75	+0.37	0.30	3.0	2	5	19	6	w.	S. Friswold.
Crosby	Divide	1,954	12	27.1	-0.7	52	3	-6	9	28	0.29	-0.56	0.10	1.8	5	11	9	10	nw.	John Jensen.
Devils Lake	Ramsey	1,478	15	27.2	+4.6	56	3	2	11	30	0.76	+0.05	0.55	5.8	8	6	7	17	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	28.0	-0.6	57	18	-11	13	43	0.10	-0.41	0.10	1.0	1	6	12	12	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	27.6	-1.2	52	4	-4	9	32	T.	-0.60	T.	T.	0	0	25	5	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	27.8		57	3	-14	9	45	T.		T.	T.	0	12	8	10	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	22.8	-3.4	42	3	10	13	27	0.25	-0.16	0.20	2.0	2	15	9	6	nw.	J. G. Lamont.
Eckman	Bottineau		14	26.2	-0.1	56	3†	-2	9†	37	0.29	-0.18	0.20	2.0	3	14	5	11	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	29.5	-0.9	60	3	-1	13	36	0.05	-0.26	0.05		1				nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	28.9		59	3	2	13	32	0.42	-0.28	0.39	0.2	2	5	7	18	nw.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	7								0.21		0.18		3	13	10	7	nw.	N. W. Solenberger.
Epping	Williams	2,224	11								0.07	-0.27	0.07	T.	1	14	12	4	sw.	M. E. Uggen.
Fessenden	Wells	1,610	7	26.3		60	3†	-5	13	48	0.75		0.60	2.5	2	3	11	16	w.	T. D. Monsen.
Fryburg	Billings	2,790	1								0.16		0.16	2.0	1	16	12	2	nw.	Verne King.
Fullerton	Dickey	1,439	21	29.8	+0.1	59	3	4	13	33	0.57	-0.01	0.40	T.	2	5	10	15	nw.	F. O. Alin.
Garrison	McLean	1,901	24	28.4	+1.4	56	3	5	13	42	0.10	-0.50	0.10	1.0	1	7	15	8	nw.	G. L. Robinson.
Grafton	Walsh	827	27	29.0	+5.0	59	5	6	9	39	0.49	-0.10	0.32	3.4	6	10	3	17	nw.	A R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	27.6	+1.5	54	3	6	9	32	0.98	+0.36	0.43	1.3	8	8	5	17	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	12																	W A. Christianson.
Hannah	Cavalier	1,568	14			53^f	3				0.60	+0.01	0.60	6.0	1					J. Moffatt.
Hansboro	Towner	1,597	11	25.8^d	-0.1	58^b	4	1^g	13†	34^g	0.36	-0.05	0.20	2.0	2				nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	29.4	-4.0	59	30	12	13	39	0.11	-0.23	0.10	T.	2	16	9	5	nw.	U. J. Downey.
Hillsboro	Traill	901	13	28.4	-0.4	54	3	5	13	32	0.64	-0.06	0.25	0.5	5	6	14	10	s.	F. E. Mayall.
Howard ‡‡	Williams	2,275	12																	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	29.8	+2.2	61	3	2	13	39	0.40	-0.27	0.20	2.0	3	14	2	14	n.	S. Calvelage.
Lakota	Nelson	1,579	18																	C. R. Pettes.
Lamoine	Kidder	1,936	11	27.6	+0.6	60	3	-6	11	40	0.20	-0.34	0.20	2.0	1	11	5	14	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	24.9	-0.8	53	3	0	9†	33	1.10	+0.51	0.35	7.0	4	12	9	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	27.3	+1.5	57	3	0	11	34	0.85	+0.30	0.40	2.5	5	7	13	10	n.	Reuben Gray.
Linton	Emmons	1,711	1	31.6		62	3†	-8	13	40	0.26		0.19	T.	3	7	13	10	nw.	William Malpass.
Lisbon	Ransom	1,091	15	30.8	+0.6	56	3	8	9†	31	0.49	+0.01	0.35	1.2	2	6	8	16	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1								0.80		0.50	3.0	3					Edw. Tapley.
McHenry	Foster	1,509	9																	P. E. Trudeau.
McKinney ‡‡	Renville	1,640	25	25.6.	+1.0	47	17	-5	12	32	0.05	-0.58	0.05	0.5	1	6	16	8	sw.	N. P. Swenson.
McLeod	Ransom	1,075	7	28.3		56	3	0	15	36	0.58		0.24		5	13	5	12	se.	J. G. Carlson.
Maddock	Benson	1,604	4	27.4		58	3	-1	13	39	0.47		0.25	2.2	2	7	8	15	nw.	A. T. Felland.
Mandan	Morton	1,644	5	28.8		63	3	-2	13	42	0.37		0.15		3					No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	25.9	-3.1	60	3	-3	13	38	0.37	-0.28	0.25	2.5	2	14	3	13	nw.	P. B. Anderson.
Marmarth	Slope		10	27.4	-6.6	60	30	-8	13	39	0.46	+0.19	0.35	4.9	6	14	3	13	w.	S. P. Grane.
Mayville	Traill	975	23	27.4	-1.9	56	3	4	13	33	0.33	-0.29	0.25		3	13	3	14		W. C. Gould.
Melville	Foster	1,590	21	28.6^b	-0.4	48^b	2†	3^b	13†	37^b	0.30	-0.12	0.30	3.0	1				nw.	J. P. Kidder.
Minot	Ward	1,557	23	25.2	-4.5	58	3	-8	13	41	0.18	-0.41	0.10	1.0	4	15	7	8	w.	W. I. Faris.
Minto	Walsh	820	26	28.7	+4,2	56	3	2	12	41	0.83	+0.29	0.25		5	11	7	12	ne.	C. M. Evans.
Mott	Hettinger	2,424	12	25.5	-5.7	46	18	-13	13	39	0.28	-0.16	0.09	2.0	6	11	8	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	28.4	+1.8	58	3	-6	11	39	0.05	-0.57	0.05	1.0	1	12	6	12	sw.	C. J. Hoof.
New England	Hettinger	2,400	25																	W. C. McKenzie.
New Salem	Morton	2,163	14	28.9	-1.8	62	18	-3	13	36	0.04	-0.27	0.04	0.5	1	16	11	3	sw.	J. Christiansen.
Orange ‡‡	Adams	2,586	10																	J. E. Lowries.
Park River	Walsh	998	15	28.8	+0.8	54	3	4	9	32	0.72	-0.02	0.46	5.7	6	12	3	15	nw.	C. B. Wright.
Parshall	Mountrail		4								0.10		0.10	1.0	1					J. A. Johnson.
Pembina	Pembina	789	45	30.1	+7.4	50	1	12	28	28	1.04	+0.35	0.80	10.0	4				sw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1					-4	11		0.20	-0.32	0.20	2.0	1	5	15	10	nw.	S. C. Shanks.
Power	Richland	1,020	26								0.37	-0.22	0.15	3.8	5					J. A. Power.
Powers Lake	Burke	2,205	4								0.10		0.05	1.0	2	1	7	22	nw.	C. Frank.
Selfridge	Sioux																			Sigur Robertson.
Skaar	McKenzie										0.15		0.06	2.0	3	13	9	8	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	22	33.2	+4.8	65	3†	-2	13	43	0.61	+0.07	0.13	2.5	6	11	13	6	s.	H. S. Wood.
Taylor	Stark	2,493	3	27.8^a		55^a	2†	-5^a	9	37^a	0.07		0.04		3				nw.	H. Leutz.
Towner	McHenry	1,482	17	27.1	+2.1	55	3	3	12	34	0.30	-0.15	0.30	3.0	1	9	9	12	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	27.9		58	3	-4	14	34	0.45		0.29	4.0	3	4	8	18	w.	A. T. Anderson.
Valley City	Barnes	1,245	1	27.8	-1.9	57	3	1	11	37	0.20	-0.32	0.09	1.2	5	12	6	12	w.	C. F. Schroeder.
Wahpeton	Richland	962	25	29.2	+0.9	57^a	3†	3	13†	38^a	0.67	+0.04	0.42	1.5	4	7	9	14	n.	State School of Science.
Walhalla	Pembina	966	12								1.00	+0,46	0.70	10.0	2					Ivan Lee.
Westhope	Bottineau	1,508	13	27.0	+0.2	58	3	-8	10	45	0.16	-0.29	0.10		4	14	0	16	se.	W. A. Meddaugh.
Williston	Williams	1,875	40	27.8	+2.6	54	3	-3	9	31	0.09	-0.51	0.04	0.5	5	9	8	13	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	25.8	+3.7	57	3	-5	13	45	0.65	+0.21	0.50	5.0	4	8	11	11	nw.	M. A. Ostby.
Zap	Mercer	1,800	6																	E. T. Montgomery.
Moorhead, Minn.	Clay	935	38	29.2	+4.8	56	3	5	15	31	0.29	-0.69	0.25	0.4	4	5	4	21	n.	U. S. Weather Bureau.
Averages				28.0	+1.4	65	3†	-14	9	48	0.37	-0.21	0.80	2.1	3	10	9	11	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for November, 1920.

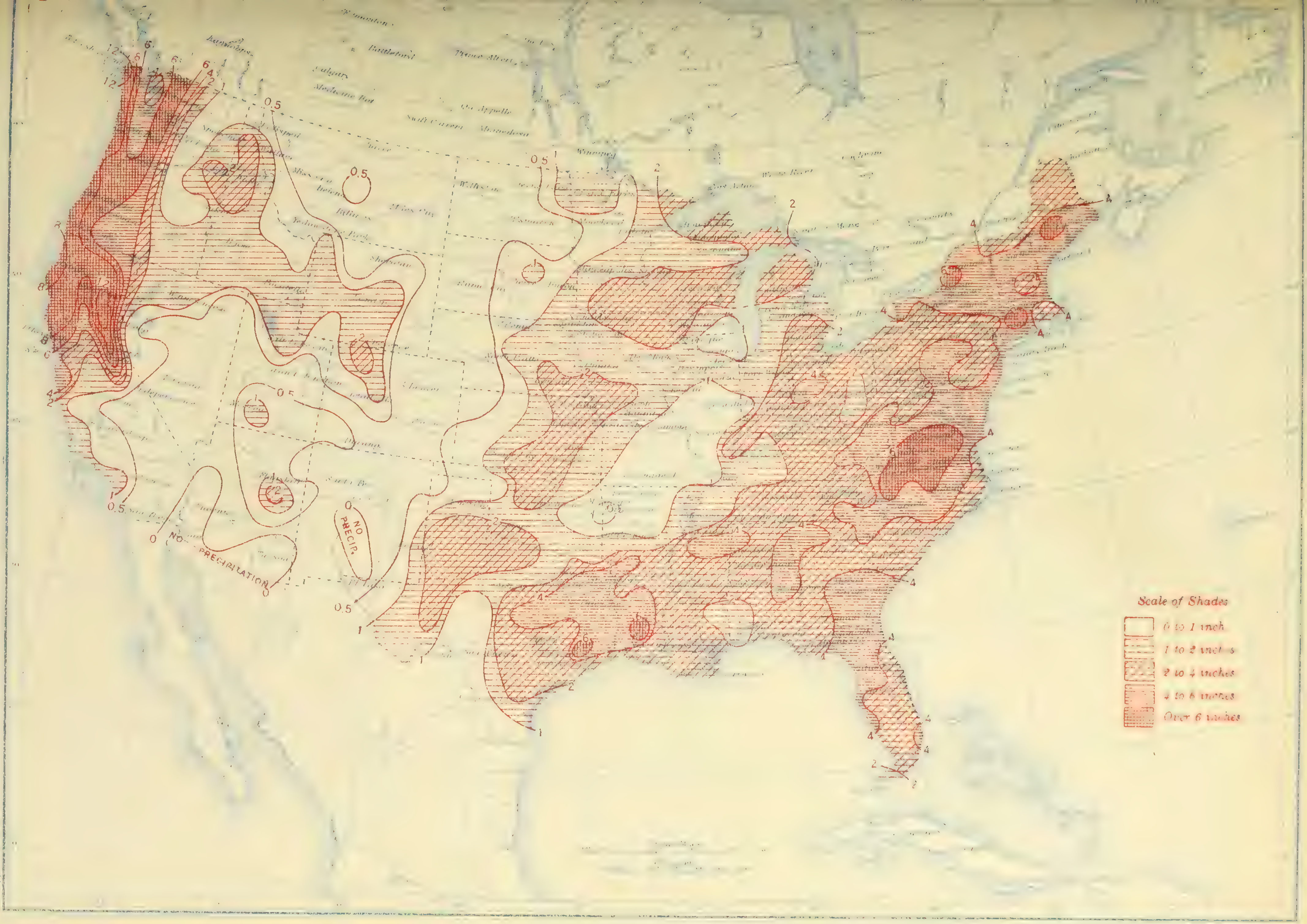
Stations.	Watersheds.	Day of Month																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red								.20		T.	T.				T.				T.	T.		T.		T.				.10				0.30
Amidon	Lit. Missouri									.05																							0.05
Arnegard	Missouri								.10						.10						T	.04						T	T				0.24
Ashley	Missouri								.21	T.												T						T					0.21
Beach	Lit. Missouri	T.							T.	.14	T.										T								T				0.14
Berthold Agency	Missouri								.04		T.				T						.08							T					0.12
Bismarck ***	Missouri								.09		T.	T.	T.		T.				T.			.08						.22	T				0.39
Bottineau	Mouse										T									T.	.11	T.							.15				0.26
Bowbells ‖	Mouse										T.																						T.
Bowman	Grand																																
Cando	Sheyenne																				.22								.34				0.56
Carson	Heart									.05					.02							.30							.02				0.39
Colgate	Sheyenne																																
Cooperstown	Sheyenne								T					T.	T.	T.					T	.45							.30				0.75
Crosby	Mouse								.10		.02	T.			T.			.09		T							T	.06	.02				0.29
Devils Lake ***	Sheyenne								.06		.03	.01	T.		T.				T.	.01	.05	.05		T.	T.			.33	.22	T			0.76
Dickinson ‖	Heart	T.								.10	T.	T.	T.																				0.10
Donnybrook	Mouse																				T.		T.		T.			T.					T.
Dunn Center	Knife								T.	T.	T.																						T
Dunseith	Mouse				T.						T.										.05	T.						T.	.20				0.25
Eckman	Mouse		T.						T.			T.									.07	.02							.20				0.29
Edgeley	James			T.							T.				T.						T.	T.							.05				0.05
Ellendale ***	James	T.	T.						.39	T.	T.	T.	T.		T.			T.				T.	T.	T.	T.		T.	.03		T			0.42
Energy	Missouri								.02		.01	T.							T.	T.	T.	T.	T.				T.	.18					0.21
Epping	Missouri								.07		T.	T.	T.		T.			T.				T.					T.						0.07
Fessenden ‖	James								T.	T.	T.	T.			T.							.15						T.	.60				0.75
Fryburg	Lit. Missouri								.16			T.	T.		T.							T.											0.16
Fullerton	James								.40														T.					T.	.17				0.57
Garrison	Missouri										T.	T.								T.	T.	T.							.10				0.10
Grafton	Red								.01	.08	T.	.01			T.						.06	T.	.01						.32				0.49
Grand Forks ***	Red								.27		.05	.03	T.		.01				T.		.13	.06		T.	T.		T.	.10	.33				0.98
Granville	Mouse																																
Hannah	Pembina		T.		T.				T.																		T.	.60					0.60
Hansboro	Red				.16																								.20				0.36
Hettinger	Grand								.10		T.	T.										.01											0.11
Hillsboro	Red								.12	.10	.05									T.	.12				T.				.25				0.64
Howard	Missouri																																
Jamestown	James								.15													.05							.20				0.40
Lakota	Sheyenne																																
Lamoine	Missouri								T.	T.	T.				T.						T.								.20				0.20
Langdon	Pembina	.05													T.				.20			.35							.50				1.10
Larimore	Red								.40	.10											.20	.05						.10					0.85
Linton	Missouri	T.							.19	T.	T.	T.	T.		T.			T.				.06					T.		.01				0.26
Lisbon	Sheyenne								T.	T.	.14																			.35			0.49
McClusky	Missouri									.05									T.		.50								.25				0.80
McHenry	James																																
McKinney	Mouse							T.		T.	T.		T														.05						0.05
McLeod	Sheyenne	.01						.03			.24				.18														.12				0.58
Maddock	Sheyenne											T.										.25							.22				0.47
Mandan ‖	Missouri									T.		.10										.12							.15				0.37
Manfred	Sheyenne								T.	T.	T.	T.			T.						T.	.12							.25				0.37
Marmarth	Lit. Missouri								*	.35	.06	.01	T.		.02													.02					0.46
Mayville	Red								.02												.06								.25				0.33
Melville	James								T.													T.							.30				0.30
Minot	Mouse									T	T.				T.				.02	.01		.05								.10			0.18
Minto	Red								.07	.08											.25	.03							.40				0.83
Mott	Cannon Ball								.08		.09	.04			.02							.03						.02					0.28
Napoleon	Missouri									T.	.05				T.							T.							T.				0.05
New England	Cannon Ball																																
New Salem	Heart								T.		T.	T.																.04	T.				0.04
Orange	Cannon Ball																																
Park River	Red								.06	.03	.03										.06	.08						.46	T.				0.72
Parshall	Missouri																													.10			0.10
Pembina ‖‖	Red				.20		.02	.02																					.80				1.04
Pettibone	James								T.			T.			T.							T.							.20				0.20
Power	Missouri	.10								.15	T.	.05	T.	T.	T.	.02				T.	T.							T.	.05				0.37
Powers Lake	Sheyenne								.05	T.	.05	T.	T.	T.	T.						T.								T.				0.10
Selfridge	Missouri																																
Skaar	Lit. Missouri								.05		.04	.06						T.		T.	T.	T.						T.					0.15
Steele	Missouri		T.						.11	.30	T.	T.		.02			T.	.02				T.	.03						.13	T.			0.61
Taylor	Heart								.01		.02																	.04					0.07
Towner	Mouse									T.										T.	T.	T.							.30				0.30
Turtle Lake	Missouri								T.	T.	T.				T.							.06							.29	.10			0.45
Valley City	Sheyenne								.09	.05	.02		.02							T.	.02		T.	T.	T.		T.						0.20
Wahpeton ‖‖	Red		.15							.42										.05					T.		T.		.05				0.67
Walhalla	Pembina								.30																				.70				1.00
Westhope	Mouse		.02						T.			T.								.02		.02							.10				0.16
Williston ***	Missouri								.04		T.	T.	T.	T.	.01		T.		T.		.02	T.						.01	.01				0.09
Willow City	Mouse								T.		T.	T.			T.					.03	.06	.06							.50				0.65
Zap	Knife																																
Moorhead, Minn ***	Red	T.		T.					.25	T.	T.	.01	T.		.01						T.	T.			T.				.02				0.29

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	45	50	59	50	56	60	40	39	32	26	27	22	34	28	28	41	48	50	43	42	36	35	34	40	41	40	35	40	37	37	....	39.8
	Minimum	12	13	19	29	29	27	36	8	8	6	7	6	3	4	7	6	17	16	16	30	27	22	21	27	11	10	12	17	13	15	....	15.8
Arnegard	Maximum	26	47	55	47	45	41	47	27	24	19	13	17	17	18	35	40	47	51	49	44	36	32	37	38	46	45	40	34	43	53	....	37.1
	Minimum	17	18	29	27	25	20	17	-11	9	-12	1	1	1	3	-1	19	27	31	31	30	24	20	23	27	23	22	22	27	22	23	....	17.2
Ashley	Maximum	27	51	62	52	46	56	49	40	33	28	13	19	32	21	31	43	46	58	45	33	34	29	30	32	40	45	38	37	33	53	....	38.5
	Minimum	18	15	31	32	28	24	18	32	7	5	3	7	0	5	2	17	25	23	32	26	27	26	28	25	15	27	18	29	23	20	....	19.6
Beach	Maximum	25	51	59	50	48	43	49	40	30	26	15	21	19	22	34	42	53	57	63	51	42	38	40	49	52	52	41	42	48	58	....	42.0
	Minimum	16	15	30	22	25	16	23	27	-8	2	-4	6	-5	0	-2	17	27	28	32	30	27	21	11	11	22	21	22	22	12	26	....	16.4
Berthold Agency	Maximum	32	50	60	49	51	44	49	49	35	26	18	20	25	23	38	45	50	56	48	45	43	35	31	39	49	48	40	36	46	55	....	41.2
	Minimum	17	13	30	33	24	16	11	23	-2	4	4	10	-7	5	-1	23	25	20	23	29	31	22	27	25	20	17	17	25	20	17	....	17.4
Bismarck	Maximum	33	52	61	50	51	47	47	40	18	28	15	21	30	23	33	43	48	61	48	45	36	32	33	34	42	45	42	35	86	49	....	39.3
	Minimum	17	17	36	31	30	20	14	18	5	7	5	6	0	8	3	23	28	29	32	32	32	27	28	21	19	21	17	28	25	22	....	20.0
Bottineau	Maximum	32	48	57	45	47	45	49	47	30	20	21	25	26	25	35	40	46	48	48	45	39	40	30	33	38	36	37	37	32	40	....	38.0
	Minimum	9	10	24	30	15	20	10	21	-2	7	-3	-10	-9	8	-2	15	21	21	20	23	27	25	25	24	15	18	10	25	21	18	....	14.5
Bowbells §§	Maximum	30	41	54	50	45	40	49	40	19	19	21	22	24	22	29	42	40	45	36	35	34	32	31	36	48	44	39	38	41	55	....	36.7
	Minimum	17	21	17	31	21	16	15	19	-9	-9	-3	4	1	6	3	12	11	22	23	27	23	24	19	19	19	21	17	18	20	21	....	14.6
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Cando	Maximum	37	47	55	51	49	44	42	44	27	19	19	25	29	21	35	40	42	50	47	36	35	31	30	33	38	35	36	32	32	36	....	36.6
	Minimum	19	14	29	34	23	16	12	27	5	12	9	10	13	9	12	14	25	20	25	28	30	27	27	27	17	21	14	29	17	16	....	19.4
Carson	Maximum	35	50	55	50	55	47	50	45	40	35	32	30	28	22	32	45	45	60	55	50	40	35	40	38	44	50	40	42	44	55	....	43.0
	Minimum	10	10	15	28	25	17	20	18	15	8	3	0	-4	0	-3	22	28	30	35	25	25	20	25	25	20	18	28	22	22	25	....	17.7
Colgate	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Crosby	Maximum	31	48	52	44	42	37	42	42	22	22	14	18	8	20	31	35	40	42	39	36	34	32	30	35	39	45	37	35	36	43	....	31.4
	Minimum	21	41	34	24	25	22	25	17	6	5	3	8	1	7	4	20	29	30	28	29	27	21	22	24	22	22	23	21	15	26	....	19.8
Devils Lake	Maximum	33	47	56	44	51	45	47	39	17	17	17	24	29	25	34	37	40	53	40	35	34	29	32	30	38	35	36	32	30	38	....	37.5
	Minimum	18	19	33	29	24	20	19	15	4	6	2	9	4	10	7	18	22	23	22	30	28	26	29	22	19	24	14	28	20	19	....	18.8
Dickinson §§	Maximum	29	50	55	47	48	45	48	40	30	21	12	25	16	20	34	40	51	57	60	48	35	35	40	40	48	50	40	37	48	55	....	40.1
	Minimum	19	18	26	27	25	17	17	30	-3	1	3	5	11	-10	-5	16	26	26	30	30	30	17	19	19	20	18	21	22	12	12	....	15.9
Donnybrook	Maximum	31	50	45	52	50	51	45	44	32	18	20	20	23	24	20	18	20	42	39	38	35	41	38	44	46	48	44	45	48	50	....	37.5
	Minimum	20	20	22	29	20	19	18	19	4	0	0	11	10	0	0	4	8	10	35	36	36	35	28	26	22	22	15	25	18	28	....	17.7
Dunn Center	Maximum	29	49	57	48	19	44	48	44	31	20	11	18	25	21	35	44	45	55	54	49	41	30	35	37	47	49	44	36	48	55	....	39.9
	Minimum	20	20	33	30	28	22	15	-14	-6	-6	-12	-8	5	-3	15	23	26	30	27	28	16	22	26	23	27	16	28	15	23	....	....	[a]15.6
Dunseith	Maximum	26	41	42	42	37	35	38	38	22	11	11	16	16	18	23	32	32	41	41	32	32	27	29	29	37	34	36	36	29	29	....	30.4
	Minimum	6	14	29	33	18	21	14	20	1	6	0	7	-10	11	4	11	24	22	25	21	25	23	24	18	13	18	14	16	22	14	....	15.2
Edgeley	Maximum	33	51	60	54	48	47	51	44	33	27	15	20	35	23	32	41	43	60	47	38	35	35	32	30	39	36	40	36	35	36	....	38.6
	Minimum	19	12	37	31	26	25	15	33	6	8	2	10	1	10	5	14	21	19	27	26	32	25	28	27	13	26	34	30	25	27	....	20.4
Ellendale	Maximum	30	50	59	52	45	48	50	40	23	29	17	21	32	24	30	42	41	53	39	35	36	32	32	31	37	35	40	38	34	34	....	37.0
	Minimum	16	20	33	32	30	27	20	24	9	9	7	8	2	11	6	18	23	21	29	27	31	28	29	22	14	22	18	32	29	26	....	20.8
Fessenden	Maximum	34	50	60	60	60	50	50	38	30	19	17	25	31	35	31	42	45	59	40	37	35	30	31	30	40	45	40	34	31	40	....	39.0
	Minimum	12	12	12	26	20	12	8	26	-2	2	2	4	-5	1	-1	15	21	17	23	27	26	24	24	15	8	8	8	26	19	18	....	13.6
Fullerton	Maximum	29	49	59	55	47	48	49	42	38	28	17	21	32	26	31	41	39	53	42	37	36	33	32	32	37	36	41	36	33	34	....	37.8
	Minimum	20	16	33	34	30	26	19	37	8	8	6	12	4	6	12	17	26	22	29	28	32	27	29	26	16	27	17	32	24	25	....	21.8
Garrison	Maximum	34	50	56	47	50	44	46	47	39	23	25	22	22	24	33	41	45	53	48	47	37	32	32	45	41	37	40	37	39	43	....	39.0
	Minimum	15	20	31	32	24	17	12	29	-3	3	0	9	-5	6	0	20	33	26	25	28	30	26	25	15	14	20	15	20	22	21	....	17.7
Grafton	Maximum	34	50	54	52	59	45	48	41	35	19	20	26	30	27	35	35	38	50	47	35	35	32	34	31	38	35	35	34	33	36	....	37.5
	Minimum	18	25	31	30	20	18	16	26	6	10	7	10	8	15	6	16	25	14	27	29	29	29	25	24	19	26	26	30	23	25	....	20.5
Grand Forks	Maximum	30	48	54	47	49	47	46	42	17	20	18	23	27	21	32	37	37	48	39	39	33	32	34	31	38	35	34	37	31	32	....	35.3
	Minimum	17	16	32	30	23	21	17	17	6	10	6	11	6	12	6	18	17	17	29	28	31	25	22	24	21	22	23	33	27	28	....	19.8
Granville	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hannah	Maximum	43	48	53	49	48	45	46	48	26	22	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	22	28	33	32	20	19	14	26	5	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hansboro	Maximum	34	50	56	58	45	35	47	44	30	28	17	24	28	23	35	38	41	52	42	33	31	....	30	28	....	37	37	32	32	37	....	[illegible]38.7
	Minimum	....	....	....	....	....	20	20	24	2	7	2	8	1	10	1	7	20	20	20	27	27	....	26	18	....	13	11	27	18	16	....	[illegible]15.0
Hettinger	Maximum	33	52	56	50	49	45	46	40	33	28	16	18	23	20	30	41	52	57	56	56	49	35	45	36	45	53	41	42	49	59	....	41.9
	Minimum	19	16	32	27	20	26	16	28	-1	-1	-7	2	-12	2	5	18	30	31	31	30	31	15	19	24	17	15	19	24	10	20	....	16.9
Hillsboro	Maximum	29	47	54	52	45	46	46	41	37	17	19	20	28	24	29	36	34	47	39	36	35	32	32	33	36	37	34	36	33	31	....	35.5
	Minimum	16	15	33	39	25	25	15	34	7	9	6	11	5	12	6	16	22	17	29	31	30	29	22	27	20	27	30	32	27	26	....	21.4
Howard	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Jamestown	Maximum	49	49	61	52	49	42	50	44	33	25	16	21	33	23	34	43	37	58	48	36	35	32	32	31	43	40	39	34	33	40	....	38.7
	Minimum	18	17	38	37	25	22	17	32	6	8	6	12	2	10	4	16	28	19	27	31	31	28	29	28	15	26	14	31	27	21	....	20.9
Lamoine	Maximum	48	58	60	48	50	45	48	42	37	21	18	18	18	26	31	42	38	57	52	37	34	30	31	34	42	40	40	37	33	40	....	38.3
	Minimum	15	32	30	16	18	15	11	32	-3	-1	6	8	-3	6	3	17	18	23	28	30	28	25	25	25	12	20	16	20	23	28	....	17.0
Langdon	Maximum	32	52	53	37	50	44	44	36	29	24	17	21	27	23	33	35	31	49	34	33	28	34	30	29	34	32	34	28	31	30	....	35.9
	Minimum	18	15	27	30	20	18	13	22	0	3	0	5	0	5	0	3	20	27	25	23	25	29	24	25	15	20	15	22	17	10	....	15.9
Larimore	Maximum	44	49	57	47	49	45	48	35	28	18	20	23	24	27	34	35	37	52	38	35	32	38	35	37	39	33	28	35	31	35	....	36.3
	Minimum	15	15	34	32	22	21	18	28	6	4	0	10	7	4	7	15	25	17	22	25	29	25	22	21	18	20	15	25	23	25	....	18.3
Lisbon	Maximum	40	45	56	46	41	38	52	38	22	15	26	30	38	40	38	36	36	39	40	39	38	44	40	38	38	45	36	40	38	37	....	38.3
	Minimum	18	26	25	28	30	28	32	16	8	8	16	14	16	18	16	24	26	28	30	32	30	30	31	30	26	15	24	18	30	29	....	23.4
McHenry	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
McKinney	Maximum	25	42	42	38	35	35	34	25	15	14	15	15	20	30	40	40	47	40	35	34	34	32	33	34	42	40	34	42	44	46	....	33.4
	Minimum	20	19	25	32	20	12	19	-3	10	-1	10	-5	6	0	20	21	26	23	30	30	32	25	25	12	10	10	30	21	28	28	....	17.8
Maddock	Maximum	32	48	58	53	51	46	49	43	36	20	18	25	28	26	24	40	44	55	51	40	36	30	31	30	43	38	38	38	31	38	....	37.9
	Minimum	11	15	32	38	18	10	10	33	0	7	0	10	-1	0	0	11	25	18	22	28	30	27	26	26	13	20	10	27	25	13	....	16.8
Marmarth	Maximum	22	45	54	45	45	42	42	33	30	25	11	9	15	11	25	39	52	50	57	50	40	40	41	45	44	48	40	41	46	60	....	38.2
	Minimum	16	16	31	25	23	24	21	24	5	-3	5	-5	-8	-1	5	13	32	31	34	34	26	20	20	19	19	22	24	24	15	21	....	16.7
Minot	Maximum	32	50	58	50	50	45	49	48	20	21	11	23	28	25	35	42	42	55	38	38	32	35	32	37	48	42	39	35	40	48	....	38.3
	Minimum	12	11	27	18	15	10	8	11	-7	1	-4	0	-8	2	-4	15	23	25	15	25	25	22	21	15	15	10	9	13	13	23	....	12.0
Mott	Maximum	40	45	40	44	41	36	38	34	11	26	14	16	26	15	28	38	41	46	42	39	29	43	36	38	39	42	36	38	42	43	....	34.9
	Minimum	26	30	28	24	24	21	11	11	1	8	2	-3	-13	2	7	16	26	30	26	26	11	20	21	18	7	20	18	19	23	30	....	16.1
Napoleon	Maximum	30	49	58	53	51	47	48	43	35	26	25	20	32	22	33	45	46	58	50	40	33	32	33	34	45	42	43	35	33	50	....	39.7
	Minimum	14	10	31	32	26	16	10	32	2	0	-6	6	-3	-1	-2	19	26	23	33	32	23	25	24	18	13	26	16	24	21	20	....	17.0
New Salem	Maximum	30	52	60	30	49	51	48	48	19	35	10	20	29	24	31	43	49	62	51	55	49	32	35	40	42	50	39	34	41	56	....	40.5
	Minimum	15	16	30	19	18	20	12	19	2	3	5	4	-3	4	1	16	25	30	32	32	31	24	26	20	17	17	18	22	22	22	....	17.3
Pembina §§	Maximum	50	48	44	46	44	40	42	41	34	40	38	42	44	42	41	42	41	42	40	38	32	39	42	40	32	34	28	32	36	34	....	39.6
	Minimum	41	36	30	22	24	18	20	18	16	14	16	14	16	20	22	18	20	19	24	22	20	18	21	22	24	18	15	12	16	18	....	20.6
Steele	Maximum	47	56	65	65	49	53	61	49	41	37	37	35	33	36	34	43	47	60	49	46	45	42	37	42	45	43	44	43	44	32	....	45.3
	Minimum	16	20	22	26	24	20	29	32	2	4	2	3	-2	6	10	24	20	24	28	33	30	33	27	26	28	32	34	27	29	26	....	21.2
Towner	Maximum	33	48	55	49	49	50	49	44	33	21	17	26	21	23	35	43	43	43	44	38	35	32	31	30	40	39	36	34	35	40	....	37.2
	Minimum	9	15	28	33	18	20	15	29	0	5	3	-3	2	4	3	13	30	23	20	30	29	29	27	23	15	13	10	28	21	17	....	17.0
Valley City	Maximum	30	48	57	52	45	47	48	40	26	22	17	30	23	30	38	38	56	48	36	33	34	35	29	30	38	34	33	36	35	36	....	36.8
	Minimum	14	8	31	32	27	28	14	20	6	4	1	3	9	2	17	24	19	28	29	30	23	27	25	26	11	26	18	16	26	25	....	18.9
Wahpeton §§	Maximum	27	47	57	57	51	52	48	43	17	29	18	19	32	25	32	41	36	50	40	37	35	34	31	33	33	36	35	35	33	....	....	[a]36.7
	Minimum	25	11	30	38	28	28	18	36	14	7	6	9	3	7	3	3	26	20	29	32	32	31	22	27	26	27	27	25	30	27	....	21.6
Westhope	Maximum	38	47	58	47	48	43	50	42	42	26	16	24	28	27	27	43	46	48	37	34	33	32	32	33	46	39	38	33	37	40	....	37.8
	Minimum	13	18	29	28	20	16	17	18	3	8	-3	7	-5	15	3	7	22	24	22	29	29	27	28	27	20	21	20	12	18	15	....	16.2
Williston	Maximum	28	48	54	48	45	42	49	40	15	25	14	18	20	21	36	38	46	47	45	45	38	32	31	35	45	46	38	32	44	47	....	37.1
	Minimum	21	21	35	28	24	20	18	9	-3	3	4	7	2	8	8	25	27	26	28	28	24	21	20	24	20	20	22	20	17	26	....	18.4
Moorhead, Minn	Maximum	30	48	56	47	47	49	48	43	33	23	20	21	25	25	25	36	38	43	43	38	35	33	30	33	37	36	39	39	34	31	....	36.2
	Minimum	19	17	34	32	30	27	21	32	9	7	7	11	7	12	5	18	23	20	30	34	31	29	22	28	24	26	27	33	31	28	....	22.5

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing; [b], 2 days, etc.


Scale of Shades
0 to 1 inch
1 to 2 inches
2 to 4 inches
4 to 6 inches
Over 6 inches
NO PRECIP.
NO PRECIPITATION

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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, CHIEF

MAR 2 1921

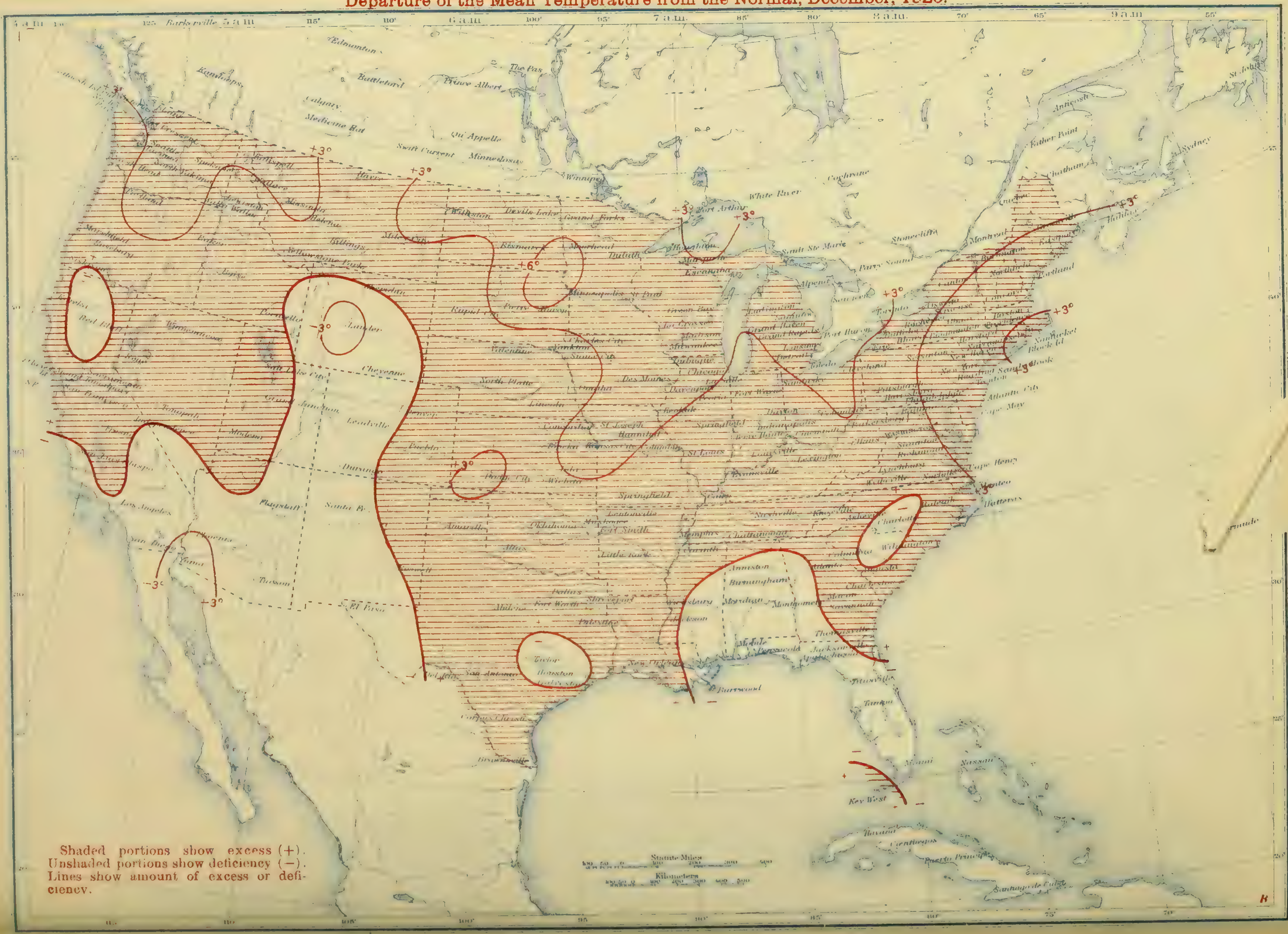
CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

DECEMBER, 1920

BY
ORRIS W. ROBERTS
METEOROLOGIST

BISMARCK, N. DAK.
WEATHER BUREAU OFFICE
FEBRUARY 15, 1921.



Departure of the Mean Temperature from the Normal, December, 1920.

Shaded portions show excess (+). Unshaded portions show deficiency (−). Lines show amount of excess or deficiency.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXIX. Bismarck, N. D., December, 1920. No. 12

GENERAL SUMMARY.

Three well defined temperature periods characterized the month. The first sixteen days was a warm period, during which the day temperatures were above freezing on nearly all days, and the minimum temperatures were well above zero. This was followed by a cold period lasting until the 28th. During this period the minimum temperatures were below zero on all days, and the maximum temperatures were near zero. On the 28th there was a rapid rise in temperature, followed by moderate temperature until the end of the month. Due to the preponderance of the warm periods, the mean was 2.2° in excess of the normal. The precipitation was light in practically all sections, averaging 60 per cent of the normal. There was practically no precipitation on the first seven days, but scattering falls occurred thereafter, mostly on the 8th, 14th, 20th, 25th and 31st. Practically all of the precipitation was in the form of snow, but rain fell at a number of stations on the 31st. There was very little snow cover in any section during the month, the amounts that accumulated during the cold period disappearing generally during the warm period at the end of the month. The Missouri River, which was open at the beginning of the month, following the break-up on November 28th, froze over at the beginning of the cold period on the 16th and 17th.

TEMPERATURE.

The mean temperature for the State was 15.2°, or 2.2° above the normal, and 7.8° higher than the mean for December, 1919. The highest mean reported was 21.8° at Amidon, Slope County; the lowest was 8.6° at Willow City, Bottineau County. The highest temperature reported was 59° at New Salem, Morton County, on the 1st; the lowest was −32° at Langdon, Cavalier County, on the 27th. The greatest monthly range was 86° at New Salem, Morton County; the least was 52° at Cando, Towner County. The greatest daily range was 67° at Dickinson, Stark County, on the 28th.

PRECIPITATION.

The average precipitation for the State was 0.32 inch, or 0.22 inch less than the normal, and 0.14 inch less than the average for December, 1919. The greatest monthly amount reported was 1.50 inches at Hannah, Cavalier County; the least was a trace at Donnybrook, Ward County. The greatest amount recorded in any twenty-four consecutive hours was 0.60 inch at Hannah, Cavalier County, on the 30th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 3.2 inches.

AURORAS.

Auroras were observed at Skaar on the 5th, at Energy on the 6th, at Fessenden on the 8th, at Amidon on the 17th, at Amidon and Eckman on the 26th, at Eckman and Ellendale on the 27th, and at Napoleon on the 28th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.00	30.62	6	29.38	11	57	6,316	8.5	40	nw.	11
Devils Lake	29.95	30.63	6	29.32	31	44	6,428	8.6	36	nw.	15
Ellendale	29.96	30.60	6	29.37	13	56	10,796	14.5	54	nw.	15
Grand Forks	29.94	30.54	6	29.31	31	90	....	......	35	nw.	15
Williston	29.94	30.60	6	29.25	11	48	5,270	7.1	36	nw.	16
Moorhead, Minn	29.97	30.58	6	29.34	14	58	7,117	9.6	35	nw.	14
Av'ges and extremes	29.96	30.63	6	29.25	11	.....	....	9.7	54	nw	15

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	135.6	265.8	51	+2	89	73	78	38	16
Devils Lake	120.9	262.1	46	+1	92	87	92	65	7
Ellendale	117.8	269.6	44	......	89	80	84	38	16
Grand Forks	......	......	......	......	92	.....	86	.....	....
Williston	121.2	262.1	46	+3	81	70	72	43	15
Moorhead, Minn.	......	......	......	......	85	.....	82	.....	....
Averages and extremes	123.9	264.9	47	+2	88	78	82	38	16

* And other dates.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	uw.
1899	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.

Climatological Data for December, 1920.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	23	17.0	+4.3	39	4	−24	27	35	1.30	+0.88	0.40	13.0	5	10	17	4	se.	E. T. Carley.
Amidon	Slope	......	4	21.8	......	56	2	−20	27	38	0.09	......	0.04	......	3	13	9	9	w.	Charles Eastgate.
Arnegard	McKenzie	......	1	18.8^{b}	......	47^{b}	2	−21^{b}	28	46^{b}	0.35	......	0.30	3.5	2	12	8	11	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	22	18.0	+4.5	50	3	−23	24	53	0.20	−0.31	0.10	2.0	2	16	4	11	nw.	R. C. Miles.
Beach	Golden Valley	2,579	13	20.5	+4.0	57	1	20	27	46	0.15	−0.35	0.11	2.0	2	10	14	7	w.	I. H. Claggett.
Berthold Agency‡‡	McLean	2,082	25	17.8^{a}	+2.1	49^{a}	4	−24^{a}	24	42^{a}	0.30	−0.09	0.25	3.0	3	12	9	10	w.	C. L. Hall.
Bismarck	Burleigh	1,674	45	17.8	+2.8	47	3	−20	27	43	0.29	−0.33	0.15	3.2	4	11	7	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	27	10.9	+4.2	39	1	−30	27	49	0.43	−0.07	0.15	......	5	9	7	15	nw.	M. R. Shuler.
Bowbells	Burke	1,958	7	12.1	......	41	28	25	27	64	0.32	......	0.32	......	1	22	0	9	......	G. H. Phelps.
Bowman	Bowman	......	5	21.2	......	55	1	−20	22†	36	0.36	......	0.20	2.2	4	13	8	10	nw.	W. W. Barr.
Cando	Towner	1,488	18	12.6	+5.4	34	1	−18	19	46	0.41	+0.06	0.18	......	7	10	7	14	nw.	A. J. Swanson.
Carson	Grant	2,500	7	18.6	......	54	1	−24	27	40	0.45	......	0.23	2.2	4	17	9	5	nw.	J. W. Evens.
Colgate	Steele	1,177	5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. F. Strong.
Cooperstown	Griggs	1,428	9	......	......	......	......	......	......	......	0.40	−0.02	0.20	3.0	3	6	14	11	nw.	S. Friswold.
Crosby	Divide	1,954	12	16.5	+4.2	44	2	−18	27	33	0.05	−0.53	0.05	0.5	1	9	12	10	nw.	John Jensen.
Devils Lake	Ramsey	1,478	15	11.6	+3.6	36	28	−24	27	41	0.30	−0.09	0.14	3.2	7	11	5	15	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	27	17.9	+0.6	54	1	−23	27	67	0.10	−0.34	0.05	1.0	3	13	10	8	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	20	13.1	+0.9	44	1†	25	27	50	T.	−0.49	T.	T.	0	2	21	8	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	4	19.2	......	51	4	−27	24	40	0.05	......	0.05	1.0	1	14	5	12	nw.	W. H. Moede.
Dunseith	Rolette	1,682	23	11.2	+2.9	38	28	−27	27	54	0.20	−0.21	0.10	2.0	2	9	8	14	n.	J. G. Lamont.
Eckman	Bottineau	......	14	12.4^{a}	+2.8	41^{a}	28	28^{a}	27	49^{a}	0.47	−0.15	0.20	4.0	4	14	8	9	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	18	17.6	+1.1	45	3†	−21	24	55	0.05	−0.36	0.05	......	2	0	17	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	21	18.4	......	47	31	−22	24	49	0.20	−0.48	0.11	1.7	4	6	11	14	nw.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	7	......	......	......	......	......	......	......	0.20	......	0.20	......	1	10	13	8	nw.	N. W. Solenberger.
Epping	Williams	2,224	11	......	......	......	......	......	......	......	0.14	−0.34	0.10	1.0	2	16	10	5	se.	M. E. Uggen.
Fessenden	Wells	1,610	7	10.6	......	40	28	−30	27	57	0.55	......	0.30	2.0	2	17	5	9	nw.	T. D. Monsen.
Fryburg	Billings	2,790	1	......	......	......	......	......	......	......	0.08	......	0.04	1.0	2	18	8	5	nw.	Verne King.
Fullerton	Dickey	1,439	21	18.4	+4.7	46	11	20	24†	52	0.53	−0.33	0.25	4.7	5	7	12	12	nw.	F. O. Alin.
Garrison	McLean	1,901	24	15.6^{a}	+2.0	44^{a}	4	−26^{a}	27	48^{a}	0.27	−0.33	0.20	3.5	3	......	......	......	nw.	G. L. Robinson.
Grafton	Walsh	827	27	13.6	+5.9	35	1†	22	27	37	0.26	−0.29	0.07	4.0	8	11	8	12	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	27	14.0	+3.4	34	3	−24	27	45	0.49	−0.10	0.20	3.5	4	13	3	15	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	12	13.8	+1.4	40	1†	26	27	45	0.26	−0.23	0.21	0.5	2	7	11	13	......	W. A. Christianson.
Hannah	Cavalier	1,568	14	9.2	+2.3	38	1	−27	27	31	1.50	+0.92	0.60	15.0	4	17	7	7	nw.	J. Moffatt.
Hansboro	Towner	1,597	11	11.9^{c}	+4.6	35^{c}	1	−25^{c}	27	48^{c}	0.57	−0.13	0.34	9.0	3	......	......	......	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	11	19.1	+3.3	55	1†	−27	24	51	0.06	−0.34	0.03	......	3	14	8	9	nw.	C. J. Downey.
Hillsboro	Traill	901	13	15.2	+2.6	33	1†	21	27	49	0.45	−0.50	0.20	4.5	4	8	10	13	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	12	15.0	+3.2	41	30	24	26	31	0.11	−0.74	0.05	1.0	3	16	6	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	27	14.2	+0.6	44	11	−21	24	50	0.50	−0.22	0.20	5.0	4	14	5	12	nw.	S. Calvelage.
Lakota	Nelson	1,579	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. R. Pettes.
Lamoine	Kidder	1,936	11	11.0^{c}	−0.2	44^{c}	3	−29^{c}	27	46	0.20	−0.27	0.20	2.0	1	......	......	......	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	23	10.0	+2.7	31	3†	−32	27	35	0.07	−0.69	0.02	......	4	10	8	13	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	24	13.7	+2.9	35	31	−25	27	36	0.42	−0.10	0.12	3.5	6	4	14	13	nw.	Reuben Gray.
Linton	Emmons	1,711	1	19.0	......	55	1	−28	24	47	0.11	......	0.04	1.2	5	9	8	14	nw.	William Malpass.
Lisbon	Ransom	1,091	15	15.4	+1.3	39	4†	−20	23†	32	0.11	−0.37	0.05	1.2	4	8	12	11	nw.	W. S. Adams.
McClusky	Sheridan	1,943	1	......	......	......	......	......	......	......	0.75	......	0.40	7.5	6	......	......	......	......	Edw. Tapley.
McHenry	Foster	1,509	9	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	P. E. Trudeau.
McKinney ‡‡	Renville	1,640	25	13.5	+2.8	44	1	−28	23	45	0.20	−0.22	0.10	2.0	2	5	17	9	nw.	N. P. Swenson.
McLeod	Ransom	1,075	7	18.4	......	45	11	−24	27	49	0.34	......	0.15	......	7	15	2	14	nw.	J. G. Carlson.
Maddock	Benson	1,604	4	11.2	......	37	28†	−29	27	50	0.23	......	0.15	2.3	2	5	10	16	nw.	A. T. Felland.
Mandan	Morton	1,644	5	17.2	......	47	3	−25	24	62	0.13	......	0.06	......	3	......	......	......	......	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	16	10.8	−0.5	38	28	−30	27	50	0.33	−0.44	0.15	2.2	6	11	7	13	nw.	P. B. Anderson.
Marmarth	Slope	......	10	19.3	+1.6	55	1	−22	22	42	0.49	+0.15	0.25	4.2	7	9	11	11	w.	S. P. Grane.
Mayville	Traill	975	23	14.6	+1.5	36	31	26	27	51	0.60	+0.05	0.20	6.0	5	15	2	14	nw.	W. C. Gould.
Melville	Foster	1,590	21	13.8^{d}	+2.0	36^{d}	28	−26^{d}	27	46^{d}	0.10	−0.31	0.10	1.0	1	......	......	......	nw.	J. P. Kidder.
Minot	Ward	1,557	23	12.2	−0.2	43	28	−30	27	51	0.50	+0.05	0.30	2.0	3	11	12	8	nw.	W. I. Faris.
Minto	Walsh	820	26	14.2	+3.3	36	9	−22	27	38	0.24	−0.24	0.06	......	6	11	7	13	n.	C. M. Evans.
Mott	Hettinger	2,424	12	15.6	+1.5	55	28	−27	24	50	0.50	−0.12	0.21	4.0	6	13	7	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	27	16.6	+4.2	49	1†	−27	27	54	0.10	−0.40	0.05	2.0	2	12	3	16	sw.	C. J. Hoof.
New England	Hettinger	2,400	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. C. McKenzie.
New Salem	Morton	2,163	14	19.0	+4.1	59	1	−27	23	48	0.05	−0.45	0.03	0.8	3	17	10	4	nw.	J. Christiansen.
Park River	Walsh	998	15	11.8	+0.7	38	9	−23	27	47	0.33	−0.24	0.12	1.8	3	13	6	12	nw.	C. B. Wright.
Parshall	Mountrail	......	4	......	......	......	......	......	......	......	0.20	......	0.20	2.0	1	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	45	10.4	+4.4	38	1	−20	27	38	0.41	−0.44	0.40	4.0	2	2	18	11	nw.	C. W. Shumaker.
Pettibone	Kidder	1,856	1	13.8	+3.4	48^{a}	3	31	27	50^{a}	0.35	−0.36	0.30	3.5	2	8	11	12	nw.	S. C. Shanks.
Power	Richland	1,020	26	......	......	......	......	......	......	......	0.82	+0.32	0.50	7.5	3	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	4	......	......	......	......	......	......	......	0.10	......	0.10	1.0	1	3	14	11	nw.	C. Frank.
Selfridge	Sioux	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Sigur Robertson.
Skaar	McKenzie	......	......	......	......	......	......	......	......	......	0.13	......	0.08	0.5	4	13	10	8	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	22	20.0	+6.4	47	4	−20	27	49	0.31	−0.21	0.13	2.2	4	15	13	3	nw.	H. S. Wood.
Taylor	Stark	2,493	3	18.9	......	50	1†	−21	27	35	0.03	......	0.01	......	3	12	5	14	nw.	H. Leutz.
Towner	McHenry	1,482	17	10.6	+0.6	39	28	−29	27	51	0.30	−0.11	0.30	3.0	1	10	7	14	nw.	B. Bagley.
Turtle Lake	McLean	1,899	5	14.3	......	41	3	−25	24	47	0.60	......	0.40	5.4	4	5	10	16	nw.	A. T. Anderson.
Valley City	Barnes	1,245	1	13.9	+0.2	40	29	−27	27	56	0.19	−0.32	0.07	2.0	3	12	10	9	nw.	C. F. Schroeder.
Wahpeton	Richland	962	25	19.6	+4.9	42	3†	−20	27	32	0.55	+0.09	0.25	5.5	3	4	11	16	nw.	State School of Science.
Walhalla	Pembina	966	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Ivan Lee.
Westhope	Bottineau	1,508	13	12.5	+3.5	40	28	−27	27	34	0.24	−0.11	0.16	......	2	15	5	11	nw.	W. A. Meddaugh.
Williston	Williams	1,875	40	17.4	+3.8	49	2	−19	27	35	0.13	−0.53	0.10	1.3	4	10	7	14	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	27	8.6	+0.1	37	1	−30	27	46	0.70	+0.19	0.20	7.0	6	11	8	12	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	40	17.4	+6.7	38	12	−18	27	43	0.65	0.09	0.31	5.1	7	7	9	15	nw.	U. S. Weather Bureau.
Averages	......	......	......	15.2	+2.2	59	1	−32	27	67	0.32	−0.22	0.60	3.2	3	11	9	11	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S. D.; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for December, 1920.

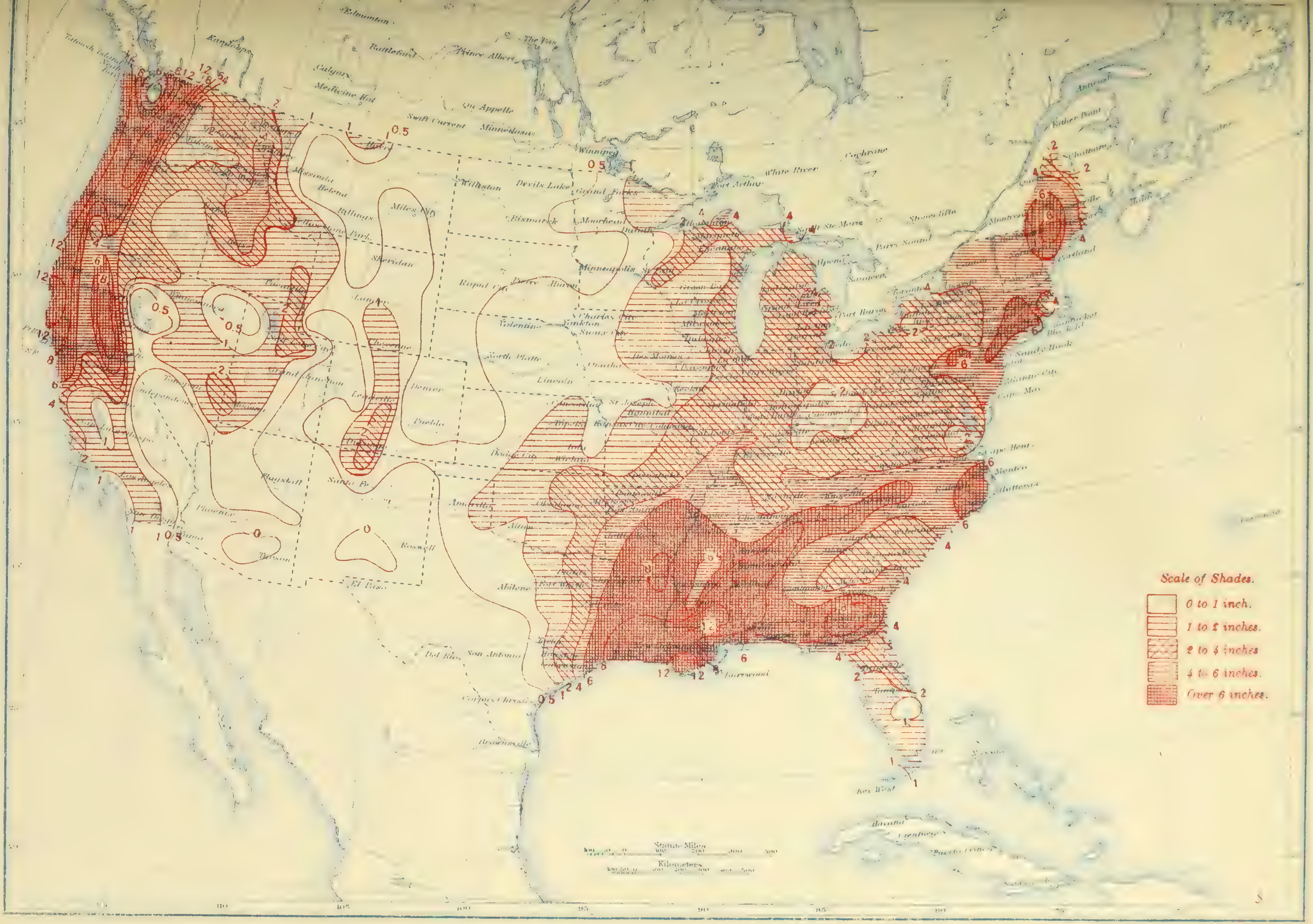
Stations.	Watersheds	Day of Month.																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red									T.				T.	T		T.			.20					T	.10	.40	T			.40	.20	1.30
Amidon	Lit. Missouri												.02		T					T.	.03	T.										.04	0.09
Arnegard	Missouri					T															.30			.05								T	0.35
Ashley	Missouri														T					.10					.16								0.26
Beach	Lit. Missouri										T			T.	T					T.	T		T	T	.01	T						.11	0.15
Berthold Agency	Missouri								.02												.25					T.					.03		0.30
Bismarck ***	Missouri								.01		.02				T		T.	T.			.08	T	T.	T		T						.15	0.26
Bottineau	Mouse									.15		T.	.07		T.						.02								.04			.15	0.43
Bowbells ‖‖	Mouse																															.32	0.32
Bowman	Grand					T			.01				T.		T						.05	.10										.20	0.36
Cando	Sheyenne								.04			.18			.02												.02	.04			.02	.09	0.41
Carson	Heart								.02												.10	.10										.23	0.45
Colgate	Sheyenne																																
Cooperstown	Sheyenne										T.				T	.10					T					.20				T		.10	0.40
Crosby	Mouse												T.		T.							T			T.	.05	T.				T		0.05
Devils Lake ***	Sheyenne		T.						.01		.02	.12			.06			T.			.02			T.		.04			T.		.03	T	0.30
Dickinson ‖‖	Heart									.03			T.		T.						.02	.05	T.	T.		T.	T				T.	T.	0.10
Donnybrook	Mouse																				T					T.							T.
Dunn Center	Knife								T.												.05												0.05
Dunseith	Mouse									.10		.10			T.																T.		0.20
Eckman	Mouse								T.	.10					.20						.10										.07		0.47
Edgeley	James								T.									T.			*	.05											0.05
Ellendale***	James								T.						T.		T.	T.			.06	.05				.03						.06	0.20
Energy	Missouri								.20				T.				T.									T.	T.				T		0.20
Epping	Missouri																				.10										.04		0.14
Fessenden	James								T.			.25			T.			T.		T.	.30			T.									0.55
Fryburg	Lit. Missouri					T.			.04											T.	.04												0.08
Fullerton	James														.03		T.	.03			.25					.16						.06	0.53
Garrison	Missouri								T.	.05							T.				.20					T.						.02	0.27
Grafton	Red											.07										.04	.01			.02		.02	.04	.05	.01		0.26
Grand Forks ***	Red		T.	T.					T.		T.	.10		T.	.07		T.				T.		T.			.12			T.	T.		.20	0.49
Granville	Mouse									T.					T.	T.	.05	T.													.21		0.26
Hannah	Pembina														.50		.10													.30	.60		1.50
Hansboro	Red									.08		.15																				.34	0.57
Hettinger	Grand								.02			.01		T.							.03												0.06
Hillsboro	Red														.05						T.	.10	T.			.20	.10						0.45
Howard	Missouri														T.						.05					.05					T.	.01	0.11
amestown	James																.05				.20					.20	.05						0.50
Lakota	Sheyenne																																
Lamoine	Missouri																T.	T.			.20												0.20
Langdon	Pembina									.02		.02			.01	.02	T.									T						T.	0.07
Larimore	Red											.05			.02						.07					.12	.07					.09	0.42
Linton	Missouri								.01			.02		T.	.02						.02	.04		T.	T.	T.	T.					T.	0.11
Lisbon	Sheyenne														T.	.02								T.	.02			T.		.02	.05	T	0.11
McClusky	Missouri									.10		.05			.05		.10				.40											.05	0.75
McHenry	James																																
McKinney	Mouse								.10								.10								T.								0.20
McLeod	Sheyenne													.02			.03				*	.15	.03			.10						.01	0.34
Maddock	Sheyenne											.08		.15																			0.23
Mandan ‖‖	Missouri									T.		.04			T.						.03	.06	T.										0.13
Manfred	Sheyenne								.05	T.		.05			.02		.01	T.			.05	T.				T.						.15	0.33
Marmarth	Lit. Missouri					T.			.04				.02							T.	*	.25		.01		.01						.16	0.49
Mayville	Red							.10							.10										.10	.20	.10					T.	0.60
Melville	James														T.		T.				.10											T	0.10
Minot	Mouse								.10												.10											.30	0.50
Minto	Red											.06					T.				T.					.05			.04	.03	.04	.02	0.24
Mott	Cannon Ball									.21			.01							.02	.16	.08										.02	0.50
Napoleon	Missouri								T.										T			.05										.05	0.10
New England	Cannon Ball																																
New Salem	Heart								.01						T.											.01						.03	0.05
Park River	Red		T.									.12																			.12	.09	0.33
Parshall	Missouri																			.20													0.20
Pembina ‖‖	Red		.01																												.40		0.41
Pettibone	James								T.			T.			T.	.05					.30											T.	0.35
Power	Missouri															.17					.15											.50	0.82
Powers Lake	Sheyenne																				.10									T.			0.10
elfridge	Missouri																																
kaar	Lit. Missouri					T.														T.	.03		.01			.01				T.	.08	T.	0.13
teele	Missouri									.06	T.	T.								.06	.13					.06						T.	0.31
Taylor	Heart									.01											.01						.01						0.03
Towner	Mouse									.30											T.											T.	0.30
Turtle Lake	Missouri								T.	.05	T.	.10					T				.40		T.									.05	0.60
Valley City	Sheyenne		T.						T.								.10	T.			.02		T.			.07				T.		T.	0.19
Wahpeton ‖‖	Red			T.										.25	.10								.20										0.55
Walhalla	Pembina																																
Westhope	Mouse																														.08	.16	0.24
Williston ***	Missouri										T.					T.				.01	.06	T.	T.		T.	.01	T.				.02		0.13
Willow City	Mouse								.20		T.	T.			.10		.10				T.					T.	T.		.10		.10	.10	0.70
Moorhead, Minn ***	Red		T.						T.			T.		.07	.02		T.	T.			.08		.01			.11	.05			T.		.31	0.65

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1920.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	36	38	38	39	32	24	26	35	33	35	34	35	36	34	32	35	30	27	19	17	14	16	10	13	15	7	11	35	30	32	38	27.6
	Minimum ...	19	23	25	26	24	19	4	7	15	16	19	20	15	10	12	15	13	-7	-6	-9	-11	-12	-20	20	-10	-2	-24	-18	11	19	21	6.3
Arnegard	Maximum...	46	47	46	46	36	38	42	36	32	34	36	35	41	28	35	33	23	10	12	6	2	-4	-4	4	8	....	....	25	37	43	38	[b]28.2
	Minimum ...	22	20	22	23	28	10	26	22	12	19	21	20	12	21	15	20	6	1	-11	10	-2	10	18	-20	-10	....	....	21	15	23	22	[b] 9.5
Ashley	Maximum...	32	46	50	44	43	39	32	32	40	30	45	40	39	30	38	31	25	10	15	10	8	-2	4	5	12	3	3	47	40	35	43	28.0
	Minimum ...	22	18	15	25	22	19	9	22	16	15	21	15	18	19	19	17	5	-7	-12	3	-8	-18	-11	-23	0	-9	-20	-6	15	23	25	8.0
Beach	Maximum...	57	55	50	51	36	40	42	35	48	39	42	42	42	32	39	36	28	17	17	13	1	2	-1	9	16	2	26	49	44	51	43	32.2
	Minimum ...	23	26	24	21	22	8	23	17	14	18	12	16	13	22	16	15	1	-4	-5	-5	-11	15	15	-15	-1	-13	20	14	23	24	24	8.8
Berthold Agency	Maximum...	46	39	45	49	38	39	46	44	32	27	33	38	41	37	38	34	29	14	14	10	4	0	0	2	12	9	10	44	....	42	39	[a]28.5
	Minimum ...	16	24	16	11	23	6	21	24	5	12	9	10	13	25	22	14	7	-8	-16	1	-13	-9	-10	-24	0	-7	-2	2	....	12	25	[a] 7.0
Bismarck	Maximum...	45	30	47	44	38	36	44	33	29	33	39	37	40	30	38	35	20	11	11	11	1	2	2	9	14	4	3	46	47	36	43	27.5
	Minimum ...	22	24	20	15	22	19	18	22	15	15	16	15	15	20	19	19	5	-4	-11	1	-11	-11	-16	-19	-1	-12	-20	3	16	24	17	8.2
Bottineau	Maximum...	39	31	31	30	28	29	33	34	32	20	27	26	24	20	27	28	27	11	0	1	0	9	2	-2	5	-2	10	34	30	30	31	20.2
	Minimum ...	17	18	16	10	20	8	9	21	16	15	17	15	-2	5	8	4	9	-20	-21	-19	-16	-20	-5	-24	-8	14	30	-15	10	11	16	1.6
Bowbells §§	Maximum...	38	31	32	40	36	36	32	24	21	27	31	31	39	23	36	26	6	11	4	3	0	1	1	1	3	-3	39	41	30	36	33	22.9
	Minimum ...	18	18	16	11	13	6	7	16	13	11	11	12	2	5	12	16	-4	-15	-20	15	-13	-16	-11	-21	-20	-12	-25	-22	18	10	18	1.3
Bowman	Maximum...	55	52	46	54	41	37	40	36	42	37	44	38	43	35	40	36	28	17	14	13	8	0	-3	6	16	8	16	45	44	49	43	31.6
	Minimum ...	28	22	25	23	26	15	22	19	15	17	19	21	11	26	21	21	13	5	-3	7	-10	-20	-13	-20	-1	-9	-18	9	20	20	28	10.9
Cando	Maximum...	34	31	32	32	29	29	29	30	30	22	26	27	24	23	27	28	25	10	3	4	6	3	5	0	7	4	1	32	30	30	33	20.8
	Minimum ...	18	13	17	17	23	4	-3	23	14	17	19	21	9	4	14	10	3	2	-18	-15	-9	-8	2	-17	16	16	-17	-14	12	12	18	4.4
Carson	Maximum...	54	48	45	38	40	38	44	35	35	36	45	36	38	30	38	32	25	10	20	20	10	10	0	4	5	0	10	45	47	40	40	29.6
	Minimum ...	22	22	25	20	15	10	20	21	12	13	20	15	12	19	18	8	2	-12	-11	0	-10	-9	-11	19	-4	-12	-24	5	22	25	20	7.5
Colgate	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Crosby	Maximum...	36	44	38	40	36	34	40	34	28	30	33	31	35	32	34	32	22	13	4	4	1	2	2	11	8	-3	8	41	30	36	37	24.9
	Minimum ...	22	24	21	20	24	11	25	23	18	13	17	12	9	16	17	11	3	-5	-13	3	-8	-5	-10	-15	-5	11	-18	8	20	17	12	8.1
Devils Lake	Maximum...	28	31	30	28	29	25	28	31	25	23	27	28	22	21	27	28	19	2	1	2	-2	2	2	-1	9	-2	-5	36	33	29	35	19.0
	Minimum ...	15	18	16	24	24	6	5	25	14	16	21	13	3	13	13	11	5	-15	-15	15	16	9	-13	-13	-4	17	-24	-5	15	12	13	4.1
Dickinson §§	Maximum...	54	51	45	51	36	39	42	35	39	32	38	39	40	37	37	35	22	14	15	9	-4	5	7	11	11	-2	36	49	45	46	39	30.0
	Minimum ...	18	18	22	20	21	6	8	9	9	15	15	15	13	19	22	12	2	-7	-11	-4	-8	-9	-15	-19	-6	-8	-23	-18	15	24	25	5.8
Donnybrook	Maximum...	44	24	22	11	20	30	34	44	30	21	25	35	32	32	35	30	20	10	4	3	0	-2	0	0	-3	0	5	44	33	32	40	21.3
	Minimum ...	22	18	10	10	10	5	18	20	17	13	13	12	5	20	20	18	4	8	-21	-12	8	-12	-6	-22	3	-10	-25	6	18	19	11	4.9
Dunn Center	Maximum...	48	45	46	51	45	36	44	40	29	26	35	38	42	37	38	37	26	12	11	15	4	1	2	13	11	3	11	46	43	40	44	29.6
	Minimum ...	17	20	20	19	25	5	25	23	13	5	15	15	15	26	21	26	7	-10	16	2	-6	-10	-10	-27	0	-8	-23	10	18	22	31	8.7
Dunseith	Maximum...	29	29	29	29	27	27	25	28	28	19	22	24	25	19	26	26	20	7	1	10	1	2	3	-3	2	-2	9	38	36	27	32	19.0
	Minimum ...	19	15	11	21	19	10	8	21	15	14	16	14	10	14	19	12	6	-18	-14	-16	-16	20	5	-20	9	-13	-27	-16	10	10	15	3.4
Edgeley	Maximum...	42	31	45	27	32	31	30	31	36	26	43	37	40	38	32	37	33	12	10	11	10	1	4	2	15	12	2	44	39	42	35	27.1
	Minimum ...	17	21	12	16	21	21	12	22	19	17	27	12	16	22	19	18	11	-8	12	-5	-9	-12	8	-21	-1	-4	-20	11	15	21	22	8.1
Ellendale	Maximum...	41	32	46	28	32	32	31	35	38	36	47	37	11	23	38	33	21	10	11	12	7	0	5	6	16	6	1	44	38	39	47	27.2
	Minimum ...	20	24	20	23	22	13	7	25	18	19	22	16	19	22	21	19	5	-5	11	5	-6	8	-9	-22	6	-4	-18	-5	16	23	19	9.5
Fessenden	Maximum...	35	30	30	27	31	29	35	32	30	22	34	26	33	23	33	26	20	1	3	5	2	-2	3	2	9	-2	-9	40	37	27	37	20.9
	Minimum ...	14	14	12	9	15	2	15	25	5	13	16	4	3	14	14	14	1	-18	-23	-14	21	-23	-21	-17	-25	-27	-30	-17	23	11	23	0.4
Fullerton	Maximum...	39	33	44	29	32	31	31	32	35	28	46	37	40	32	37	33	29	17	9	12	8	5	5	6	18	15	2	44	40	33	45	27.3
	Minimum ...	27	22	19	23	22	15	8	20	17	19	22	21	16	22	17	17	15	-8	12	-3	-4	-10	-10	20	2	-3	-20	-8	23	23	19	9.4
Garrison	Maximum...	42	30	42	44	40	31	43	38	30	25	37	33	36	....	36	31	27	18	12	12	8	1	0	2	10	8	2	43	38	36	37	[a]26.4
	Minimum ...	20	23	16	14	20	18	17	16	16	13	12	13	8	....	18	15	4	10	20	-5	-16	-16	-17	25	-12	-8	-26	-5	12	19	26	[a] 4.7
Grafton	Maximum...	35	31	35	35	32	31	30	29	32	22	30	27	26	25	25	27	26	7	9	5	4	5	1	0	10	10	6	23	25	24	35	21.4
	Minimum ...	19	19	25	27	26	14	2	23	19	15	18	6	12	-3	20	15	5	-8	-10	13	10	5	-3	-16	-7	7	-22	-14	10	8	19	5.9
Grand Forks	Maximum...	29	32	34	32	32	32	31	33	33	23	32	30	27	25	28	28	20	2	8	5	6	5	5	1	13	10	-10	27	30	31	33	21.5
	Minimum ...	23	25	22	30	27	8	8	21	18	18	20	25	12	10	12	16	-2	-7	-8	11	-8	-4	-9	-14	-6	10	-24	-18	8	7	15	6.6
Granville	Maximum...	40	30	30	30	35	30	35	33	25	20	30	30	38	30	28	28	20	10	10	10	0	5	0	5	7	0	0	40	33	40	38	22.9
	Minimum ...	17	20	15	15	20	10	18	20	18	8	15	20	5	18	14	12	5	-10	-20	-15	-18	-12	-18	-25	-15	-16	-25	-5	20	33	15	4.6
Hannah	Maximum...	28	25	27	24	20	18	25	31	28	29	26	22	20	23	20	19	14	8	7	3	4	5	4	16	18	5	4	7	12	28	38	17.9
	Minimum ...	10	11	9	10	7	2	1	12	10	11	9	8	1	5	8	4	5	-15	-8	-18	-9	-3	2	-10	-12	-21	-27	-18	7	10	20	0.6
Hansboro	Maximum...	35	32	32	31	31	28	30	30	....	30	23	....	23	23	28	28	23	4	6	4	2	4	2	-3	....	2	-2	33	34	23	33	20.2
	Minimum ...	18	13	13	27	23	8	15	23	....	15	11	....	4	20	10	13	4	-10	-14	-15	13	-13	-11	-20	....	-17	-25	-15	15	8	16	[c] 3.2
Hettinger	Maximum...	55	52	55	53	40	39	45	39	39	31	40	40	41	33	40	36	26	16	24	18	8	11	-2	-5	17	-4	17	46	47	49	43	31.9
	Minimum ...	20	20	20	23	21	12	22	18	4	7	15	14	12	27	23	14	2	4	11	-5	11	-12	-18	-27	-25	-10	-23	-5	14	13	16	6.3
Hillsboro	Maximum...	33	31	32	32	31	31	30	29	31	24	32	31	27	23	27	27	26	9	10	6	6	5	6	1	12	11	-5	30	29	28	33	21.9
	Minimum ...	22	24	25	29	27	19	7	23	19	19	23	20	19	9	16	14	7	-5	-6	-8	7	-4	-4	-17	-6	5	-21	-19	9	14	21	8.5
Howard	Maximum...	37	37	38	37	36	34	32	31	33	32	31	31	32	35	35	34	21	10	10	6	-3	3	-3	1	4	-4	10	40	33	41	40	24.1
	Minimum ...	17	20	21	26	20	19	17	17	18	17	9	15	19	5	5	16	0	-6	-12	15	10	-11	-16	-20	-4	-24	-21	9	18	18	20	6.0
Jamestown	Maximum...	35	31	37	27	34	29	30	30	31	24	44	29	31	31	39	29	24	9	8	5	-2	1	3	1	12	8	2	40	38	27	39	23.0
	Minimum ...	24	22	20	22	24	17	6	15	17	6	19	5	6	8	9	8	-4	-7	-10	-9	-12	-8	-9	-21	-2	5	-20	-10	10	20	22	5.3
Larimore	Maximum...	33	30	33	33	33	30	30	28	33	25	33	25	26	25	25	27	12	4	8	7	4	5	5	6	12	10	8	28	29	31	35	21.7
	Minimum ...	21	25	27	29	27	13	0	15	11	18	16	22	12	7	15	10	0	-10	-11	-13	-10	-10	-5	-17	-9	-5	-25	-8	5	10	15	5.7
Langdon	Maximum...	27	29	31	31	28	22	26	30	22	21	24	26	21	21	24	26	20	12	12	4	-2	3	1	1	1	2	-7	28	28	30	31	18.5
	Minimum ...	20	10	20	21	22	3	2	21	19	10	15	10	3	2	10	5	0	-16	-15	-20	-15	-10	7	-20	-11	-20	-32	-7	8	4	20	1.5
Lamoine	Maximum...	....	....	44	40	33	36	40	....	....	28	30	33	28	22	32	26	22	6	7	5	2	-5	-3	0	4	2	3	38	38	33	...	[c]20.8
	Minimum ...	....	....	20	15	20	11	6	....	....	15	10	13	15	18	15	13	0	-15	-20	15	-10	-22	-16	25	-16	-8	-29	-8	25	20	...	[c] 1.2
Lisbon	Maximum...	38	38	36	39	39	36	30	32	34	36	36	34	30	22	26	18	14	6	10	16	12	6	0	2	8	4	6	18	32	38	38	23.7
	Minimum ...	24	28	25	28	26	22	12	14	27	25	24	20	18	12	17	9	0	-12	-15	-16	10	-14	-20	-16	-14	-17	-20	-12	18	17	19	7.1
McHenry	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
McKinney	Maximum...	44	32	30	30	28	35	35	35	32	25	30	33	40	34	32	32	25	20	10	5	0	5	-1	5	1	1	4	10	35	32	32	23.9
	Minimum ...	12	15	16	8	....	13	12	14	16	16	18	18	1	18	18	17	3	17	-26	20	-11	-9	-28	-5	9	-9	-26	-5	25	12	10	[a] 3.1
Maddock	Maximum...	34	30	30	29	28	28	30	30	31	21	30	30	30	22	29	29	35	25	0	3	3	-3	1	-2	8	5	-4	37	37	28	35	21.6
	Minimum ...	11	14	15	20	20	1	-5	20	14	15	19	5	0	13	14	5	5	-21	-21	17	-22	-22	-6	-24	6	-19	-29	-13	2	17	17	0.7
Marmarth	Maximum...	55	50	44	52	37	36	38	34	40	38	44	35	42	32	38	27	24	15	15	12	2	-2	-3	9	13	5	21	42	43	45	40	24.8
	Minimum ...	20	25	25	22	18	11	22	19	15	18	18	20	16	20	21	11	4	4	3	2	-8	-22	-16	-20	20	13	-21	18	20	21	20	8.8
Minot	Maximum...	42	30	41	28	35	37	41	37	35	24	35	35	38	31	37	30	22	11	5	2	1	-2	1	5	5	1	2	43	36	35	40	24.6
	Minimum ...	17	13	15	3	18	0	12	22	7	10	12	8	-5	15	13	11	-1	-16	-27	17	-22	-20	23	-27	-10	11	-30	-8	11	16	8	0.2
Mott	Maximum...	42	43	40	44	35	36	37	32	23	29	33	28	27	23	27	25	25	23	20	13	2	-5	5	8	15	2	8	55	52	45	36	26.3
	Minimum ...	24	26	21	24	20	18	16	15	5	8	10	8	6	0	10	4	-5	1	14	2	-8	-14	-17	-27	-3	-8	-25	5	16	22	14	4.9
Napoleon	Maximum...	49	34	45	49	49	37	47	32	33	35	45	34	39	34	37	32	28	10	14	10	10	-3	0	6	12	13	0	44	41	34	42	28.8
	Minimum ...	18	22	15	11	13	17	7	24	13	14	16	10	8	20	15	13	7	15	-20	-3	-13	-20	16	-25	-3	-9	-27	-10	13	20	24	4.5
New Salem	Maximum...	59	41	49	48	40	36	38	42	32	31	42	36	38	30	39	28	24	17	13	15	13	6	-4	14	13	6	10	45	48	46	47	30.4
	Minimum ...	22	20	22	10	13	13	17	23	10	13	21	20	22	18	19	12	8	-8	-12	-13	-8	-14	-27	-5	-4	10	-24	-3	30	26	22	7.5
Pembina §§	Maximum...	38	32	28	24	30	32	31	22	24	34	32	24	22	28	20	10	12	5	0	10	18	20	22	10	-5	-8	-8	28	18	22	12	19.5
	Minimum ...	16	18	12	10	5	8	10	8	5	10	12	10	5	8	10	5	0	-8	-12	-12	-8	-5	-10	-8	-12	-18	-20	10	8	0	5	1.4
Steele	Maximum...	43	44	43	47	43	41	43	41	41	36	42	44	40	36	39	34	32	20	15	10	8	15	4	12	10	15	15	46	37	40	42	31.5
	Minimum ...	20	24	30	32	28	12	19	28	19	14	23	18	12	14	12	15	8	6	-14	12	-10	-10	-10	-6	-10	-8	-20	-3	18	12	14	8.4
Towner	Maximum...	35	29	30	22	30	30	34	34	30	28	22	25	25	25	30	28	20	9	4	10	0	0	1	0	5	3	-5	39	34	34	34	20.8
	Minimum ...	12	12	10	3	18	3	5	12	15	15	5	15	-3	15	5	5	8	-13	-22	-18	-20	-25	-12	-18	-15	-12	-29	12	14	17	19	0.3
Valley City	Maximum...	36	31	30	31	32	33	30	31	31	24	33	30	22	27	30	27	23	8	4	9	5	0	4	1	13	11	-6	37	40	30	37	22.1
	Minimum ...	14	23	24	25	25	21	6	20	16	11	11	10	12	11	14	16	6	12	-11	-10	-6	-8	-8	-23	5	-8	-27	-19	13	16	21	5.7
Wahpeton §§	Maximum...	39	34	42	33	33	34	34	33	37	35	42	40	34	25	31	28	17	10	12	14	8	7	6	5	11	14	12	32	40	32	44	26.4
	Minimum ...	23	23	30	29	30	27	12	22	23	20	26	25	22	8	18	14	16	5	7	-5	3	1	0	-2	1	2	-20	12	12	19	26	12.9
Westhope	Maximum...	38	28	32	26	28	28	27	38	36	30	33	32	26	26	32	29	29	19	11	4	....	3	4	-1	3	0	-2	40	35	31	32	[a]22.5
	Minimum ...	15	16	13	13	10	4	4	23	20	18	24	15	....	15	15	9	1	11	-23	-18	-22	-19	-23	-25	-5	-17	-27	-6	15	12	11	[a] 2.5
Williston	Maximum...	44	49	42	45	39	38	44	34	23	33	34	36	40	28	34	33	19	11	10	6	2	2	-2	7	8	2	16	42	38	40	40	27.7
	Minimum ...	19	28	26	21	20	10	28	15	13	13	18	16	14	21	19	13	2	-6	-12	-10	-7	-10	-16	-17	-3	16	-19	16	15	24	17	8.1
Moorhead, Minn'.	Maximum...	29	34	38	33	32	31	32	34	33	30	35	38	29	25	31	29	24	7	12	12	7	7	6	4	14	13	5	35	30	32	38	24.1
	Minimum ...	27	28	28	30	28	14	11	24	21	21	24	21	13	11	19	19	4	-4	-4	-5	-1	1	-8	16	1	-14	-18	8	17	19	21	10.5

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.



Scale of Shades.
0 to 1 inch.
1 to 2 inches.
2 to 4 inches.
4 to 6 inches.
Over 6 inches.
Statute Miles
Kilometers
Edmonton
Battleford
Prince Albert
Calgary
Medicine Hat
Swift Current
Winnipeg
White River
Cochrane
Port Arthur
Sault Ste Marie
Parry Sound
Montreal
Portland
Nantucket
Sandy Hook
Atlantic City
Cape May
Cape Henry
Hatteras
Key West
Havana
Helena
Billings
Miles City
Sheridan
Williston
Devils Lake
Grand Forks
Bismarck
Moorhead
Duluth
Minneapolis
Rapid City
Pierre
Huron
Yankton
Sioux City
Valentine
North Platte
Lincoln
Omaha
Des Moines
St Joseph
Kansas City
Denver
Pueblo
Dodge City
Wichita
Amarillo
Abilene
Fort Worth
San Antonio
Del Rio
Corpus Christi
Brownsville
El Paso
Roswell
Santa Fe
Flagstaff
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APR 2

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXIX. BISMARCK, N. D., ANNUAL, 1920. No. 13

GENERAL SUMMARY.

While the temperature for the year was quite uniform, and nearly the normal in all sections, there was a divergence in precipitation, causing the results in crop production to range from poor in the western and central portions to good in the eastern portion. The year opened with unseasonably cold weather and heavy snowfall, and was followed in February and March with milder temperature and nearly normal precipitation. April opened cold, records for low April temperatures being broken in many parts of the State. Farm and other outdoor work progressed rapidly under favorable circumstances during May, and also continued during June. High temperatures and somewhat deficient precipitation during July resulted in deterioration to crops in the central and western parts of the State, while rust damaged crops in the eastern part. August was nearly a continuation of July conditions, and crops were seriously damaged by drought in the western half of the State. The weather during the remaining months was generally favorable for the harvesting and threshing of crops, but mostly too dry for fall plowing, of which less than the usual amount was done.

The mean annual temperature was 39.5°, or 0.7° above the normal, and 0.9° higher than the mean for 1919. The highest mean annual temperature reported was 42.3° at Hettinger, Adams County; the lowest was 35.8° at Willow City, Bottineau County. The highest temperature reported was 108° at Arnegard, McKenzie County, on August 17th; the lowest was -44° at Berthold Agency, McLean County, on January 24th. The temperature averaged above the normal during eight months, and below four months. During the past twenty-nine years there have been ten warmer years, seventeen colder years, and one year with the same mean annual temperature. The highest mean annual temperature recorded was 41.0° in 1900 and 1910; the lowest was 35.8° in 1893. The highest temperature recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was -56° at Goodall, McKenzie County, on January 12, 1916.

The average precipitation for the State was 15.34 inches, or 2.60 inches below the normal, and 0.42 inch lower than the average for 1919. The greatest annual precipitation reported was 23.78 inches at Fullerton, Dickey County; the least was 9.88 inches at Dunseith, Rolette County. The greatest monthly amount reported was 7.42 inches at Epping, Williams County, in June; there was none in January at Hettinger, Adams County; April at Parshall, Mountrail County, and in October at Lamoine, Kidder County, Maddock, Benson County, and Parshall, Mountrail County. The precipitation averaged above the normal during three months, and below nine months. During the past 29 years there have been 23 wetter and but 5 drier years. The heaviest annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.92 inches in 1917. The average snowfall for the State was 27.9 inches. The average number of days with 0.01 inch or more of precipitation was 64. There were 166 clear days, 108 partly cloudy, and 92 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—The weather during the month was unfavorable from the standpoint of outdoor work, rail and wagon traffic, and for livestock. During the 29 years since the establishment of the climatological service in North Dakota, the mean temperature for January was lower but nine times, and the average precipitation was exceeded but three times. Owing to the scarcity of feed in the central and western parts of the State, livestock suffered to a considerable extent, and some losses resulted.

FEBRUARY.—Favorable weather conditions prevailed. The temperature was above the normal during practically the entire month. A severe cold wave occurred on the 14th, but the recovery to normal temperature was rapid. The monthly means averaged about 8° above normal in the western half of the State, but the excess decreased to less than 1° at some extreme eastern stations. The precipitation, which was practically all in the form of snow, was generally light in amount. The mild weather in the western portion of the State was favorable for range stock, but the snow interfered considerably with grazing over northern sections.

MARCH.—With the exception of the storm of the 14th to 16th, inclusive, the weather was generally pleasant and uneventful. Low temperature prevailed during the first week, but readings below zero were not generally recorded thereafter. The precipitation averaged near the normal, but the distribution was uneven, the greater portion occurring on the 15th and 16th. The storm of the 14th to 16th, inclusive, was one of the worst blizzards of record in the State, and resulted in heavy loss of human lives and of livestock, most of which occurred in the western portion of the section.

APRIL.—The month opened with a cold wave, and the temperature dropped to zero or below at most stations from the 2d to the 6th, inclusive, establishing new low records for April at many stations. After the first week there was considerable moderation, but the temperature remained below normal throughout the month. The day temperatures were uniformly low, as shown by the fact that the highest temperature reported was but 63°. The precipitation during two decades was scant. From the 20th to the 25th precipitation was general over the State, and the bulk of the precipitation for the month occurred between these dates. Farm work was delayed by frozen and wet fields, pastures were slow in starting, and livestock suffered for lack of forage.

MAY.—The weather was generally pleasant and favorable for outdoor work, and farm work advanced rapidly. The temperature averaged slightly above the normal and was very uniform throughout the month. Freezing temperatures were not generally recorded after the 1st, and at seven stations the freezing point was not reached. The day temperatures were also moderate. The precipitation was generally below the normal, but well distributed throughout the month in the form of light showers. Spring grain seeding, which was greatly delayed by inclement weather during April, made rapid advancement. Pastures and ranges were in good condition at the close of the month, and livestock showed marked improvement.

JUNE.—Nearly normal weather prevailed throughout the month, and as a result of these favorable conditions crops and other vegetation made excellent growth generally. Scattered frosts occurred during the first few days, but no damage was reported. The precipitation averaged slightly above the normal

[Concluded on page 101.]

Climatological Data for the Year 1920.

Stations.	Counties.	Temperature (degrees Fahrenheit).							Precipitation (inches).								Sky.			
		Elevation, feet.	Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	Prevailing direction of wind.
Amenia	Cass	954	25	40.2	100	Aug. 9	−32	Jan. 24	25	15.92	3.77	June	0.20	Mar.	34.7	59	201	105	60	n.
Arnegard	McKenzie	......	2	40.1	108	Aug. 17	−24	Feb. 14	2	15.14	3.41	June	0.24	Nov.	36.5	68	187	87	92	nw.
Ashley	McIntosh	2,001	24	40.8	96	July 22	−30	Jan. 24	24	18.00	6.56	June	0.15	Oct.	23.0	49	......	......	......	nw.
Beach	Golden Valley	2,759	15	......	102	July 27†	......	......	15	11.50	1.98	Mar.	0.14	Nov.	41.2	......	......	......	......	w.
Berthold Agency	McLean	2,082	27	41.5	103	Aug. 17	−44	Jan. 21	27	15.00	4.13	June	0.12	Nov.	32.0	68	212	81	73	se.
Bismarck	Burleigh	1,674	46	42.0	102	July 22	−32	Jan. 21	46	11.15	2.72	July	0.20	Feb.	24.0	73	133	117	116	nw.
Bottineau	Bottineau	1,638	29	37.5	101	Aug. 17	41	Jan. 24	29	16.11	4.83	Aug.	0.26	Nov.	......	87	......	......	......	nw.
Bowbells	Burke	1,958	9	36.5	97	Aug. 14†	−40	Jan. 24	9	15.24	2.93	June	T.	Nov.	......	58	......	......	......	......
Bowman	Bowman	......	6	......	98	Aug. 17	−31	Jan. 24	6	......	2.61	June	......	......	......	......	......	......	......	nw.
Cando	Towner	1,488	18	38.0	97	Aug. 9	−34	Jan. 24	20	13.88	3.34	June	0.15	Oct.	......	62	......	......	......	nw.
Carson	Grant	2,500	9	39.8	96	June 8†	−35	Jan. 24	9	11.77	3.05	June	0.06	Feb.	20.0	60	176	122	68	nw.
Colgate	Steele	1,177	6	......	100	Aug. 9	......	......	7	......	3.94	June	......	......	......	......	......	......	......	......
Cooperstown	Griggs	1,428	......	......	......	......	......	......	6	17.00	4.05	June	T.	Feb.†	20.0	43	......	......	......	nw.
Crosby	Divide	1,954	13	38.9	99	Aug. 17	38	Jan. 24	13	11.88	2.88	June	0.05	Dec.	19.5	66	148	127	91	nw.
Devils Lake	Ramsey	1,478	16	38.0	96	Aug. 9	−32	Jan. 24	16	19.03	5.34	Sept.	0.12	Feb.	25.6	79	152	93	121	nw.
Dickinson	Stark	2,543	29	40.8	101	Aug. 17	−34	Jan. 24	29	15.81	4.32	June	0.05	Feb.	......	74	150	120	96	nw.
Donnybrook	Ward	1,760	17	40.4	105	Aug. 24	−35	Jan. 24	22	13.58	4.83	June	T.	Feb.†	21.5	50	......	......	......	nw.
Dunn Center	Dunn	2,191	2	41.1	99	Aug. 17	−41	Jan. 24	3	15.03	4.74	June	T.	Nov.	22.5	47	......	......	......	nw.
Dunseith	Rolette	1,682	25	36.9	97	Aug. 17	−32	Jan. 24	25	9.88	4.05	June	0.06	Mar.	12.0	56	......	......	......	nw.
Eckman	Bottineau	......	15	37.3	98	Aug. 25	−39	Jan. 24	15	14.84	3.17	July	0.20	Feb.	......	67	175	99	92	nw.
Edgeley	LaMoure	1,468	20	40.7	97	Aug. 9	−31	Jan. 24	20	14.36	3.65	June	0.02	Feb.	......	67	......	......	......	nw.
Ellendale	Dickey	1,449	3	40.9	98	July 22	27	Jan. 24	3	16.76	3.45	June	0.20	Dec.	20.9	100	86	127	153	nw.
Energy	McLean	1,750	......	......	......	......	......	......	8	12.23	3.89	June	0.04	Feb.	......	63	......	......	......	nw.
Epping	Williams	2,224	......	......	......	......	......	......	13	18.92	7.42	June	0.07	Nov.	26.5	55	178	137	66	w.
Fessenden	Wells	1,610	9	38.0	100	Aug. 9†	−36	Jan. 24	9	13.52	3.02	June	T.	Oct.	25.5	59	198	88	80	nw.
Fryburg	Billings	2,790	......	......	......	......	......	......	2	12.31	2.40	June	0.08	Dec.	21.5	60	208	103	55	nw.
Fullerton	Dickey	1,439	23	41.8	95	July 22	−29	Jan. 24	23	23.78	4.89	July	0.07	Feb.	22.7	65	138	120	108	nw.
Garrison	McLean	1,901	26	39.6	99	Aug. 17	37	Jan. 24	26	15.11	5.41	June	0.04	Oct.	28.5	59	......	......	......	nw.
Grafton	Walsh	827	29	38.9	100	Aug. 9	−34	Jan. 27	29	16.50	4.15	Sept.	0.26	Dec.	34.8	71	......	......	......	nw.
Grand Forks	Grand Forks	830	29	38.5	99	Aug. 9	−32	Jan. 24	29	12.93	3.10	Sept.	0.24	Aug.	22.7	81	182	75	109	nw.
Granville	McHenry	1,504	14	38.8	100	Aug. 17	−33	Jan. 24	14	14.29	2.62	June	0.26	Dec.	41.0	66	......	......	......	nw.
Hannah	Cavalier	1,568	14	......	97	Aug. 17	−39	Jan. 23	14	16.71	3.71	June	0.36	Apr.	57.5	56	......	......	......	nw.
Hansboro	Towner	1,597	13	36.7	98	Aug. 17	−38	Jan. 24	13	17.20	5.76	June	0.36	Nov.	......	51	......	......	......	nw.
Hettinger	Adams	2,253	13	42.3	102	July 22	−32	Jan. 25	13	14.19	3.57	June	0.00	Jan.	......	55	228	64	74	nw.
Hillsboro	Traill	901	15	39.6	98	Aug. 9	−28	Jan. 25	15	16.05	3.78	June	0.30	Mar.	24.5	68	130	166	70	nw.
Howard	Williams	2,275	12	39.3	101	Aug. 17	−39	Jan. 24	12	13.96	2.46	Sept.	0.11	Dec.	44.0	48	155	122	89	nw.
Jamestown	Stutsman	1,390	29	41.1	98	Aug. 9	−29	Feb. 14	29	16.83	3.74	Sept.	T.	Mar.†	16.5	61	181	32	153	nw.
Lamoine	Kidder	1,936	13	38.3	98	Aug. 17	−37	Jan. 24	13	13.36	4.06	June	0.00	Oct.	26.0	32	......	......	......	nw.
Langdon	Cavalier	1,615	25	35.9	98	Aug. 9	−40	Jan. 23	25	12.60	2.70	Sept.	0.07	Dec.	......	58	......	......	......	nw.
Larimore	Grand Forks	1,134	26	39.0	101	Aug. 9	−30	Jan. 24†	26	19.79	7.38	Sept.	0.05	Mar.	......	71	147	102	117	s.
Linton	Emmons	1,711	2	......	101	July 22	−32	Jan. 21†	2	......	......	......	0.09	Oct.	......	......	......	......	......	......
Lisbon	Ransom	1,091	17	40.8	98	Aug. 9	−26	Jan. 24	17	20.77	4.89	June	T.	Feb.	13.6	63	175	82	109	nw.
McClusky	Sheridan	1,943	......	......	......	......	......	......	3	14.22	4.34	June	0.30	Oct.	33.0	65	......	......	......	......
McHenry	Foster	1,509	11	......	99	Aug. 9	−36	Jan. 24	11	......	2.86	July	......	......	......	......	......	......	......	nw.
McKinney	Renville	1,640	27	37.5	96	Aug. 17	−39	Jan. 27	27	10.94	3.31	June	T.	Feb.†	15.5	41	......	......	......	nw.
McLeod	Ransom	1,075	8	41.6	96	Aug. 9	−26	Jan. 24	9	20.96	5.23	Sept.	0.32	Mar.	......	93	210	51	105	se.
Maddock	Benson	1,604	6	38.5	98	Aug. 17	−36	Jan. 24	6	13.49	3.70	Aug.	0.00	Oct.	......	50	100	165	101	nw.
Mandan	Morton	1,644	7	41.9	103	July 22	−32	Jan. 24	8	11.94	2.68	July	0.09	Feb.	......	67	......	......	......	......
Manfred	Wells	1,605	18	38.1	97	Aug. 17	−37	Jan. 24	18	14.73	3.45	Aug.	0.04	Oct.	21.4	77	171	108	87	nw.
Marmarth	Slope	......	8	41.6	101	July 21	−27	Jan. 24	12	12.73	1.79	June	0.46	Nov.	49.1	104	......	......	......	w.
Mayville	Traill	975	25	38.1	99	Aug. 9	−32	Jan. 24	25	14.74	3.65	Sept.	0.25	Apr.	......	57	226	34	166	......
Melville	Foster	1,590	23	38.8	99	Aug. 9	−30	Jan. 24	23	14.91	4.04	June	T.	Oct.	13.5	35	......	......	......	nw.
Minot	Ward	1,557	22	37.0	101	Aug. 17	−42	Jan. 24	25	13.76	3.81	June	0.18	Nov.	......	66	......	......	......	w.
Minto	Walsh	820	28	......	100	Aug. 9	......	......	28	......	4.14	Sept.	......	......	......	......	......	......	......	......
Mott	Hettinger	2,424	14	41.0	100	July 22†	−35	Jan. 24	14	18.22	4.09	June	0.28	Nov.	35.2	88	145	104	117	nw.
Napoleon	Logan	1.955	29	40.2	98	Aug. 9	−38	Jan. 24	29	14.37	4.41	July	0.05	Nov.	19.5	67	176	62	128	s.
New England	Hettinger	2,400	27	......	......	......	−33	Jan. 23	27	......	......	......	......	......	......	......	......	......	......	......
New Salem	Morton	2,163	16	41.3	101	Aug. 18	−33	Jan. 24	16	12.02	3.97	June	0.04	Nov.	23.3	51	175	123	68	nw.
Park River	Walsh	998	17	......	98	Aug. 9	−30	Jan. 23	17	......	3.64	Sept.	......	......	......	......	......	......	......	nw.
Parshall	Mountrail	......	......	......	......	......	......	......	5	12.42	6.62	June	0.00	Apr.†	14.0	33	......	......	......	......
Pembina	Pembina	789	41	......	98	Aug. 7†	42	Jan. 23	47	16.65	4.14	Sept.	0.10	Apr.	63.0	63	......	......	......	nw.
Pettibone	Kidder	1,856	2	......	96	Aug. 17	−39	Jan. 24	2	19.47	4.95	June	0.02	Oct.	26.5	61	......	......	......	nw.
Power	Richland	1,020	......	......	......	......	......	......	27	20.93	4.77	June	0.37	Nov.	35.8	71	......	......	......	......
Powers Lake	Burke	2,205	......	......	......	......	......	......	6	11.23	2.00	Sept.	0.10	Nov.†	31.0	57	114	129	123	nw.
Selfridge	Sioux	......	......	......	......	......	......	......	2	......	3.92	June	......	......	......	......	......	......	......	......
Steele	Kidder	1.857	24	41.4	95	Aug. 17	−38	Jan. 24	25	19.00	4.92	June	0.26	Feb.	31.2	70	192	133	41	w.
Taylor	Stark	2,493	5	41.1	100	Aug. 17	−33	Jan. 24	5	13.27	2.95	July	0.03	Dec.	......	78	......	......	......	nw.
Towner	McHenry	1,482	19	38.3	97	Aug. 9	−39	Jan. 24	19	11.47	3.12	Aug.	0.03	Oct.	27.0	41	190	99	77	nw.
Turtle Lake	McLean	1,899	6	39.5	99	Aug. 17	−36	Jan. 24	6	13.69	2.99	June	0.33	Feb.	27.7	75	108	97	161	s.
Valley City	Barnes	1,245	2	39.5	98	Aug. 9	−32	Jan. 23	2	17.51	4.52	June	0.10	Mar.	30.2	63	211	75	80	nw.
Wahpeton	Richland	962	27	41.6	97	Aug. 9	−26	Feb. 15	27	21.15	6.60	June	0.20	Feb.	24.5	78	119	145	102	se.
Walhalla	Pembina	966	14	......	......	......	37	Jan. 23	14	......	3.35	Sept.	......	......	......	......	......	......	......	......
Westhope	Bottineau	1,508	15	37.8	98	Aug. 17	−42	Jan. 24	15	16.04	3.25	July	T.	Feb.	......	64	......	......	......	se.
Williston	Williams	1,875	42	40.8	102	Aug. 17	−37	Jan. 24	42	13.13	3.50	June	0.09	Nov.	22.6	85	136	135	95	w.
Willow City	Bottineau	1,471	29	35.8	97	Aug. 17	41	Jan. 24	29	14.52	3.93	June	0.20	Oct.	38.0	68	146	144	76	nw.
Moorhead, Minn.	Clay	935	40	40.8	98	Aug. 9	−27	Jan. 21	40	20.41	5.89	June	0.20	Feb.	28.0	106	168	78	120	n.

† Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1920, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	1.65	+1.18	0.22	−0.16	0.20	0.12	0.44	−1.55	2.52	−0.30	3.77	−0.24	1.06	−2.12	0.50	−2.31	3.37	+1.36	0.59	−0.75	0.30	−0.16	1.30	+0.88	15.92	−4.59
Amegard	1.60	.....	0.62	.....	1.05	.....	0.95	.....	1.20	.....	3.41	.....	2.19	.....	1.08	.....	1.21	.....	1.24	.....	0.24	.....	0.35	.....	15.14	
Ashley	0.60	+0.05	0.20	0.25	0.50	−0.76	0.94	−1.08	2.54	+0.06	6.56	+3.10	3.21	+0.57	0.85	−1.47	2.04	0.99	0.15	−0.89	0.21	[illegible]	0.20	[illegible]	18.00	−0.28
Beach	0.60	0.04	0.33	−0.19	1.98	+1.37	1.64	+0.42	1.46	−1.39	1.23	−2.58	0.78	−1.06	1.07	−0.98	0.61	−0.75	1.51	+0.59	0.14	0.34	0.15	−0.35	11.50	−5.30
Berthold Agency	0.37	−0.04	0.18	−0.40	1.70	+0.85	0.53	−0.59	0.82	−1.74	4.13	0.00	2.76	+0.82	1.87	+0.09	2.00	+0.55	0.22	−0.67	0.12	[illegible]	0.30	−0.09	15.00	−1.61
Bismarck	0.52	0.02	0.20	−0.32	1.21	+0.17	0.45	−1.43	1.27	−1.23	2.05	−1.49	2.72	+0.58	0.59	−1.39	1.20	+0.01	0.26	−0.77	0.39	[illegible]	0.29	−0.33	11.15	−6.51
Bottineau	0.90	0.45	0.32	0.06	0.91	+0.07	0.78	−0.11	0.73	−1.38	3.71	+0.51	1.98	−0.40	4.83	+2.82	0.96	−0.70	0.27	−0.77	0.26	[illegible]	0.43	−0.07	16.11	+0.07
Bowbells	1.10	.....	0.05	.....	0.90	.....	1.54	.....	2.28	.....	2.93	.....	1.68	.....	1.52	.....	2.40	.....	0.52	.....	T.	.....	0.32	.....	15.24	
Bowman	0.22	.....	0.20	.....	0.56	.....	1.80	.....	1.70	.....	2.61	.....	1.85	.....	0.69	.....	1.28	.....	0.08	.....	.....	.....	0.36	.....	.....	
Cando	1.10	+0.72	0.16	−0.08	0.42	−0.26	0.54	−0.37	1.71	−0.73	3.34	−0.43	2.33	−0.28	1.30	−0.97	1.86	+0.37	0.15	−0.65	0.56	+0.10	0.41	+0.06	13.88	2.52
Carson	0.41	.....	0.06	.....	0.72	.....	0.62	.....	0.92	.....	3.05	.....	2.51	.....	1.42	.....	0.75	.....	0.47	.....	0.39	.....	0.45		11.77	
Colgate	0.70	.....	0.20	.....	0.02	.....	0.80	.....	2.39	.....	3.94	.....	1.15	.....	1.07	.....	2.96	.....	0.24		.....		.....			
Cooperstown	1.00	+0.49	T	0.36	T	−0.65	0.85	−0.15	2.15	+0.14	4.05	+0.36	2.95	+0.13	1.40	−0.97	3.45	+1.73	0.00	−1.00	0.75	+0.37	0.40	−0.02	17.00	+0.07
Crosby	0.52	−0.05	0.15	−0.09	0.90	+0.24	0.99	−0.03	1.27	−0.79	2.88	−0.14	0.99	−0.93	1.20	−1.17	1.81	+0.57	0.83	+0.10	0.29	−0.56	0.05	−0.53	11.88	−3.37
Devils Lake	0.74	+0.14	0.12	−0.44	0.35	−0.66	0.54	−1.49	1.24	−0.96	4.69	+1.16	2.51	−1.27	2.21	−0.55	5.34	+3.95	0.23	−1.00	0.76	+0.05	0.30	−0.09	19.03	−1.16
Dickinson	0.79	+0.37	0.05	−0.39	0.18	−0.71	0.89	−0.32	1.39	−1.10	4.32	+1.17	2.76	+0.36	2.35	+0.40	1.77	+0.69	1.11	+0.32	0.10	−0.41	0.10	−0.34	15.81	−0.04
Donnybrook	0.65	+0.25	T.	−0.56	1.45	+0.67	0.57	−0.38	0.93	−1.40	4.83	+1.92	2.30	−0.50	1.92	−0.24	0.47	−1.36	0.46	−0.51	T.	−0.60	T	−0.49	13.58	−3.20
Dunn Center	0.20	.....	0.20	.....	1.15	.....	1.22	.....	0.90	.....	4.74	.....	0.93	.....	3.50	.....	1.33	.....	0.81	.....	T.	.....	0.05	.....	15.03	.....
Dunseith	0.60	+0.12	0.20	−0.24	0.06	0.77	0.82	+0.02	0.56	−1.11	4.05	+1.04	0.84	−1.60	1.11	−1.18	1.02	−0.62	0.17	−0.60	0.25	−0.16	0.20	−0.21	9.88	−5.31
Eckman	0.65	+0.04	0.20	−0.19	1.05	+0.60	0.77	−0.26	1.22	−1.02	2.61	−0.32	3.17	+0.60	3.01	+0.77	0.71	−0.53	0.69	0.15	0.29	−0.18	0.47	−0.15	14.84	−0.79
Edgeley	0.35	+0.05	0.02	−0.32	0.11	−0.78	1.10	−0.81	2.96	+0.31	3.65	+0.25	2.57	−0.17	0.53	−1.78	2.87	+1.11	0.10	0.89	0.05	−0.26	0.05	−0.36	14.36	−3.65
Ellendale	0.65	−0.01	0.23	−0.39	0.42	−0.85	1.48	−0.52	2.54	−0.24	3.45	+0.05	2.63	−0.27	0.74	−1.78	3.19	+1.61	0.81	−0.36	0.42	0.28	0.20	−0.48	16.76	[illegible]
Energy	0.27	.....	0.04	.....	0.57	.....	0.22	.....	1.09	.....	3.89	.....	1.00	.....	1.98	.....	2.52	.....	0.24	.....	0.21	.....	0.20	.....	12.23	
Epping	0.52	−0.07	0.21	−0.15	1.52	+1.09	0.60	0.59	2.83	+0.61	7.42	+4.29	1.80	−0.18	1.15	−1.25	1.66	+0.25	1.00	+0.23	0.07	−0.27	0.14	−0.34	18.92	3.62
Fessenden	1.15	.....	0.15	.....	0.86	.....	0.65	.....	0.82	.....	3.02	.....	2.12	.....	2.36	.....	1.09	.....	T.	.....	0.75	.....	0.55	.....	13.52	.....
Fryburg	0.48	.....	0.40	.....	1.16	.....	0.74	.....	1.46	.....	2.40	.....	1.27	.....	2.20	.....	0.87	.....	1.09	.....	0.16	.....	0.08	.....	12.31	.....
Fullerton	1.17	+0.39	0.07	−0.73	0.62	−0.66	1.46	−0.51	3.45	+0.36	3.81	+0.47	4.89	+1.72	1.43	−1.39	4.81	+2.70	0.97	0.35	0.57	−0.01	0.53	−0.33	23.78	+1.75
Garrison	0.75	+0.28	0.34	0.18	1.12	+0.06	1.07	−0.11	1.56	−0.55	5.41	+2.04	1.94	−0.14	1.19	−0.83	1.32	−0.06	0.04	0.89	0.10	−0.50	0.27	0.33	15.11	−1.21
Grafton	0.85	+0.24	0.77	+0.18	0.83	+0.12	0.38	−1.11	1.87	−0.21	2.72	−0.62	2.08	0.42	1.63	−0.99	4.15	+2.36	0.47	−0.44	0.49	−0.10	0.26	−0.29	16.50	−1.28
Grand Forks	1.33	+0.77	0.25	0.30	0.61	−0.13	0.60	1.37	2.03	−0.42	1.49	−2.10	1.32	−1.38	0.24	−2.22	3.10	+1.31	0.49	0.75	0.98	+0.36	0.49	0.10	12.93	−6.33
Granville	1.60	+1.19	0.40	+0.06	0.89	+0.41	0.18	−0.51	1.36	−0.50	2.62	−0.30	2.34	+0.24	2.26	+0.07	0.72	0.63	0.70	0.18	0.66	+0.24	0.26	0.23	14.29	−0.14
Hannah	1.90	+1.19	0.80	+0.24	0.91	+0.26	0.36	−0.96	0.86	−1.25	3.71	+0.26	1.63	−0.84	1.00	−0.86	2.97	+0.83	0.47	−0.51	0.60	+0.01	1.50	+0.92	16.71	−0.71
Hansboro	2.10	+1.21	0.39	+0.11	0.80	+0.20	0.54	−0.80	0.67	−1.53	5.76	+3.38	1.29	0.85	2.06	−0.12	2.11	+0.31	0.55	0.35	0.36	−0.05	0.57	−0.13	17.20	+1.16
Hettinger	0.00	−0.36	0.05	−0.26	0.25	−0.38	2.39	+1.66	2.19	−0.04	3.57	+0.06	3.23	+0.43	1.04	−0.37	0.64	0.90	0.66	−0.04	0.11	−0.23	0.06	0.34	14.19	−0.77
Hillsboro	1.30	+0.55	0.40	−0.36	0.30	−0.54	0.67	−1.44	3.08	0.49	3.78	+0.22	0.83	−1.95	0.65	−2.20	2.96	+0.22	0.99	−0.03	0.64	−0.06	0.45	0.50	16.00	−6.58
Howard	0.95	+0.13	0.61	−0.10	1.30	+0.12	1.22	−0.06	1.35	0.78	1.64	1.24	1.30	−0.26	1.74	+0.20	2.46	+1.03	1.07	+0.25	0.21	−0.34	0.11	0.74	13.96	−1.79
Jamestown	0.70	+0.05	0.25	−0.34	T.	−1.08	0.80	−0.96	2.11	−0.56	3.57	−0.12	3.20	+0.46	1.56	−1.02	3.74	+2.21	T.	0.99	0.40	−0.27	0.50	−0.22	16.83	−2.84
Lamoure	1.40	+0.79	0.50	+0.16	0.20	−0.59	0.98	+0.08	1.57	0.62	4.06	+0.61	2.65	+0.08	1.37	−0.57	0.23	−1.28	0.00	−0.70	0.20	−0.34	0.20	0.27	13.36	−2.65
Langdon	2.10	+1.49	0.30	−0.38	0.80	−0.07	0.42	−0.95	1.40	0.90	1.30	−2.32	0.85	−1.81	1.29	−1.37	2.70	+0.66	0.27	−0.72	1.10	+0.51	0.07	−0.69	12.60	−6.55
Larimore	1.70	+1.01	0.85	+0.39	0.05	−0.71	0.98	−0.57	1.94	−0.40	2.12	−1.47	2.45	−0.54	0.74	−1.91	7.38	+5.67	0.31	−0.93	0.85	+0.30	0.42	−0.10	19.79	+0.74
Linton	0.91	.....	0.30	.....	0.95	.....	1.26	.....	1.25	.....	.....	.....	3.30	.....	2.10	.....	2.17	.....	0.09	.....	0.26	.....	0.11	.....	.....	.....
Lisbon	1.00	+0.28	T.	−0.79	0.10	−0.47	0.87	−1.13	2.20	−1.06	4.89	+0.43	4.32	+0.84	1.82	−0.43	4.35	+2.10	0.62	−0.52	0.49	+0.01	0.11	−0.37	20.77	−1.11
McClusky	0.95	.....	0.55	.....	0.70	.....	0.43	.....	1.28	.....	4.34	.....	1.89	.....	1.05	.....	1.18	.....	0.30	.....	0.80	.....	0.75	.....	14.22	.....
McHenry	1.35	.....	1.50	.....	0.55	.....	1.56	.....	2.68	.....	2.76	.....	2.86	.....	2.09	.....	2.55	.....	.....	.....	.....	.....	.....	.....	.....	.....
McKinney	0.50	+0.11	T.	−0.30	0.80	+0.06	0.35	−0.48	0.80	−1.20	3.31	−0.03	2.20	+0.16	1.93	+0.26	0.80	−0.74	T.	−0.83	0.05	−0.58	0.20	−0.22	10.94	−3.79
McLeod	0.60	.....	0.34	.....	0.32	.....	0.77	.....	3.07	.....	4.49	.....	2.24	.....	1.76	.....	5.23	.....	1.22	.....	0.58	.....	0.34	.....	20.96	.....
Maddock	1.33	.....	0.23	.....	0.21	.....	0.55	.....	0.93	.....	3.26	.....	1.60	.....	3.70	.....	0.98	.....	0.00	.....	0.47	.....	0.23	.....	13.49	.....
Mandan	0.31	.....	0.09	.....	1.08	.....	0.58	.....	1.72	.....	1.63	.....	2.68	.....	1.80	.....	1.30	.....	0.25	.....	0.37	.....	0.13	.....	11.94	.....
Manfred	1.11	+0.44	0.47	+0.02	0.57	−0.25	0.72	0.54	0.74	−1.63	3.17	−0.47	2.71	+0.46	3.45	+1.19	1.05	−0.42	0.04	−0.86	0.37	−0.28	0.33	0.44	14.73	−2.78
Marmarth	0.72	+0.44	0.78	+0.45	1.25	+0.87	1.44	+0.34	1.76	−0.73	1.79	1.64	1.47	−0.35	0.88	−0.90	1.07	−0.20	0.62	−0.13	0.46	+0.19	0.49	+0.15	12.73	1.51
Mayville	0.80	+0.30	0.50	+0.10	0.52	−0.23	0.25	−1.55	3.11	+0.19	2.76	−0.88	1.30	−1.78	0.54	−2.22	3.65	+1.31	0.38	−0.80	0.33	−0.29	0.60	+0.05	14.74	−5.80
Melville	0.70	+0.32	0.05	−0.26	0.50	−0.18	0.50	−0.57	3.74	+1.28	4.04	+0.43	1.96	−0.94	1.45	−0.54	1.57	+0.13	T.	−0.91	0.30	−0.12	0.10	0.31	14.91	−1.67
Minot	0.60	+0.14	0.25	−0.22	1.60	+0.88	0.77	−0.53	0.95	−1.03	3.81	+0.41	1.20	−0.69	2.17	−0.08	1.25	−0.33	0.48	−0.46	0.18	−0.41	0.50	+0.05	13.76	−2.27
Minto	.....	.....	.....	.....	.....	.....	.....	.....	1.78	−0.56	2.42	−0.97	0.78	−2.03	0.51	−1.97	4.14	+2.14	0.27	−0.87	0.83	+0.29	0.24	0.24	.....	.....
Mott	0.85	0.07	0.74	+0.19	1.49	+0.50	2.06	+0.64	1.72	−0.63	4.09	+0.65	2.45	+0.07	1.62	+0.01	1.72	+0.15	0.70	−0.42	0.28	−0.16	0.50	0.12	18.22	−0.81
Napoleon	0.40	−0.08	0.10	−0.30	0.96	−0.05	0.69	−0.97	1.56	−0.84	3.73	−0.02	4.41	+1.93	0.89	−1.53	1.48	+0.19	0.06	−0.91	0.05	−0.57	0.10	−0.40	14.37	−3.55
New England	0.32	−0.14	0.10	−0.47	0.70	−0.18	1.32	+0.37	1.21	−1.01	3.35	+0.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Salem	0.36	−0.31	0.15	0.23	1.39	+0.43	0.35	−0.83	1.08	−1.38	3.97	−0.08	1.97	−0.22	1.17	−0.53	1.23	−0.22	0.26	−0.79	0.04	−0.27	0.05	−0.45	12.02	−4.88
Park River	0.65	+0.18	.....	.....	.....	.....	.....	.....	1.27	−0.94	3.51	+0.02	1.50	−0.94	0.75	−1.58	3.64	+2.08	0.72	−0.32	0.72	−0.02	0.33	−0.24	.....	.....
Parshal	0.40	.....	0.10	.....	0.60	.....	.....	.....	0.66	.....	6.62	.....	1.20	.....	0.99	.....	1.55	.....	0.00	.....	0.10	.....	0.20	.....	.....	.....
Pembina	2.70	+2.05	1.70	+0.94	1.64	+0.70	0.10	−1.46	2.38	−0.05	0.50	−3.08	1.60	0.98	0.14	−2.19	4.14	+2.34	0.30	−1.19	1.04	+0.35	0.41	−0.44	16.65	−3.01
Pettibone	1.50	+1.06	0.20	0.11	0.52	+0.03	0.64	−0.84	3.13	+0.41	4.95	+1.72	3.82	+1.03	2.93	+0.56	1.21	−0.31	0.02	−0.74	0.20	−0.32	0.35	−0.36	19.47	+2.13
Power	1.40	+0.77	0.45	0.11	0.50	−0.22	0.87	−1.00	2.53	−0.36	4.77	+0.75	2.52	−0.87	0.92	−1.65	4.72	+2.70	1.06	−0.44	0.37	−0.22	0.82	+0.32	20.93	−0.33
Powers Lake	1.25	.....	0.35	.....	1.30	.....	0.70	.....	1.02	.....	1.80	.....	0.86	.....	1.37	.....	2.00	.....	0.38	.....	0.10	.....	0.10	.....	11.23	.....
Selfridge	0.17	−0.36	T.	0.64	1.30	+0.28	1.77	+0.10	3.78	+2.01	3.92	+0.26	1.45	−1.07	1.74	−0.23	1.38	+0.41	.....	.....	.....	.....	.....	.....	.....	.....
Steele	1.57	+1.11	0.26	−0.16	1.19	+0.26	0.59	−0.49	1.34	−0.94	4.92	+1.53	3.73	+0.92	2.18	−0.08	1.25	−0.02	1.05	+0.19	0.61	+0.07	0.31	−0.21	19.00	+2.18
Taylor	0.21	.....	0.14	.....	1.20	.....	1.09	.....	1.21	.....	2.31	.....	2.95	.....	1.54	.....	1.98	.....	0.54	.....	0.07	.....	0.03	.....	13.27	.....
Towner	0.75	+0.27	0.35	−0.01	1.20	+0.32	0.30	−0.88	0.83	−1.57	2.04	−1.20	1.59	−0.80	3.12	+1.17	0.66	−1.00	0.03	−0.93	0.30	0.15	0.30	−0.11	11.47	−4.99
Turtle Lake	0.75	.....	0.33	.....	1.17	.....	1.02	.....	0.98	.....	2.99	.....	2.23	.....	1.09	.....	1.74	.....	0.34	.....	0.45	.....	0.60	.....	13.69	.....
Valley City	2.30	+1.69	0.35	−0.02	0.10	−0.45	0.56	−1.16	3.78	+0.83	4.52	+1.24	1.73	1.23	0.28	−2.19	3.27	+1.55	0.23	−0.69	0.20	−0.32	0.19	−0.32	17.51	−1.03
Wahpeton	1.20	+0.70	0.20	−0.36	0.95	+0.01	0.94	−1.27	2.71	+0.03	6.60	+2.66	1.98	−1.86	0.90	−2.14	3.89	+1.59	0.56	−0.99	0.67	+0.04	0.55	+0.09	21.15	−1.70
Walhalla	1.40	+0.55	0.70	+0.19	0.95	+0.27	0.32	−0.98	1.97	−0.67	1.64	−1.52	1.92	1.16	1.32	−1.16	3.35	+1.50	0.27	−0.74	1.00	+0.46	.....	.....	.....	.....
Westhope	2.97	+2.52	T.	−0.23	0.06	−0.45	0.47	−0.67	1.22	−0.84	3.11	+0.13	3.25	+1.28	3.19	+1.00	0.74	−0.62	0.63	−0.11	0.16	−0.29	0.24	0.11	16.04	+1.61
Williston	0.92	+0.34	0.13	−0.36	2.18	+1.50	0.86	−0.37	2.03	−0.23	3.50	−0.07	0.96	−1.07	0.81	0.50	0.60	−0.31	0.92	+0.15	0.09	0.51	0.13	−0.53	13.13	−1.96
Willow City	1.40	+0.84	0.50	+0.05	0.73	+0.02	0.64	−0.30	1.22	−0.69	3.93	+0.63	1.78	−0.37	2.31	+0.25	0.46	1.20	0.20	−0.51	0.65	+0.21	0.70	+0.19	14.52	−0.88
Zap	0.50	+0.12	T	−0.27	0.80	+0.12	0.59	−0.49	0.95	−1.72	4.29	+0.29	3.59	+1.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moorhead, Minn.	0.94	+0.23	0.20	0.56	0.32	−0.82	0.85	−1.48	2.53	−0.42	5.89	+1.76	2.92	−0.82	1.33	−1.77	3.46	+1.16	1.03	−1.04	0.29	−0.69	0.65	−0.09	20.41	−4.54

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1920, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	2.5	-2.0	10.7	+3.7	26.8	+3.2	[d]33.8	-8.5	54.6	+0.5	62.6	-0.9	67.6	-1.1	68.0	+1.7	60.2	+2.9	51.2	+6.9	27.8	+0.5	17.0	+4.3	40.2	+0.9
Arnegard	7.9	.....	[h]13.1	+7.0	23.4	.....	32.2	.....	53.3	.....	60.8	.....	69.2	.....	70.2	.....	58.6	.....	47.0	.....	27.2	.....	[c]18.8	.....	40.1	.....
Ashley	[a]6.2	-1.3	[c]17.2	+9.4	26.5	+4.5	32.5	-10.0	[a]53.6	+0.9	[b]62.1	+0.1	68.0	-0.4	66.8	+0.9	59.6	+2.3	50.6	+6.9	29.0	+1.3	18.0	+4.5	40.8	+1.6
Beach	.....	.....	20.6	+7.0	26.9	+0.4	32.8	-9.7	53.4	+3.3	61.6	+0.5	70.8	+3.5	70.0	+5.0	58.5	+2.2	47.4	+3.4	29.2	-2.2	20.5	+4.0	.....	.....
Berthold Agency	6.3	-1.2	16.6	+7.2	[a]25.0	+0.3	33.8	-9.9	[d]54.8	+1.1	63.1	+0.5	71.2	+2.3	71.3	+3.6	59.0	+2.0	[a]49.9	+5.2	29.3	+0.5	[a]17.8	+2.1	41.5	+1.1
Bismarck	7.4	+0.7	17.2	+8.9	26.0	+3.9	34.6	-8.0	54.8	-0.4	64.4	+0.2	71.0	+0.8	70.4	+2.3	60.3	+3.2	50.6	+6.5	29.7	+3.7	17.8	+2.8	42.0	+2.0
Bottineau	-3.0	-2.3	10.8	+9.0	16.3	-1.4	30.0	-9.4	[f]53.2	+1.9	61.6	+0.6	68.0	+2.2	68.6	+5.0	57.6	+2.1	49.8	+8.2	26.2	+2.6	10.9	+4.2	37.5	+1.9
Bowbells	-0.6	.....	9.8	.....	16.0	.....	26.5	.....	51.8	.....	60.1	.....	[a]66.9	.....	67.5	.....	56.6	.....	45.4	.....	25.6	.....	12.1	.....	36.5	.....
Bowman	16.3	.....	21.3	.....	[a]27.2	.....	[f]35.1	.....	[d]53.6	.....	[j]61.7	.....	[a]72.7	.....	[b]71.0	.....	[c]55.2	.....	48.7	.....	.....	.....	21.2	.....	.....	.....
Cando	-3.0	-1.5	[a]6.2	+3.4	18.7	-1.8	[b]31.9	-8.7	[a]53.2	+1.7	61.4	+0.2	68.4	+2.3	69.7	+5.8	59.4	+3.8	48.9	+5.2	28.0	+1.5	12.6	+5.4	38.0	+1.5
Carson	6.2	.....	16.6	.....	24.5	.....	28.9	.....	47.4	.....	60.8	.....	67.6	.....	67.6	.....	59.6	.....	49.0	.....	30.4	.....	18.6	.....	39.8	.....
Colgate	-0.5	.....	12.6	.....	24.2	.....	32.3	.....	55.9	.....	62.4	.....	69.4	.....	68.8	.....	60.7	.....	49.6	.....	.....	.....	.....	.....	.....	.....
Crosby	2.6	+0.9	13.3	+6.2	19.4	-2.6	30.4	-10.2	53.0	+2.6	61.8	+1.2	69.4	+3.5	68.8	+5.1	57.4	+3.7	46.6	+5.1	27.1	-0.7	16.5	+4.2	38.9	+1.6
Devils Lake	-2.3	-2.6	8.0	+3.5	19.1	+0.6	31.2	-7.0	54.4	+1.7	62.4	-0.2	67.2	-0.9	68.4	+3.3	59.4	+3.8	48.9	+8.4	27.2	+4.6	11.6	+3.6	38.0	+1.6
Dickinson	11.9	+1.6	17.9	+6.1	26.2	+1.8	32.8	-10.1	52.5	+0.3	61.6	+0.3	67.3	-0.7	68.0	+1.7	57.0	+0.5	47.9	+4.0	28.0	-0.6	17.9	+0.6	40.8	+0.5
Donnybrook	2.6	0.8	[i]16.8	+9.8	22.2	-0.2	31.3	-9.1	[d]55.7	+5.6	[d]64.4	+3.9	70.6	+4.8	70.6	+7.3	60.1	+6.1	[c]49.7	+7.6	27.6	-1.2	13.1	+0.9	40.4	+2.9
Dunn Center	8.2	.....	18.6	.....	25.5	.....	[b]33.9	.....	52.7	.....	63.2	.....	70.6	.....	68.7	.....	57.3	.....	47.3	.....	27.8	.....	19.2	.....	41.1	.....
Dunseith	-0.8	-2.3	8.7	+5.3	[a]18.4	-0.4	28.8	-11.6	[g]53.0	+1.1	[b]61.1	-0.1	65.6	+1.2	67.6	+4.0	57.0	+2.2	49.8	+8.7	22.8	-3.4	11.2	+2.9	36.9	+0.6
Eckman	-2.8	-3.4	8.8	+2.4	[b]16.2	-5.9	29.4	-12.2	53.4	+2.8	60.4	-0.9	67.8	+2.0	[f]67.4	+4.1	[a]59.4	+3.9	[a]48.2	+5.5	26.8	+0.5	[a]12.4	+2.8	37.3	+0.1
Edgeley	5.2	-2.6	11.6	+0.7	27.2	+0.7	33.8	-9.4	55.0	+1.5	62.4	-0.4	67.4	-1.1	67.9	+1.5	59.6	+2.1	51.4	+5.5	29.5	-0.9	17.6	+1.1	40.7	-0.1
Ellendale	6.2	.....	15.9	.....	26.2	.....	33.8	.....	53.8	.....	62.4	.....	67.4	.....	66.9	.....	60.2	.....	50.9	.....	28.9	.....	18.4	.....	40.9	.....
Fessenden	-0.4	.....	11.1	.....	22.0	.....	31.2	.....	52.5	.....	61.4	.....	66.8	.....	68.0	.....	58.0	.....	48.1	.....	26.3	.....	10.6	.....	38.0	.....
Fullerton	6.0	-1.8	16.4	+7.1	27.0	+1.8	34.0	-8.8	55.7	+2.4	63.4	+0.7	69.2	+0.8	69.5	+3.2	60.4	+3.7	51.4	+7.1	29.8	+0.1	18.4	+4.7	41.8	+1.8
Garrison	4.0	-2.5	13.0	+4.6	22.6	+0.9	32.6	-10.0	53.2	+0.6	61.6	-0.6	69.2	+1.1	69.5	+3.8	57.4	+0.6	[a]48.2	+4.4	28.4	+1.4	[a]15.6	+2.0	39.6	+0.5
Grafton	-3.8	-4.7	7.6	+2.7	[a]21.9	+2.7	33.0	-7.3	55.2	+2.3	63.2	+0.7	68.0	+0.5	69.0	+4.5	60.6	+4.7	50.0	+7.3	29.0	+5.0	13.6	+5.9	38.9	+2.0
Grand Forks	-3.3	-6.9	6.9	+0.4	20.6	-1.8	32.4	-9.6	54.6	+1.2	63.4	+0.5	68.0	+0.6	68.5	+3.6	59.8	+3.6	49.2	+5.7	27.6	+1.5	14.0	+3.4	38.5	+0.2
Granville	0.6	-1.1	12.0	+3.6	[a]18.2	-5.5	31.7	-10.8	53.8	+2.4	61.2	-1.9	68.3	+1.2	69.5	+5.6	57.1	+2.7	49.8	+5.7	29.7	+3.6	13.8	+1.4	38.8	+0.6
Hannah	-4.1	-2.4	5.6	+3.6	14.6	-3.7	30.2	-8.2	52.8	+2.4	61.0	+1.5	66.8	+2.2	69.0	+6.5	60.4	+6.5	48.6	+8.1	.....	.....	9.2	+2.3	.....	.....
Hansboro	[a]-4.8	-2.5	7.8	+4.1	[a]15.2	-6.1	[f]28.7	-11.2	52.5	+2.2	60.4	0.0	66.0	+0.6	68.0	+5.2	57.8	+3.7	[k]51.4	+10.1	[d]25.8	-0.1	[c]11.9	+4.6	36.7	+0.9
Hettinger	16.8	+4.3	20.4	+7.2	26.8	-0.8	34.0	-10.8	53.0	+0.2	61.4	-0.7	69.8	+0.3	70.6	+3.6	59.7	+1.7	46.6	+0.2	29.4	-4.0	19.1	+3.3	42.3	+0.4
Hillsboro	-1.9	-5.8	9.4	+0.9	23.0	-1.7	32.7	-10.9	55.4	+2.2	63.4	-1.0	68.5	-1.0	69.2	+2.3	61.0	+2.0	50.6	+4.6	28.4	-0.4	15.2	+2.6	39.6	-0.5
Howard	2.9	+1.4	12.2	+6.2	19.3	-1.5	29.0	-10.8	53.6	+4.2	63.0	+3.3	69.8	+4.3	71.3	+7.8	58.4	+4.6	46.8	+5.4	30.4	+2.7	15.0	+3.2	39.3	+2.6
Jamestown	6.5	0.0	12.6	+4.7	27.0	+4.4	34.6	-7.9	55.2	+1.7	63.6	+0.5	69.0	+0.5	69.2	+3.0	60.6	+3.9	50.6	+5.8	29.8	+2.2	14.2	+0.6	41.1	+1.6
Lamoine	[a]0.6	-3.4	11.4	+3.7	20.4	-2.6	31.6	-11.0	[a]52.4	+1.7	[b]60.9	+0.4	67.8	+1.9	67.2	+3.3	57.3	+0.7	[k]51.3	+8.2	27.6	+0.6	[c]11.0	-0.2	38.3	+0.3
Langdon	-4.2	-1.5	5.1	+2.1	15.0	-4.0	28.2	-9.9	52.3	+1.5	60.2	+0.5	65.0	+0.5	67.2	+5.5	59.0	+5.5	48.2	+7.8	21.9	-0.8	10.0	+2.7	35.9	+0.8
Larimore	-1.9	-4.5	9.8	+4.6	23.4	+2.4	33.2	-7.2	54.2	+1.8	63.2	+1.1	67.8	+1.1	68.8	+4.5	59.4	+4.2	48.8	-5.5	27.3	+1.5	13.7	+2.9	39.0	+1.5
Linton	6.4	.....	16.4	.....	24.6	.....	32.0	.....	.....	.....	.....	.....	69.2	.....	65.6	.....	60.6		52.1	.....	31.6	.....	19.0	.....	.....	.....
Lisbon	3.9	-2.0	10.8	+1.2	28.1	+1.5	34.2	-8.5	55.4	+2.5	63.5	+0.4	68.7	+0.5	69.0	+2.5	60.4	-2.7	48.8	-3.5	30.8	+0.6	15.4	+1.3	40.8	-0.6
McHenry	-3.0	.....	5.2	.....	20.4	.....	32.4	.....	53.5	.....	63.9	.....	66.0	.....	68.0	.....	59.5	.....	.....	.....	.....	.....	.....	.....	.....	.....
McKinney	[a]0.1	3.1	12.2	+7.1	16.8	-2.4	29.8	-11.2	53.9	+1.9	60.4	-0.3	67.3	+1.3	68.3	+4.8	57.6	+3.5	44.6	+2.9	25.6	+1.0	13.5	+2.8	37.5	+0.7
McLeod	3.8	.....	14.0	.....	27.6	.....	34.3	.....	54.3	.....	[b]63.2	.....	68.5	.....	68.3	.....	62.0	.....	52.6	.....	28.3	.....	18.4	.....	41.6	.....
Maddock	-0.8	.....	9.8	.....	21.4	.....	32.6	.....	54.2	.....	61.4	.....	67.4	.....	68.9	.....	59.2	.....	49.4	.....	27.4	.....	11.2	.....	38.5	.....
Mandan	6.2	.....	16.5	.....	25.4	.....	34.9	.....	56.4	.....	65.4	.....	71.4	.....	70.6	.....	59.9	.....	50.6	.....	28.8	.....	17.2	.....	41.9	.....
Manfred	-0.4	-4.4	11.0	+4.2	23.0	-0.1	32.2	-9.6	53.2	+1.6	61.6	+0.1	66.4	-0.5	67.4	+3.1	57.2	+1.3	48.6	+5.3	25.9	-3.1	10.8	-0.5	38.1	0.2
Marmarth	[g]15.4	+5.1	20.4	+7.3	[b]25.2	-0.8	32.8	-10.0	52.4	+2.4	61.6	+1.3	69.4	+1.6	69.6	+4.0	58.5	+2.9	47.3	+3.2	27.4	6.6	19.3	+1.6	41.6	+1.0
Mayville	-2.4	-8.5	8.1	+0.4	22.2	-1.0	31.8	-11.4	52.9	-1.6	60.9	-3.6	66.9	-2.5	67.3	+1.0	58.1	+0.7	49.0	+4.1	27.4	-1.9	14.6	+1.5	38.1	-1.9
Melville	[c]-0.8	-6.4	[b]11.4	+4.8	[a]23.4	+1.1	[c]31.8	-8.3	[g]53.4	+1.9	[e]62.0	-0.9	[d]67.6	-0.3	[c]68.7	+2.3	[g]57.0	+0.6	[f]47.8	+4.2	[b]28.6	-0.4	[d]13.8	+2.0	38.8	0.0
Minot	-0.6	-5.6	10.8	+2.9	18.4	-3.0	29.3	-12.4	51.7	-0.6	59.7	-2.8	67.4	-0.7	67.7	+2.6	56.5	-0.2	46.1	+2.5	25.2	-4.5	12.2	-0.2	37.0	-1.9
Minto	.....	.....	.....	.....	.....	.....	.....	.....	54.8	+1.4	[c]62.8	-1.1	[a]68.1	+1.0	69.1	+4.5	61.2	+4.8	50.2	+7.0	28.7	+4.2	14.2	+3.3	.....	.....
Mott	11.1	+3.6	17.7	+5.9	24.1	-2.5	31.2	-11.4	52.2	+0.6	65.0	+2.0	73.2	+4.1	71.6	+5.7	56.4	+0.1	49.0	+6.0	25.5	-5.7	15.6	+1.5	41.0	+0.8
Napoleon	5.2	-0.7	14.0	+7.2	23.8	+2.5	32.4	-9.1	53.4	+1.0	62.2	0.0	67.9	-0.4	68.6	+2.6	59.5	+2.6	49.8	+7.9	28.4	+1.8	16.6	+4.2	40.2	+1.7
New England	12.8	-0.5	19.3	+7.2	24.8	+0.4	33.1	-10.0	[h]51.0	-0.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Salem	7.7	0.0	16.8	+6.2	24.6	+0.1	32.1	-10.4	52.2	+0.9	64.5	+1.7	69.2	-0.1	70.8	+4.4	59.9	+2.7	50.0	-5.7	28.9	-1.8	19.0	-1.1	41.3	+1.1
Park River	[b]4.3	-6.1	.....	.....	.....	.....	.....	.....	55.6	+3.4	62.9	-0.3	67.8	0.0	[a]68.8	+3.3	[a]61.1	+4.2	[c]50.2	+5.9	28.8	+0.8	11.8	+0.7	.....	.....
Pembina	-7.2	-4.3	-4.0	-5.4	19.1	+3.1	.....	.....	58.1	+5.6	64.6	+2.0	66.4	-1.3	70.0	+5.9	60.8	+7.0	51.9	+11.0	30.1	-7.4	10.4	+4.4	.....	.....
Pettibone	0.4	+0.4	10.8	+6.2	20.8	-3.0	32.2	-9.7	[b]53.4	+2.9	61.8	+1.6	[c]66.0	+0.2	[c]66.6	+4.2	58.6	+4.9	.....	.....	.....	.....	13.8	+3.4	.....	.....
Steele	0.8	-6.8	13.2	+6.1	25.4	+3.3	[a]36.8	-7.6	57.4	+3.6	63.1	+0.7	67.4	-2.0	67.0	+0.2	59.5	+1.7	53.2	+9.2	33.2	+4.8	20.0	+6.4	41.4	+1.6
Taylor	9.5	.....	18.0	.....	25.3	.....	32.0	.....	53.5	.....	[a]62.2	.....	[a]69.6	.....	[a]69.4	.....	58.4	.....	48.6	.....	[a]27.8	.....	18.9	.....	41.1	.....
Towner	-2.2	-4.8	9.8	+4.6	19.0	-0.2	31.9	-9.5	54.4	+2.1	61.7	-0.5	68.8	+1.7	70.2	+5.8	58.8	+3.0	49.2	+6.8	27.1	-2.1	10.6	+6.6	38.3	+1.0
Turtle Lake	2.8	.....	12.4	.....	[b]22.4	.....	33.2	.....	53.2	.....	62.0	.....	68.7	.....	69.5	.....	58.7	.....	49.3	.....	27.9	.....	14.3	.....	39.5	.....
Valley City	-0.8	-5.6	10.1	+0.5	24.4	-1.7	32.3	-11.5	54.4	+1.8	63.3	+0.1	70.2	+2.2	69.2	+3.6	59.4	+1.2	49.5	+4.3	27.8	-1.9	13.9	+0.2	39.5	-0.5
Wahpeton	3.2	-4.6	12.2	+2.3	27.2	+1.0	35.3	-9.0	55.8	+0.5	64.2	-0.6	[a]68.8	-0.5	68.2	+1.3	62.0	+3.4	53.4	+7.5	29.2	+0.9	19.6	+4.9	41.6	+0.6
Walhalla	-3.9	-3.6	11.2	+7.4	19.8	-0.1	27.4	-12.5	.....	.....	.....	.....	.....	.....	69.4	+5.0	58.6	+2.7	47.2	+4.2	.....	.....	.....	.....	.....	.....
Westhope	-3.3	-1.9	13.6	+10.3	17.4	-3.5	29.4	-10.3	54.6	+3.2	61.6	0.0	67.0	+0.9	67.5	+3.4	58.2	+3.4	47.7	+6.3	27.0	+0.2	12.5	+3.5	37.8	+1.3
Williston	5.8	-0.7	16.1	+8.2	23.7	+2.1	32.5	-8.0	54.9	+0.6	62.8	-0.7	70.8	+1.4	71.0	+3.1	58.8	-0.7	47.8	+4.9	27.8	+2.6	17.4	+3.8	40.8	+1.4
Willow City	-4.6	-4.9	6.4	+3.7	15.5	-2.8	30.1	-10.1	52.1	+0.6	59.9	-1.1	66.0	+0.6	67.0	+3.5	56.4	+2.1	46.8	+5.1	25.8	+3.7	8.6	+0.1	35.8	0.0
Moorhead, Minn.	1.4	-1.3	10.7	+3.7	25.3	+3.9	34.5	-6.9	55.6	+0.8	64.8	+0.5	69.0	+0.3	68.4	+2.6	61.5	+4.9	51.3	+8.5	29.3	+4.9	17.4	+6.7	40.8	+2.4

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing. [b], 2 days missing, etc.

[Continued from page 97.]

and was well distributed both geographically and thoughout the month. Some sections of the northern and western parts of the State reported much damage from grasshoppers. A severe wind storm (tornado) passed over portions of Cass County and did considerable damage, including the killing of one man and the injuring of four other persons.

July.—Cool weather characterized the opening of the month, and this condition prevailed during the first decade. Higher temperature followed and continued to the end of the month. The weather during the first part of the month was beneficial to all crops, especially to the late sown grains. The higher temperatures which followed ripened the grain rapidly, too rapidly in some sections, but was especially beneficial to corn, of which there is a greatly increased acreage this year. Considerable damage to potatoes from insects was reported, the hot weather being favorable for their propagation. Nearly normal precipitation occurred. Scattered hailstorms did considerable damage.

August.—The month was warm and dry, with abundant sunshine. The daily range of temperature was unusually wide, with high day temperatures and cool nights. There was a deficiency of precipitation, especially during the fore part of the month, when most needed. The drought caused serious deterioration to corn, flax, potatoes and late grains. Reports of damage from rust were received from many parts of the State. Farm work progressed rapidly under favorable conditions, and as a result the greater portion of grain harvesting was completed.

September.—Generally seasonable weather prevailed. There was a slight excess in temperature, due chiefly to warm nights. Killing frosts were not reported until the cold period which began on the 28th. At some northeastern stations no killing frosts occurred. The rainfall was generally light during the first 17 days. A rainy period began on the 18th and lasted until the 26th; fair weather prevailed until the close of the month. Although delayed by rains in some sections, threshing made good progress generally. The corn crop improved generally, and was well matured before the advent of frost.

October.—High temperature characterized the weather of the month. The first week was especially warm, temperatures of 90° and above being recorded at many stations on the 5th, 6th and 7th. The precipitation was light, only a few stations in extreme western and in the extreme southeastern portions reporting more than an inch, while seven stations in the east-central portion reported no precipitation or merely traces. Threshing was practically finished at the close of the month.

November.—With the exception of the cold week beginning on the 8th, the temperature averaged considerably above the normal. The precipitation was generally light, but there was more than the usual cloudiness. A cold wave occurred on the 9th, and low temperatures continued until the 15th, and during this period sub-zero temperatures were recorded at most stations. During the cold period (8th to 15th) the ice in the Missouri River formed to a thickness ranging from 6 to 10 inches, stopping navigation on the 11th. During the latter part of the month the high temperatures caused the snows to melt and the ice to soften and break, causing serious damage at Bismarck, where a new vehicle bridge is being erected.

December.—The first 16 days were warm, with day temperatures above freezing and with minimum temperatures above zero. A cold period followed and continued until the 28th, when a rapid rise occurred and prevailed to the close of the month. There was a general deficiency of precipitation, the average being but 60 per cent of the normal. Navigation on the Missouri River did not close until the 16th, the latest of record.

CLIMATOLOGICAL SUMMARY.

Month.	Temperature in degrees Fahrenheit.				Precipitation, in inches.				Sky.			Prevailing direction of the wind.
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Snowfall.	Number of rainy days.	Clear.	Pt. cloudy.	Cloudy.	
January	2.7	−2.2	49	−44	0.93	+0.39	10.0	5	10	9	12	nw.
February	12.5	+4.6	53	−36	0.30	−0.19	3.2	3	11	9	9	nw.
March	22.4	−0.2	67	−32	0.79	−0.04	7.1	4	15	8	8	nw.
April	32.1	−9.6	63	11	0.83	−0.55	2.1	5	13	8	9	nw.
May	53.9	+1.3	89	20	1.74	−0.81	0.1	7	13	10	8	se.
June	62.2	−0.6	98	26	3.62	+0.12	T.	11	12	12	6	se.
July	68.3	+0.8	103	37	2.16	−0.46	0	7	18	11	2	nw
August	68.8	+3.4	108	28	1.56	−0.72	0	5	22	6	3	se.
September	59.0	+2.6	99	19	2.26	+0.62	T.	8	15	9	6	se.
October	49.3	+5.5	95	6	0.46	−0.54	0.1	3	16	8	7	nw.
November	28.0	+1.4	65	−14	0.37	−0.21	2.1	3	10	9	11	nw.
December	15.2	+2.2	59	−32	0.32	−0.22	3.2	3	11	9	11	nw.
Annual	39.5	+0.7	108	−44	15.34	−2.60	27.9	64	166	108	92	nw

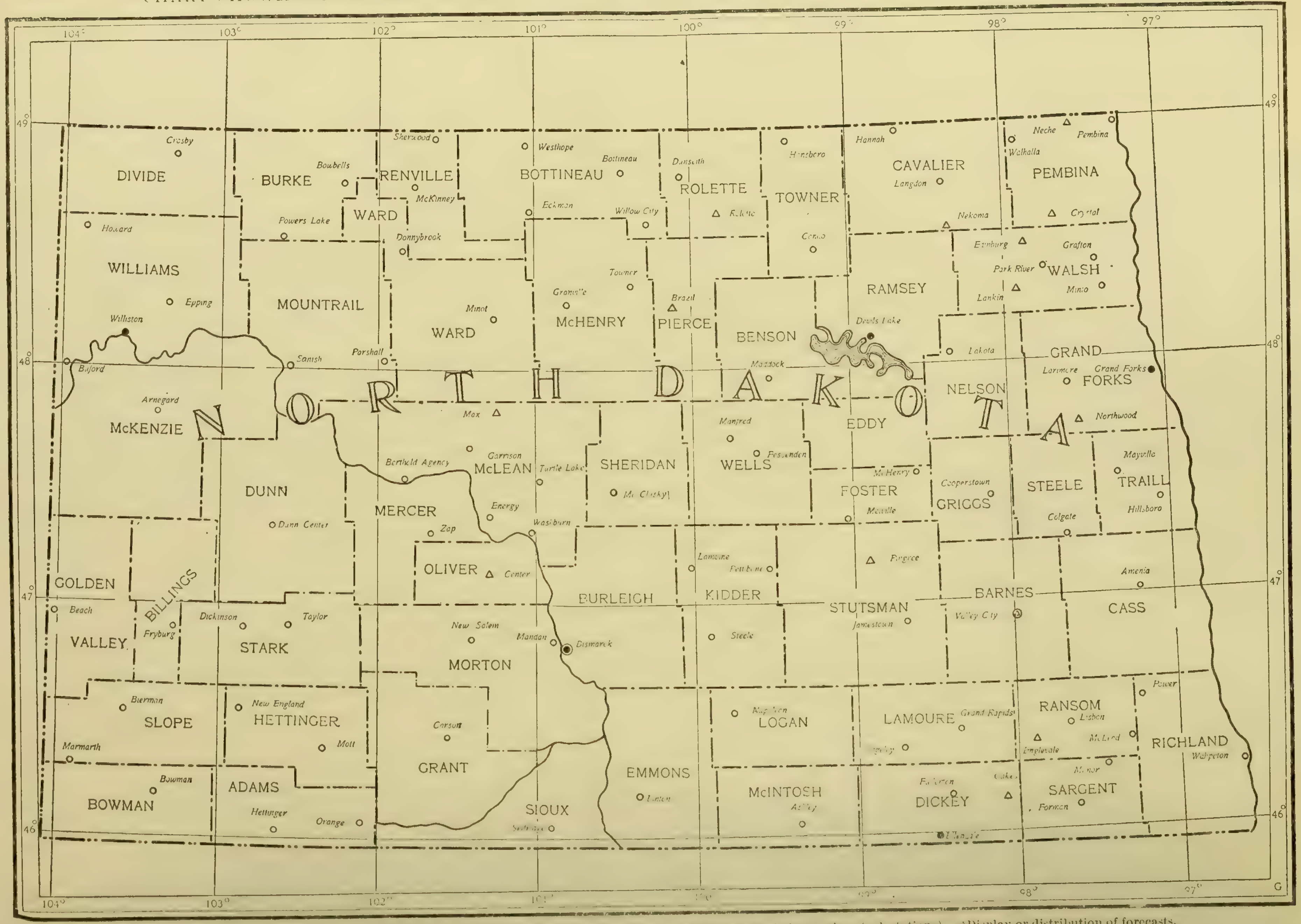
KILLING FROSTS.

Stations.	Last in Spring.	First in Autumn.	Stations.	Last in Spring.	First in Autumn.
Amenia	May 1	Sept. 30	Lamoine	Apr. 30	Sept. 30
Arnegard	" 11	" 28	Langdon	May 27	" 30
Ashley	" 14	" 30	Larimore	" 2	" 30
Beach	Apr. 30	" 29	Linton	....	" 30
Berthold Agency	" 27	" 29	Lisbon	May 1	" 30
Bismarck	" 27	" 27	McHenry	" 24	" 30
Bottineau	May 27	" 27	McKinney	" 23	Oct. 3
Bowbells	" 1	" 29	McLeod	" 1	Sept. 20
Bowman	Apr. 25	" 29	Maddock	" 1	" 30
Cando	May 1	Oct. 16	Mandan	Apr. 28	" 29
Carson	June 2	Sept. 29	Manfred	May 1	" 30
Colgate	May 14	" 29	Marmarth	Apr. 27	" 29
Crosby	Apr. 27	" 29	Mayville	May 14	" 30
Devils Lake	May 1	Oct. 20	Melville	" 1	" 30
Dickinson	Apr. 27	Sept. 29	Minot	" 25	" 29
Donnybrook	May 14	" 29	Minto	" 28	Aug. 22
Dunn Center	" 22	" 30	Mott	June 3	Sept. 29
Dunseith	" 1	" 27	Napoleon	Apr. 30	" 30
Eckman	" 13	" 30	New Salem	" 30	" 30
Edgeley	" 15	" 30	Park River	May 27	" 30
Ellendale	" 14	" 30	Parshall	....	" 28
Energy	....	" 28	Pembina	....	Oct. 20
Epping	....	" 29	Pettibone	May 1	Sept. 30
Fessenden	May 27	" 30	Power	....	" 29
Fryburg	....	" 29	Steele	Apr. 20	" 29
Fullerton	Apr. 30	" 30	Taylor	" 30	Oct. 20
Garrison	" 27	" 29	Towner	" 27	Sept. 26
Grafton	May 14	" 28	Turtle Lake	" 27	" 30
Grand Forks	" 1	" 30	Valley City	May 1	" 30
Granville	Apr. 30	Oct. 16	Wahpeton	" 1	" 30
Hannah	May 1	Sept. 30	Walhalla	....	" 30
Hansboro	" 14	" 30	Westhope	May 23	" 30
Hettinger	" 23	" 29	Williston	" 26	" 29
Hillsboro	" 1	" 30	Willow City	" 21	" 30
Howard	Apr. 27	" 28	Zap	June 2	....
Jamestown	" 30	" 30	Moorhead, Minn.	May 1	Oct. 28

COMPARATIVE ANNUAL STATE DATA.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−1.0	108	−58	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	−2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	−48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	−44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXX. BISMARCK, N. D., JANUARY, 1921. No. 1

GENERAL SUMMARY.

The month was unusually warm, but the mean temperature, 15.9°, was not record-breaking, as during the past 28 years there have been two warmer months of the same name, January, 1908, with a mean of 17.0°, and January, 1919, with a mean of 18.0°. There were no severe temperature changes during the month, aside from the cold wave of the 16th, which was of short duration. While there was an average difference of 17° between the extreme northeastern and the extreme southwestern portions of the State, this was but slightly in excess of the usual winter difference between these two sections. There was little precipitation of consequence during the month in most sections, the totals exceeding one-half inch at only five stations. There were scattered flurries or light falls of snow on several days during the first half of the month, while the falls during the second half were mostly confined to the 19th and the 29th to 31st, inclusive. Conditions were therefore favorable for all outdoor activities, and livestock on the ranges were favorably affected and in good condition generally. —E. G. L.

TEMPERATURE.

The mean temperature for the State was 15.9°, or 11.0° above the normal, and 13.2° higher than the mean for January, 1920. The highest mean reported was 25.4° at Marmarth, Slope County; the lowest was 7.8° at Langdon, Cavalier County. The highest temperature reported was 58° at Dickinson, Stark County, on the 15th; the lowest was -31° at Bottineau, Bottineau County, on the 11th. The greatest monthly range was 72° at Beach, Golden Valley County, and Dickinson, Stark County; the least was 52° at Howard and Williston, Williams County, and Melville, Foster County. The greatest daily range was 54° at Eckman, Bottineau County, on the 12th.

PRECIPITATION.

The average precipitation for the State was 0.24 inch, or 0.30 inch less than the normal, and 0.69 inch less than the average for January, 1920. The greatest monthly amount reported was 0.80 inch at Walhalla, Pembina County; the least was a trace at Hansboro, Towner County, Lamoine, Kidder County, and Maddock, Benson County. The greatest amount recorded in any twenty-four consecutive hours was 0.43 inch at Fessenden, Wells County, on the 19th. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall was 2.5 inches.

AURORAS.

Auroras were observed at Towner on the 6th, at Eckman and Foxholm on the 9th, at Eckman on the 11th, at Foxholm on the 12th, at Valley City on the 17th, at Ashley and Valley City on the 18th, and at Valley City on the 24th.

ERRATA, NOVEMBER, 1920.

Page 81: Greatest 24-hour precipitation at Cooperstown should be 0.45 inch. Mean temperature and departure at Eckman should be 26.8°, +0.5.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.11	30.82	17	29.32	19	57	6,598	8.9	39	s.	18
Devils Lake	30.08	30.88	17	29.22	19	44	8,033	10.8	38	nw.	15
Ellendale	30.10	30.83	17	29.37	19	56	10,808	14.5	53	w.	19
Grand Forks	30.09	30.88	17	29.32	3	90	....	......	56	se.	18
Williston	30.03	30.66	17	29.24	19	48	5,741	7.7	30	nw.	15
Moorhead, Minn	30.13	30.92	17	29.34	19	58	6,567	8.8	36	nw.	15
Av'ges and extremes	30.09	30.92	17	29.22	19	.....	....	10.1	56	se.	18

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p'c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	149.7	279.2	54	+2	88	68	75	38	6
Devils Lake	149.4	275.8	54	+4	90	84	90	65	26
Ellendale	164.6	282.9	58	......	89	72	....	40	22
Grand Forks	......	......	......	......	88	.....	86	.....	....
Williston	156.2	275.8	57	+13	79	69	70	52	7
Moorhead, Minn.	......	......	......	......	87	.....	84	.....	....
Averages and extremes	155.0	278.4	56	+6	87	74	81	38	6

* And other dates.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893	0.8	−4.1	49	48	0.98	+0.44	7	11	11	9	nw.
1894	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898	14.6	+9.7	69	32	0.11	−0.43	2	8	8	15	nw.
1899	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912	−4.6	−9.5	63	52	0.35	−0.19	4	16	6	9	nw.
1913	3.2	−1.7	60	54	0.45	−0.09	5	12	9	10	nw.
1914	14.8	+9.9	62	−38	0.50	−0.04	4	16	8	7	nw.
1915	5.8	+1.1	51	48	0.29	−0.25	3	12	9	10	nw.
1916	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917	1.7	−3.2	47	46	0.73	+0.19	5	13	8	10	nw.
1918	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921	15.9	+11.0	58	31	0.24	0.30	2	13	9	9	nw.

Climatological Data for January, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	14.7	+10.2	42	6	−20	12	48	0.20	−0.27	0.20	2.0	1	19	5	7	s.	E. T. Carley.
Amidon	Slope	...	6	24.4	...	53	15†	− 9	11	38	0.12	...	0.12	...	1	17	8	6	w.	Charles Eastgate.
Arnegard	McKenzie	...	3	17.9	...	43	5	12	11	35	0.20	...	0.20	2.0	1	20	7	4	nw	Chas. A. Benson.
Ashley	McIntosh	2,001	24	20.6	+13.1	50	19†	−14	17	41	0.40	−0.15	0.20	4.0	3	24	4	3	nw.	R. C. Miles.
Beach	Golden Valley	2,579	15	22.8	+13.5	55	15	−17	11	46	0.33	−0.31	0.22	3.0	3	12	12	7	nw.	I. H. Claggett.
Berthold Agency‡‡	McLean	2,082	27	19.3	+11.8	44	5	−11	17	47	0.11	−0.30	0.10	0.8	2	18	10	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	47	18.8	+12.1	54	15	−10	16	46	0.12	−0.42	0.08	2.5	2	8	14	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	9.8	+10.5	31	20	−31	11	44	0.10	−0.35	0.08	...	2	11	8	12	nw.	M. R. Shuler.
Bowbells	Burke	1,958	9	11.9	...	39	15	−21	17	52	0.12	...	0.12	...	1	20	0	11	...	G. H. Phelps.
Bowman	Bowman	...	7	24.9	...	54	27	−10	11	34	0.30	...	0.15	3.0	4	17	7	7	nw.	W. W. Barr.
Cando	Towner	1,488	20	11.4	+12.9	34	20	−22	17	41	0.09	−0.29	0.05	...	4	14	4	13	nw.	A. J. Swanson.
Carson	Grant	2,500	9	19.7	...	45	19	−11	11	35	0.30	...	0.20	3.0	2	23	6	2	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11	...	...	...	...	...	...	...	0.10	−0.41	0.10	1.0	1	18	9	4	nw.	S. Friswold.
Crosby	Divide	1,954	14	16.0	+14.3	50	24	−14	11	48	0.11	−0.46	0.10	1.1	2	10	13	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	17	10.5	+10.2	39	20	−22	17	34	0.13	−0.47	0.05	2.0	5	10	9	12	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	19.6	+ 9.3	58	15	−14	11†	50	0.23	−0.19	0.08	1.7	5	15	8	8	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	15.0	+11.6	52	2	−19	17	50	0.10	−0.30	0.05	1.0	2	1	23	7	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	21.2	...	56	15	−12	11	44	0.03	...	0.03	T.	1	18	6	7	nw.	W. H. Moede.
Dunseith	Rolette	1,682	25	11.4	+ 9.9	34	20	−23	17	42	0.04	−0.44	0.03	0.4	2	14	7	10	nw.	J. G. Lamont.
Eckman	Bottineau	...	16	12.8	+12.2	40	15	−22	12	54	0.10	−0.51	0.10	1.0	1	15	7	9	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	19.7	+11.9	53	20	−16	17	49	0.10	−0.20	0.05	...	2	16	12	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	19.1	...	55	19	−10	17	39	0.15	−0.51	0.12	1.4	3	10	9	12	nw.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	9	...	...	...	...	...	...	...	0.05	...	0.03	...	2	14	15	2	nw.	N. W. Solenberger.
Epping	Williams	2,224	13	...	...	...	...	...	...	...	0.05	−0.54	0.05	1.0	1	17	11	3	nw.	M. E. Uggen.
Fessenden	Wells	1,610	9	14.6	...	39	19†	−23	11†	51	0.43	...	0.43	0.2	1	...	...	...	se.	T. D. Monsen.
Foxholm	Ward	...	1	14.8	...	38	6	−15	17	37	0.09	...	0.09	1.5	1	11	12	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	3	...	...	...	...	...	...	...	0.20	...	0.15	1.0	2	20	9	2	w.	Verne King.
Fullerton	Dickey	1,439	23	20.4	+12.6	53	19	−13	17	35	0.37	−0.41	0.28	3.7	3	9	14	8	nw.	F. O. Alin.
Garrison	McLean	1,901	26	18.6	+12.1	48	15	−13	17	38	0.21	−0.26	0.09	2.2	4	15	11	5	nw.	G. L. Robinson.
Grafton	Walsh	827	29	10.6	+ 9.7	35	6†	−27	16	44	0.35	−0.26	0.11	4.1	5	17	0	14	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	29	12.0	+ 8.4	38	19	−18	17	31	0.38	−0.18	0.24	3.7	4	12	11	8	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	14.4	+12.7	40	26	−18	17	40	0.10	−0.31	0.05	1.0	2	14	7	10	se.	W. A. Christianson.
Hannah	Cavalier	1,568	16	8.6	+10.3	32	19	−27	17	43	0.70	−0.01	0.30	7.0	4	18	5	8	s.	J. Moffatt.
Hansboro	Towner	1,597	13	11.3	+13.6	34	20	−23	17	38	T.	−0.89	T.	T.	0	16	3	12	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	U. J. Downey.
Hillsboro	Traill	901	15	14.2	+10.3	42	20	−18	12	34	0.30	−0.45	0.20	3.0	2	9	15	7	s.	F. E. Mayall.
Howard‡‡	Williams	2,275	14	16.7	+15.2	40	5	−12	11	29	0.30	−0.52	0.30	2.1	1	13	9	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	16.9	+10.4	49	20	−14	12†	38	0.35	−0.30	0.25	3.5	3	13	7	11	nw.	S. Calvelage.
Lamoine	Kidder	1,936	13	15.8^{a}	+11.8	39^{a}	19†	−20^{a}	11†	42^{a}	T.	−0.61	T.	T.	0	...	...	...	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	25	7.8	+10.5	33	19	−24	17	42	0.20	−0.41	0.20	2.0	1	15	7	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	11.2	+ 8.6	35	19†	24	17	42	0.32	−0.37	0.20	2.5	3	11	6	14	s.	Reuben Gray.
Linton	Emmons	1,711	3	19.9	...	47	20	−18	12	50	0.26	...	0.16	3.0	3	15	8	8	se.	William Malpass.
Lisbon	Ransom	1,091	17	17.2	+11.3	48	20	−16	12†	33	0.20	0.52	0.15	2.0	2	18	4	9	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3	...	...	...	...	...	...	...	0.20	...	0.10	2.0	2	...	...	...	...	Edw. Tapley.
McKinney‡‡	Renville	1,640	27	14.6	+11.4	40	15†	−21	17	47	0.15	−0.24	0.15	1.5	1	4	19	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	9	17.7	...	48	19	−17	12†	35	0.29	...	0.15	...	5	18	1	12	nw.	J. G. Carlson.
Maddock	Benson	1,604	6	13.4	...	37	26	−23	11†	47	T.	...	T.	T.	0	9	12	10	nw.	A. T. Felland.
Mandan	Morton	1,644	7	17.6	...	55	15	−12	12	43	0.19	...	0.08	...	3	16	4	11	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	14.0	+10.0	36	19†	−19	17	38	0.05	−0.62	0.03	...	2	10	14	7	nw.	P. B. Anderson.
Marmarth	Slope	...	12	25.4	+15.1	55	15	− 8	11	36	0.30	+0.02	0.17	1.5	5	11	6	14	w.	S. P. Grane.
Mayville	Traill	975	25	12.6	+ 6.5	39	19	−20	17	30	0.27	−0.23	0.20	...	3	17	4	10	nw.	W. C. Gould.
Melville	Foster	1,590	23	16.4^{b}	+10.8	36^{b}	26†	−16^{b}	22	46^{b}	0.10	−0.28	0.10	1.0	1	...	...	...	nw.	J. P. Kidder.
Minot	Ward	1,557	25	13.0	+ 8.0	40	15	−20	17	48	0.30	−0.16	0.30	3.0	1	13	10	8	w.	W. I. Faris.
Minto	Walsh	820	28	11.5	+ 9.7	36	19†	−22	17	36	0.15	−0.36	0.06	...	4	12	10	9	s.	C. M. Evans.
Mott	Hettinger	2,424	14	17.4	+ 9.9	50	26	−15	11	46	0.52	−0.40	0.16	4.5	4	10	13	8	w.	O. H. Opland.
Napoleon	Logan	1,955	29	17.8	+11.9	51	28	−17	17	42	0.15	−0.33	0.10	3.0	2	19	6	6	sw.	C. J. Hoof.
New England	Hettinger	2,400	27	16.8	+ 3.5	50	27	−14	11	42	0.75	+0.29	0.30	7.5	4	...	...	...	nw.	W. C. McKenzie.
New Salem	Morton	2,163	16	19.4	+11.7	46	20	−10	17	37	0.18	−0.49	0.15	2.0	2	12	15	4	w.	J. Christiansen.
Park River	Walsh	998	17	10.8	+ 9.0	34	6†	−24	17	29	0.09	−0.38	0.05	0.8	2	12	8	11	nw.	C. B. Wright.
Parshall	Mountrail	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	47	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. W. Shumaker.
Pettibone	Kidder	1,856	2	15.8^{a}	+15.8	40^{a}	19†	−17^{a}	11†	41^{a}	0.15	−0.29	0.10	1.5	2	14	12	5	nw.	S. C. Shanks.
Power	Richland	1,020	28	...	...	...	...	...	...	...	0.25	−0.38	0.10	2.5	3	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	6	...	...	...	...	...	...	...	0.20	...	0.10	2.0	2	4	19	8	ne.	C. Frank.
Skaar	McKenzie	...	1	20.0^{c}	...	49^{c}	27	−15^{c}	16	43^{c}	0.12	...	0.07	2.0	4	12	9	10	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	24	20.9	+13.3	45	19†	−14^{a}	12	49^{a}	0.40	−0.06	0.25	4.0	3	19	8	4	s.	H. S. Wood.
Taylor	Stark	2,493	5	...	...	...	...	...	...	...	0.30	...	0.10	2.5	4	...	...	...	...	H. Leutz.
Towner	McHenry	1,482	19	11.8	+ 9.2	38	26	25	17	45	0.30	−0.18	0.20	3.0	2	15	4	12	nw.	B. Bagley.
Turtle Lake	McLean	1,899	6	16.5	...	45	15	−13	11†	30	0.64	...	0.20	5.6	7	6	9	16	s.	A. T. Anderson.
Valley City	Barnes	1,245	2	15.6	+10.8	45	20	−21	12	44	0.17	−0.44	0.15	1.8	2	23	3	5	nw.	C. F. Schroeder.
Wahpeton	Richland	962	27	18.0	+10.2	50	19	−17	17	30	0.25	−0.25	0.15	2.5	2	11	9	11	se.	State School of Science.
Walhalla	Pembina	966	14	...	...	...	...	...	...	...	0.80	−0.05	0.40	8.0	3	...	...	...	...	Ivan Lee.
Westhope	Bottineau	1,508	15	10.4	+11.8	31	15	−24	17	39	0.24	−0.21	0.24	...	1	15	8	8	nw.	W. A. Meddaugh.
Williston	Williams	1,875	42	18.7	+12.2	44	5	− 8	11	34	0.15	−0.43	0.12	0.7	2	10	9	12	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	8.4	+ 8.1	34	20	−29	11	53	0.20	−0.36	0.10	2.0	2	14	5	12	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	15.3	+12.6	43	19	−17	12	30	1.21	+0.50	1.06	10.6	6	5	9	17	s.	U. S. Weather Bureau.
Averages	...	...	...	15.9	+11.0	58	15	−31	11	54	0.24	−0.30	0.43	2.5	2	13	9	9	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Orange, Thunder Hawk, S D; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for January, 1921.

Stations.	Watersheds.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red		T.																	T.											.20		0.20
Amidon	Lit. Missouri				.12															T.													0.12
Arnegard	Missouri									T.										.20										T.			0.20
Ashley	Missouri																													.10	.10	.20	0.40
Beach	Lit. Missouri	T	T.		.06					T.	.05			T.						.22													0.33
Berthold Agency	Missouri				T.											T.				.10										T.		.01	0.11
Bismarck ***	Missouri	T.	T								T.				T.	T.	T.			T.					T.			T		.08	T.	.04	0.12
Bottineau	Mouse				T.										T.					.08												.02	0.10
Bowbells ‖	Mouse																				.12												0.12
Bowman	Grand		T.		.10						.02							T.		T.										.15	T.	.03	0.30
Cando	Sheyenne										.01				.01	.02															.05		0.09
Carson	Heart	.10			T.																									.20			0.30
Cooperstown	Sheyenne																			T										T	T	.10	0.10
Crosby	Mouse										.01			T.	T.					.10										T.		T.	0.11
Devils Lake ***	Sheyenne	.02									T.			T.	T.	T.				.05										.01	.01	.04	0.13
Dickinson ‖	Heart	.08			T.	.04					T.	T.			T.	T.					.08									T.	.01	.02	0.23
Donnybrook	Mouse	T.	T.													.05				.05										T.			0.10
Dunn Center	Knife	T.			T.					T.										.03										T.	T	T.	0.03
Dunseith	Mouse															T.				.03												.01	0.04
Eckman	Mouse															T.				.10												T.	0.10
Edgeley	James										T.																			.05		.05	0.10
Ellendale ***	James	T.									.01				T.					T.										.12	T.	.02	0.15
Energy	Missouri													T.	T.	T.				.03	T.				T.						.02		0.05
Epping	Missouri										T						T.		.05												T.		0.05
Fessenden	James													T.						.43										T.	T.	T.	0.43
Foxholm	Mouse														T.	T.				.09										T.		T.	0.09
Fryburg	Lit. Missouri		T.							T.				T.						.15												.05	0.20
Fullerton	James										T.				T															.10	.18	.09	0.37
Garrison	Missouri									T.	.02									.06										.04		.09	0.21
Grafton	Red	.05													.05		.06													.08	.11		0.35
Grand Forks ***	Red	.16	T.								T.					.01	T.			T.										.15	.06		0.38
Granville	Mouse			T.							T.									.05												.05	0.10
Hannah	Pembina					.10										.30	.20													.10			0.70
Hansboro	Red	T.																														T.	T.
Hettinger	Grand																																
Hillsboro	Red	.20																													.10		0.30
Howard	Missouri	T.	T.	T.						T.	T.			T.	T.	T.	T.			.30										T.	T.	T	0.30
Jamestown	James	.10										T.							T.	T.											*	.25	0.35
Lamoine	Missouri										T.																					T.	T.
Langdon	Pembina																															.20	0.20
Larimore	Red			.07																.05											.20		0.32
Linton	Missouri	.16		T.	T.						T.				T.						T.						T.			.07	T.	.03	0.26
Lisbon	Sheyenne	.15	T.			T.	T.			T.	T.						T.													T.	.05		0.20
McClusky	Missouri										.10																					.10	0.20
McKinney	Mouse																			.15													0.15
McLeod	Sheyenne	.05	.15												.01															*	.08		0.29
Maddock	Sheyenne																			T.													T.
Mandan ‖	Missouri	.08		T.								T.					T.													.08	.03	T.	0.19
Manfred	Sheyenne	T.			T.						T.				T.					.02										T.		.03	0.05
Marmarth	Lit. Missouri		.01				T.			T.	.01									.17										.09	T.	.02	0.30
Mayville	Red																													.05	.20	.02	0.27
Melville	James														T.					T.										T.		.10	0.10
Minot	Mouse																			.30													0.30
Minto	Red															T.	.06			.02										.04	.03		0.15
Mott	Cannon Ball		T.		.21																									.07	.16	.08	0.52
Napoleon	Missouri										T.																			.10		.05	0.15
New England	Cannon Ball	.10			.30															T.										.15	.20	T.	0.75
New Salem	Heart	.03			T.																									.15		T.	0.18
Park River	Red			T.												T.		.05													.04		0.09
Parshall	Missouri																																
Pembina ‖	Red																																
Pettibone	James	T.		T.							T.				T.					T.										.05		.10	0.15
Power	Missouri					T.																							T.	.05	.10	.10	0.25
Powers Lake	Sheyenne									T.							T.			T.	.10									.10			0.20
Skaar	Lit. Missouri		T.		T.					.01	.01									.07										T.	T.	.03	0.12
Steele	Missouri	.10																												.25	T.	.05	0.40
Taylor	Heart	.10			.05						T.	T.									.10											.05	0.30
Towner	Mouse																			.10												.20	0.30
Turtle Lake	Missouri	.10	T.								.05				.09	.10				.20										.04		.06	0.64
Valley City	Sheyenne	.15																													.02		0.17
Wahpeton	Red			.10																										T.	.15		0.25
Walhalla	Pembina	.40																	.20						.20								0.80
Westhope	Mouse																		.24														0.24
Williston ***	Missouri		T.		T.					T.	T.			T.						.12										T.	T	.03	0.15
Willow City	Mouse										T.					T.				.10											T.	.10	0.20
Moorhead, Minn ***	Red	1.06	T.			T.				T.	T.	T.		T.	.01	T.	T.			.02				T.				T.		.10	.01	.01	1.21

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	18	16	30	31	37	42	40	28	32	28	25	18	21	28	13	18	18	30	40	38	36	37	29	21	26	33	28	31	27	23	26	28.0
	Minimum	8	6	20	13	16	13	15	-4	0	-4	-10	-20	-18	-14	-4	-19	-6	-18	5	10	8	7	13	0	3	7	11	6	8	4	6	1.4
Arnegard	Maximum	32	37	34	36	43	40	34	35	34	20	14	34	31	36	10	10	10	32	33	27	27	31	26	17	30	36	25	37	19	15	25	28.1
	Minimum	15	16	23	23	24	22	9	8	6	3	-12	-1	16	10	-5	-8	-3	5	14	5	-3	14	5	3	7	10	9	12	11	2	4	7.7
Ashley	Maximum	32	30	40	30	38	40	32	29	37	28	17	29	27	20	43	40	10	30	50	48	39	40	35	20	37	40	27	50	38	10	20	32.5
	Minimum	15	-2	23	20	19	21	15	5	19	-2	-9	-12	10	2	6	5	-14	15	19	25	5	16	15	1	3	7	24	20	10	3	0	8.7
Beach	Maximum	38	38	43	36	45	40	33	35	35	23	20	32	30	33	55	18	20	37	40	39	37	40	35	30	45	42	52	50	40	20	20	35.5
	Minimum	13	18	24	18	8	24	10	7	18	-2	-17	-5	17	8	15	-1	-1	8	23	19	5	18	9	10	7	10	6	10	16	12	8	10.2
Berthold Agency	Maximum	34	36	38	38	44	40	35	36	36	25	15	41	33	26	53	19	17	28	34	36	33	35	34	22	34	43	34	38	23	15	23	32.2
	Minimum	15	1	12	24	18	21	10	-2	23	2	10	6	13	13	6	-2	11	2	25	9	-4	7	3	-2	-1	2	3	5	11	5	7	6.4
Bismarck	Maximum	27	34	41	35	36	39	36	35	38	24	8	31	37	21	54	8	14	29	44	45	29	41	33	20	26	35	21	39	22	13	17	30.1
	Minimum	2	-5	24	17	17	22	16	2	12	2	7	8	14	13	8	10	9	5	25	18	7	19	11	2	2	10	9	11	10	0	-5	7.5
Bottineau	Maximum	24	22	24	25	28	30	22	22	28	18	13	20	21	20	19	18	3	19	30	31	25	24	21	15	16	20	21	24	21	14	15	21.1
	Minimum	9	5	11	9	20	10	-8	-14	-2	2	-31	-22	3	1	-5	15	-22	-10	18	0	-8	3	0	3	-6	-2	4	5	0	0	0	-1.4
Bowbells §§	Maximum	22	33	29	35	30	31	26	32	27	15	10	35	23	24	39	24	16	30	21	31	26	28	11	26	28	24	20	12	12	7	11	23.8
	Minimum	8	3	10	18	18	16	3	6	2	1	18	-17	4	-1	-1	15	21	5	3	7	4	-4	-8	-6	2	4	9	5	1	-5	-4	0.0
Bowman	Maximum	34	38	41	35	42	45	32	34	31	26	19	33	31	33	53	30	19	38	44	44	38	38	37	33	44	39	54	49	46	15	33	36.5
	Minimum	18	20	27	27	13	21	10	10	19	4	10	-1	15	12	20	5	3	9	29	18	10	17	17	9	9	13	20	21	15	6	7	13.3
Cando	Maximum	27	20	27	25	28	30	24	15	29	21	5	22	27	17	19	18	10	20	33	34	27	24	22	11	18	31	29	23	20	7	17	21.9
	Minimum	11	9	15	15	18	16	-3	11	9	-5	21	19	6	-1	-6	11	-22	-8	19	3	-4	10	4	-9	-10	3	12	19	0	-1	-11	0.9
Carson	Maximum	40	38	40	30	35	30	34	35	25	22	10	25	25	32	20	10	20	26	45	40	40	35	30	25	25	30	35	40	30	20	15	29.3
	Minimum	19	10	20	18	14	20	22	23	20	5	-11	0	15	10	0	-5	9	6	20	22	5	15	12	0	0	10	15	12	10	10	4	10.1
Crosby	Maximum	26	33	29	31	34	38	26	28	32	17	11	31	25	21	35	8	9	23	28	27	21	28	19	50	30	35	28	22	19	10	18	25.5
	Minimum	12	11	17	22	22	12	6	2	16	1	-14	-1	16	9	5	-9	-11	-1	19	10	-1	12	5	2	5	11	9	10	5	-8	5	6.4
Devils Lake	Maximum	14	23	32	23	27	33	19	22	30	14	-2	20	30	8	25	2	0	23	36	39	23	28	17	10	20	34	23	24	10	6	18	20.2
	Minimum	10	10	15	14	22	12	2	8	1	-9	-18	14	8	-8	-5	18	-22	0	14	8	1	15	4	-6	-8	10	10	10	0	-7	-10	0.8
Dickinson §§	Maximum	33	40	40	34	40	38	33	34	37	23	10	33	31	37	58	10	16	34	41	37	31	37	34	22	38	45	50	45	17	16	27	33.0
	Minimum	17	14	18	15	8	18	8	5	5	0	-14	-14	7	4	8	0	-3	-1	9	15	3	3	8	7	2	5	5	5	15	12	7	6.2
Donnybrook	Maximum	28	52	28	30	35	35	30	30	26	16	18	35	25	18	10	8	10	24	32	33	25	32	30	15	25	39	25	24	19	15	19	25.5
	Minimum	12	2	12	12	22	26	12	3	3	3	-13	5	7	7	6	-9	-19	-8	18	18	....	10	10	8	-8	10	8	5	4	0	3	[a] 4.6
D n Center	Maximum	33	38	39	38	43	39	34	36	36	27	15	38	32	28	56	23	14	30	36	37	35	35	31	28	37	43	42	48	30	16	23	33.5
	Minimum	16	9	21	26	18	21	2	1	22	4	-12	-6	15	12	23	-2	-7	2	23	23	2	10	0	2	3	4	11	13	6	11	6	9.0
Dunseith	Maximum	22	21	26	27	26	32	22	17	32	19	7	20	29	18	17	15	-6	17	29	34	28	28	23	8	14	33	32	28	16	14	14	21.4
	Minimum	7	3	14	10	17	14	15	-8	9	-6	-18	-22	4	-3	-8	14	-23	-10	16	22	-1	0	5	-3	6	1	13	13	-2	5	-3	1.3
Edgeley	Maximum	34	35	42	33	30	41	33	30	39	31	17	25	40	31	39	39	4	24	51	53	45	42	33	25	25	34	29	43	35	12	21	32.7
	Minimum	15	4	19	21	11	18	15	1	19	2	-8	13	10	8	3	-8	-16	-1	17	9	7	19	8	1	0	5	15	13	10	4	0	6.7
Ellendale	Maximum	25	31	41	30	35	42	35	32	38	26	7	25	42	18	42	8	12	24	55	53	32	42	34	18	25	31	29	34	26	12	21	29.8
	Minimum	16	11	21	21	11	19	20	5	16	0	7	-7	8	6	5	8	-10	1	24	14	9	16	10	5	5	3	15	10	8	6	9	8.5
Fessenden	Maximum	23	30	36	28	30	38	29	28	34	20	28	31	17	36	19	10	23	....	39	41	27	33	24	15	21	39	31	30	22	8	19	[a]27.0
	Minimum	7	-1	18	15	20	19	1	6	15	5	-23	7	0	3	-13	23	-6	....	12	5	2	13	6	-3	-12	6	8	11	0	-2	0	[a] 2.1
Fullerton	Maximum	34	27	41	32	32	40	33	30	40	34	20	24	40	32	40	28	5	26	53	50	30	42	32	26	24	31	29	36	21	11	23	31.2
	Minimum	15	13	22	20	13	18	17	15	18	9	-5	-10	9	4	18	-3	-13	0	21	15	9	17	15	4	4	4	15	13	9	5	6	9.6
Garrison	Maximum	32	32	38	31	37	40	34	31	35	24	29	32	34	26	48	34	12	25	35	35	34	34	26	26	26	40	33	20	19	22	20	30.5
	Minimum	14	0	16	22	20	21	10	1	19	2	12	11	16	6	10	-6	-13	-2	22	4	1	13	3	0	-6	6	7	4	5	0	0	6.8
Grafton	Maximum	25	18	26	27	22	35	27	9	32	28	3	13	29	21	11	12	6	20	35	35	33	29	25	11	20	30	26	28	20	10	20	22.1
	Minimum	5	2	14	11	4	16	0	-6	2	-16	-20	-21	5	-4	-6	-27	-23	-10	20	3	3	13	10	9	-14	5	10	18	-1	1	10	-0.8
Grand Forks	Maximum	12	19	33	19	25	36	27	15	33	12	1	14	32	9	19	5	7	24	38	36	26	32	22	12	23	34	29	27	16	11	20	21.5
	Minimum	-2	0	15	14	7	20	4	-4	4	12	14	16	9	-5	-2	-12	18	5	22	9	6	18	4	3	-4	9	18	16	3	-8	6	2.5
Granville	Maximum	31	35	33	28	33	37	29	31	30	17	18	30	30	15	20	10	8	25	35	35	30	33	20	15	30	40	33	25	15	10	15	25.7
	Minimum	12	5	18	20	23	17	5	3	10	0	-13	-10	12	5	8	-12	-18	-3	5	7	2	9	-3	-8	-10	5	10	12	5	0	2	3.0
Hannah	Maximum	20	23	23	27	25	24	14	12	14	9	4	20	23	19	4	-1	0	20	32	30	27	15	12	14	13	27	26	16	12	13	14	17.1
	Minimum	-5	6	11	16	20	14	-2	-10	6	7	-15	23	12	0	-15	-12	-27	-2	18	20	0	1	6	3	4	5	9	1	-9	-2	-2	0.0
Hansboro	Maximum	26	22	27	22	26	34	26	....	27	20	5	18	30	17	14	5	-5	20	30	34	30	26	27	20	16	34	26	15	18	8	15	[a]21.1
	Minimum	10	4	12	12	7	13	12	....	5	-4	-20	-20	10	12	-8	-15	-23	-7	20	7	14	7	5	-12	-12	16	10	8	-2	-4	-13	[a] 1.5
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hillsboro	Maximum	33	17	27	24	25	36	31	17	33	27	7	8	31	26	13	13	2	20	39	42	33	32	30	19	21	30	27	28	27	11	18	24.0
	Minimum	8	6	16	15	11	20	5	-3	4	-3	-8	-18	8	-2	-5	-6	-17	-2	20	8	8	16	13	-2	-4	8	14	24	4	2	-3	4.4
Howard	Maximum	28	30	33	26	40	39	31	29	28	15	12	31	29	22	35	16	11	26	30	28	30	29	30	20	30	30	32	33	16	10	20	26.4
	Minimum	14	12	13	20	20	22	5	1	10	5	-12	2	17	13	6	-6	-12	2	22	8	10	11	9	-5	4	10	8	11	5	-5	3	7.0
Jamestown	Maximum	32	27	35	30	29	31	38	26	32	22	0	23	23	23	31	20	0	25	43	49	42	38	20	25	40	30	40	26	10	21	20	27.5
	Minimum	14	4	19	20	20	19	17	3	16	0	-7	-14	3	-3	-1	-7	14	0	6	14	5	16	....	10	5	15	20	6	3	2	3	[a] 6.3
Lamoine	Maximum	33	28	32	34	32	34	32	29	32	33	4	26	33	21	34	26	5	26	39	39	30	30	25	20	....	25	29	31	22	9	16	[a]28.0
	Minimum	10	-4	16	18	20	18	8	-4	8	-5	-20	-16	9	4	8	-8	20	4	18	20	-3	10	8	1	-7	....	9	9	3	0	3	[a] 3.6
Langdon	Maximum	12	27	28	22	25	30	22	25	30	30	21	13	11	22	-2	10	6	18	33	30	24	25	20	24	15	25	24	24	12	7	15	20.3
	Minimum	4	7	10	10	15	15	-5	-14	-2	-10	-25	-24	-9	-4	-12	-12	-24	-15	-3	0	-5	-9	-3	-10	-9	2	3	10	-5	-5	-10	-4.6
Larimore	Maximum	15	25	33	28	24	36	28	27	20	15	2	10	23	20	18	5	10	22	35	35	28	31	22	14	22	32	25	22	18	11	18	21.7
	Minimum	10	5	15	10	14	11	2	-5	-8	-10	-14	-16	-19	0	5	8	-24	-9	13	15	4	12	8	-6	-11	5	13	13	5	-1	11	0.6
Linton	Maximum	34	29	43	33	37	37	33	33	35	31	17	32	37	30	43	37	13	29	46	47	38	42	36	27	26	38	38	49	45	13	17	33.7
	Minimum	16	-7	14	12	2	13	4	-3	17	-5	15	-18	1	12	8	1	-10	9	27	18	7	11	8	4	3	8	11	13	11	10	8	6.1
Lisbon	Maximum	21	24	36	29	27	37	30	27	37	29	14	16	38	27	26	23	4	20	47	48	40	42	32	24	27	34	41	25	15	14	23	28.3
	Minimum	16	9	15	15	21	14	12	-1	12	-3	-8	-16	8	2	-2	-4	-16	-6	14	16	12	17	16	3	2	5	12	10	5	5	4	6.1
McKinney	Maximum	28	38	35	30	32	35	28	32	32	28	25	30	32	20	40	5	....	25	35	30	30	30	27	16	28	40	32	20	20	10	15	[a]26.7
	Minimum	10	5	20	22	23	25	5	-1	10	0	-16	-10	-15	5	-5	-10	21	-5	12	8	0	16	-1	-9	-10	8	5	9	8	0	0	2.8
Maddock	Maximum	34	24	30	27	28	33	28	23	30	27	8	26	30	23	31	30	1	22	36	36	32	28	28	15	23	37	34	24	23	8	19	25.7
	Minimum	11	3	20	11	21	20	-2	-11	16	-3	-23	-21	9	0	-4	-11	23	-7	18	0	3	11	1	-9	-14	5	10	17	0	-1	2	1.2
Marmarth	Maximum	38	38	40	35	46	45	31	33	33	23	17	37	31	32	55	40	40	40	48	37	36	37	37	24	42	41	52	50	33	14	30	36.6
	Minimum	19	19	27	20	15	24	14	13	19	5	-8	1	20	14	20	5	8	8	28	19	10	20	13	10	12	14	14	20	13	11	10	14.1
Melville	Maximum	35	25	34	32	24	35	34	21	34	8	11	22	28	34	30	30	0	20	35	35	35	31	...	31	20	36	36	34	23	....	20	[b]27.3
	Minimum	12	5	22	17	22	21	10	0	8	2	-11	-11	13	5	-2	-6	-15	-3	20	20	6	-16	....	-1	-3	15	14	17	3	....	0	[b] 5.2
Minot	Maximum	20	33	33	28	37	38	31	33	33	29	8	35	30	20	40	13	9	25	32	35	28	32	25	15	26	42	33	20	18	9	10	26.5
	Minimum	8	-2	17	17	17	18	-1	-8	14	-3	-19	-13	8	2	-2	-13	-20	-8	16	-1	-11	7	-1	-11	-13	-4	2	-1	2	-4	-5	-0.5
Mott	Maximum	20	37	36	32	32	38	25	20	22	18	17	10	23	26	36	10	15	30	40	41	27	36	29	25	33	50	46	47	22	15	21	28.4
	Minimum	14	10	17	15	2	12	2	0	12	0	-15	-8	5	8	10	3	-1	6	21	18	16	11	4	4	6	4	5	8	4	4	5	6.5
Napoleon	Maximum	33	30	28	38	34	38	33	26	36	23	10	30	36	31	41	25	10	26	46	46	35	40	33	23	28	40	34	51	38	12	20	31.4
	Minimum	12	5	12	16	8	14	8	-3	16	-4	-16	-12	8	6	8	-8	17	-3	18	14	2	14	6	-2	-5	10	12	9	5	4	3	4.2
New Salem	Maximum	42	38	45	39	37	42	40	45	42	19	24	32	34	24	20	15	10	31	42	46	36	32	30	28	29	27	26	34	28	24	17	31.5
	Minimum	25	22	18	15	17	21	15	5	9	-9	-7	-5	5	7	4	-5	-10	15	10	12	5	16	9	-4	-4	4	7	17	5	6	4	7.4
Pembina §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Steele	Maximum	37	40	36	42	40	42	37	36	37	35	12	30	39	34	40	12	33	35	45	37	32	30	35	34	37	42	45	38	35	25	26	34.8
	Minimum	....	16	20	15	18	15	18	15	14	14	10	-14	-10	12	10	12	-10	-8	15	4	2	6	7	6	12	10	9	6	5	4	2	[a] 7.0
Towner	Maximum	19	28	30	27	25	34	26	26	30	15	-3	25	29	15	35	18	1	26	32	31	25	25	23	11	23	38	32	22	22	6	16	23.1
	Minimum	12	2	15	15	20	15	-3	-12	-5	-7	-18	-20	5	1	1	9	-25	-6	20	4	-8	0	1	-6	-16	3	15	17	2	-2	3	0.5
Valley City	Maximum	33	28	33	32	28	36	33	30	34	30	2	23	30	26	20	15	2	24	42	45	35	35	31	11	21	32	26	38	31	11	18	26.9
	Minimum	11	12	12	14	21	14	13	-6	14	-6	-19	-21	10	0	-5	8	-20	-12	18	14	8	21	11	-1	-4	8	10	21	5	2	-3	4.3
Wahpeton	Maximum	20	20	30	31	27	29	28	20	31	21	16	15	33	15	15	21	7	27	50	45	47	40	33	21	28	33	39	33	28	18	23	26.9
	Minimum	13	9	19	19	15	19	9	-2	8	-2	14	-12	12	0	-6	-9	-17	7	22	21	14	17	15	4	8	9	20	27	10	8	9	9.0
Westhope	Maximum	31	26	26	26	31	30	25	24	26	27	10	10	26	15	14	12	15	29	29	24	26	28	16	12	14	18	17	17	13	7	16	20.6
	Minimum	11	10	11	12	17	16	-7	8	3	3	-23	-17	-10	2	-2	-10	-24	15	15	14	-8	8	-7	-16	-10	-2	12	2	2	-7	1	0.1
Williston	Maximum	32	35	33	34	44	37	31	36	35	19	14	34	29	27	40	6	15	32	32	28	28	32	27	16	34	37	35	30	18	14	23	28.6
	Minimum	14	15	24	24	22	19	16	8	9	0	-8	4	18	9	6	-5	-3	8	15	3	-4	14	4	4	10	7	9	11	9	8	4	8.5
Moorhead, Minn.	Maximum	21	21	29	25	27	34	26	16	34	21	0	13	28	15	21	8	10	23	43	38	27	36	25	19	25	32	28	33	29	16	22	24.0
	Minimum	8	6	20	13	16	17	8	-1	8	-4	-10	17	13	-5	-3	-12	-16	7	23	13	13	20	8	2	2	9	19	26	5	5	6	6.6

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, etc.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXX. BISMARCK, N. D., FEBRUARY, 1921. No. 2

GENERAL SUMMARY.

The month was the warmest February of record since the State climatological service was begun in 1892. The mean temperature, 19.9°, is 2.5° higher than the mean for February, 1915, which previously held the record for warmth. The month, however, was not continuously warm; during the first and third weeks the temperature was near normal and readings below zero were of frequent occurrence, but the second and fourth weeks were exceptionally warm. Geographically the mean temperature varied from 10° in the extreme northeastern portion to 28° in the extreme southwestern portion, which is somewhat greater than the normal difference due to the greater excess above normal in the western portion. The precipitation was less than normal in most sections, but was greater than normal in the extreme northeastern portion, where amounts over one inch were recorded at three stations. There was a general fall of snow on the 3d and 4th and on the 15th and 16th, but only scattered falls occurred on other dates. The snowfall of the 15th and 16th was accompanied by a cold wave and high winds. Considerable field work was accomplished on farms during the warm periods, and some spring wheat was sown. Livestock benefited by the mild weather, and much feed was saved by grazing at a time when feeding is usually necessary.

TEMPERATURE.

The mean temperature for the State was 19.9°, or 12.0° above the normal, and 7.4° higher than the mean for February, 1920. The highest mean reported was 28.3° at Amidon, Slope County, and at Bowman, Bowman County; the lowest was 10.4° at Pembina, Pembina County. The highest temperature reported was 64° at Beach, Golden Valley County, on the 12th; the lowest was −33° at Langdon, Cavalier County, on the 19th. The greatest monthly range was 84° at Eckman, Bottineau County; the least was 50° at Pembina, Pembina County. The greatest daily range was 56° at Westhope, Bottineau County, on the 19th.

PRECIPITATION.

The average precipitation for the State was 0.39 inch, or 0.10 inch less than the normal, and 0.09 inch less than the average for February, 1920. The greatest monthly amount reported was 1.30 inches at Walhalla, Pembina County; the least was a trace at Amidon, Slope County, and Parshall, Mountrail County. The greatest amount recorded in any twenty-four consecutive hours was 0.70 inch at Maddock, Benson County, on the 16th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 3.8 inches.

AURORAS.

Auroras were observed at Donnybrook and Foxholm on the 5th, at Donnybrook on the 6th, at New England on the 18th, 19th and 20th, and at Eckman, Foxholm and Howard on the 27th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.05	30.91	19	29.11	15	57	6,354	9.5	43	nw.	16
Devils Lake	29.99	30.86	19	29.15	15	44	7,342	10.9	48	nw.	16
Ellendale	30.01	30.87	19	28.99	15	56	9,515	14.2	53	nw.	16
Grand Forks	29.97	30.84	19	29.07	15	90	......	......	52	nw.	16
Williston	30.00	30.86	18	29.26	15	48	5,890	8.8	36	nw.	16
Moorhead, Minn	30.03	30.90	19	29.04	15	58	6,169	9.2	33	nw.	16
Av'ges and extremes	30.01	30.91	19	28.99	15	.....	....	10.5	53	nw.	16

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	178.8	288.7	62	+ 4	85	64	67	35	11
Devils Lake	126.2	286.9	44	−12	89	83	88	68	7
Ellendale	165.8	289.9	57	......	91	68	....	38	27
Grand Forks	......	......	......	......	87	.....	84	......	....
Williston	187.2	286.9	65	+12	80	66	68	46	27
Moorhead, Minn	......	......	......	......	86	74	82	......	....
Averages and extremes	164.5	288.1	57	+ 1	86	71	78	35	11

* And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893	− 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904	− 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908	13.9	+6.0	62	−34	1.07	+0.58	5	12	7	10	nw
1909	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw.
1916	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917	− 0.7	−8.6	62	−48	0.66	+0.17	5	10	8	10	nw.
1918	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919	7.7	−0.2	58	−40	0.66	+0.17	5	10	8	10	nw.
1920	12.5	+4.6	53	−36	0.30	−0.19	3	11	9	9	nw.
1921	19.9	+12.0	64	−33	0.39	−0.10	3	11	10	7	nw.

Climatological Data for February, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	20.4	+13.4	51	27	16	19	40	0.30	−0.08	0.20	3.0	3	12	3	13	se.	E. T. Carley.
Amidon	Slope		6	28.3		61	12	6	17	43	T.		T.	T.	0	14	9	5	w.	Charles Eastgate.
Arnegard	McKenzie		3	22.0		53	27	−15	19	34	0.30		0.30	3.0	1	14	8	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	24.0	+16.2	57	12	−15	19	38	0.20	−0.25	0.10	2.0	2	20	3	5	nw.	R. C. Miles.
Beach	Golden Valley	2,579	15	25.8	+12.2	64	12	−10	17†	44	0.26	−0.26	0.26		1					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	26.4ᵃ	+17.0	59ᵃ	12	−14ᵃ	6	42ᵃ	0.12	−0.46	0.09	1.2	2				w.	C. L. Hall.
Bismarck	Burleigh	1,674	47	22.8	+14.5	59	12	−13	19	44	0.15	−0.35	0.08	2.3	5	7	12	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	14.3	+12.5	41	28	−28	19	40	0.39	+0.01	0.15		4	13	5	10	nw.	M. R. Shuler.
Bowbells	Burke	1,958	9	14.1		49	25	−29	18	46	0.35		0.25		2	22	0	6		G. H. Phelps.
Bowman	Bowman		7	28.3		63	12	7	19	39	0.30		0.15	3.0	3	13	11	4	sw.	W. W. Barr.
Cando	Towner	1,488	20	15.5	+12.7	42	27	−26	19	31	0.40	+0.16	0.27		5	8	8	12	nw.	A. J. Swanson.
Carson	Grant	2,500	9	24.8		60	12	−12	19	50	0.10		0.10	1.0	1	19	7	2	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11								0.30	−0.06	0.20	3.0	2	15	10	3	nw.	S. Friswold.
Crosby	Divide	1,954	14	18.7	+11.6	50	27†	−19	19	33	0.36	+0.12	0.12	3.4	6	6	12	10	sw.	John Jensen.
Devils Lake	Ramsey	1,478	17	15.4	+10.9	42	27	20	19	31	0.46	−0.07	0.23	5.1	10	8	6	14	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	24.3	+12.5	62	12	−12	19	44	0.35	−0.09	0.20	2.8	3	13	7	8	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	21.4	+14.4	54	27	26	18	39	0.43	−0.13	0.20	2.5	3	1	25	2	w.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	24.2ᵃ		58ᵃ	12	−17ᵃ	19	39ᵃ	0.16		0.10	2.0	2				nw.	W. H. Moede.
Dunseith	Rolette	1,682	25	14.2	+10.8	43	27	−29	19	37	0.04	−0.40	0.03	0.4	2	11	8	9	n.	J. G. Lamont.
Eckman	Bottineau		16	17.8	+11.4	56	28	28	19	45	0.36	−0.03	0.10	3.0	5	14	9	5	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	22.8	+11.9	57	15	16	19	40	0.16	−0.18	0.16		1	7	16	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	22.2		58	12	11	19	41	0.25	−0.37	0.08	2.3	7	9	13	6	nw.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	9								0.52		0.50		3	13	13	2	s.	N. W. Solenberger.
Epping	Williams	2,224	13								0.18	−0.18	0.10	1.0	2	18	6	4	w.	M. E. Uggen.
Fessenden	Wells	1,610	9	18.2		57	13	−27	19	45	0.40		0.30	2.0	3	9	11	8	nw.	T. D. Monsen.
Foxholm	Ward		1	18.8		50	27	−23	19	33	0.25		0.20	2.5	2	8	16	4	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	3								0.30		0.20	3.0	2	18	8	2	nw.	Verne King.
Fullerton	Dickey	1,439	23	22.7	+13.4	55	12†	+13	19	37	0.49	−0.31	0.40	4.9	2	9	15	4	nw.	F. O. Alin.
Garrison	McLean	1,901	26	21.9	+13.5	55	25†	24	19	39	0.38	−0.14	0.18	3.5	4	8	16	4	nw.	G. L. Robinson.
Grafton	Walsh	827	29	15.0	+10.1	39	12	−23	19	36	0.44	−0.15	0.35	4.7	3	13	6	9	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	29	14.6	+ 8.1	43	15	−20	19	33	0.77	+0.22	0.30	7.5	7	11	10	7	s.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	19.0	+10.6	50	27	22	19	35	0.27	−0.07	0.14	1.0	3	7	15	6	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	16	12.0	+10.0	40	28	−31	20	39	1.10	+0.54	0.30	11.0	5	17	7	4	nw.	J. Moffatt.
Hansboro	Towner	1,597	13	14.1ᵃ	+10.4	40ᵃ	28	−26ᵃ	19	32ᵃ	0.23	−0.27	0.23	2.0	1	12	10	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	13	26.8	+13.6	60	12	8	19	47	0.40	+0.09	0.40	4.0	1	17	8	3	nw.	U. J. Downey.
Hillsboro	Traill	901	15	18.3ᶜ	+ 9.8	44ᶜ	27	−16ᶜ	19	32ᶜ	0.30	−0.46	0.20	3.0	3	7	16	5	nw.	F. E. Mayall.
Howard‡‡	Williams	2,275	14	19.6	+13.6	52	27	−20	19	36	0.34	−0.37	0.32	3.4	2	15	10	3	nw	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	22.1	+14.2	55	15	15	19	34	0.16	−0.43	0.07	1.8	4	9	9	10	nw.	S. Calvelage.
Lamoine	Kidder	1,936	13	18.8ᵇ	+11.1	53	27	−28ᵇ	19	44ᵇ	0.40	+0.06	0.20	4.0	3				nw.	E. V. Virgin.
Langdon	Cavalier	1,615	25	11.0	+ 8.0	39	12†	−33	19	43	0.40	−0.28	0.20	4.0	2	10	11	7	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	15.4	+10.2	40	11†	−24	19	40	0.83	+0.37	0.25	8.5	8	1	12	15	nw.	Reuben Gray.
Linton	Emmons	1,711	3	23.9		62	27	−18	5	46	0.09		0.03	2.0	4	15	6	7	nw.	William Malpass.
Lisbon	Ransom	1,091	17	21.0	+11.4	57	27	12	19	38	0.25	−0.54	0.20	2.5	2	15	9	4	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3								0.60		0.40	6.0	2					Edw. Tapley.
McKinney‡‡	Renville	1,640	27	18.9	+13.8	55	27	−28	19	37	0.55	+0.25	0.50	5.5	2	8	16	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	9	22.7		56	15	− 9	19	42	0.59		0.50		4	17	6	5	se.	J. G. Carlson.
Maddock	Benson	1,604	6	18.6		46	27	25	19	35	0.70		0.70	7.0	1	5	9	14	nw.	A. T. Felland.
Mandan	Morton	1,644	7	22.0		59	12	15	19	46	0.16		0.08		3	11	5	12	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	17.9	+11.1	50	27	24	19	37	0.42	−0.03	0.12	3.8	7	8	8	12	nw.	P. B. Anderson.
Marmarth	Slope		12	27.1	+14.0	61	12	6	19	40	0.14	−0.19	0.07	1.6	3	13	6	9	w.	S. P. Grane.
Mayville	Traill	975	25	16.6	+ 8.9	41	15	−19	19	34	0.47	+0.07	0.20		5	11	3	14	nw.	W. C. Gould.
Melville	Foster	1,590	23	18.0ᵇ	+11.4	42ᵇ	28	−20ᵇ	19	32ᵇ	0.30	−0.01	0.20	3.0	3				nw.	J. P. Kidder.
Minot	Ward	1,557	25	17.6	+ 9.7	53	27†	−30	19	41	0.50	+0.03	0.20	5.0	3	15	7	6	w.	W. I. Faris.
Minto	Walsh	820	28	15.6	+ 9.7	40	11†	−22	18	41	0.60	+0.10	0.35		5	14	8	6	se.	C. M. Evans.
Mott	Hettinger	2,424	14	22.7	+10.9	56	12	−13	19	38	0.14	−0.41	0.14	1.5	1	11	8	9	w.	O. H. Opland.
Napoleon	Logan	1,955	29	21.6	+14.8	55	27	−23	19	51	0.17	−0.23	0.10	2.0	3	16	5	7	sw.	C. J. Hoof.
New England	Hettinger	2,400	27	24.0ᵈ	+11.9	61ᵈ	12	−10	19	36ᵈ	0.05	−0.52	0.05	0.5	1					W. C. McKenzie.
New Salem	Morton	2,163	16	24.2	+13.6	60	12	−19	19	46	0.20	−0.18	0.10	2.0	2	16	11	1	sw.	J. Christiansen.
Park River	Walsh	998	17	18.4	+12.7	43ʲ	12	−15ʲ	16	43ʲ	0.42	−0.04	0.30	3.2	3					C. B. Wright.
Parshall	Mountrail		6								T.		T.	T.	0	15	10	3	w.	J. A. Johnson.
Pembina	Pembina	789	47	10.4	+ 9.0	40	25	−10	11†	32	1.12	+0.36	0.60	11.0	6	9	12	7	sw.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	19.0ᵃ	+14.4	50ᵃ	12†	24	19	43ᵃ	0.36	−0.05	0.20	3.5	3	10	6	12	nw.	S. C. Shanks.
Power	Richland	1,020	28								0.76	+0.20	0.38	7.2	4					J. A. Power.
Powers Lake	Burke	2,205	6								0.55		0.25	5.5	3	4	13	11	w.	C. Frank.
Skaar	McKenzie		1	23.4		60	12	−15	17	42	0.12		0.05	0.5	3	9	13	6	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	24	22.0	+14.9	56	27	−12	7†	52	0.39	−0.03	0.20	3.7	4	11	16	1	s.	H. S. Wood.
Taylor	Stark	2,493	5																	H. Leutz.
Towner	McHenry	1,482	19	17.4	+12.2	50	27	−29	19	44	0.30	−0.06	0.20	3.0	2	12	7	9	s.	B. Bagley.
Turtle Lake	McLean	1,899	6	19.6		54	12	−21	19	33	0.54		0.50	6.5	2	12	5	11	nw.	A. T. Anderson.
Valley City	Barnes	1,245	2	20.2	+10.6	53	27	−16	19	45	0.47	+0.14	0.15	4.8	6	16	7	5	sw.	C. F. Schroeder.
Wahpeton	Richland	962	27	22.9	+13.0	58	27	−10	19	41	0.80	+0.24	0.30	8.0	5	8	15	5	nw.	State School of Science.
Walhalla	Pembina	966	14								1.30	+0.79	0.40	13.0	4					Ivan Lee.
Westhope	Bottineau	1,508	15	18.1	+14.8	44	28	−27	19	56	0.42	+0.19	0.18		4	10	10	8	se.	W. A. Meddaugh.
Williston	Williams	1,875	42	22.0	+14.1	54	12	−13	6	37	0.39	−0.08	0.21	2.9	5	9	9	10	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	14.2	+11.5	46	27	31	19	45	0.97	+0.52	0.40	10.0	6	8	11	9	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	19.2	+12.2	50	27	−11	19	32	0.63	−0.10	0.30	6.0	7	5	10	13	s.	U. S. Weather Bureau.
Averages				19.9	+12.0	64	12	−33	19	56	0.39	−0.10	0.70	3.8	3	11	10	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for February, 1921.

Stations.	Watersheds	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ||	Red				.05						.05												.20										0.30
Amidon	Lit. Missouri					T.											T.																T.
Arnegard	Missouri															T.	.30																0.30
Ashley	Missouri			.10													.10								T								0.20
Beach	Lit. Missouri	T.														T.	.26						T										0.26
Berthold Agency	Missouri			.03												T.	.09																0.12
Bismarck ***	Missouri			.08	T	T	T		.01							.02	.03				T.	T		T	T.		.01						0.15
Bottineau	Mouse	T		T	.05							.10	T.				.15				T.			T			.09						0.39
Bowbells ||	Mouse				.10													.25															0.35
Bowman	Grand			.05												.10	.15						T										0.30
Cando	Sheyenne	.06		.02	.04													.27				.01											0.40
Carson	Heart																.10																0.10
Cooperstown	Sheyenne	T.		.20	T.							.10																					0.30
Crosby	Mouse	.02		.10	.02							T		T.		.12	.07			T	T.					T.			.03				0.36
Devils Lake ***	Sheyenne	.02	T.	.03	.01	T.			T.			.08				.08	.15				.04			.01		.02			.02				0.46
Dickinson	Heart	.07		.08	T.							T.					.20	T.															0.35
Donnybrook	Mouse			.20	T.							T				.08	.15	T															0.43
Dunn Center	Knife			.06								T.				T.	.10								T.								0.16
Dunseith	Mouse	.01		T.												T	.03				T.					T							0.04
Eckman	Mouse			.13								.03				T.	.10								.04	T.	.06						0.36
Edgeley	James																					.16											0.16
Ellendale ***	James			.08			T.		.01		T.	.02				T.	T.					.04	.02	T.	.05	T.	.03						0.25
Energy	Missouri			.01	T.	T.										.01	.50						T.						T.				0.52
Epping	Missouri				T.	T.										.08	.10									T.			T.				0.18
Fessenden	James		T.	.05	T.											.05	.30				T.						T.						0.40
Foxholm	Mouse			.05												T.	.20									T.	T.						0.25
Fryburg	Lit. Missouri			.10													.20																0.30
Fullerton	James			.09					T.								T.						.40										0.49
Garrison	Missouri			.13	.05	T.										T.	.18								.02		T.		T.				0.38
Grafton	Red	T.		.02	.05												.37																0.44
Grand Forks ***	Red			.05	.05				T.			.30		.01			.20				.05	T.	.11		T.								0.77
Granville	Mouse	T.		T.	T.							.14	T.			T.	.10									.03		T.					0.27
Hannah	Pembina	.20		T.							.30		T.			.10	.30				.20					T.							1.10
Hansboro	Red		.23													T.																	0.23
Hettinger	Grand										.40																						0.40
Hillsboro	Red			.05								.20					.05				T.		T.		T.								0.30
Howard	Missouri			.02	T.	T.								T.		*	.32										T.		T.				0.34
Jamestown	James	.02		.05								.02				T.						.07											0.16
Lamoine	Missouri			.20									T				*	.20															0.40
Langdon	Pembina					.20						.20																					0.40
Larimore	Red	.02		.05	.20							.10					.25				.17			.02	.02								0.83
Linton	Missouri			.03	.02	T.			.02			T.				T.	T.				T.	T.		.02	T.		T						0.09
Lisbon	Sheyenne		T.	.05					T.									T.					.20										0.25
McClusky	Missouri				.20												.40																0.60
McKinney	Mouse			.05													.50									T.			T.				0.55
McLeod	Sheyenne	.05		.02								.02											.50										0.59
Maddock	Sheyenne																.70																0.70
Mandan ||	Missouri	.07		.08													.01	T.					T.		T.		T.						0.16
Manfred	Sheyenne	T.	.01	.12					.01			.10				.01	.12			T.						T.	.05						0.42
Marmarth	Lit. Missouri			T.												.07	.06		T.		T.		.01										0.14
Mayville	Red	.15	.05				.02				T.	.20									.05							T.					0.47
Melville	James		T.	.05					T.			.05					.20				T.						T.						0.30
Minot	Mouse			.20		.10											.20																0.50
Minto	Red	.02			.07						.15						T.			.35			T.		.01								0.60
Mott	Cannon Ball	.14																															0.14
Napoleon	Missouri			T.					T.								.10					.05			.02								0.17
New England	Cannon Ball																.05	T.															0.05
New Salem	Heart			.10													.10										T.						0.20
Park River	Red	.06			.06							.30																					0.42
Parshall	Missouri					T.	T.																						T.				T.
Pembina || ||	Red			.20					.10								.60							.10		.10	.02						1.12
Pettibone	James	T.	T.	.20								.01				T.			.15		T.	T.					T.						0.36
Power	Missouri				.15					.08		.38										.15											0.76
Powers Lake	Sheyenne			.20	.10											T.	.25				T.					T.			T.				0.55
Skaar	Lit. Missouri			.02												.05	.05				T.												0.12
Steele	Missouri			.20		T.						T.				.05	.10	T.								.04							0.39
Taylor	Heart																																
Towner	Mouse			.10													.20				T.			T.		T.		T.					0.30
Turtle Lake	Missouri			.04	T.											T.	.50				T.				T.		T.						0.54
Valley City	Sheyenne	.05	T.	.02	.10												.05						.15		.10	T.							0.47
Wahpeton	Red				.20				.05			.30					.05							.20									0.80
Walhalla	Pembina				.20						.40						.30				.40		T.										1.30
Westhope	Mouse			.06							.08	.10						.18								T.							0.42
Williston ***	Missouri		.06	.09	T.	.03					T.			T.		.08	.13				T.					T.			T.				0.39
Willow City	Mouse	.10	T.	.10	.20						.10	T.					.40				T.					.07							0.97
Moorhead, Minn ***	Red	.01	T.	.06	T.	T.			T.		T.	.30					.05		T.		T.	.09	.08	.04	T.			T.					0.63

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning: amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	23	15	14	23	23	24	26	37	35	39	43	43	35	50	50	42	30	30	24	20	32	27	31	47	47	49	51	49	....	....	....	34.2
	Minimum	6	-2	5	10	-3	-8	-8	9	10	25	24	23	27	16	29	5	7	-6	16	-14	-6	-4	4	6	17	15	24	25	....	....	....	6.7
Arnegard	Maximum	16	26	33	22	18	22	33	37	38	44	44	50	42	45	34	8	21	5	8	21	30	20	46	43	51	52	53	49	....	....	....	32.5
	Minimum	4	0	12	-1	-4	-8	4	22	25	10	24	36	29	28	2	-1	10	11	15	2	0	1	15	32	32	39	29	27	....	....	....	11.5
Ashley	Maximum	32	26	27	29	19	22	28	38	41	40	44	57	50	45	55	29	22	20	10	25	37	32	42	40	55	47	55	51	....	....	....	36.4
	Minimum	9	-1	7	12	10	8	-9	10	20	15	30	32	30	28	21	0	-9	-1	-15	10	-1	4	9	32	28	19	24	23	....	....	....	11.6
Beach	Maximum	46	48	45	40	20	30	32	33	48	45	50	64	45	58	46	10	27	20	24	27	41	31	56	56	56	58	58	60	....	....	....	41.9
	Minimum	8	10	10	7	3	-5	9	6	7	12	23	33	25	25	2	4	-10	5	10	0	-4	0	0	30	20	23	29	25	....	....	....	9.6
Berthold Agency	Maximum	22	26	39	35	18	28	38	42	42	44	52	59	57	47	38	17	....	26	9	21	31	28	47	44	56	54	57	54	....	....	....	[a]38.2
	Minimum	-4	5	10	6	-8	-14	-1	24	12	12	29	34	28	23	16	1	....	-5	-5	6	17	10	32	34	38	36	38	32	....	....	....	[a]11.7
Bismarck	Maximum	21	23	36	28	20	21	34	42	44	41	51	59	40	37	48	9	28	8	14	19	34	19	49	42	57	44	56	52	....	....	....	34.9
	Minimum	-8	-7	11	-2	-8	-10	-10	20	24	17	35	34	30	23	9	0	-7	-8	-13	6	1	4	18	29	32	23	33	25	....	....	....	10.8
Bottineau	Maximum	15	11	11	15	7	14	21	32	38	40	37	38	40	30	22	20	19	20	12	12	20	19	28	34	35	34	40	41	....	....	....	25.2
	Minimum	8	-10	2	0	-13	-21	-10	15	14	0	23	20	25	10	12	-3	-18	-13	-28	-9	-6	-4	0	24	23	14	20	20	....	....	....	3.4
Bowbells §§	Maximum	12	12	28	7	12	22	35	37	34	41	42	42	33	22	17	14	-4	2	4	20	18	24	38	46	49	38	39	48	....	....	....	26.1
	Minimum	-3	-8	-1	-9	-18	-17	1	12	21	6	7	23	22	17	10	16	17	-29	18	-22	-5	-4	-8	24	18	25	24	23	....	....	....	2.1
Bowman	Maximum	34	35	33	32	30	32	36	43	41	43	50	63	52	53	49	10	28	27	17	30	35	33	56	53	55	54	55	58	....	....	....	40.6
	Minimum	26	12	21	12	7	-3	7	16	27	15	29	34	30	28	10	0	-4	0	-7	0	11	6	19	35	32	26	33	24	....	....	....	16.0
Cando	Maximum	19	13	9	23	10	12	29	34	35	32	35	37	33	29	34	24	12	15	5	12	19	17	30	34	39	30	42	41	....	....	....	25.1
	Minimum	8	-5	1	4	11	-16	7	19	15	12	19	22	25	11	11	0	17	13	-26	-5	9	2	1	19	26	13	26	24	....	....	....	5.9
Carson	Maximum	30	35	30	30	30	25	33	33	35	40	50	60	50	40	35	30	40	20	10	10	30	35	40	40	55	45	50	45	....	....	....	37.0
	Minimum	5	0	5	0	-5	8	0	15	25	10	30	30	28	30	28	-2	-10	-5	12	5	6	5	33	32	28	28	27	25	....	....	....	12.6
Crosby	Maximum	11	8	30	23	9	13	31	37	35	36	42	47	37	38	32	12	15	-3	3	15	24	22	34	41	49	47	50	50	....	....	....	28.1
	Minimum	0	-2	8	2	1	-11	0	18	24	10	24	34	27	25	4	-1	-13	14	-19	-13	9	4	14	33	32	29	31	28	....	....	....	9.3
Devils Lake	Maximum	19	10	25	25	5	14	32	35	36	28	37	36	33	27	33	7	17	4	0	16	22	12	31	30	38	31	42	39	....	....	....	24.4
	Minimum	0	4	1	3	9	-11	3	20	13	17	28	29	20	13	7	4	-14	-14	-20	2	-4	3	1	18	21	13	27	26	....	....	....	6.5
Dickinson §§	Maximum	26	32	37	18	25	27	36	44	42	43	51	62	37	45	46	27	27	8	15	25	33	26	53	47	49	53	54	52	....	....	....	37.1
	Minimum	2	-2	17	15	0	-4	-4	7	23	12	21	31	26	26	27	-1	-8	5	-12	10	5	3	9	33	29	32	29	20	....	....	....	11.5
Donnybrook	Maximum	19	15	34	25	25	20	35	38	39	38	42	50	42	42	35	10	18	8	18	32	20	22	40	40	50	53	54	51	....	....	....	32.7
	Minimum	0	-4	0	5	-14	-12	8	26	20	12	26	26	30	26	10	3	10	-26	-4	-4	-3	-3	10	35	34	34	33	32	....	....	....	10.1
Dunn Center	Maximum	21	29	30	32	....	25	35	43	41	45	50	58	48	44	30	12	25	18	11	22	33	30	49	47	53	53	53	53	....	....	....	[a]36.7
	Minimum	5	-4	11	5	....	6	4	23	26	12	28	31	28	23	11	0	10	-4	-17	0	-4	1	15	33	33	30	32	27	....	....	....	[a]11.7
Dunseith	Maximum	17	11	9	12	7	14	23	38	38	34	40	36	35	27	27	10	18	13	5	9	19	20	33	36	38	28	43	42	....	....	....	24.0
	Minimum	9	-9	1	2	10	-12	-8	17	17	9	21	21	25	8	9	-4	-19	12	29	8	-7	-3	2	21	22	17	24	23	....	....	....	4.3
Edgeley	Maximum	27	22	21	28	10	19	32	38	40	40	46	55	52	17	57	38	24	22	12	25	32	32	40	40	55	47	56	50	....	....	....	35.0
	Minimum	-1	5	-3	-7	-6	9	4	8	19	20	25	31	31	18	28	0	9	-1	-16	8	-2	2	0	25	27	17	22	25	....	....	....	9.6
Ellendale	Maximum	29	25	23	26	16	18	28	37	42	37	46	58	42	48	57	16	24	14	13	27	38	25	43	38	56	33	57	19	....	....	....	34.5
	Minimum	0	-1	5	2	-6	-4	-10	3	14	22	28	31	26	20	16	3	5	-5	-11	13	5	6	7	26	26	20	24	25	....	....	....	10.0
Fessenden	Maximum	18	14	25	31	13	20	30	39	42	52	48	52	57	40	35	21	20	10	6	21	32	23	38	38	46	36	50	46	....	....	....	32.2
	Minimum	-3	-7	2	1	13	-19	-3	15	20	12	12	12	12	17	18	-4	20	-10	-27	1	-2	2	1	21	27	11	26	22	....	....	....	4.1
Fullerton	Maximum	25	22	22	26	15	22	27	37	42	38	45	55	41	47	55	33	24	19	13	29	36	32	41	37	53	36	55	48	....	....	....	34.8
	Minimum	0	3	4	9	-7	3	-7	5	15	22	23	32	31	20	26	3	6	0	13	9	3	4	4	25	26	20	23	32	....	....	....	10.6
Garrison	Maximum	19	29	39	33	21	23	35	39	39	37	48	54	44	42	36	15	25	22	5	14	32	30	44	41	55	43	53	55	....	....	....	31.7
	Minimum	-10	4	7	0	-17	16	0	23	12	11	28	34	29	22	14	-2	13	5	24	3	0	3	11	32	38	22	33	22	....	....	....	9.1
Grafton	Maximum	22	13	10	20	9	11	28	38	35	32	35	39	30	23	37	35	14	14	2	14	14	11	20	25	38	39	38	38	....	....	....	24.0
	Minimum	8	0	10	6	-2	-15	-8	14	10	25	25	27	17	10	18	1	-14	-6	23	-6	-3	-2	-8	19	18	17	25	28	....	....	....	6.
Grand Forks	Maximum	24	10	17	23	8	15	26	35	33	27	36	42	31	29	43	20	18	10	2	19	19	13	23	23	39	32	41	33	....	....	....	24.7
	Minimum	-2	-7	-9	5	10	-13	-7	7	6	24	26	20	16	14	20	-5	-10	-15	20	-9	-1	0	4	12	18	12	26	30	....	....	....	4.4
Granville	Maximum	15	12	30	15	10	20	32	35	40	28	42	45	43	41	32	10	20	12	10	20	32	20	30	42	45	42	50	48	....	....	....	29.3
	Minimum	-3	-4	4	0	-10	13	2	10	18	14	28	33	28	20	17	0	-15	-18	-22	2	2	2	8	30	24	28	34	26	....	....	....	8.
Hannah	Maximum	18	14	12	18	18	16	20	20	21	34	29	40	33	17	28	12	10	6	4	8	12	7	20	30	36	35	38	40	....	....	....	21.
	Minimum	14	6	-10	-6	4	-17	4	10	6	16	19	20	17	6	9	0	20	-12	-20	-31	-10	9	6	15	22	14	26	28	....	....	....	2.7
Hansboro	Maximum	13	8	8	....	12	15	21	34	36	32	38	36	32	32	26	11	17	10	2	9	18	17	28	28	36	29	50	40	....	....	....	[a]23.
	Minimum	5	3	-2	....	-11	17	0	18	13	5	25	21	23	20	10	2	-15	11	26	10	-10	1	-2	18	22	12	25	24	....	....	....	[a]4.
Hettinger	Maximum	33	35	41	31	26	28	37	42	44	44	51	60	47	43	31	14	30	21	16	28	37	31	57	51	59	55	58	59	....	....	....	39.
	Minimum	6	5	20	14	10	0	0	16	28	16	30	36	30	28	8	-1	5	-3	-8	0	9	6	10	36	22	28	33	21	....	....	....	14.1
Hillsboro	Maximum	22	19	....	....	....	14	25	32	33	32	40	35	33	31	39	39	21	21	2	21	22	22	22	32	40	32	44	39	....	....	....	[c]28.
	Minimum	12	0	6	11	0	-9	7	9	9	23	24	23	23	12	23	2	-7	-2	-16	-2	2	8	-3	15	19	13	21	27	....	....	....	8.
Howard	Maximum	10	18	30	20	10	20	38	39	36	42	46	47	35	43	39	10	15	15	9	15	25	20	44	42	50	51	52	48	....	....	....	31.
	Minimum	-3	5	8	0	-10	6	-3	20	10	12	22	33	26	23	10	-3	-13	-14	-20	-10	-6	-5	14	34	33	26	25	28	....	....	....	8.
Jamestown	Maximum	20	15	30	21	15	18	32	38	40	41	46	53	42	48	55	26	24	16	10	21	34	28	40	36	50	38	51	49	....	....	....	33.
	Minimum	5	4	2	6	1	3	2	12	10	17	18	21	28	24	26	2	11	9	15	-1	4	4	6	23	23	19	24	27	....	....	....	10.
Lamoine	Maximum	16	13	25	....	8	17	....	34	38	38	41	48	41	39	42	27	6	19	10	20	31	24	41	38	48	48	53	48	....	....	....	[b]31.
	Minimum	-6	-9	5	-3	-14	-14	....	....	14	10	28	33	28	19	27	-2	-15	-9	-28	5	-6	-2	-3	28	28	9	19	21	....	....	....	[b]6.
Langdon	Maximum	21	10	15	15	5	7	20	35	34	32	36	39	27	28	27	10	10	0	10	16	20	25	26	34	36	31	39	35	....	....	....	22.
	Minimum	5	-6	-11	-5	-12	-20	10	-5	-6	20	15	20	19	5	4	-2	23	-11	-33	11	10	-9	7	9	12	9	10	12	....	....	....	1.
Larimore	Maximum	23	18	22	12	10	13	25	35	34	38	40	32	30	35	38	22	18	17	5	18	28	18	28	30	40	31	40	37	....	....	....	26.
	Minimum	-3	-4	-6	3	-4	-3	13	-5	10	24	22	20	22	13	22	-2	-12	-6	-24	-5	-2	-2	-5	15	13	10	21	26	....	....	....	4.
Linton	Maximum	25	26	30	30	20	18	31	41	45	39	48	55	50	40	50	24	25	23	14	22	37	32	45	42	56	51	62	58	....	....	....	37.
	Minimum	7	-7	11	7	-18	0	15	11	11	15	34	31	29	25	24	7	-14	-2	17	11	0	7	16	36	28	22	28	26	....	....	....	10.
Lisbon	Maximum	26	20	18	24	13	15	24	26	41	29	32	47	48	45	61	40	25	18	14	18	30	21	34	30	51	50	57	45	....	....	....	32.
	Minimum	6	2	2	12	-2	2	-4	6	14	16	25	32	17	20	26	23	6	3	12	-2	7	6	-4	6	20	22	20	24	....	....	....	9.
McKinney	Maximum	15	15	22	25	10	22	35	38	36	36	45	50	40	40	32	15	19	10	1	15	26	25	42	40	56	50	55	50	....	....	....	30.
	Minimum	0	-6	-6	-3	-15	-15	1	26	25	10	27	30	30	20	10	-3	-12	10	-28	-4	-15	-3	6	25	31	20	30	29	....	....	....	7.
Maddock	Maximum	19	17	16	26	8	16	30	35	35	35	40	44	34	38	38	34	18	18	3	16	25	24	33	34	40	36	46	45	....	....	....	29.
	Minimum	10	-5	2	0	-11	-14	-2	19	17	9	30	37	30	17	22	-1	-16	5	-25	0	-7	-1	2	21	30	18	25	25	....	....	....	8.
Marmarth	Maximum	33	35	40	30	27	32	35	42	42	45	50	61	41	60	45	8	26	11	8	30	34	28	56	50	54	55	54	57	....	....	....	38.
	Minimum	12	15	26	15	6	-2	6	23	26	13	27	35	28	28	5	-1	-5	-1	-6	1	10	0	23	33	30	25	32	25	....	....	....	15.
Melville	Maximum	20	13	16	16	13	18	27	34	34	34	38	40	....	38	36	32	14	0	5	19	28	28	37	38	38	38	....	42	....	....	....	[b]26.
	Minimum	13	0	2	5	10	-8	1	17	20	18	28	34	....	20	28	0	-10	-2	-20	4	-4	2	4	22	30	16	....	26	....	....	....	[b]9.
Minot	Maximum	30	20	33	32	12	20	37	38	38	40	44	49	38	42	34	8	22	13	4	13	28	18	43	41	49	43	53	53	....	....	....	32
	Minimum	2	9	-1	-9	-18	-24	4	18	18	8	24	29	21	11	2	6	-18	-15	-30	-7	10	7	5	25	27	13	30	18	....	....	....	3.
Mott	Maximum	16	28	37	23	20	15	27	38	40	42	48	56	40	44	34	9	23	10	13	27	33	27	52	50	53	54	53	48	....	....	....	34.
	Minimum	2	-2	10	4	4	10	-4	16	25	12	23	30	30	23	7	0	-12	-9	-13	12	5	4	14	27	30	32	31	19	....	....	....	11.
Napoleon	Maximum	23	23	28	30	20	19	30	38	43	40	45	52	45	40	56	35	24	15	14	25	35	30	43	40	53	45	55	52	....	....	....	35.
	Minimum	-10	-6	5	17	-15	-10	-9	10	15	8	28	32	28	18	28	-16	-6	-7	-23	6	3	2	8	29	28	15	25	20	....	....	....	7.
New Salem	Maximum	25	32	32	29	20	20	34	40	38	42	40	60	48	42	42	20	34	40	10	18	27	40	42	41	48	50	51	54	....	....	....	36.
	Minimum	-6	4	5	2	-9	-10	4	8	15	27	29	34	38	20	15	-2	12	-2	-19	-2	14	26	27	22	25	20	36	32	....	....	....	11
Pembina §§	Maximum	18	26	18	12	15	20	28	22	12	8	12	18	22	26	28	12	14	22	28	18	24	28	24	32	40	28	24	26	....	....	....	21.
	Minimum	5	-5	2	-6	-8	-5	-2	5	8	4	10	-8	-5	-4	0	5	-10	8	-2	2	-2	5	8	5	8	10	5	2	....	....	....	0.
Steele	Maximum	32	34	36	21	30	34	32	33	44	43	50	57	51	51	55	4	4	0	23	23	36	20	45	55	52	55	46	49	....	....	....	36.
	Minimum	4	6	6	10	7	10	-12	12	7	12	25	25	30	28	3	-3	-6	-8	10	10	0	1	10	20	28	30	32	32	....	....	....	7.
Towner	Maximum	13	15	19	19	10	10	25	34	37	35	38	45	49	39	32	15	22	18	-1	15	30	26	35	40	38	36	50	46	....	....	....	28.
	Minimum	8	-3	6	4	17	-18	10	20	21	18	10	25	28	25	15	2	22	-6	-29	-1	-14	1	3	26	31	9	29	24	....	....	....	6.
Valley City	Maximum	22	21	17	21	12	22	32	39	40	39	44	50	43	37	50	36	22	6	6	18	32	30	33	32	50	46	53	43	....	....	....	32.
	Minimum	-3	-3	-2	6	-6	-5	-6	10	20	14	20	20	29	11	27	-9	-1	3	-16	10	0	4	9	20	26	21	16	23	....	....	....	8
Wahpeton	Maximum	25	22	18	27	18	18	27	33	39	37	40	57	43	41	56	48	22	23	10	28	33	28	25	30	50	40	58	45	....	....	....	33
	Minimum	19	1	1	17	-3	-2	-7	11	11	25	25	28	30	20	34	7	-4	5	-10	7	10	11	-5	19	18	23	25	27	....	....	....	12.
Westhope	Maximum	12	10	11	10	7	30	25	38	36	38	40	40	36	38	40	38	25	30	29	27	37	27	23	40	40	35	42	44	....	....	....	30.
	Minimum	-2	-6	5	2	20	-20	-10	20	20	22	22	20	21	22	22	20	20	-5	27	-5	-5	-5	8	28	28	4	5	26	....	....	....	5.
Williston	Maximum	17	24	35	16	14	22	38	40	40	47	47	54	34	45	36	8	20	8	8	18	30	22	50	44	53	52	53	49	....	....	....	33.
	Minimum	1	-1	14	-5	-6	-13	1	28	24	14	28	32	29	29	3	-4	-9	10	11	-2	-4	1	19	34	35	29	31	28	....	....	....	11.
Moorhead, Minn	Maximum	23	13	19	24	14	15	26	29	35	29	39	40	34	37	48	25	21	14	9	26	28	25	27	29	44	30	50	39	....	....	....	28.
	Minimum	12	-2	-4	6	1	-1	6	11	11	24	24	26	20	16	25	0	-2	5	-11	9	9	6	0	17	19	21	25	30	....	....	....	10.

§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a], 1 day missing. [b], 2 days, et

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXX. Bismarck, N. D., March, 1921. No. 3

GENERAL SUMMARY.

March averaged slightly warmer and wetter than usual, but there was considerably more than the usual cloudiness. The month opened with a warm week, followed by a week of moderately cold weather. During the latter half of the month the temperature was near normal, excepting some low temperatures on the 21st, 27th and 28th. The monthly means varied from near 20° in the extreme northeastern portion to near 30° along the southern border; they were near or slightly below normal in the Red River Valley, while at several south-central stations the means were from 5° to 7° above normal. The distribution of precipitation over the State was very irregular, but generally the amounts in the northern border counties were less than one-half inch, and more than one inch over the southern half of the State, with the larger amounts in the central and southeastern portions. Precipitation, which was practically all in the form of snow, was frequent during the first half of the month. During the second half there were general falls on the 20th and 26th, and in the southeastern portion on the 23d and 24th. Thunderstorms occurred at many stations on the evening of the 14th, which is an unusual occurrence so early in the season. Some field work was accomplished on farms during the warmer periods, but very little wheat seeding was done.

TEMPERATURE.

The mean temperature for the State was 25.2°, or 2.6° above he normal, and 2.8° higher than the mean for March, 1920. The highest mean reported was 32.4° at Bowman, Bowman County; the lowest was 17.4° at Langdon, Cavalier County. The highest temperature reported was 75° at Ellendale, Dickey County, on the 18th; the lowest was -22° at Fessenden, Wells County, on the 12th. The greatest monthly range was 84° at Napoleon, Logan County; the least was 59° at Lisbon, Ransom County. The greatest daily range was 61° at Edgeley, LaMoure County, on the 26th.

PRECIPITATION.

The average precipitation for the State was 1.00 inch, or 0.17 inch above the normal, and 0.21 inch more than the average for March, 1920. The greatest monthly amount reported was 2.69 inches at Fullerton, Dickey County; the least was 0.04 inch at Taylor, Stark County. The greatest amount recorded in any twenty-four consecutive hours was 1.20 inches t Turtle Lake, McLean County, on the 10th. The average umber of days with 0.01 inch or more of precipitation was 6. The average snowfall was 9.1 inches.

AURORAS.

Auroras were observed at Valley City on the 12th; at Amidon nd Mandan on the 14th; at Ashley, Bismarck, Foxholm, Moorhead and Skaar on the 15th; at Pettibone on the 16th; at Valley City on the 21st; at Foxholm on the 24th; at Valley City on the 25th; at Foxholm on the 26th; at Ellendale and Foxholm on the 28th, and at Ellendale on the 29th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.04	30.81	21	29.51	25	57	7,737	10.4	38	nw.	15
Devils Lake	30.01	30.77	21	29.37	18	44	8,545	11.5	39	w.	15
Ellendale	30.02	30.76	21	29.45	18	56	11,812	15.9	58	n.	26
Grand Forks	30.01	30.85	21	29.44	25	90	....	......	48	nw.	15
Williston	29.99	30.60	27	29.43	14	48	7,132	9.6	36	nw.	29
Moorhead, Minn	30.04	30.86	21	29.46	18	58	7,653	10.3	40	n.	26
Av'ges and extremes	30.02	30.86	21	29.37	18	.....	....	11.5	58	n.	26

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p'c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	206.2	369.9	56	+ 1	81	57	60	28	31
Devils Lake	163.1	369.7	44	−15	86	74	81	45	24
Ellendale	196.5	370.0	53	......	88	63	....	30	16†
Grand Forks	......	......	......	......	86	.....	88	....	...
Williston	246.4	369.7	67	+ 3	79	64	66	30	31
Moorhead, Minn	......	......	......	......	84	71	76	.....	...
Averages and extremes	203.0	369.8	55	+ 6	84	66	74	28	31

* And other dates.

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893...	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894...	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895...	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896...	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897...	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898...	21.3	−1.3	79	−24	0.79	−0.04	5	13	8	10	nw.
1899...	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900...	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901...	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903...	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904...	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905...	32.5	+0.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906...	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907...	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908...	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909...	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910...	11.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911...	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912...	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913...	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914...	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915...	23.3	+0.7	63	−23	0.22	−0.71	2	16	6	9	nw.
1916...	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917...	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918...	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919...	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920...	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921...	25.2	+2.6	75	−22	1.00	+0.17	6	9	12	10	nw.

Climatological Data for March, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	29.1	+5.5	60	24†	-5	11	55	0.45	-0.17	0.20	4.5	3	13	4	11	nw.	E. T. Carley.
Amidon	Slope	...	6	30.9	...	66	3	0	21	44	1.15	...	1.00	...	3	11	11	9	w.	Charles Eastgate.
Arnegard	McKenzie	...	3	26.1	...	58	31	-13	12	41	1.37	...	0.90	11.0	3	12	7	12	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	27.2	+5.2	70	18	-4	28	45	1.87	+0.61	0.50	10.0	5	18	4	9	nw.	R. C. Miles.
Beach	Golden Valley	2,579	15	28.4^{a}	+1.9	69^{a}	3	6^{a}	11	48^{a}	0.65	+0.04	0.26	...	5	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	31.0^{a}	+6.3	61^{a}	31	-8^{a}	11	43^{a}	0.66	-0.19	0.29	9.4	5	9	14	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	47	27.8	+5.7	66	18	6	11	53	1.00	-0.04	0.40	9.9	11	4	14	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	22.6	+4.9	56	24	10	9†	49	0.28	-0.56	0.09	...	4	10	17	4	nw.	M. R. Shuler.
Bowbells	Burke	1,958	9	21.8^{l}	...	57^{l}	24	-13^{l}	27	39^{m}	0.47	...	0.21	...	3	...	...	...	...	G. H. Phelps.
Bowman	Bowman	...	7	32.4	...	66	3	-4	21	47	0.55	...	0.29	4.2	7	7	14	10	nw.	W. W. Barr.
Cando	Towner	1,488	20	22.6	+2.1	57	22	-11	12	44	0.93	+0.25	0.41	...	6	7	12	12	nw.	A. J. Swanson.
Carson	Grant	2,500	9	27.4	...	60	18	-6	12	50	0.71	...	0.25	7.0	8	9	12	10	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11	...	...	...	...	...	...	...	0.80	+0.15	0.20	7.5	5	12	9	10	nw.	S. Friswold.
Crosby	Divide	1,954	14	24.6	+2.6	62	24	-6	8†	43	0.30	-0.36	0.10	2.7	10	7	14	10	nw.	John Jensen.
Devils Lake	Ramsey	1,478	17	21.0	+2.5	56	24	-10	12	41	0.71	-0.30	0.24	7.5	11	4	13	14	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	27.6	+3.2	64	3	4	12	48	1.01	+0.12	0.38	6.8	10	8	15	8	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	25.2	+2.8	58	24	-14	12	60	1.16	+0.38	0.36	4.5	6	4	20	7	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	27.7	...	63	3	-14	13	46	1.35	...	0.80	15.0	3	10	5	16	nw.	W. H. Moede.
Dunseith	Rolette	1,682	25	20.6	+1.8	55	18†	-16	28	52	0.07	-0.76	0.05	0.7	2	10	10	11	n.	J. G. Lamont.
Eckman	Bottineau	...	16	25.1^{c}	+3.0	61^{c}	18	12^{c}	28	58^{c}	1.06	+0.61	0.30	6.0	6	10	12	9	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	27.9	+1.4	71	18	8	27	61	0.99	+0.10	0.60	...	5	0	23	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	27.7	...	75	18	-2	12	50	1.56	+0.29	0.84	9.7	11	3	14	14	nw.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	9	...	...	...	...	...	...	...	0.65	...	0.20	...	7	9	14	8	nw.	N. W. Solenberger.
Epping	Williams	2,224	13	...	...	...	...	...	...	...	0.31	-0.12	0.15	3.0	5	11	12	8	w.	M. E. Uggen.
Fessenden	Wells	1,610	9	22.0^{f}	...	59^{f}	24	22^{f}	12	52^{f}	0.91	...	0.18	6.5	10	...	...	...	...	T. D. Monsen.
Foxholm	Ward	...	1	23.8	...	56	18	-10	12	48	0.57	...	0.25	5.2	5	5	18	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	3	...	...	...	...	...	...	...	1.09	...	0.34	11.5	9	10	8	7	nw.	Verne King.
Fullerton	Dickey	1,439	23	28.4	+3.2	71	18	-3	11†	48	2.69	+1.41	1.10	22.7	6	8	11	12	nw.	F. O. Alin.
Garrison	McLean	1,901	26	26.0	+4.3	56	18†	7	12†	48	1.48	+0.42	0.52	15.0	9	10	15	6	nw.	G. L. Robinson.
Grafton	Walsh	827	29	21.0	+1.8	55	24	-8	12	35	0.87	+0.16	0.29	7.9	5	10	9	12	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	20.8	-1.6	56	18	6	12	36	0.74	0.00	0.18	7.3	12	12	10	9	n.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. A. Christianson.
Hannah	Cavalier	1,568	16	19.8	+1.5	49	30	15	8	33	0.90	+0.25	0.30	9.0	4	18	8	5	nw.	J. Moffatt.
Hansboro	Towner	1,597	13	20.4^{d}	0.9	54^{d}	24	-13^{d}	12	48^{b}	1.10	+0.50	0.40	11.0	3	...	...	...	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	13	31.8	+4.2	67	18	-5	21	46	0.66	+0.03	0.36	...	7	10	11	10	nw.	U. J. Downey.
Hillsboro	Traill	901	15	24.2	-0.5	56	18	6	12	41	0.85	+0.01	0.20	8.5	7	9	14	8	n.	F. E. Mayall.
Howard‡‡	Williams	2,275	14	22.4	+1.6	57	31	11	13†	46	0.57	-0.61	0.30	4.8	4	10	13	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	26.2	-3.6	69	18	-11	11	43	1.02	-0.06	0.60	10.2	5	12	9	10	nw.	S. Calvelage.
Lamoine	Kidder	1,936	13	24.6^{c}	+1.6	57^{b}	18†	-11^{c}	12	49	0.80	+0.01	...	8.0	4	11	12	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	25	17.4	-1.6	53	24	-15	8†	44	0.35	-0.52	0.25	3.5	2	13	7	11	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	21.2	+0.2	60	18	-10	13†	41	0.87	+0.11	0.35	8.2	6	6	13	12	n.	Reuben Gray.
Linton	Emmons	1,711	3	30.8	...	70	18	-2	12†	45	0.90	...	0.21	7.0	12	8	11	12	ne.	William Malpass.
Lisbon	Ransom	1,091	17	27.8	+1.2	56	24	3	12†	40	0.82	+0.25	0.70	7.0	3	6	12	13	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3	...	...	...	...	...	...	...	2.20	...	...	22.0	6	...	...	...	...	Edw. Tapley.
McKinney ‡‡	Renville	1,640	27	24.7	+5.5	60	18†	-14	13	58	0.45	0.29	0.20	4.5	5	6	16	9	nw.	N. P. Swenson.
McLeod	Ransom	1,075	9	28.4	...	63	18	-2	6†	43	1.63	...	0.80	...	9	13	4	14	nw.	J. G. Carlson.
Maddock	Benson	1,604	6	23.5	...	57	19	13	12	48	...	...	...	...	...	3	7	21	nw.	A. T. Felland.
Mandan	Morton	1,644	7	27.6	...	66	18	5	11†	56	0.79	...	0.26	...	7	6	10	15	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	23.4	+0.3	56	24	-12	12	52	1.21	+0.39	0.22	10.8	9	5	16	10	se.	P. B. Anderson.
Marmarth	Slope	...	12	29.3	+3.3	69	3	-1	12	43	1.38	+1.00	0.34	10.1	14	7	9	15	nw.	S. P. Grane.
Mayville	Traill	975	25	21.8	-1.4	60	18	7	28	39	1.35	+0.60	0.40	...	7	12	5	14	ne.	W. C. Gould.
Melville	Foster	1,590	23	22.6	+0.3	52^{c}	18†	-19^{c}	12	42^{c}	1.55	+0.87	1.00	15.5	5	...	...	...	nw.	J. P. Kidder.
Minot	Ward	1,557	25	22.6	+1.2	58	24	-14	12	52	1.80	+1.08	0.68	9.0	7	13	10	8	w.	W. I. Faris.
Minto	Walsh	820	28	21.5	+0.4	58	18†	8	12	39	0.54	-0.31	0.13	...	6	10	11	10	n.	C. M. Evans.
Mott	Hettinger	2,424	14	27.4	+0.8	63	18	5	21	42	1.27	+0.28	0.37	...	10	7	8	16	e.	O. H. Opland.
Napoleon	Logan	1,955	29	27.4	+6.1	72	18	-12	12†	52	0.70	-0.25	0.20	7.0	4	13	7	11	s.	C. J. Hoof.
New England	Hettinger	2,400	27	29.6	+5.2	62^{c}	18	-10	21	55^{d}	0.65	-0.23	0.20	6.5	5	...	...	...	nw.	W. C. McKenzie.
New Salem	Morton	2,163	16	27.2	+2.7	62	18	-7	11†	59	1.46	+0.50	0.44	11.0	10	9	13	9	nw.	J. Christiansen.
Park River	Walsh	998	17	21.4	-0.7	55	24	-13	15	45	0.33	-0.24	0.19	3.5	3	6	13	12	nw.	C. B. Wright.
Parshall	Mountrail	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	47	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. W. Shumaker.
Pettibone	Kidder	1,856	2	23.5	0.3	62	18	-17	12	51	1.80	+1.31	0.55	18.0	6	8	7	16	nw.	S. C. Shanks.
Power	Richland	1,020	28	...	...	...	...	...	...	...	1.30	+0.58	0.48	10.8	6	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	6	...	...	...	...	...	...	...	0.87	...	0.40	8.8	4	2	16	13	nw.	C. Frank.
Skaar	McKenzie	...	1	27.8	...	66	3	-11	12	45	1.35	...	0.50	15.5	8	10	10	11	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	24	29.4	+7.3	66	18	-12	12	50	1.62	+0.69	0.52	12.2	5	19	11	1	sw.	H. S. Wood.
Taylor	Stark	2,493	5	27.8	...	62	17	1	8†	48	0.04	...	0.02	...	3	12	8	11	nw.	H. Leutz.
Towner	McHenry	1,482	19	25.0	+5.8	61	18	-12	13	50	0.30	-0.58	0.10	3.0	3	11	13	7	nw	B. Bagley.
Turtle Lake	McLean	1,899	6	23.9	...	57	18	-9	11†	48	2.05	...	1.20	19.5	5	5	10	16	nw.	A. T. Anderson.
Valley City	Barnes	1,245	2	23.2	-2.9	63	18	-7	12†	44	2.01	+1.46	0.80	19.2	10	16	5	10	nw.	C. F. Schroeder.
Wahpeton	Richland	962	27	29.0^{b}	+2.8	62^{c}	25	-4	6	42^{c}	1.12	+0.18	0.40	4.5	7	7	14	10	n.	State School of Science.
Walhalla	Pembina	966	14	20.6	+0.7	54	24	-19	28	53	0.75	+0.07	0.30	7.5	5	14	10	7	s.	Ivan Lee.
Westhope	Bottineau	1,508	15	22.2	+1.3	58	18†	-10	11	42	0.26	-0.25	0.20	...	3	13	11	7	nw.	W. A. Meddaugh.
Williston	Williams	1,875	42	25.8	+4.2	62	3	-5	12	41	1.21	+0.53	0.41	7.7	9	5	19	7	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	21.7	+3.4	58	18	-11	28	53	0.86	+0.15	0.20	9.0	7	10	16	5	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	24.2	+2.8	58	18	-1	28	37	1.61	+0.47	0.65	10.8	11	1	13	17	n.	U. S. Weather Bureau.
Averages				25.2	+2.6	75	18	-22	12	61	1.00	+0.17	1.20	9.1	6	9	12	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for March, 1921.

Stations	Watersheds	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia	Red					.20										.05										.20							0.45
Amidon	Lit. Missouri					1.00	T	T.			T	T								T.	.16			T	.05					T			1.15
Arnegard	Missouri	T.			.27			T		.20	.90										T					T							1.37
Ashley	Missouri					.40															.20				.37	.50	.40			T			1.87
Beach	Lit. Missouri					.26	T.		T	T	T		.11								.16			.04						.08			0.65
Berthold Agency	Missouri				T	.24			.01	T.	.29	.04		T	T						.08												0.66
Bismarck ***	Missouri	.06				.20	T.	T	T	.15	.26	.02	.04	.01	.03					.05	.14					T	.01			T	T		1.00
Bottineau	Mouse	T			T.		.08		T				T	T	.09	T.					.02						.09				T		0.28
Bowbells	Mouse					.06																.20						.21					0.47
Bowman	Grand					.05		.04	T		T	.01	.01	T		T				.13	.29			T.	.02		T	T		T	T		0.55
Cando	Sheyenne	.01				.02							.10		.11	.28											.41						0.93
Carson	Heart					.10				.02	.10	.05								.15	.25				.02		T			.02			0.71
Cooperstown	Sheyenne	.10	T.			.20		T	T		.20	T	T		.10										T		.20						0.80
Crosby	Mouse	.02			.02		.02	.01				.02	.02	.01	.05	.10					T					T.	.03						0.30
Devils Lake ***	Sheyenne	.02	T.		.02	.05	T.	.01			T	.08		.05	.18	.06					.08						.15	T			.01		0.71
Dickinson	Heart					.38	T.		.05	.05	.22	.04	.02	.03	T.	T.					.13						.05	T			.04		1.01
Donnybrook	Mouse	.20			.20					T.	T.	.10	T.	.10	.36	T.											.20						1.16
Dunn Center	Knife					.35					.80	.20	T.	T													T.						1.35
Dunseith	Mouse						T	T.				T.	T.	T.	.05	.02					T.						T.						0.07
Eckman	Mouse	.10	T.			T	.06					T.	T.	.10	.20						.30						.30			T	T		1.06
Edgeley	James					.15					T.	T.			T						.03			.11	.60		.10				T		0.99
Ellendale***	James	T.	T.			.26			.01	T.	.02	.02	T.	.01	T.			T.	T.	T.	.05			.65	.19		.31			.03	.01		1.56
Energy	Missouri	T.			.20	T.		T.	.04	.05	.20	.10	.04								.02				T.	T.	T.				T.		0.65
Epping	Missouri				.15				T.	.02	.04	.06			T	T				T					.04								0.31
Fessenden	James	.02		T.	T.	.15		T			.16	.15	T.	.05	.05	.18					.03						.11				.01		0.91
Foxholm	Mouse	T.			T.	.05	T.	T.			T.	.01		.01	.25						T.					T.	.25				T		0.57
Fryburg	Lit. Missouri					.34		.08			.24	.10	.02							T.	.11			T.		.10	.02			.08	T		1.09
Fullerton	James	T.				1.10			T.		T.										.06			.42	.59		T.	.35		T	.17		2.69
Garrison	Missouri				*	.36	.06	T.		T.	.52	.29		.08	.03	.01					.13						T.						1.48
Grafton	Red						.04								.25	.11					.15						.29						0.87
Grand Forks ***	Red	T	T.			.13	.09		.01		.01	T.	.08	.02	.07	.02					.10	T.			.01		.18	.02	T.				0.74
Granville	Mouse																																
Hannah	Pembina							T.							.30	.20					.10						.30						0.90
Hansboro	Red		T.											.30	.40												.40				T.		1.10
Hettinger	Grand					.18		.02				.04								.36	.02			.02	.02								0.66
Hillsboro	Red		T.			.20					.20	.05	.10		.10						.15				T.		.05						0.85
Howard	Missouri	T.	T.		.30		.05	T.		T.	T	T.	T.	T.	T.	.20					T.				T.	T.	T.			T.	.02		0.57
Jamestown	James						.05				.60										.20				.02		.15						1.02
Lamoine	Missouri					.20				*	*	.60									T.						T.						0.80
Langdon	Pembina											T.	.10		T.	.25				T.													0.35
Larimore	Red	.05	.05										.20		.12						.10						.35				T.		0.87
Linton	Missouri	T.	.05			.11		T.	.02	.01	.02			.02	.03					.17	.17			.21	.04	T	.05			T	T.		0.90
Lisbon	Sheyenne					.70					T.				T.						T.			T	.10		.02	T.		T.			0.82
McClusky	Missouri	T.			.20					*	1.00	.60			.30											T.	.10						2.20
McKinney	Mouse				*	.10		T.	T.				T		.15											*	.20						0.45
McLeod	Sheyenne	.04				.80			.03		.09		.02		.01						.02				.60			.02					1.63
Maddock	Sheyenne																																
Mandan ‖	Missouri		T.			.23	T.		T.	T.	.26	.09	.02	.03	.04	T.					.12	T						T					0.79
Manfred	Sheyenne	.12			T.	.20		T.			.22	.20		.10	.05	.12					.10						.10				T		1.21
Marmarth	Lit. Missouri	.01				.18		.30			.11	.21	.04			.02				*	.34			.09	.04	T.	.01			.02	.01		1.38
Mayville	Red	T.					.40				.20		.20			.02					.12				.16			.25					1.35
Melville	James	T.				.20					1.00	T.			.10	T.					.15						.10						1.55
Minot	Mouse	.22			.10						.10	.20		.20	.30						T.						.68				T.		1.80
Minto	Red	T.	T.				.06				T.			.11	.13	.09					.05						.10						0.54
Mott	Cannon Ball					.27					.05	.02	.03		.07					.37	.23				.07	.11	.03				.02		1.27
Napoleon	Missouri					.20					.20										.20						.10						0.70
New England	Cannon Ball					.20		T		.10	T.	T.	.10	.05	T.	T.					.20						T.						0.65
New Salem	Heart					.25			.25	.10	.44	.01	T	.15	T.	.12				T.	.12			T.			.01			.01			1.46
Park River	Red					T.							.08		.19												.06						0.33
Parshall	Missouri																																
Pembina ‖	Red																																
Pettibone	James					.30	T.	T.			.50	T.	.55	T.		.10					.20	T.					.15			T.	T.		1.80
Power	Missouri	T.	.02			.30					.20									T.	.10			.48			.20						1.30
Powers Lake	Sheyenne	T.									.15				.40						.07					.25							0.87
Skaar	Lit. Missouri				.05	.25		T.		.15	.25	.50				T.					.07					.07	.01			T.	T.		1.35
Steele	Missouri	T.				.52		.42		T.	.52		T.	T.	T.			T.		.03								.13					1.62
Taylor	Heart							T.		T.	.02	.01				T.				T.							T.				.01		0.04
Towner	Mouse					.10		T.				.10															.10						0.30
Turtle Lake	Missouri	T.			T.	.40		T.		T.	1.20	.20		T.	T.	.20					.05				T.	T.	T.						2.05
Valley City	Sheyenne	.03				.12					.20	.80			.05						.10				.02		.52			.02	.15		2.01
Wahpeton	Red	.07				.40					.05											.25		T.	.22			.07			.06		1.12
Walhalla	Pembina						T.						.10	.10	.20						.05						.30						0.75
Westhope	Mouse											T.	.02		.20											.04							0.26
Williston ***	Missouri	T.			.18	.24		T.	.10	.06	.05	.09	.08		.38						.03					T.	T.				T		1.21
Willow City	Mouse	T.	T.	T.		.10	.10	T.				.10		.10	.20	T.					.10						.16				T.		0.86
Moorhead, Minn ***	Red	.05	T.			.20	T.	T.	.01	.07	.23			T.	.05	.01					.14			.60	.05		.20	T.		T.	T.		1.61

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for March, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	47	45	43	41	38	35	37	36	38	30	31	30	27	35	45	49	52	58	56	51	51	50	47	60	60	56	53	52	48	45	52	45.2
	Minimum	29	18	0	17	17	1	18	1	3	13	5	4	-1	-3	5	3	4	28	34	24	5	15	30	30	32	31	1	-3	25	29	18	13.0
Arnegard	Maximum	49	38	63	49	38	39	31	11	32	22	7	6	32	40	26	44	50	52	38	30	25	48	49	52	48	35	17	49	44	33	58	37.3
	Minimum	35	24	26	22	16	28	10	-8	11	4	-1	-13	5	5	3	3	25	35	27	9	0	14	31	31	32	11	-2	10	29	21	20	14.9
Ashley	Maximum	53	46	42	49	38	40	34	26	34	30	20	14	19	35	36	60	61	70	52	34	29	52	49	48	56	47	18	41	50	37	42	40.7
	Minimum	33	27	12	28	29	19	25	8	-1	18	-1	3	1	7	15	15	29	34	32	15	-1	16	29	27	27	18	3	-4	30	26	18	13.7
Beach	Maximum	....	45	69	64	40	45	30	20	40	21	12	12	20	42	44	58	64	65	46	36	23	53	46	55	53	34	22	57	46	37	63	[a]42.2
	Minimum	....	14	22	31	19	14	14	4	6	6	6	-4	2	7	5	23	28	31	25	8	0	23	27	27	28	13	1	9	27	18	17	[a]14.5
Berthold Agency	Maximum	51	42	60	57	34	44	34	21	36	29	16	16	16	39	37	52	52	58	46	35	30	53	52	57	53	...	47	52	47	42	61	[a]42.3
	Minimum	29	23	36	30	22	30	19	0	4	13	-8	4	-4	12	10	23	29	35	32	20	8	24	29	34	32	...	4	10	32	27	28	[a]19.6
Bismarck	Maximum	55	38	50	42	29	43	34	17	34	25	10	11	12	38	35	55	64	66	41	31	25	48	49	58	58	45	18	57	51	32	56	39.6
	Minimum	36	18	17	29	16	21	16	3	7	6	6	-4	2	8	10	10	32	34	30	13	4	21	32	26	35	11	-2	4	32	21	17	16.1
Bottineau	Maximum	39	38	24	24	35	35	33	23	28	29	27	14	20	20	27	30	35	55	54	39	26	38	55	56	54	50	30	40	40	42	50	35.8
	Minimum	29	11	0	4	17	23	15	-8	-10	8	1	-10	-8	2	5	5	9	32	23	6	3	15	30	26	23	12	8	-9	30	22	15	9.5
Bowbells §§	Maximum	45	42	44	23	33	38	21	13	28	18	....	....	....	....	....	....	....	....	....	....	....	....	55	57	34	19	19	24	42	34	56	[1]33.9
	Minimum	24	15	16	14	16	18	17	10	-7	4	0	....	....	....	....	....	....	....	....	....	....	....	....	30	26	13	-13	-12	10	16	17	[1]9.8
Bowman	Maximum	55	48	66	57	53	46	44	25	43	42	15	13	22	53	51	61	63	65	60	39	21	50	49	51	53	48	23	55	55	38	60	45.9
	Minimum	34	26	24	35	21	24	24	2	5	14	5	0	2	16	14	23	27	34	37	13	4	15	32	32	29	22	3	8	30	21	16	18.8
Cando	Maximum	39	38	18	28	30	38	35	11	29	25	17	13	14	19	33	32	38	56	53	29	24	57	48	45	54	16	16	37	47	42	48	34.2
	Minimum	32	16	-1	13	17	20	15	-4	-9	9	0	-11	-1	-9	-9	2	10	33	27	18	3	20	30	17	31	14	6	-7	32	20	18	11.0
Carson	Maximum	50	45	35	40	30	45	35	30	30	30	25	10	15	55	45	50	50	60	40	38	25	50	45	50	45	40	20	40	45	40	45	38.8
	Minimum	28	25	20	25	25	20	28	2	0	20	-3	-6	-3	5	15	20	25	33	32	20	4	10	25	25	28	20	0	12	15	18	20	16.1
Crosby	Maximum	41	40	49	41	31	35	33	13	30	24	23	12	12	28	12	39	47	54	42	30	26	47	53	62	48	36	8	46	43	35	53	35.4
	Minimum	32	18	20	26	22	21	22	6	6	9	3	6	5	4	3	3	24	35	25	12	2	16	26	31	32	6	5	3	23	3	19	13.7
Devils Lake	Maximum	40	34	23	27	26	36	30	7	27	20	16	8	11	28	30	35	42	56	39	22	22	44	44	56	50	35	5	37	46	32	47	31.5
	Minimum	34	6	0	14	16	21	6	-4	3	2	-3	-10	-6	6	6	2	11	33	22	8	4	16	29	27	33	5	-5	-4	32	21	18	10.5
Dickinson §§	Maximum	53	40	64	41	29	42	29	29	31	26	15	9	25	44	36	53	63	60	36	31	23	52	42	50	52	33	33	55	42	32	60	39.7
	Minimum	26	21	20	25	19	15	19	3	1	15	1	-4	-1	7	9	21	27	31	31	16	2	4	21	26	36	33	3	7	14	21	16	15.4
Donnybrook	Maximum	53	42	48	40	37	39	25	15	33	27	20	15	15	32	30	45	55	50	30	30	40	48	54	58	52	41	16	52	43	38	55	38.0
	Minimum	34	20	13	18	18	20	15	-5	2	8	0	14	-12	0	2	2	35	25	15	-2	15	24	27	26	32	15	-8	-8	35	20	18	12.5
Dunn Center	Maximum	52	47	63	59	33	41	36	18	36	36	11	9	6	35	31	45	59	58	49	32	24	49	44	54	52	43	21	52	48	39	59	40.1
	Minimum	33	25	20	30	20	16	18	-1	11	10	7	-10	-14	2	8	-4	26	29	30	15	2	11	29	28	28	20	1	7	35	24	17	15.3
Dunseith	Maximum	40	39	19	26	31	35	32	13	27	26	15	12	13	18	27	30	34	57	53	27	22	43	50	55	51	44	15	36	46	40	47	32.9
	Minimum	29	9	-3	10	15	21	12	9	-14	5	-4	-13	-9	3	14	-2	5	31	25	14	2	-3	27	27	26	10	-10	-16	30	22	14	8.3
Edgeley	Maximum	56	50	41	46	41	40	39	30	33	32	16	13	14	33	36	58	60	71	61	37	24	50	52	58	59	57	25	35	49	45	49	42.3
	Minimum	31	28	6	24	19	0	21	0	4	16	7	-6	2	4	14	5	30	33	33	20	4	15	27	31	32	1	-8	2	27	25	12	13.5
Ellendale	Maximum	55	38	42	47	29	42	36	20	35	29	18	13	15	33	38	62	60	71	45	31	27	50	50	51	60	39	14	35	49	35	46	39.4
	Minimum	32	17	9	26	9	12	20	3	1	9	0	-2	3	7	19	12	30	33	31	15	7	17	29	33	34	14	0	0	31	24	20	16.0
Fessenden	Maximum	44	46	31	34	35	41	28	21	31	24	31	11	12	28	32	41	50	...	...	...	...	...	...	59	54	46	15	44	48	40	52	36.0
	Minimum	31	23	4	16	17	26	12	-2	-5	5	5	22	-8	10	5	9	0	...	...	...	...	...	...	26	28	12	9	8	37	23	12	8.0
Fullerton	Maximum	55	38	42	46	34	40	35	23	33	29	17	14	15	34	37	57	58	71	44	33	25	48	52	56	57	50	30	35	50	37	46	40.2
	Minimum	29	22	19	26	4	2	22	7	0	17	3	6	1	2	16	9	38	34	33	16	6	17	29	31	34	25	-3	-1	31	28	19	15.6
Garrison	Maximum	49	39	48	45	30	37	34	22	31	28	24	19	14	30	31	44	45	50	47	31	28	47	44	55	52	47	18	49	47	41	56	38.3
	Minimum	34	20	13	23	18	22	16	4	4	10	7	7	7	2	4	4	22	32	28	12	2	18	28	27	30	17	-5	1	35	22	17	13.6
Grafton	Maximum	39	38	15	25	25	33	35	24	25	21	16	12	12	25	30	27	33	51	50	26	26	36	45	55	42	24	30	45	42	40	...	30.4
	Minimum	30	6	-6	15	15	14	23	7	6	10	3	8	3	0	9	3	6	31	27	15	4	13	30	32	31	11	8	-5	29	24	15	11.5
Grand Forks	Maximum	42	33	21	33	26	36	34	8	26	16	16	8	11	28	34	36	26	56	40	26	19	38	47	51	50	37	8	31	44	34	42	31.3
	Minimum	33	2	-2	21	8	9	10	-5	-2	6	-3	6	5	-5	4	0	11	36	26	8	5	13	31	32	33	8	-2	-5	30	20	16	10.4
Granville	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hannah	Maximum	39	35	26	28	31	39	30	20	16	18	18	17	18	22	2	25	38	41	34	20	22	30	41	48	36	24	23	31	45	49	43	29.8
	Minimum	29	26	14	8	15	18	20	15	-12	-6	-10	12	-6	0	-5	9	8	33	10	-5	2	7	18	32	30	11	-10	-2	28	32	36	9.8
Hansboro	Maximum	40	35	15	20	28	38	37	...	24	22	14	14	12	17	30	30	37	52	40	27	20	42	47	54	47	41	10	36	52	38	45	[a]32.1
	Minimum	32	4	-4	10	16	21	...	-8	-5	4	-2	-13	7	7	5	5	2	32	20	10	0	16	24	26	30	10	10	12	25	20	11	[a]8.6
Hettinger	Maximum	58	46	60	61	46	46	38	20	44	40	16	14	24	50	50	63	63	67	57	34	23	47	41	54	51	48	25	56	52	40	53	45.2
	Minimum	28	22	23	31	21	24	19	6	4	14	0	2	3	8	10	24	29	35	32	15	5	16	33	29	31	22	4	10	33	22	12	18.3
Hillsboro	Maximum	43	40	25	30	28	33	38	28	26	24	16	15	12	27	49	39	47	50	57	28	21	38	53	51	55	50	15	28	15	42	33	35.3
	Minimum	30	15	-2	17	17	4	15	2	-5	15	6	6	0	2	15	2	14	31	28	2	1	14	32	31	33	15	-2	4	28	28	15	13.0
Howard	Maximum	47	40	58	50	30	34	30	10	29	26	11	10	16	31	30	38	42	53	35	18	25	51	51	52	50	28	11	46	40	32	57	31.8
	Minimum	28	27	19	17	17	12	10	-9	1	5	-10	-10	11	11	7	0	18	30	18	9	0	5	26	30	24	8	6	6	30	20	29	9.9
Jamestown	Maximum	48	38	30	42	30	40	35	25	30	27	12	12	10	30	35	46	52	69	51	32	23	49	53	59	57	51	15	35	49	31	49	37.9
	Minimum	29	21	15	21	17	14	24	17	-4	10	11	-10	4	2	11	4	21	34	32	15	3	18	29	31	32	15	4	8	29	27	16	14.5
Lamoine	Maximum	48	38	38	38	27	38	30	15	29	...	10	10	...	21	33	42	47	57	41	34	22	45	47	57	53	12	15	11	48	36	51	36.4
	Minimum	30	16	16	22	12	15	2	3	-6	...	8	-11	...	-2	0	3	4	34	28	15	-2	17	28	24	30	15	-6	-5	30	24	14	12.8
Langdon	Maximum	36	20	24	33	30	34	24	19	25	15	15	12	15	20	24	34	3	44	42	15	25	38	45	53	50	23	12	34	45	26	42	29.5
	Minimum	22	8	-12	6	8	6	19	-15	-13	4	-10	-15	-10	9	6	5	10	20	25	8	5	5	27	26	29	12	-10	-10	7	24	12	5.4
Larimore	Maximum	41	37	18	40	25	38	35	18	28	20	18	10	10	33	20	33	40	60	40	25	22	35	45	55	50	25	13	31	45	35	41	31.8
	Minimum	30	13	3	17	13	10	18	5	5	9	0	8	10	4	1	5	10	3	25	12	3	13	25	30	30	10	-5	-10	29	23	17	10.7
Linton	Maximum	58	48	49	49	39	42	38	18	35	33	16	16	20	44	40	61	64	70	55	32	26	52	52	58	59	54	21	46	52	44	53	43.4
	Minimum	36	30	21	27	22	20	22	8	8	15	0	-2	4	12	15	16	27	37	35	4	2	29	34	26	31	21	0	3	31	27	15	18.2
Lisbon	Maximum	50	28	30	42	32	39	38	34	30	28	24	25	37	38	40	41	39	45	38	38	40	50	46	56	52	50	28	36	52	38	45	39.0
	Minimum	26	12	6	22	19	1	8	10	12	6	0	-3	18	20	21	20	23	23	17	20	21	19	30	30	32	20	3	-3	32	19	28	16.5
McKinney	Maximum	48	38	40	38	31	40	32	15	30	26	15	12	17	2	30	43	48	60	50	35	30	50	56	60	59	40	20	50	45	42	58	38.1
	Minimum	28	15	12	15	20	25	15	-5	5	5	2	-12	14	0	5	-1	10	34	15	10	5	18	16	34	30	16	-8	-8	34	20	20	11.3
Maddock	Maximum	42	40	26	30	30	36	34	25	26	25	15	11	11	24	33	37	42	50	57	37	24	43	45	56	53	17	20	40	47	41	49	35.4
	Minimum	33	18	5	15	17	14	24	1	6	9	-11	13	4	8	8	7	12	32	28	10	0	17	28	26	31	15	-7	8	33	25	16	11.6
Marmarth	Maximum	55	41	69	58	38	...	35	17	44	35	11	13	21	52	41	59	62	61	41	33	24	50	40	48	...	40	22	53	46	35	60	41.6
	Minimum	32	25	26	33	20	...	10	1	4	11	4	-1	0	17	12	23	28	32	33	8	0	14	31	33	...	18	5	11	30	17	17	17.0
Melv	Maximum	38	38	27	....	27	38	34	28	26	26	10	10	3	28	34	36	42	52	52	30	20	....	40	48	48	48	15	35	40	40	47	33.1
	Minimum	33	22	6	....	17	17	17	2	1	10	-10	19	-8	-6	10	2	17	31	30	20	2	....	17	28	32	15	3	7	32	27	16	12.0
Minot	Maximum	43	37	44	42	33	38	32	15	30	26	11	13	11	30	31	44	48	57	42	31	29	50	50	58	50	43	12	50	47	38	57	36.8
	Minimum	28	16	9	11	13	15	8	-8	-5	1	-6	-14	-12	-5	1	-8	12	28	22	6	4	12	22	22	24	24	5	11	6	31	16	8.3
Mott	Maximum	53	45	50	52	35	36	22	25	34	20	17	22	30	57	44	62	58	63	44	30	24	41	40	40	37	34	23	44	37	28	32	37.9
	Minimum	29	24	20	30	19	11	5	7	16	5	0	3	9	15	17	25	29	34	30	15	5	20	25	34	23	3	10	20	18	17	18	16.8
Napoleon	Maximum	54	40	42	46	35	43	36	25	35	27	12	12	13	43	35	57	62	72	49	32	26	52	59	59	61	52	20	40	51	40	51	41.3
	Minimum	32	22	10	26	20	15	22	5	3	10	9	12	-4	3	10	6	27	29	30	15	-6	14	35	25	30	17	-8	-12	31	20	15	15.4
New Salem	Maximum	32	42	37	38	43	14	36	25	32	25	10	11	10	36	35	55	56	62	51	39	33	48	43	54	56	50	20	58	41	55	58	39.8
	Minimum	17	21	19	26	25	28	5	0	-1	5	-7	7	-2	3	4	23	28	33	29	14	-1	22	25	28	31	12	-4	-1	20	25	28	14.5
Pembina §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Steele	Maximum	54	44	45	45	43	41	41	45	34	35	34	33	30	37	39	45	56	66	46	32	35	40	52	57	61	46	20	46	51	42	49	45.6
	Minimum	36	25	28	26	30	32	12	6	-2	-5	-8	12	-16	-6	-2	8	20	39	36	4	5	28	32	34	35	30	2	-4	20	22	15	15.2
Towner	Maximum	43	39	32	30	33	38	38	18	31	25	17	20	25	26	29	38	45	61	57	31	25	48	50	58	49	46	12	45	48	42	52	37.9
	Minimum	34	18	9	16	18	22	18	-3	-3	5	3	8	12	3	9	-3	15	33	29	18	2	18	28	28	28	12	-6	-5	28	24	17	12.0
Valley City	Maximum	46	37	33	30	18	37	34	22	27	22	17	15	12	28	34	45	55	63	57	29	27	41	54	58	56	40	14	33	45	40	43	36.5
	Minimum	29	30	15	7	-1	5	1	0	-3	10	-6	-7	4	6	2	2	11	31	29	22	2	14	30	29	27	14	1	-7	30	14	10	10.2
Wahpeton	Maximum	48	45	26	41	40	38	40	30	30	29	27	22	22	31	37	56	54	67	...	....	...	43	47	54	62	53	30	31	44	48	45	40.7
	Minimum	32	21	3	21	20	-4	24	4	2	20	3	3	3	6	10	7	25	37	34	27	9	17	31	32	34	27	3	1	30	31	23	17.2
Westhope	Maximum	42	38	29	25	37	38	28	17	32	20	14	19	19	18	26	40	40	58	34	30	39	48	48	58	52	33	23	38	45	34	53	34.4
	Minimum	31	10	5	10	18	24	-5	-5	15	5	-10	0	-4	2	-5	-2	20	32	5	5	-2	15	23	27	28	2	-9	5	32	22	20	10.0
Williston	Maximum	49	36	62	39	29	39	32	12	30	19	11	7	12	32	18	47	54	54	32	29	26	49	52	54	47	35	17	52	48	34	58	36.0
	Minimum	32	25	26	27	23	18	11	3	11	8	5	5	-1	8	3	5	28	32	26	10	5	19	29	31	34	5	0	11	25	23	24	15.6
Moorhead, Minn	Maximum	45	36	27	38	28	33	35	18	24	23	17	12	16	31	35	44	42	58	47	29	20	40	45	46	57	41	11	32	44	36	41	33.9
	Minimum	33	6	1	25	8	8	18	5	1	12	1	1	1	4	15	7	20	37	29	15	8	16	32	31	35	11	0	1	30	23	21	14.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXX. BISMARCK, N. D., APRIL, 1921. No. 4

GENERAL SUMMARY.

The temperature was generally moderate during the month, and the means were near the normal at all stations. High temperatures occurred on the 2d, 3d and 4th, followed by a cool period with general rain or snow from the 5th to the 9th, inclusive. Fair weather with moderate temperatures then prevailed until the 20th, which marked the beginning of another rainy period that lasted, with only short interruptions, until the end of the month. The precipitation was about evenly distributed between the two periods mentioned above. The falls during the first period were mostly in the form of snow, while those in the second were mostly in the form of rain, excepting the heavy snow which fell in the extreme northwestern portion on the 30th. The precipitation was well distributed, the totals being more than two inches over the greater portion of the State, and over three inches at four stations. The extreme southwestern portion received the least, the greater portion of five counties recording less than one inch. As the precipitation came mostly in small amounts, farm work was not seriously interfered with, and wheat seeding made excellent progress. Grass made a good start and afforded much feed for stock. —E. G. L.

TEMPERATURE.

The mean temperature for the State was 41.1°, or 0.6° below the normal, and 9.0° higher than the mean for April, 1920. The highest mean reported was 48.2° at Lisbon, Ransom County; the lowest was 31.6° at Pembina, Pembina County. The highest temperature reported was 91° at Edgeley, LaMoure County, on the 3d; the lowest was 1° at Willow City, Bottineau County, on the 8th. The greatest monthly range was 79° at Edgeley, LaMoure County; the least was 50° at Grafton, Walsh County. The greatest daily range was 62° at Hettinger, Adams County, on the 18th.

PRECIPITATION.

The average precipitation for the State was 1.81 inches, or 0.43 inch above the normal, and 0.98 inch more than the average for April, 1920. The greatest monthly amount reported was 4.72 inches at Ashley, McIntosh County; the least was 0.27 inch at Hettinger, Adams County. The greatest amount recorded in any 24 consecutive hours was 2.00 inches at Howard, Williams County, on the 30th. The average snowfall was 3.8 inches. The average number of days with 0.01 inch or more of precipitation was 7.

AURORAS.

Auroras were observed at Devils Lake, Eckman, Ellendale, Foxholm, Fullerton, Howard and Skaar on the 9th; at Foxholm, Fullerton, Howard, McLeod, Marmarth and Valley City on the 10th; at Eckman, Foxholm and Valley City on the 11th; at Fessenden, Foxholm, Howard, Napoleon and Valley City on the 12th; at Valley City on the 13th; at Arnegard, Eckman, Napoleon and Valley City on the 14th; at Donnybrook and Valley City on the 15th and 16th, and at Foxholm on the 28th and 29th.

ERRATA, FEBRUARY, 1921.

Page 6: Greatest 24-hour precipitation at Eckman should be .13, and at Grafton, .37. Highest temperature at Napoleon should be 56° on the 15th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.95	30.72	9	29.31	23	57	7,535	10.5	35	w.	7
Devils Lake	29.93	30.65	16	29.31	21	44	9,316	12.9	36	ne.	20
Ellendale	29.93	30.67	10	29.30	24	56	12,042	16.7	43	sw.	7
Grand Forks	29.90	30.59	9	29.34	24	90	......	......	39	w.	7
Williston	29.93	30.74	9	29.24	23	48	6,907	9.7	42	e.	29
Moorhead, Minn	29.92	30.64	10	29.27	24	58	7,037	9.8	36	sw.	7
Av'ges and extremes	29.93	30.74	9	29.24	23	....	....	11.9	43	sw.	7

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	269.4	408.5	66	+ 7	79	44	46	12	19
Devils Lake	254.5	410.5	62	+ 4	79	58	66	15	18
Ellendale	266.9	407.2	66	......	85	50	....	14	19
Grand Forks	......	......	......	......	80	.....	81	.....	....
Williston	305.7	410.5	74	+15	78	49	48	15	18
Moorhead, Minn	......	......	......	......	81	53	58	.....	....
Averages and extremes	274.1	409.2	67	+ 9	80	51	60	12	19

* And other dates.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892...	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893...	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894...	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895...	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896...	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897...	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898...	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899...	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900...	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901...	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902...	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903...	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904...	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905...	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906...	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907...	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908...	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909...	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910...	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911...	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912...	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913...	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914...	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915...	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916...	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918...	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919...	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920...	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921...	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.

Climatological Data for April, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	45.9	+3.6	80	3	16	16	59	1.61	−0.38	0.70	0	4	14	4	12	n.	E. T. Carley.
Amidon	Slope		6	42.2		80^a	2	12	7	44^a	1.26		0.54		4	15	9	6	nw	Charles Eastgate.
Arnegard	McKenzie		3	40.5		77	2	12	6†	46	2.39		0.75	10.0	9	14	7	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	44.0	+1.5	84	3	15	8	48	4.72	+2.70	1.93	3.0	8	17	6	7	nw.	R. C. Miles.
Beach	Golden Valley	2,579	15	41.0	−1.5	82	3	10	8	48	1.31	+0.09	0.44		5					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	44.8^b	+1.1	76^b	19	13^b	7	37^c	1.83	+0.71	0.58	2.5	9	15	4	11	ne.	C. L. Hall.
Bismarck	Burleigh	1,674	47	43.4	+0.8	82	3	15	8	47	2.40	+0.52	1.28	1.0	9	11	11	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	39.5	+0.1	75	18	10	10	46	1.63	+0.74	0.50		9	14	5	11	nw.	M. R. Shuler.
Bowbells	Burke	1,958	9	34.8		65	14	5	8	47	1.04		0.34		6	15	1	14		G. H. Phelps.
Bowman	Bowman		7	43.0		84	3	14	8	46	0.55		0.32	1.2	4	15	5	10	nw.	W. W. Barr.
Cando	Towner	1,488	20	40.8	+0.2	73	18	12	8	45	1.94	+1.03	0.58		8	12	8	10	nw.	A. J. Swanson.
Carson	Grant	2,500	9	41.2		82	3	9	7	42	1.53		0.45	4.0	9	15	8	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11								1.90	+0.90	0.60	T.	6	14	11	5	nw.	S. Friswold.
Crosby	Divide	1,954	14	37.7	−2.9	67	18	11	6†	41	2.24	+1.22	0.68	9.2	8	11	8	11	e.	John Jensen.
Devils Lake	Ramsey	1,478	17	39.2	+1.0	71	18	15	8	39	2.17	+0.14	0.63	1.9	9	13	7	10	ne.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	39.2	−3.7	80	2	10	8	50	1.02	+0.19	0.57		9	16	8	6	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	40.0	−0.4	75	18	10	8	42	2.31	+1.36	1.27	6.2	8	9	13	8	se.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	41.2		82	2	11	8	50	1.35		0.73	1.0	5	10	9	11	nw.	W. H. Moede.
Dunseith	Rolette	1,682	25	37.6	−2.8	70	18	8	8	42	1.80	+1.00	0.66	3.3	6	15	4	11	n.	J. G. Lamont.
Eckman	Bottineau		16	39.8	−1.8	73	18	7	8	49	1.70	+0.67	0.60	3.0	9	16	4	10	n.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	44.4	+1.2	91	3	12	16	58	1.69	−0.22	0.63		5	15	7	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	43.8		81	4	17	16	46	1.68	−0.32	0.60	0.9	11	8	12	10	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	9								1.78		0.45		11	13	9	8	nw.	N. W. Solenberger.
Epping	Williams	2,224	13								1.60	+0.41	0.80	10.0	6	19	4	7	e	M. E. Uggen.
Fessenden	Wells	1,610	9	40.2		76	2	10	9	50	3.13		0.90	1.5	8	15	4	11	n.	T. D. Monsen.
Foxholm	Ward		1	38.8		70	18	10	8	38	1.38		0.28	3.8	8	15	6	9	ne.	E. C. Bierbaum.
Fryburg	Billings	2,790	3								1.36		0.78	4.5	8	15	9	6	nw.	Verne King.
Fullerton	Dickey	1,439	23	44.7	+1.9	80	3†	15	8	46	2.19	+0.22	0.77	1.0	7	12	10	8	nw.	F. O. Alin.
Garrison	McLean	1,901	26	40.6	−2.0	77	2	9	8	47	2.08	+0.90	0.78	1.5	9	12	8	10	nw.	G. L. Robinson.
Grafton	Walsh	827	29	41.8	+1.5	71	18†	21	15†	43	1.23	−0.26	0.40	0.2	6	16	8	6	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	29	42.2	+0.2	73	3	12	16	45	1.72	−0.25	0.55	1.2	11	14	8	8	n.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	40.6	−1.9	75	18	12	8	50	2.23	+1.24	0.73	1.5	7	10	6	14	se.	W. A. Christianson.
Hannah	Cavalier	1,568	16								1.09	−0.23	0.30	4.0	6					J. Moffatt.
Hansboro	Towner	1,597	13	37.3	−2.6	72	18	11	8†	43	1.84	+0.50	0.98	1.5	4	15	7	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	13	42.4	−2.4	80	2†	9	16	62	0.27	−0.46	0.12	T.	5	11	12	7	nw.	C. J. Downey.
Hillsboro	Traill	901	15	43.7	+0.1	75	4	18	16	46	1.59	−0.52	0.55	T.	10	13	8	9	n.	F. E. Mayall.
Howard‡‡	Williams	2,275	14	38.6	−1.2	72	2	10	7†	48	3.18	+1.90	2.00	21.0	5	10	9	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	44.3	+1.8	82	18	18	7†	46	3.36	+1.60	1.35	0.5	8	15	3	12	ne.	S. Calvelage.
Lamoine	Kidder	1,936	13	40.6	−2.0	79	2	11	16	51	1.77	+0.87		3.0	11	13	8	9	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	25	36.3	−1.8	70	18	12	7	40	1.45	+0.08	0.55	1.0	6	19	2	9	ne.	R. T. Burke.
Larimore	Grand Forks	1,134	26	40.7	+0.3	71	18†	16	16	41	2.50	+0.95	1.15		6	14	8	8	n.	Reuben Gray.
Linton	Emmons	1,711	3	44.6		85	2	7	10	51	2.54		1.31	7.0	9	15	8	7	nw.	William Malpass.
Lisbon	Ransom	1,091	17	48.2	+5.5	80	3	26	25	44	0.57	−1.43	0.30	0	3	13	11	6	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3								2.96		1.05	2.5	12					Edw. Tapley.
McKinney‡‡	Renville	1,640	27	40.4	−0.6	75	16	10	8	52	0.65	−0.18		1.0	4	7	12	11	ne.	N. P. Swenson.
McLeod	Ransom	1,075	9	43.5		75	19	16	16	46	2.20		0.82		10	17	2	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	6	41.0		71	18	12	8	47	2.41		1.00		7	9	10	11	nw.	A. T. Felland.
Mandan	Morton	1,644	7	43.1		83	2	14	8	49	2.52		1.52		10	14	7	9	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	40.4	−1.4	77	2	12	8	51	2.91	+1.65	0.79	4.0	8	16	3	11	ne.	P. B. Anderson.
Marmarth	Slope		12	41.4^a	−1.4	79^a	3	14^a	8†	45^a	0.88	−0.22	0.26	6.1	5	13	1	16	nw.	S. P. Grane.
Mayville	Traill	975	25	40.8	−2.4	74	3	17	16	43	2.05	+0.25	0.50		10	16	2	12	ne.	W. C. Gould.
Melville	Foster	1,590	23	41.0^c	+0.9	68^c	20	13^c	16	39^c	1.62	+0.55	0.65	T.	4				nw.	J. P. Kidder.
Minot	Ward	1,557	25	38.6	−3.1	75	17	5	7	49	1.85	+0.55	0.52	7.0	10	10	10	10	e.	W. I. Faris.
Minto	Walsh	820	28	41.4	+0.8	73	18	20	9	51	1.57	0.00	0.46		9	14	5	11	ne.	C. M. Evans.
Mott	Hettinger	2,424	14	42.0	−0.6	80	2†	11	16	50	0.56	−0.86	0.15		8	11	6	13	nw.	O. H. Opland.
Napoleon	Logan	1,955	29	42.2	+0.7	86	3	11	16	50	2.29	+0.63	0.85	2.0	8	14	2	14	sw.	C. J. Hoof.
New England	Hettinger	2,400	27			75^a	3				0.87	−0.08	0.50	3.5	5	12	7	11	nw.	W. C. McKenzie.
New Salem	Morton	2,163	16	40.6	−1.9	80	2†	10	9	46	2.16	+0.98	0.68	5.0	8	15	7	8	ne.	J. Christiansen.
Park River	Walsh	998	17	40.8	−0.7	71	18	20	8†	43	1.58	+0.21	0.54		8	13	5	12	nw.	C. B. Wright.
Parshall	Mountrail		6								1.26		0.56	7.0	3					J. A. Johnson.
Pembina	Pembina	789	47	31.6	−6.3	73	20	8	4†	51	0.97	−0.59	0.48	0	10	15	9	6	sw.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	41.0	−0.9	76	2	9	8	59	2.26	+0.78	0.75	5.0	8	14	7	9	nw.	S. C. Shanks.
Power	Richland	1,020	28								2.47	+0.60	0.75	2.0	9					J. A. Power.
Powers Lake	Burke	2,205	6								2.14		1.00	13.2	8	5	10	15	w.	C. Frank.
Skaar	McKenzie		1	40.6^b		79^a	2	13^a	7	48^b	1.93		0.60	15.0	6	12	9	9	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	24	42.7	1.7	84	3	12	7	46	2.05	+0.97	0.63	2.5	9	19	9	2	w.	H. S. Wood.
Taylor	Stark	2,493	5	41.8^b		80^b	2	12^b	8	45	0.63		0.55		5				ne.	H. Leutz.
Towner	McHenry	1,482	19	40.6	−0.8	76	19	8	8	48	2.22	+1.04	1.27	13.0	3	18	3	9	nw.	B. Bagley.
Turtle Lake	McLean	1,899	6	41.1		79	2	10	8	44	1.68		0.56	2.5	10	11	7	12	nw.	A. T. Anderson.
Valley City	Barnes	1,245	2	42.2	−1.6	78	3	11	16	47	3.14	+1.42	0.62	1.5	11	14	2	14	nw.	C. F. Schroeder.
Wahpeton	Richland	962	27	47.4	+3.1	79	3†	16	16	44	1.65	−0.56	0.75	T.	6	11	9	10	n.	State School of Science.
Walhalla	Pembina	966	14	39.6	−0.3	72	18	14	16	38	1.39	+0.09	0.90	2.0	5	16	2	12	n.	Ivan Lee.
Westhope	Bottineau	1,508	15	38.2	−1.5	74	18	10	8	49	0.77	−0.37	0.23		5	15	5	10	nw.	W. A. Meddaugh.
Williston	Williams	1,875	42	40.4	−0.1	74	2	14	8	47	1.66	+0.43	0.70	6.5	7	11	11	8	e.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	37.4	−2.8	71	18	1	8	47	1.93	+0.99	0.41	11.0	8	16	4	10	ne.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	44.1	+2.7	78	3	18	16	40	1.79	−0.54	0.63	0.4	12	11	7	12	n.	U. S. Weather Bureau.
Averages				41.1	−0.6	91	3	1	8	62	1.81	+0.43	2.00	3.8	7	14	7	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for April, 1921.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red						.12	.70															.53		.26								1.61
Amidon	Lit. Missouri					.15	T	T.	T												T.			T			.53	.04			.54		1.26
Arnegard	Missouri					.30		.30	.40												.37	.03		.21		.01	.02				.75		2.39
Ashley	Missouri					.90	.21		.20												.15	1.93			.68	.38					.27		4.72
Beach	Lit. Missouri					.44	T	.20	.18												T.			.06							.43		1.31
Berthold Agency	Missouri		T.			.10	.26	T.	.02												.26	.51		.04	T	.01	.02				.58		1.83
Bismarck ***	Missouri					.36	.09	T	.02	T											1.00	.29		T	.27	.15	T		.07		.15		2.40
Bottineau	Mouse						.27	.22	.03	.01												.50	.10	.17		.15					.18		1.63
Bowbells ‖	Mouse						.30	.10	.05													.34			.20		.05						1.04
Bowman	Grand					.16	.03	T.	.04	T.											T.					T.	T	T			.32		0.55
Cando	Sheyenne						.40	.04														.58	.16		.03	.53	.01				.19		1.94
Carson	Heart					.13	.30		.10												.45	.20			.18	.12	.04	.01					1.53
Cooperstown	Sheyenne				T.		.40	T.													.35		.10		.25					.20	.60		1.90
Crosby	Mouse				T	.02	.30	.12	.07												.40	.68		.13	T						.52		2.24
Devils Lake ***	Sheyenne		T.			.01	.40	.07	.11	T.											T.	.35	.06	T.	.39	.37	T				.41		2.17
Dickinson ‖	Heart					.04	.21	T.	.04	.02											T.	.10		.01	.02	.01		T.			.57		1.02
Donnybrook	Mouse	T.	T.			T.	.25		.05	.02											.20		T.	.10	.37	.05	T.				1.27		2.31
Dunn Center	Knife					.17	.15	T.	T.											T.	.20		T.				T.	.10			.73		1.35
Dunseith	Mouse					T.	.24	.09														.66			.28	.37					.16		1.80
Eckman	Mouse				.04	.30	.10	.01		.10											T.	.60			.12	.09					.34		1.70
Edgeley	James						.31														T.	.47			.62	.15					.13		1.69
Ellendale***	James			T.	.02	.20	.23	.03	.05	T.											.60	.08	T.	.24	.03	.10			T		.08		1.66
Energy	Missouri					.23	.12	.02	.03													.40	.05	T.	.23	.04			.02	.45	.05		1.64
Epping	Missouri						.37	.03	.03												.22			.15							.80		1.60
Fessenden	James					T.	.48	T.	.10												.07	.90	.11		.30	.56					.61		3.13
Foxholm	Mouse				T.	T.	.28	T.	.10												T.	.21		.25	.28	.02			.02		.22		1.38
Fryburg	Lit. Missouri					.20		.05	.18	T.				T.						T.	.05			.04	T	T.	.04	.02			.78		1.36
Fullerton	James					.38	T.	.10	.08	T.											T.	.38			.77	.20					.28		2.19
Garrison	Missouri		T.			T.	.10	.05		T											.02	.78	.02	.23	.24	T.			.10		.54		2.08
Grafton	Red					.14		.40	T.													.16	.14		.10	.29	T.						1.23
Grand Forks ***	Red					.12	.50	.02	.10												.05	.04	.55	.20	.08	.05					.01		1.72
Granville	Mouse		T.			T.	.05	.10	.05													.67			.22	.41	T.		T.		.73		2.23
Hannah	Pembina					.11	.04	.10	.30													.28					.26						1.09
Hansboro	Red					T.	T.	.18	.18													.50				.98					T.		1.84
Hettinger	Grand					.03		T.													.02				.07		.03			.12			0.27
Hillsboro	Red					T.	.55	.03	.03	T.											.03	.30	.25	.01	.28	.01					.10		1.59
Howard	Missouri		T.	T.	T.	T.	.30	.20	.05						T.						.63	T.	T.	T.		T.	T.	T.	T.	T.	2.00		3.18
Jamestown	James				.70	.25	.05												.08		1.35			.04	.34						.55		3.36
Lamoure	Missouri						.10	.10	.10												*	*	.63	.06	*	*	.54		T.		.24		1.77
Langdon	Pembina				T.	.20	.10															*	.45			.55	.15				T.		1.45
Larimore	Red					.07	1.15															.05	.60		.25	.38							2.50
Linton	Missouri					T.	.11	.25	.11	T.											.02	1.31	T		.18	.39			.05		.12		2.54
Lisbon	Sheyenne																						T.	.12	.15	T.					.30		0.57
McClusky	Missouri					*	.37	.20	.25												*	1.05	.05		*	.15	.04		.05		.50		2.96
McKinney	Mouse		T.		T.	T.	.10	T.	T.	T.											*	.25		.30									0.65
McLeod	Sheyenne					.05	.82			.06											.06		.34	.02	.46	.04	.17				.18		2.20
Maddock	Sheyenne					.30			.10													.31	.25		.05	1.00					.40		2.41
Mandan ‖	Missouri					.02	.25	.08		.03	T.											1.52	.07			.35		.03		.04	.13		2.52
Manfred	Sheyenne					T.	.20	.10	.15												.10	.79			.41	.64					.52		2.91
Marmarth	Lit. Missouri					.20			*	.29															T.			.13			.26		0.88
Mayville	Red				.02	.16	.30	.50	.10	.10												.34	.23		.17	.13							2.05
Melville	James					T.	T.	T.	T.	T.											T.	.65			T.	.44	.05				.48		1.62
Minot	Mouse					.19	.10	.10												.04	.35		.15		.15			.07		.52	.18		1.85
Minto	Red					.09	.40	.10	.05											.03		.12	.46		.12	.20							1.57
Mott	Cannon Ball					.10	.08	T.	.06												.03			.02	.04	.06	.02				.15		0.56
Napoleon	Missouri				.20		.20		T.												.40	.85			.12	.30			.07		.15		2.29
New England	Cannon Ball						.15	T.	.15	.05												.02			T.	T.	T.				.50		0.87
New Salem	Heart					.26	.40	.04	.10												.38	.68			.04	.26	T.		T.				2.16
Park River	Red					.12	.40			.03												.26	.54		.03	.37	.03				T.		1.78
Parshall	Missouri								.30												.56										.40		1.26
Pembina ‖	Red		.02	.04				.01	.04	.06	.04												.48	.16	.08	.04							0.97
Pettibone	James					T.	.10	.10	.20	.10											T.	.75	T.	T.	.50		.01				.50		2.26
Power	Missouri					.04	.75	.05	.25												.03	*	.55		.45						.35		2.47
Powers Lake	Sheyenne				T.	.05	.25	.07	.05												.42			.12	.18						1.00		2.14
Skaar	Lit. Missouri				T.	.50	T.	.40	.30												.03			.10				T.			.60		1.93
Steele	Missouri					T.	.26		.19											.08	.12	.63	.04	T.	.25	.36	T.		T.	.12			2.05
Taylor	Heart					T.	.02	T.	.02	T.											.03			.01	T.		T.				.55		0.63
Towner	Mouse					T.	T.	.50														1.27									.45		2.22
Turtle Lake	Missouri					.03	.20	.04	.05												.24	.56				.27	.03		.03		.23		1.68
Valley City	Sheyenne					.25	.15	T.	.12	T.										.35	.47	T.	.62	.04	.38	.29	.09			T.	.38		3.14
Wahpeton	Red					.13	.30			T.											.07		.33		.75		.07						1.65
Walhalla	Pembina		T.			.12	.11		.20														.06			.90							1.39
Westhope	Mouse						T.	.16	.08													.19				.23	.11						0.77
Williston ***	Missouri				T.	.21	.10	.13	.16	T.											.33			.03		T.					.70		1.66
Willow City	Mouse		T.			T.	.31	.30	.10													.32	.10		.25	.41					.14		1.93
Moorhead, Minn ***	Red					.06	.43	.02	.04												.13	.27	.12	.04	.31	T.	.06			.02	.29		1.75

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time bservation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for t 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	68	77	80	76	70	60	46	43	51	57	66	60	61	60	59	57	72	72	78	79	58	64	64	57	58	60	65	62	58	52	....	63.0
	Minimum ...	23	31	35	33	34	30	22	24	23	20	29	31	25	25	20	16	23	23	29	30	34	40	29	47	31	38	30	28	23	36	....	28.8
Arnegard	Maximum...	61	77	69	46	31	24	27	22	31	59	58	54	63	54	49	53	63	73	72	63	48	66	70	51	46	57	51	55	62	48	....	53.4
	Minimum ...	33	35	34	31	22	12	13	12	18	16	26	29	33	32	19	18	23	27	36	40	35	34	35	33	35	28	33	25	28	32	....	27.6
Ashley	Maximum...	65	77	84	83	70	37	39	35	30	52	68	62	60	57	48	48	61	70	75	62	50	62	67	56	47	58	50	49	60	58	....	58.0
	Minimum ...	18	40	45	35	33	29	16	15	18	17	28	32	26	29	21	16	22	28	39	48	38	31	38	42	38	32	35	27	29	39	....	30.1
Beach	Maximum...	65	81	82	50	33	23	30	27	36	60	63	58	68	57	44	54	64	78	80	75	51	70	64	47	45	60	52	58	61	53	....	56.4
	Minimum ...	27	45	37	30	19	14	9	10	13	14	25	30	31	40	17	16	30	37	32	30	30	34	16	28	28	21	24	25	25	28	....	25.5
Berthold Agency	Maximum...	66	..	60	50	38	33	36	28	34	55	66	57	66	58	49	56	..	75	76	68	48	68	64	53	51	57	56	58	65	61	....	b55.4
	Minimum ...	34	..	48	33	30	27	13	18	22	24	41	33	38	40	24	32	46	..	50	43	39	31	41	38	41	32	36	31	39	35	....	b34.2
Bismarck	Maximum...	67	82	82	72	37	32	34	29	33	57	68	57	61	57	44	51	62	73	75	54	50	66	66	52	45	58	52	54	61	55	....	56.2
	Minimum ...	32	35	40	34	30	22	17	15	20	19	32	32	27	31	22	16	22	33	37	48	35	30	41	41	36	32	36	30	31	40	....	30.5
Bottineau	Maximum...	60	57	68	59	35	30	20	24	32	50	63	57	56	55	47	55	64	75	63	65	56	60	56	56	51	54	60	53	57	56	....	53.1
	Minimum ...	25	29	38	30	26	20	12	3	13	10	29	29	27	32	16	16	22	29	39	32	36	39	35	35	38	27	26	22	23	18	....	25.9
Bowbells §§	Maximum...	59	54	50	32	28	28	24	22	40	54	58	52	50	65	42	58	60	52	47	38	63	42	40	55	52	64	51	56	55	35	....	47.6
	Minimum ...	31	29	13	10	23	18	10	5	9	15	20	27	23	18	9	18	22	30	26	28	27	31	32	31	34	25	20	23	24	27	....	21.9
Bowman	Maximum...	68	80	84	80	44	27	31	39	31	64	67	66	65	63	53	50	62	71	71	69	51	67	65	42	50	51	47	54	60	60	....	57.4
	Minimum ...	31	37	41	37	26	15	15	14	15	18	46	34	31	33	18	15	21	28	40	46	31	30	39	33	32	25	27	25	25	29	....	28.7
Cando	Maximum...	62	60	57	53	42	32	30	29	34	50	61	61	55	57	52	51	66	73	72	59	58	51	57	55	50	54	55	50	55	54	....	53.3
	Minimum ...	33	30	34	31	28	24	17	12	18	20	29	29	31	26	20	19	26	28	33	34	34	31	30	44	41	32	29	27	27	32	....	28.3
Carson	Maximum...	50	60	82	60	45	35	28	22	35	50	70	60	62	58	47	50	62	73	77	62	50	62	55	55	45	53	52	55	56	60	....	54.2
	Minimum ...	35	35	40	35	30	25	9	12	15	10	28	29	30	30	18	11	25	33	35	45	45	28	32	35	32	27	33	25	30	32	....	28.3
Crosby	Maximum...	55	63	64	50	31	28	22	22	28	46	54	51	54	50	48	49	60	67	65	55	39	54	64	52	47	49	52	55	58	50	....	49.5
	Minimum ...	21	31	32	30	15	11	12	11	16	14	27	26	28	31	19	21	26	26	46	33	31	32	35	31	35	29	28	26	25	30	....	25.9
Devils Lake	Maximum...	62	61	61	54	32	28	28	22	31	50	62	48	56	52	37	50	62	71	66	60	45	50	58	53	45	53	46	48	56	42	....	49.6
	Minimum ...	32	31	35	31	27	23	19	15	19	19	29	30	27	27	21	19	28	32	33	36	35	33	30	41	40	33	29	27	26	33	....	28.7
Dickinson §§	Maximum...	64	80	72	54	37	27	30	22	30	62	65	55	64	51	39	50	61	71	72	51	51	61	63	51	46	54	50	54	61	48	....	53.2
	Minimum ...	16	30	30	31	27	19	15	10	13	19	24	32	28	30	18	13	18	25	31	46	37	27	36	31	33	20	31	18	21	30	....	25.3
Donnybrook	Maximum...	58	65	67	53	30	30	35	22	34	50	58	55	55	45	47	55	66	75	74	60	45	58	68	55	49	53	52	52	60	53	....	52.6
	Minimum ...	36	38	31	30	27	20	15	10	20	18	30	26	30	18	19	18	24	37	32	36	32	30	35	36	37	30	25	26	27	30	....	27.4
Dunn Center	Maximum...	64	82	71	61	42	29	25	24	32	62	65	54	62	54	53	63	72	72	60	47	61	61	55	54	47	57	53	54	61	55	....	55.1
	Minimum ...	30	32	32	31	28	21	21	11	15	18	24	29	27	25	15	17	24	32	44	37	31	34	32	36	36	22	36	22	25	32	....	27.3
Dunseith	Maximum...	60	55	60	50	33	26	26	23	31	48	62	51	53	51	40	51	60	70	67	56	55	51	57	54	49	51	47	47	54	51	....	49.6
	Minimum ...	24	31	34	28	24	19	12	8	13	17	26	25	25	29	15	14	27	28	37	35	30	24	29	38	37	31	27	24	22	32	....	25.5
Edgeley	Maximum...	69	77	91	81	81	38	48	39	34	53	64	63	59	58	48	49	62	69	77	72	55	62	61	57	51	58	54	55	62	58	....	60.2
	Minimum ...	30	31	37	23	32	29	19	18	20	19	26	30	25	30	20	12	20	23	39	44	33	34	30	44	40	32	31	26	27	38	....	28.7
Ellendale	Maximum...	68	77	80	81	59	36	43	32	32	51	62	57	58	58	43	48	60	69	76	62	47	60	67	53	51	58	49	53	61	60	....	57.0
	Minimum ...	30	34	34	37	34	27	20	18	22	18	29	33	26	29	23	17	26	23	36	45	39	36	36	42	38	34	32	29	33	39	....	30.6
Fessenden	Maximum...	66	76	66	61	52	31	30	24	33	52	67	59	60	55	49	52	64	72	73	62	51	57	59	53	53	55	51	50	61	52	....	54.9
	Minimum ...	29	29	36	27	27	22	21	12	10	14	23	19	25	31	16	16	17	22	29	35	31	26	30	38	37	25	27	21	27	32	....	25.4
Fullerton	Maximum...	67	75	80	80	69	38	42	34	32	51	63	57	58	56	46	48	61	69	78	60	51	58	63	54	49	58	58	52	63	57	....	57.6
	Minimum ...	29	33	34	62	38	29	20	15	21	19	28	32	27	30	23	16	22	24	48	47	38	37	33	44	41	32	32	27	27	47	....	31.8
Garrison	Maximum...	65	77	69	59	37	31	28	25	31	52	67	62	61	46	42	52	61	73	74	59	49	64	55	59	55	54	51	53	63	58	....	54.1
	Minimum ...	32	32	34	30	25	25	15	9	16	28	26	28	24	21	18	16	20	26	31	44	33	35	36	37	29	29	29	24	29	32	....	27.1
Grafton	Maximum...	62	54	60	55	53	30	29	30	32	54	61	55	54	56	49	50	63	71	71	66	58	47	61	60	51	56	48	45	54	53	....	52.9
	Minimum ...	32	32	35	33	30	27	24	23	22	25	30	32	29	32	21	21	37	28	34	32	37	36	34	15	41	37	30	30	21	31	....	30.7
Grand Forks	Maximum...	59	56	73	66	44	32	36	32	31	51	67	55	56	57	40	48	62	71	72	70	61	43	62	57	47	57	44	47	54	54	....	53.5
	Minimum ...	32	31	38	34	31	28	25	23	25	24	31	34	30	29	23	12	27	26	35	38	40	33	34	47	41	40	31	30	27	34	....	31.1
Granville	Maximum...	64	73	63	45	39	30	28	22	37	58	68	50	55	57	45	55	65	75	70	65	45	60	58	55	47	56	58	50	62	45	....	53.3
	Minimum ...	34	33	38	29	28	15	18	12	19	20	34	24	25	24	18	18	25	25	30	45	32	38	35	38	35	32	28	28	28	32	....	28.0
Hannah	Maximum...	34	32	35	34	30	32	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	....
	Minimum ...	22	18	21	26	20	21	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	....
Hansboro	Maximum...	61	52	55	50	34	28	26	25	31	48	59	46	52	50	39	52	63	72	59	57	47	45	60	52	50	51	52	53	48	44	....	48.7
	Minimum ...	31	30	32	30	26	20	13	11	11	17	28	26	23	28	12	17	27	29	33	27	30	29	29	42	39	32	28	26	20	30	....	25.9
Hettinger	Maximum...	69	80	80	74	52	30	34	31	33	63	71	64	65	60	61	51	63	73	67	60	55	70	69	50	51	56	52	55	63	46	....	58.3
	Minimum ...	29	29	33	33	28	23	18	16	16	18	23	34	31	32	19	9	16	11	29	48	38	24	38	38	32	20	30	28	22	26	....	26.4
Hillsboro	Maximum...	63	64	74	75	69	34	36	36	29	49	60	60	60	55	54	46	64	70	72	71	61	58	61	62	52	58	55	49	56	53	....	56.9
	Minimum ...	32	32	36	32	32	31	22	25	24	22	31	31	29	28	21	18	26	24	33	36	38	39	30	47	42	37	30	29	24	34	....	30.5
Howard	Maximum...	60	72	60	35	36	32	30	32	57	70	60	60	57	40	47	44	62	70	70	60	46	52	60	47	53	54	50	60	51	40	....	52.3
	Minimum ...	30	34	32	20	15	15	10	10	22	22	25	37	20	18	18	18	21	25	26	34	30	33	30	32	32	26	35	27	27	27	....	25.0
Jamestown	Maximum...	68	78	81	71	64	38	33	31	53	68	60	61	59	48	50	68	71	82	64	51	56	59	59	58	59	51	53	67	50	50	....	58.7
	Minimum ...	28	43	37	33	28	20	18	20	21	27	31	26	29	21	18	25	27	36	42	40	35	24	44	41	32	31	28	30	33	30	....	29.9
Lamoine	Maximum...	56	79	73	56	40	30	31	25	29	51	69	58	58	54	48	50	61	72	72	63	50	63	58	53	47	57	53	51	62	53	....	54.1
	Minimum ...	28	28	38	28	27	27	17	16	16	12	28	28	21	25	17	11	24	29	36	42	38	28	37	26	39	28	28	23	29	35	....	27.0
Langdon	Maximum...	58	48	52	30	29	26	26	24	32	45	59	45	57	59	35	49	63	70	50	48	41	43	50	55	55	50	54	45	45	40	....	46.1
	Minimum ...	31	30	30	29	21	16	12	15	16	20	35	29	26	30	17	19	27	30	37	30	34	30	25	40	45	30	29	20	24	27	....	26.5
Larimore	Maximum...	65	56	64	56	50	31	32	32	35	48	63	56	56	57	38	55	63	71	71	65	54	45	60	50	49	58	50	53	56	45	....	53.0
	Minimum ...	29	30	33	30	28	27	21	20	22	28	30	31	25	28	21	16	27	31	30	35	32	36	28	35	41	28	29	29	21	31	....	28.4
Linton	Maximum...	69	85	84	83	78	36	36	34	31	54	73	70	62	60	53	51	65	72	78	72	54	66	67	65	47	64	52	51	60	58	....	61.0
	Minimum ...	24	34	43	34	31	31	8	11	20	7	31	37	32	34	22	13	13	24	31	51	41	31	43	40	30	19	27	15	27	42	....	28.2
Lisbon	Maximum...	70	75	80	74	76	74	73	68	60	64	60	61	59	65	60	58	68	58	58	56	59	61	52	60	55	56	62	63	60	60	....	63.5
	Minimum ...	29	31	36	34	38	40	39	36	32	33	32	36	34	30	32	30	29	31	33	32	36	38	34	30	26	30	32	30	31	30	....	32.8
McKinney	Maximum...	65	66	65	54	40	30	35	26	34	56	62	52	60	56	66	75	60	56	72	62	46	55	70	60	52	58	56	55	62	50	....	55.2
	Minimum ...	31	32	34	32	25	30	15	10	19	15	18	24	18	30	20	23	15	18	29	35	32	28	35	36	35	28	25	20	28	32	....	25.7
Maddock	Maximum...	64	70	70	60	52	32	28	28	33	51	65	61	58	57	46	51	63	71	70	59	58	55	60	55	47	55	51	50	59	55	....	54.5
	Minimum ...	33	28	35	30	29	24	18	12	18	18	26	30	25	29	19	15	23	24	30	35	36	29	31	40	40	32	28	28	26	32	....	27.4
Marmarth	Maximum...	66	78	79	65	35	33	27	28	..	61	65	57	..	59	44	49	62	68	70	60	67	66	65	44	50	55	46	53	60	51	....	b55.5
	Minimum ...	34	33	41	35	21	15	16	14	14	..	27	33	..	34	20	15	20	27	33	44	31	36	32	32	32	27	25	25	23	27	....	b27.4
Melville	Maximum...	59	64	..	67	55	..	..	40	30	49	61	61	51	51	45	47	54	63	64	68	50	51	51	55	45	49	52	44	52	52	....	c53.0
	Minimum ...	34	34		28	30	..	..	15	18	18	27	30	23	26	20	13	25	28	35	40	12	32	30	42	40	32	30	28	28	35	....	c27.9
Minot	Maximum...	65	72	66	50	34	29	23	35	57	64	56	59	60	39	55	65	75	72	65	53	56	67	55	50	57	52	52	60	54	42	....	54.6
	Minimum ...	28	23	28	23	21	19	5	13	15	20	20	17	21	11	12	19	29	25	32	27	27	35	35	34	25	22	20	23	21	24	....	22.5
Mott	Maximum...	64	80	80	66	40	28	34	24	33	61	69	63	65	58	54	44	62	73	74	68	58	68	68	62	58	48	54	52	64	55	....	57.6
	Minimum ...	25	30	31	31	28	20	15	15	17	24	21	23	25	29	24	11	23	27	30	38	31	25	39	36	35	26	31	23	28	34	....	26.5
Napoleon	Maximum...	59	80	86	61	60	35	35	30	31	53	73	56	63	57	50	50	65	73	77	60	50	65	65	58	47	62	56	55	65	52	....	57.6
	Minimum ...	28	30	42	29	28	21	14	13	15	12	25	28	24	24	17	11	17	25	34	45	39	29	35	38	37	27	30	20	27	37	....	26.7
New Salem	Maximum...	68	80	80	55	36	39	30	28	30	50	51	55	61	53	47	53	59	64	69	61	42	55	57	48	45	59	51	53	63	64	....	53.5
	Minimum ...	28	34	38	32	28	20	12	13	10	12	25	28	24	30	16	27	31	34	37	42	30	28	41	24	35	34	31	26	28	33	....	27.7
Pembina §§	Maximum...	36	34	32	30	28	34	38	40	42	40	34	38	41	42	40	44	40	42	52	73	58	46	39	41	36	42	40	58	56	50	....	42.3
	Minimum ...	12	15	12	8	10	8	12	16	28	32	18	12	10	14	18	26	28	22	15	22	35	32	28	18	30	24	30	28	39	34	....	20.9
Steele	Maximum...	67	78	84	74	47	36	39	30	46	57	61	63	64	59	56	54	57	63	67	55	57	63	55	48	50	54	50	47	59	48	....	56.0
	Minimum ...	35	36	38	38	30	25	12	16	22	32	32	30	33	32	30	18	20	34	32	26	28	35	36	36	35	28	24	27	33	32	....	29.4
Towner	Maximum...	68	68	60	51	38	32	29	24	35	53	64	65	59	59	45	54	65	74	76	68	56	57	60	55	53	54	54	55	60	52	....	54.8
	Minimum ...	30	29	45	31	28	25	17	8	18	16	24	27	21	27	19	16	18	26	30	35	32	28	33	35	40	31	27	25	27	26	....	26.5
Valley City	Maximum...	62	69	78	67	62	40	42	37	32	50	63	58	57	43	51	59	63	77	65	57	68	53	63	53	49	50	47	53	53	42	....	55.4
	Minimum ...	26	29	40	33	29	29	24	22	20	19	22	31	26	26	19	11	23	37	32	32	37	35	30	43	40	33	32	26	36	25	....	28.9
Wahpeton	Maximum...	67	66	79	79	56	58	47	40	46	41	64	68	63	65	65	49	63	71	80	79	62	52	65	64	51	60	59	53	62	59	....	61.1
	Minimum ...	33	34	48	42	43	36	25	26	25	29	30	34	28	33	26	16	26	27	39	44	34	39	29	51	45	41	34	29	29	40	....	33.8
Westhope	Maximum...	61	60	69	39	34	27	26	26	36	46	42	51	60	52	48	58	62	74	67	58	45	50	60	55	50	45	45	50	51	62	....	50.3
	Minimum ...	30	32	33	30	30	20	15	10	16	15	29	26	21	28	12	28	20	25	32	32	28	27	32	34	32	34	32	25	25	31	....	26.1
Williston	Maximum...	60	74	69	38	29	25	24	22	32	59	60	52	60	54	44	54	64	72	71	52	48	65	63	51	47	55	52	55	60	46	....	51.9
	Minimum ...	31	35	36	29	23	18	15	14	21	23	27	30	31	28	20	22	30	32	32	33	35	38	37	35	34	30	33	25	32	33	....	29.0
Moorhead, Minn	Maximum...	65	62	78	75	64	39	41	34	30	48	62	57	57	58	41	46	62	69	75	[illegible]	63	46	62	56	48	58	43	50	58	49	....	55.4
	Minimum ...	32	37	44	45	35	30	24	26	25	22	33	34	32	30	24	18	28	29	38	40	40	36	24	48	39	30	33	30	27	37	....	32.8

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXX. Bismarck, N. D., May, 1921. No. 5

GENERAL SUMMARY.

Weather favorable for outdoor work and for the germination and growth of farm products prevailed in all parts of the State. The temperature averaged slightly above the normal, due generally to high day temperatures. The nights, however, were generally cool, freezing temperatures being recorded generally during the first week, and in many parts of the State during the middle of the month. No damage, however, from frosts was reported. The precipitation, which practically consisted entirely of rain, averaged slightly below normal. The distribution of precipitation was quite uniform, both geographically and throughout the month. The seeding of small grains made rapid progress during the early part of the month, germination was satisfactory, and at the close of the month both condition and color were excellent. While the weather was not quite so favorable for corn, the condition of this crop at the close of the month was also excellent, although a few reports of damage from cut worms were received. Flax seeding was well under way when the month closed. Ranges, pastures and meadows were in excellent condition.

TEMPERATURE.

The mean temperature for the State was 53.8°, or 1.2° above the normal, and 0.1° lower than the mean for May, 1920. The highest mean reported was 57.0° at Berthold Agency, McLean County; the lowest was 49.1° at Bottineau, Bottineau County. The highest temperature reported was 90° at Fessenden, Wells County, and Wahpeton, Richland County, on the 21st; the lowest was 16° at Hansboro, Towner County, on the 3d. The greatest monthly range of temperature was 69° at Fessenden, Wells County, and Hansboro, Towner County; the least was 52° at Steele, Kidder County. The greatest daily range was 52° at Minto, Walsh County, on the 18th.

PRECIPITATION.

The average precipitation for the State was 2.46 inches, or 0.09 inch below the normal, and 0.72 inch more than the average for May, 1920. The greatest monthly amount reported was 5.62 inches at Epping, Williams County; the least was 1.03 inches at Devils Lake, Ramsey County. The greatest amount recorded in any 24 consecutive hours was 2.54 inches at Dunseith on the 20th. The average snowfall was a trace. The average number of days with 0.01 inch or more of precipitation was 9.

AURORAS.

Auroras were observed at Berthold Agency, Ellendale, Fessenden, Foxholm, Howard and Moorhead on the 3d; at Bowman, Grand Forks and Wahpeton on the 4th; at Foxholm on the 11th; at Devils Lake, Ellendale, Foxholm, Grand Forks and Valley City on the 13th; at Amidon, Bismarck, Devils Lake, Ellendale, Fessenden, Fullerton, Grand Forks, Skaar, Valley City, Williston and Moorhead on the 14th; at Bowman, Crosby, Devils Lake, Ellendale, Fessenden, Foxholm, Fullerton, Grand Forks, New England, Valley City, Wahpeton, Westhope and Moorhead on the 15th; at Crosby, Eckman, McLeod, Valley City and Wahpeton on the 16th; at Foxholm on the 20th; at Bowman and Valley City on the 21st, and at Grand Forks, Valley City and Moorhead on the 22d.

ERRATA, APRIL, 1921.

Page 14: Total precipitation at Energy should be 1.61 inches, and at Park River, 1.78 inches.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.03	30.55	1	29.31	19	57	8,142	10.9	46	sw.	20
Devils Lake	30.01	30.55	1	29.33	20	44	7,914	10.6	40	sw.	20
Ellendale	30.04	30.50	2	29.44	19	56	10,829	14.6	48	s.	19
Grand Forks	30.00	30.54	2	29.51	20	90	......	......	56	sw.	20
Williston	29.96	30.51	1	29.12	20	48	8,091	10.9	48	se.	2
Moorhead, Minn	30.02	30.58	2	29.54	19	58	6,547	8.8	36	sw.	20
Av'ges and extremes	30.01	30.58	2	29.12	20	.....	....	11.2	56	sw.	20

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p. c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	282.3	467.3	60	+ 2	74	49	51	17	3
Devils Lake	353.4	471.0	75	+18	72	43	46	9	15
Ellendale	279.6	463.8	60	......	82	52	....	23	3
Grand Forks	....	....	....	......	83	......	....	......	....
Williston	341.5	471.0	73	+18	75	49	49	15	4
Moorhead, Minn.	....	....	....	......	76	45	45	......	....
Averages and extremes	314.2	468.3	67	+13	77	47	48	9	18

* And other dates.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P. cdy days.	Cl'dy days.	
1892...	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893...	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894...	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895...	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896...	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897..	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898...	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899...	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900..	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901..	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902..	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903..	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904..	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905..	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906..	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907..	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908...	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909...	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910..	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911..	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912...	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913..	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914..	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915...	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916...	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917...	51.2	1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918...	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919...	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920..	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921..	52.8	+1.2	90	21	2.46	−0.09	9	13	10	8	s.

Climatological Data for May, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	56.2	+2.1	88	21	23	3	39	4.14	+1.32	2.10	T.	9	13	14	4	se.	E. T. Carley.
Amidon	Slope	......	6	51.7	......	82	21	25	15	34	1.70	......	0.40	0	12	......	......	......	se.	Charles Eastgate.
Arnegard	McKenzie	......	3	52.4	......	80	21	24	1	34	2.03	......	1.01	0	7	13	7	11	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	54.0	+1.3	83	22	25	3†	40	2.60	+0.12	0.94	0	6	18	4	9	se.	R. C. Miles.
Beach	Golden Valley	2,579	15	......						......	......	......	......	......	......	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	57.0	+3.3	87	21	32	13	36	3.43	+0.87	1.22	0	13	13	7	11	se.	C. L. Hall.
Bismarck	Burleigh	1,674	47	54.8	−0.4	88	21	26	3	40	2.72	+0.22	0.73	T.	14	9	12	10	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	49.1	−2.2	80	27	19	14	34	3.02	+0.91	0.85	......	8	16	8	7	se.	M. R. Shuler.
Bowbells	Burke	1,958	9	50.4	......	80	21	21	1†	42	3.59	......	0.90	......	10	21	0	10	......	G. H. Phelps.
Bowman	Bowman	......	7	52.8	......	80	21	25	15	35	2.13	......	0.74	0	13	9	5	17	se.	W. W. Barr.
Cando	Towner	1,488	20	54.3	+2.8	86	27	21	14	40	1.33	1.11	0.32	......	8	12	12	7	ne.	A. J. Swanson.
Carson	Grant	2,500	9	53.7	......	85	21	25	13†	41	3.60	......	0.97	0	11	11	11	9	se.	J. W. Evens.
Cooperstown	Griggs	1,428	11	......	......	......	......	......	......	......	1.45	−0.56	0.60	0	3	23	6	2	nw.	S. Friswold.
Crosby	Divide	1,954	14	51.8	+1.4	76	21†	21	1	32	2.44	+0.38	1.00	0	12	10	8	13	se.	John Jensen.
Devils Lake	Ramsey	1,478	17	54.2	+1.5	86	21	21	14	40	1.03	−1.17	0.65	0	8	16	8	7	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	51.0	−1.2	83	21	28	13†	41	1.78	−0.71	0.60	0	10	11	8	12	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	53.6^b	+3.5	85^b	21	22^b	13	51^b	1.94	−0.39	0.65	0	8	......	......	......	s.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	52.8	......	82	21	28	13	39	1.69	......	0.95	0	4	11	6	14	se.	W. H. Moede.
Dunseith	Rolette	1,682	25	52.7	+0.8	80	21	17^a	14	39^a	4.13	+2.46	2.54	0	8	17	7	7	s.	J. G. Lamont.
Eckman	Bottineau	......	16	53.2	+2.6	84	21	19	15	48	2.38	+0.14	1.04	0	6	17	6	8	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	54.6	+1.1	85	21	21	3	40	3.31	+0.66	0.73	......	8	7	15	9	se.	O. A. Thompson.
Ellendale	Dickey	1,449	23	54.5	......	85	21	23	3	37	4.53	+1.75	1.38	......	12	7	8	16	se.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	9	......	......	......	......	......	......	......	1.78	......	0.75	......	9	14	10	7	se.	N. W. Solenberger.
Epping	Williams	2,224	13	......	......	......	......	......	......	......	5.62	+3.40	2.24	0	9	16	5	10	se.	M. E. Uggen.
Fessenden	Wells	1,610	9	53.2	......	90	21	21	3†	48	1.75	......	0.31	0	14	14	12	5	se.	T. P. Monsen.
Foxholm	Ward	......	1	53.2	......	80	21	22	3	37	1.83	......	0.71	0	6	12	12	7	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	3	......	......	......	......	......	......	......	1.62	......	0.32	0	11	10	14	7	se.	Verne King.
Fullerton	Dickey	1,439	23	56.8	+3.5	86	21	26	2†	39	4.17	+1.08	1.46	0	10	16	8	7	nw.	F. O. Alin.
Garrison	McLean	1,901	26	53.2	+0.6	86	21	26	13	43	1.94	−0.17	0.66	0	10	12	14	5	se.	G. L. Robinson.
Grafton	Walsh	827	29	55.0	+2.1	85	27	22	3	49	1.05	−1.03	0.35	0	8	20	5	6	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	55.8	+2.4	87	21	20	3	46	1.68	−0.77	0.88	T.	6	22	5	4	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	54.0	+2.6	84	21	22	3	44	2.53	+0.67	1.22	0	6	11	12	8	s.	W. A. Christianson.
Hannah	Cavalier	1,568	16	......	......	......	......	......	......	......	4.31	+2.20	1.78	0	1	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	13	52.4^a	+2.1	85^a	27	16^a	3	43^a	3.12	+0.92	1.06	T.	5	......	......	......	se.	C. E. Blackorby.
Hettinger	Adams	2,253	13	53.3	+0.5	87	22	24	3	37	2.64	+0.41	0.85	0	10	9	9	13	se.	U. J. Downey.
Hillsboro	Traill	901	15	55.2	+2.0	87	21	23	3	47	3.32	−0.25	0.90	0	8	15	8	8	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	14	52.0	+2.6	80	21	20	1	35	4.21	+2.08	1.96	0	8	10	8	13	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	56.6	+3.1	87	21	26	14	42	1.48	−1.19	0.45	0	9	13	5	13	nw.	S. Calvelage.
Lamoine	Kidder	1,936	13	52.8	+2.1	86	21	19	14	43	2.43	+0.24	0.94	0	8	10	16	5	se.	F. V. Virgin.
Langdon	Cavalier	1,615	25	52.6	+1.8	84	21†	22	14	42	2.68	+0.38	0.89	T.	9	23	5	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	54.2	+1.8	86	21†	20	3†	48	2.81	+0.50	0.70	0	10	14	10	7	n.	Reuben Gray.
Linton	Emmons	1,711	3	55.4	......	87	21	31	3†	43	1.46	......	0.28	T.	14	10	10	11	se.	William Malpass.
Lisbon	Ransom	1,091	17	55.8	+2.9	89	21	22	15	38	2.95	0.31	0.80	0	7	18	5	8	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3	......	......	......	......	......	......	......	1.93	......	0.45	0	11	......	......	......	......	Edw. Tapley.
McKinney ‡‡	Renville	1,640	27	54.0	+2.0	83^a	21	22^a	3	48^a	3.45	+1.45	1.35	0	8	......	......	......	se.	N. P. Swenson.
McLeod	Ransom	1,075	9	56.2	......	89	22†	21	3†	48	3.64	......	1.53	......	9	20	4	7	se.	J. G. Carlson.
Maddock	Benson	1,604	6	51.8	......	88	21†	20	15	44	1.47	......	0.53	......	7	9	16	6	nw.	A. T. Felland.
Mandan	Morton	1,644	7	54.8	......	89	21	27	2†	43	2.59	......	0.54	0	11	10	8	13	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	54.6	+3.0	87	21	24	15	42	2.95	+0.58	1.50	0	10	14	9	8	se.	P. B. Anderson.
Marmarth	Slope	......	12	51.0^a	+1.0	81^a	21	23^a	15	36^a	1.22	−1.27	0.49	T.	9	7	4	20	se.	S. P. Grane.
Mayville	Traill	975	25	54.2	−0.3	87	21	21	3	44	3.78	+0.86	1.39	......	9	22	6	3	s.	W. C. Gould.
Melville	Foster	1,590	23	53.0^b	+0.5	88^a	21	23^b	14	38	1.06	−1.40	0.37	......	4	......	......	......	se.	J. P. Kidder.
Minot	Ward	1,557	25	51.7	−0.6	86	21	18	3	49	1.49	−0.49	0.40	0	9	14	13	4	e.	W. I. Faris.
Minto	Walsh	820	28	55.1	+1.7	87	21†	24	14	52	2.10	−0.24	0.45	T.	8	18	9	4	ne.	C. M. Evans.
Mott	Hettinger	2,424	14	53.5	+1.9	86	20	21	15	43	1.44	−0.91	0.50	0	8	6	12	13	se.	O. H. Opland.
Napoleon	Logan	1,955	29	53.3	+0.9	87	21	22	3	43	1.19	−1.21	0.46	0	11	14	2	15	se.	C. J. Hoof.
New England	Hettinger	2,400	27	53.2^a	+1.6	81	23	25^b	15	39	1.85	−0.37	1.00	0	6	......	......	......	se.	W. C. McKenzie.
New Salem	Morton	2,163	16	53.2	+1.9	86	21	25	2†	39	2.28	−0.18	0.71	0	11	10	16	5	se.	J. Christiansen.
Park River	Walsh	998	17	56.2^b	+4.0	86	27	23	3	44	1.08	−1.13	0.24	0	6	......	......	......	se.	C. B. Wright.
Parshall	Mountrail	......	6	......	......	......	......	......	......	......	3.79	......	1.59	......	5	13	15	3	se.	J. A. Johnson.
Pembina	Pembina	789	47	54.8	+2.3	89	27	21	14	51	1.50	−0.93	0.50	0	5	16	15	0	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	53.0	+2.5	84	21	19	14	42	2.26	−0.46	0.48	0	9	17	6	8	se.	S. C. Shanks.
Power	Richland	1,020	28	......	......	......	......	......	......	......	2.23	−0.66	0.76	0	6	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	6	......	......	......	......	......	......	......	1.80	......	0.40	0	9	8	11	12	e.	C. Frank.
Skaar	McKenzie	......	1	52.1	......	83	21	21	15	49	1.48	......	0.40	0	7	7	15	9	se.	Conrad Brunsvold.
Steele	Kidder	1,857	24	51.3	−2.5	80	21	28	2†	36	1.63	−0.65	0.41	0	12	12	11	5	s.	H. S. Wood.
Taylor	Stark	2,493	5	53.0	......	84	21	26	15	38	2.09	......	0.63	......	14	7	13	11	se.	H. Lentz.
Towner	McHenry	1,482	19	53.5	+1.2	83	21†	20	15	43	1.66	−0.74	0.85	0	4	15	12	4	s.	B. Bagley.
Turtle Lake	McLean	1,899	6	53.0	......	88	21	23	14	42	1.66	......	0.35	0	10	8	8	15	se.	A. T. Anderson.
Valley City	Barnes	1,245	2	55.0	+2.4	84	21	21	14	42	3.97	+1.02	1.25	0.5	8	22	7	2	se.	C. F. Schroeder.
Wahpeton	Richland	962	27	56.4	+1.1	90	21	24	15	34	3.50	+0.82	1.42	0	9	8	20	3	se.	State School of Science.
Walhalla	Pembina	966	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Ivan Lee.
Westhope	Bottineau	1,508	15	55.0	+3.6	85	21	23	15	42	2.64	−0.58	1.20	0	6	17	7	7	se.	W. A. Meddaugh.
Williston	Williams	1,875	42	53.8	−0.5	82	21	26	15	32	2.08	−0.18	0.95	0	7	9	15	7	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	52.2	+0.7	83	21	19	15	42	2.68	+0.77	1.03	0	5	18	10	3	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	56.6	+1.8	89	21	26	14	35	2.56	−0.39	1.31	T.	8	16	14	7	se.	U. S. Weather Bureau.
Averages	......	......	......	53.8	+1.2	96	21	16	3	52	2.46	−0.09	2.54	T.	9	13	10	8	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for May, 1921.

Stations.	Drainage Basin.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ||	Red	2.10								T.		.05	.06	.03						.66	.35							.10		.31	T.	T.	4.14
Amidon	Lit. Missouri							.10	.12	.09	.03		.15		.01				.03	.17						.27			.12	.03		[illegible]	1.70
Arnegard	Missouri							T.		.16	.12	.12	.20						T.	.11	1.01		.28					T.					2.03
Ashley	Missouri							T.	.39	.30	.05		T.				.94			.86									T.	.06		T.	2.60
Beach	Lit. Missouri																																
Berthold Agency	Missouri							.09	.06	.09	.23	.12	.36	.02	T.				T.	.29	1.22	.86	T.	T.				.01	.07	.01		T.	3.43
Bismarck ***	Missouri	.04						.09	.47	.19	T.	.11	.05	.01					T.	.08	T.		T.			.27	.16	.17	.56	.25	T.	.27	2.72
Bottineau ||	Mouse										.28		.11	.23						*	.85	.84	.35	.36									3.02
Bowbells ||	Mouse	.90								.15	.32		.13	.11						.06	.59	.11	.58	.21									3.59
Bowman	Grand	T.						.22	.74	.26	.02		T.	.01			.01		T.	.10	.02					.30	.01		.24	.02		.18	2.13
Cando	Sheyenne										.21	.32	.20							.13	.28		.08	.10						.01			1.33
Carson	Heart							.10	.70	.06		.10								.10	.40					.30	.57		.15	.07		.35	3.60
Cooperstown	Sheyenne							.35												.50										.06			1.15
Crosby	Mouse	.06							T.	.35	.43	.10	.09	.02	.04					.10	1.00		.12	.12		T.		.01		T.			2.44
Devils Lake ***	Sheyenne									.03	.02	.07	.03	T.						.62	.03	T.						T.	.16	.07	T.		1.03
Dickinson ||	Heart	T.							.22	.32	T.	.25	.03	.06						T.	.60		T.				.06		.07	.12	.05		1.78
Donnybrook	Mouse								.05	.30	T.	.13	.05	T.							.65		.62	.02								.12	1.94
Dunn Center ||	Knife								T.	.10				.50							.95		T.							.14	T.		1.69
Dunseith	Mouse									.01		.63	.14							.04	2.54		.45	.18				.14					4.13
Eckman	Mouse	.04										.38	.10							.17	1.04	.65											2.38
Edgeley	James								.31	.47	.73			.11			.10			.67	.36									.56	T.		3.31
Ellendale ***	James	T.						.08	.14	.54	.22		.17	T.			.79	T.	.51	.87						.03			.25	.92	.01	T.	4.53
Energy	Missouri							.08	.19	.08	.02	.23			T.					.15	.75							T.	.20	.08		T.	1.78
Epping	Missouri							.05	T.	.96	.71	.30	.33	.07						.61	2.24	.35											5.62
Fessenden ||	James	.31							.02	.25	.08	.02	.05	.13	T.					.02	.06	.01		.18					.26	.07	.29	T.	1.75
Foxholm	Mouse									.28	T.	.06	.03							.31	.71		.44									T.	1.83
Fryburg	Lit. Missouri							.04	.32	.07	.24	T.	.15						.05	.20	.10	T.				T.			.20	.05		.20	1.62
Fullerton	James	.14							.24	.62	.18		.18				.86			1.46						.06			T.	.29	.14	T.	4.17
Garrison	Missouri							T.	.37	.25	.07	T.	.13	.04	T.				T.	.02	.66	T.	.32						.06	.02			1.94
Grafton ||	Red										T.	.05	.12							.18	.16		.07	.03					.09		.35		1.05
Grand Forks ***	Red									T.	.19	T.	.12	T.		T.				.47			T.				.02		T.	.80	.08		1.68
Granville	Mouse									.37		.11	.19							.10	.54		1.22							T.			2.53
Hannah	Pembina										.26										1.76	1.78	.51										4.31
Hansboro	Red											.40	.42	T.						.49	1.06		.75										3.12
Hettinger	Grand							.03	.85	.08	.06		.05		T.		.21		T.		.23					.23	.45		.45				2.64
Hillsboro	Red	.33										.05	.08	.03						.54	.36						.81		.90	.22			3.32
Howard	Missouri	T.						.12	T.	1.96	.08	.07	.07	T.	T.				T.	.99	.57	T.	.35			T.	T.	T.	T.	T.		T.	4.21
Jamestown	James	.03						.06		.08	.37	.05								.45	.21								.15		.08		1.48
Lamoure	Missouri								*	.47	.05		.17							.27	.20					T.		T.	.94	.33			2.43
Langdon ||	Pembina										.10	.55	.89	.18						.10	.38	T.	.27	.11					.07		T.		2.68
Larimore ||	Red	.40										.43	.22	.09						.36	.55		.02	.05						.02	.70		2.84
Linton	Missouri							.03	.25	.12	.01	.01	.28	.04			.08	T.	T.	.05	.22					.17	.12	.07		.01			1.46
Lisbon ||	Sheyenne	T.								.22		T.	.10	.21						.76	.80									.18	.68		2.95
McClusky	Missouri									.45	.05	*	.15	.12						*	.33			.23					.45	*	.15		1.93
McKinney	Mouse								.25		1.35	.18	T.							.22	.83		.50	.12									3.45
McLeod	Sheyenne	.06							.02				.07				.10			1.53	.27									.22	1.30	.07	3.64
Maddock	Sheyenne	.53								.13	.08		.04								.15								.45	.09			1.47
Mandan ||	Missouri	.07							.11	.43	.02		.16	.19	T.						.30			T.			.46	T.	.51	.13	.18		2.59
Manfred	Sheyenne	.30							.10	.37	.01	T.	.04							1.50	.09		.09						.38	.07			2.95
Marmarth	Lit. Missouri	T.							.49	.12	.02	T.	T.	T.					.01	.06		T.				.14			.21	.02		.15	1.22
Mayville	Red	.35									.13	1.39	.10	.08						.53	.59									.46	.15		3.78
Melville	James									.28	.06									T.						T.			.35	.37			1.06
Minot ||	Mouse	.18							.02	.40	.06		.11	.02		T.					.35	.05	.30										1.49
Minto	Red									T.	.09	T.	.23	T.						.35	.33		.45				.23		T.	.39	.03		2.10
Mott	Cannon Ball							.01	.12	T.	.04	.08									.37					.24			.50	.08		T.	1.44
Napoleon ||	Missouri								.04	.46	.04	.05	.11	.05						.16	.15						.06		.05		.02		1.19
New England	Cannon Ball							T.	1.00	T.				.03							.27					.30	T.		T.	.18	.07		1.85
New Salem	Heart							.11	.13	.14	T.	T.	.14	.06						T.	.47			T.		.21	.14	.12	.71	.05			2.28
Park River	Red	T.									.17		.16							.18	.24			.09							.24		1.08
Parshall	Missouri											.92			.10		.22			1.59		.96											3.79
Pembina ||	Red											T.	.50	T.						.15	.20	T.	.50						T.		.15	T.	1.50
Pettibone	James								.09	.48	.38	T.	.30								.12					.05			.41	.35	.08		2.26
Power	Missouri									.30			.19						*	.76						T.			.30	.60		T.	2.23
Powers Lake	Sheyenne							.15	.10	.05	.05	T.			T.				T.	.35	.40		.25	.35				.10					1.80
Skaar	Lit. Missouri							T.	.10	.30	.05	.05	.18						T.	.40	.40							T.	T.	T.			1.48
Steele	Missouri					T.		T.	.41	T.	.03	.02	.08	.41						.08	.06			.02		.03		T.	.34	.12	.03	T.	1.63
Taylor	Heart	.02						T.	.23	.07	.13	.06	.12	.03						.23	.63					.02	.13		.34	.06	.02	T.	2.09
Towner	Mouse									.10		.05								T.	.66		.85										1.66
Turtle Lake	Missouri							.07	.18	.21		T.	.10						T.	.17	.16							.35	.26	.09	.04		1.66
Valley City	Sheyenne	.58									.98	.08	.10							.60	1.25					T.				.36	.02		3.97
Wahpeton ||	Red	.17								.03		.28	.02					.23		.11	.29						T.			.95	1.42		3.50
Walhalla	Pembina																																
Westhope	Mouse									.23		.14	.20							.24	1.20	.63											2.64
Williston ***	Missouri							T.	T.	.55	T.	.09	.04						.01	.43	.64	T.	.32					T.					2.08
Willow City	Mouse								T.	.64	T.	.03	.13	T.						T.	.85	1.03											2.68
Moorhead, Minn ***	Red	.34								T.	.01		.16	.04		T.				.67			.03							1.25	.06		2.56

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	51	57	61	66	73	77	78	77	74	77	78	67	46	49	55	60	74	77	80	80	88	87	85	78	71	84	84	66	56	60	68	70.5
	Minimum...	32	27	23	28	33	38	49	46	53	45	46	46	30	24	26	30	29	33	45	51	49	60	65	52	48	52	52	54	47	44	39	41.8
Arnegard	Maximum...	54	60	62	67	73	78	65	64	56	62	61	49	44	46	54	62	67	70	70	70	80	67	70	77	71	75	65	48	48	64	64	63.3
	Minimum...	24	26	31	35	42	45	51	50	50	50	40	35	27	35	29	32	33	37	56	51	47	58	52	43	51	44	48	42	41	40	38	41.5
Ashley	Maximum...	52	57	59	63	70	74	67	60	65	69	71	60	45	46	53	48	64	69	73	78	80	83	80	75	69	75	81	75	57	62	60	65.8
	Minimum...	33	26	25	28	35	40	49	50	50	59	46	41	30	25	30	33	37	38	58	50	50	53	52	54	54	48	46	45	42	40	40	42.2
Beach	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Berthold Agency	Maximum...	58	64	62	70	76	82	68	68	69	66	68	51	50	48	60	66	75	74	70	74	87	80	77	82	78	80	82	58	51	67	69	68.7
	Minimum...	36	37	36	43	50	49	55	55	51	42	45	37	32	36	35	39	47	47	57	53	56	65	48	53	49	44	53	41	40	40	35	45.4
Bismarck	Maximum...	55	59	60	66	73	77	67	61	66	70	73	55	48	46	55	52	68	70	78	79	88	84	76	80	62	70	82	51	50	62	64	66.0
	Minimum...	36	27	26	33	40	49	54	52	52	46	44	39	30	34	33	41	39	42	54	52	48	56	52	47	52	55	50	43	41	41	44	43.6
Bottineau §§	Maximum...	56	56	57	62	71	77	76	63	52	60	60	47	31	36	41	50	59	60	61	51	69	71	59	60	61	75	80	55	49	60	67	59.1
	Minimum...	29	30	27	29	39	43	47	49	52	47	47	31	25	19	20	27	26	37	44	49	46	54	45	45	49	46	50	43	41	40	35	39.1
Bowbells §§	Maximum...	52	55	56	65	73	77	72	72	63	65	64	56	42	45	57	65	72	73	71	63	80	75	72	77	78	72	65	52	48	62	63	64.6
	Minimum...	21	29	22	25	31	36	42	46	45	45	40	33	23	21	21	29	31	37	39	50	40	47	41	41	50	47	51	31	36	36	34	36.2
Bowman	Maximum...	45	59	58	66	73	72	71	60	61	60	64	50	46	47	54	50	62	60	64	76	80	79	77	75	73	71	78	66	48	60	54	63.2
	Minimum...	28	32	39	41	38	48	49	45	47	44	39	35	32	41	25	39	37	40	50	47	73	51	46	50	52	50	50	41	40	40	43	42.3
Cando	Maximum...	56	56	57	63	71	77	78	76	71	73	69	60	48	46	56	65	73	65	76	68	84	83	75	75	77	75	86	76	57	64	67	68.5
	Minimum...	30	26	23	27	33	41	50	46	52	48	49	38	28	21	24	34	33	35	36	51	50	59	51	47	48	50	48	47	41	41	35	40.1
Carson	Maximum...	60	60	60	60	70	75	65	58	68	66	72	55	66	55	55	50	65	65	70	78	85	80	77	79	60	70	77	65	50	66	68	66.2
	Minimum...	35	26	28	32	40	55	52	48	46	42	45	40	25	34	25	40	36	38	45	44	47	50	41	45	50	50	52	42	40	36	45	41.2
Crosby	Maximum...	40	52	53	62	72	73	69	70	62	61	59	50	44	47	50	59	66	70	72	64	76	72	70	73	75	76	66	54	51	61	68	62.5
	Minimum...	21	33	28	34	40	49	53	50	48	50	41	34	26	29	27	29	37	43	53	54	46	50	51	44	54	48	50	36	40	41	38	41.2
Devils Lake	Maximum...	55	54	56	62	70	76	76	75	70	72	71	59	41	45	53	62	71	74	76	70	86	77	75	73	74	76	85	57	51	62	66	66.8
	Minimum...	32	27	25	29	36	45	51	47	50	49	46	33	26	21	25	36	36	34	54	51	50	57	52	50	50	56	53	47	42	41	37	41.5
Dickinson §§	Maximum...	52	58	61	66	72	78	66	61	61	60	58	49	45	44	52	51	65	64	64	73	83	79	73	71	62	70	80	54	51	61	..	*60.8
	Minimum...	33	33	33	42	40	47	53	48	47	43	37	35	28	31	28	32	28	38	46	50	42	47	45	47	48	50	51	43	44	39	39	41.1
Donnybrook	Maximum...	53	58	60	75	75	80	70	75	69	68	67	52	47	45	68	..	..	78	74	69	85	75	75	82	84	81	77	55	51	58	55	'67.6
	Minimum...	26	27	26	24	40	32	32	48	49	46	42	38	22	26	28	..	..	38	55	45	44	50	52	42	51	51	53	42	42	41	33	'39.5
Dunn Center §§	Maximum...	54	60	60	66	73	75	61	65	66	63	68	49	41	47	54	50	67	79	66	72	82	79	71	77	68	74	81	49	49	63	61	64.3
	Minimum...	37	31	29	32	41	46	53	49	49	44	39	31	28	29	30	35	29	37	55	51	43	55	47	45	50	46	47	44	40	39	41	41.2
Dunseith	Maximum...	55	54	55	61	68	76	75	74	68	71	68	57	45	45	54	63	70	72	75	67	80	77	70	72	73	71	80	60	52	60	65	65.6
	Minimum...	27	32	28	32	40	48	48	..	52	49	46	32	25	17	19	27	31	37	51	50	48	54	48	46	50	41	47	42	40	35	48	*39.8
Edgeley	Maximum...	53	58	57	63	71	76	73	68	63	68	73	72	53	51	52	50	68	72	78	77	85	83	81	75	73	73	83	82	56	62	63	68.1
	Minimum...	31	22	21	23	33	36	50	50	60	44	45	42	30	23	26	34	37	31	55	47	47	61	53	51	51	46	50	48	43	41	39	41.2
Ellendale	Maximum...	53	55	57	64	71	76	72	68	64	69	73	62	44	49	52	42	64	71	80	77	85	83	80	71	70	74	80	64	55	60	59	66.0
	Minimum...	35	26	23	27	34	42	53	54	52	49	47	41	29	25	27	35	38	38	51	50	52	55	55	53	51	48	53	49	45	44	45	42.9
Fessenden §§	Maximum...	57	53	57	64	72	78	79	75	64	74	76	62	47	49	55	60	74	70	78	75	90	82	77	79	72	77	89	55	47	67	67	68.4
	Minimum...	28	25	21	21	30	35	45	49	47	50	45	37	26	24	21	33	26	30	42	49	45	58	45	45	44	51	45	44	41	38	35	37.9
Fullerton	Maximum...	52	54	57	64	73	78	75	70	66	72	76	65	50	49	53	42	67	71	79	78	86	84	81	76	73	80	85	68	58	62	64	67.9
	Minimum...	37	26	30	28	34	41	53	52	52	47	47	44	31	26	31	34	38	37	56	53	61	62	67	56	62	61	65	51	44	43	44	45.6
Garrison	Maximum...	54	59	60	66	71	76	68	68	64	68	70	54	47	47	55	60	72	73	72	70	86	76	73	76	70	75	82	57	49	62	65	66.0
	Minimum...	31	28	27	29	34	43	53	51	49	44	44	36	26	28	28	32	29	40	54	50	46	51	49	46	49	46	50	42	41	38	35	40.4
Grafton §§	Maximum...	49	55	59	64	71	78	80	80	79	75	76	64	43	44	57	65	72	76	75	75	84	81	80	76	75	82	85	61	55	60	59	68.9
	Minimum...	30	35	22	25	28	50	42	47	41	47	50	43	30	25	30	30	33	27	51	53	54	61	51	49	45	49	53	49	47	43	40	[illegible]
Grand Forks	Maximum...	57	54	58	64	73	76	78	76	76	74	75	75	43	44	56	62	73	77	80	79	87	85	83	71	72	80	85	62	56	59	65	69.6
	Minimum...	34	26	20	21	34	45	45	53	54	51	50	38	31	25	30	33	30	31	35	54	53	63	59	50	48	51	56	52	44	46	39	[illegible]
Granville	Maximum...	50	58	58	65	74	80	76	75	65	72	74	58	48	50	57	65	74	75	78	70	84	78	78	76	76	75	78	66	52	62	68	68.2
	Minimum...	30	25	22	25	30	40	50	42	50	45	42	38	28	28	27	34	35	37	55	51	46	54	52	53	47	42	48	44	42	40	35	39.9
Hannah	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hansboro	Maximum...	57	52	58	64	71	78	78	78	79	75	68	56	40	45	56	65	68	74	78	65	80	70	73	74	76	..	85	60	53	65	68	*67.0
	Minimum...	24	24	16	21	30	37	44	42	48	45	45	36	25	23	25	28	37	31	54	50	50	55	49	47	47	..	45	45	40	39	34	*37.9
Hettinger	Maximum...	46	59	60	67	71	74	70	60	65	63	71	52	48	50	55	50	62	56	61	77	82	87	75	77	78	68	82	58	53	62	72	64.9
	Minimum...	28	29	24	42	40	49	52	46	46	44	43	35	33	35	25	39	40	46	44	46	46	50	43	47	47	51	50	41	43	39	43	41.7
Hillsboro	Maximum...	55	55	56	64	71	75	76	76	74	73	75	75	60	42	53	57	73	75	78	78	87	86	85	81	73	80	74	59	56	60	63	69.1
	Minimum...	34	25	23	26	34	39	46	46	48	46	46	45	30	25	28	32	26	33	53	57	47	63	58	50	48	49	53	44	43	42	34	41.2
Howard	Maximum...	35	54	54	64	64	78	65	66	60	64	60	49	42	45	56	61	67	70	71	64	80	74	71	74	75	78	63	75	54	68	66	62.8
	Minimum...	20	25	32	32	53	51	51	49	48	48	50	35	24	30	24	26	33	38	54	53	45	52	49	45	50	50	50	35	34	34	38	41.1
Jamestown	Maximum...	53	56	68	69	78	79	76	69	71	72	74	62	50	50	54	64	73	76	80	78	87	83	83	81	73	79	85	76	63	65	64	[illegible]
	Minimum...	35	28	27	30	36	38	50	50	48	48	47	43	30	26	28	34	35	40	53	49	47	61	56	52	53	45	51	49	48	42	40	[illegible]
Lamoine	Maximum...	52	54	48	63	68	72	74	69	62	71	73	55	47	48	53	57	70	71	75	74	85	80	76	75	68	72	83	67	48	66	63	[illegible]
	Minimum...	32	27	25	25	31	42	51	52	48	48	40	37	27	19	24	34	27	41	52	48	48	61	48	48	49	55	45	41	39	38	38	[illegible]
Langdon §§	Maximum...	54	53	56	62	72	72	76	76	71	70	67	60	47	40	54	62	67	72	73	76	84	70	74	72	77	68	84	65	51	59	66	[illegible]
	Minimum...	26	27	24	28	35	43	46	45	44	47	51	37	25	22	25	29	31	30	42	49	46	55	45	45	45	50	49	44	40	40	35	[illegible]
Larimore §§	Maximum...	55	54	58	65	73	78	78	80	79	75	73	65	42	45	56	64	74	78	78	75	86	85	82	78	71	81	86	60	50	51	61	[illegible]
	Minimum...	35	24	20	20	31	38	37	45	46	45	45	42	29	23	26	32	[illegible]	30	44	51	50	60	51	49	46	50	54	48	47	41	38	[illegible]
Linton	Maximum...	56	60	60	65	72	76	72	60	67	71	75	57	48	47	54	54	69	70	73	80	87	86	85	80	77	68	83	75	55	62	64	68.1
	Minimum...	36	32	31	36	41	47	53	52	51	47	45	41	31	33	31	37	39	40	53	48	45	54	42	40	58	50	43	45	47	41	39	[illegible]
Lisbon §§	Maximum...	54	53	59	67	72	79	79	73	72	73	78	68	44	49	54	46	72	75	81	78	89	85	85	81	78	80	85	65	56	60	65	[illegible]
	Minimum...	40	30	23	31	32	43	43	48	54	49	45	43	32	24	22	29	40	37	49	50	51	60	50	55	52	44	48	54	44	45	40	[illegible]
McKinney	Maximum...	55	60	58	65	77	80	77	80	75	73	70	60	50	50	58	65	74	75	75	68	83	78	71	79	82	80	76	62	55	63	..	[illegible]
	Minimum...	25	28	22	24	30	32	30	50	50	50	42	38	28	24	23	23	37	38	52	52	43	55	51	42	47	52	52	40	42	40	..	[illegible]
Maddock	Maximum...	54	55	57	63	72	78	78	78	66	73	73	74	56	55	54	62	73	75	78	72	88	88	77	76	75	73	85	86	57	63	67	[illegible]
	Minimum...	31	26	23	25	31	38	46	46	52	47	47	38	26	21	29	31	32	32	52	50	44	60	47	42	44	44	45	46	42	40	34	[illegible]
Marmarth	Maximum...	41	59	56	66	74	70	68	63	60	58	61	48	46	48	53	48	61	60	61	75	81	76	72	75	..	75	75	48	50	62	53	[illegible]
	Minimum...	27	32	32	36	38	47	47	47	44	43	37	36	32	35	23	40	40	45	50	46	43	47	44	..	48	50	48	39	38	38	43	[illegible]
Melville	Maximum...	52	52	52	58	66	68	78	72	68	70	76	51	51	42	..	48	67	72	75	77	88	..	71	78	75	78	85	76	52	50	57	[illegible]
	Minimum...	34	28	25	29	32	38	50	50	56	48	46	40	28	23	..	25	29	36	51	48	50	..	47	45	50	50	[illegible]	44	40	40	38	[illegible]
Minot §§	Maximum...	55	59	55	65	75	83	71	71	66	70	71	55	48	50	58	66	73	75	76	70	86	78	74	78	79	78	81	60	54	63	68	[illegible]
	Minimum...	24	21	18	20	26	34	42	45	45	43	40	34	23	20	19	27	35	33	48	46	38	40	45	39	45	41	50	40	38	34	28	[illegible]
Mott	Maximum...	46	48	53	55	64	77	75	65	70	74	59	61	53	55	54	63	67	73	68	86	81	83	83	77	65	70	71	64	63	68	61	[illegible]
	Minimum...	33	29	35	37	43	60	52	39	50	44	38	42	37	37	21	26	38	38	33	52	47	49	46	43	50	47	42	40	38	40	38	[illegible]
Napoleon §§	Maximum...	55	60	62	66	72	77	71	65	67	72	75	60	46	50	55	48	71	73	79	79	87	82	80	85	69	70	85	55	55	63	65	[illegible]
	Minimum...	34	24	22	23	30	35	41	48	48	49	41	37	28	24	28	34	30	34	52	47	46	51	48	47	49	46	47	41	43	38	33	[illegible]
New Salem	Maximum...	55	59	65	56	71	76	59	68	68	75	56	58	57	53	55	68	69	76	76	86	82	75	77	74	70	82	58	50	61	61	..	[illegible]
	Minimum...	31	25	26	33	34	52	56	[illegible]	51	49	45	31	25	31	27	36	39	42	50	48	57	65	58	46	52	50	50	41	37	36	38	[illegible]
Pembina §§	Maximum...	59	55	60	65	73	80	82	81	80	79	73	57	45	41	57	67	60	79	76	74	86	76	79	75	81	80	84	62	52	60	71	[illegible]
	Minimum...	28	25	23	24	35	38	40	44	45	57	47	45	29	21	31	29	35	28	42	41	52	56	44	47	48	44	56	40	41	47	34	[illegible]
Steele	Maximum...	58	59	62	56	67	72	66	56	68	68	68	60	46	48	52	52	65	68	73	76	80	78	73	79	68	70	71	52	42	62	63	[illegible]
	Minimum...	35	28	30	35	38	40	42	38	44	40	40	36	32	28	28	34	35	40	45	43	56	44	40	45	40	44	41	40	38	40	40	[illegible]
Towner	Maximum...	55	55	57	64	71	79	76	74	68	74	69	51	44	49	54	65	71	74	69	65	83	83	73	72	74	74	74	65	53	63	72	[illegible]
	Minimum...	29	23	21	27	34	43	54	51	51	46	43	35	28	23	20	29	31	39	53	52	45	57	49	47	49	49	48	45	40	41	40	40.1
Valley City	Maximum...	53	55	56	65	70	75	78	77	75	73	72	62	52	48	63	55	71	74	77	78	84	82	80	78	65	77	83	68	49	72	76	[illegible]
	Minimum...	26	27	28	30	35	42	42	50	38	53	42	41	28	21	23	32	29	34	59	52	51	62	51	49	51	49	52	40	41	40	38	[illegible]
Wahpeton §§	Maximum...	51	56	59	55	72	76	70	76	72	73	74	68	41	50	53	46	69	72	84	82	90	88	86	78	67	72	82	75	62	59	65	[illegible]
	Minimum...	36	26	26	28	40	45	50	49	51	52	51	47	32	28	24	29	40	33	54	54	57	65	52	52	51	51	51	55	48	40	40	[illegible]
Westhope	Maximum...	62	61	61	67	76	80	78	78	70	77	73	55	46	46	58	67	75	77	76	65	85	73	75	76	78	78	79	57	67	68	71	[illegible]
	Minimum...	24	24	25	30	36	41	50	49	54	48	42	34	28	24	23	28	33	38	54	51	48	50	50	54	53	48	49	43	42	40	32	[illegible]
Williston	Maximum...	54	60	59	66	74	77	64	64	64	62	56	50	44	47	53	62	68	70	71	69	82	77	72	77	75	78	62	50	[illegible]	[illegible]	64	[illegible]
	Minimum...	31	38	36	40	47	51	54	51	50	46	42	33	28	31	26	36	38	44	56	53	50	55	51	48	56	51	47	41	42	41	42	[illegible]
Moorhead, Minn	Maximum...	56	53	57	63	71	74	76	75	71	74	77	65	42	45	52	54	71	73	82	79	89	88	84	75	69	77	83	67	58	[illegible]	62	[illegible]
	Minimum...	34	29	28	31	42	47	51	49	55	52	50	42	30	26	28	32	38	38	54	54	56	63	59	55	51	56	53	55	46	46	41	[illegible]

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. ' 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXX. Bismarck, N. D., June, 1921. No. 6

GENERAL SUMMARY.

The weather during June was the warmest of record for that month, with but one exception, since the Climatological Service was established in the State in 1892. While the precipitation for the month was nearly the normal, the geographical distribution was so uneven that crop conditions at the close of the month varied greatly in closely situated localities. Crop conditions were never more promising than on June 15th, but the high temperatures and lack of precipitation caused rapid deterioration in many parts of the State, while high temperatures following heavy showers in other sections tended to cause damage to crops from stem rust. Grasshoppers were numerous, especially in the northern part of the State, but damage from that source was small. Serious damage occurred in many parts of the State from hail and high winds. Pastures, ranges, meadows, gardens, potatoes and late sown grains, including flax, were in need of more moisture at the close of the month, especially in the central and southwestern portions.

TEMPERATURE.

The mean temperature for the State was 68.2°, or 5.4° above the normal, and 6.0° higher than the mean for June, 1920. The highest mean reported was 72.0° at Linton, Emmons County; the lowest was 64.5° at Langdon, Cavalier County. The highest temperature reported was 108° at Mandan and New Salem, both in Morton County, on the 30th; the lowest was 30° at Hansboro, Towner County, on the 3d. The greatest monthly range of temperature was 73° at Napoleon, Logan County; the least was 50° at Arnegard, McKenzie County. The greatest daily range was 56° at Linton, Emmons County, on the 11th.

PRECIPITATION.

The average precipitation for the State was 3.51 inches, or 0.01 inch above the normal, and 0.11 inch less than the average for June, 1920. The greatest monthly amount reported was 7.65 inches at Powers Lake, Burke County; the least was 0.75 inch at Linton, Emmons County. The greatest amount recorded in any 24 consecutive hours was 3.37 inches at Berthold Agency, McLean County, on the 18th. The average number of days with 0.01 inch or more of precipitation was 9. The distribution of precipitation throughout the month was quite uniform, although particularly showery periods were the st, 5-6th, 15-20th, 26th and 29th.

AURORAS.

Auroras were observed at Grand Forks on the 4th; at Howard on the 5th; at Bowman, Ellendale and Foxholm on the th; at Crosby and Foxholm on the 10th; at Crosby on the 2th, and at Grand Forks on the 21st and 24th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	29.89	30.51	3	29.44	15	57	7,514	10.4	39	sw.	20
Devils Lake	29.88	30.50	3	29.45	15	44	6,581	9.1	33	ne.	18
Ellendale	29.92	30.52	4	29.44	15	56	8,836	12.3	48	se.	29
Grand Forks	29.86	30.47	3	29.50	15	90	....	......	60	sw.	26
Williston	29.82	30.45	3	29.34	14	48	6,339	8.8	36	e.	18
Moorhead, Minn	29.91	30.52	4	29.53	15	58	5,545	7.7	23	sw.	21
Av'ges and extremes	29.88	30.52	4	29.34	14	.....	....	9.7	60	sw.	26

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p. ct.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	340.2	475.1	72	+11	78	48	47	20	30
Devils Lake	299.6	478.7	63	+ 4	83	62	64	20	12
Ellendale	315.4	470.9	67	......	85	60	....	38	25
Grand Forks	......	......	......	......	80	.....	61	.....	....
Williston	314.2	478.7	66	+ 9	81	57	57	28	9
Moorhead, Minn.	......	......	......	......	81	55	59	.....	....
Averages and extremes	317.4	475.8	68	+ 8	81	56	58	20	12*

* And other dates.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.

Climatological Data for June, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	68.8	+5.3	100	30	34	4	42	2.56	-1.45	0.92	0	5	17	9	4	ne.	E. T. Carley.
Amidon	Slope	......	6	......	......	...	...	...	...	......	...	......	......	......	......	......	......	......	......	Charles Eastgate.
Arnegard	McKenzie	......	3	67.8	......	93	14†	43	3	35	4.88	......	1.50	0	10	22	3	5	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	69.6^{a}	+7.6	100^{a}	30	35^{a}	4	41^{a}	0.91	−2.55	0.39	0	3	......	......	......	se.	R. C. Miles.
Beach	Golden Valley	2,579	15	68.9	+7.8	98	12	37	3	44	6.82	+3.01	2.95	0	10	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	69.8^{a}	+7.2	97^{a}	14†	44^{a}	4†	47^{a}	5.99	+1.86	3.37	0	9	16	9	5	se.	C. L. Hall.
Bismarck	Burleigh	1,674	47	71.2	+7.0	107	30	43	4	42	0.92	2.62	0.48	0	9	10	13	7	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	65.6	+4.6	95	30	36	3	37	2.74	−0.49	0.64	0	11	11	10	9	se.	N. A. Eckberg.
Bowbells	Burke	1,958	9	65.0	......	93	30	37	3	40	5.49	......	1.65	0	11	......	......	......	......	G. H. Phelps.
Bowman	Bowman	......	7	71.9	......	102	11	46	2†	49	0.93	......	0.28	0	10	16	9	5	se.	W. W. Barr.
Cando	Towner	1,488	20	68.0	+6.8	96	30	35	3	33	1.80	−1.97	0.37	0	7	6	19	5	se.	A. J. Swanson.
Carson	Grant	2,500	9	70.8	......	107	30	42	1	40	1.09	......	0.40	0	6	15	15	0	se.	J. W. Evens.
Cooperstown	Griggs	1,428	11	......	......	...	...	...	...	......	3.90	+0.21	1.83	0	7	15	8	7	nw.	S. Friswold.
Crosby	Divide	1,954	14	66.7	+6.1	94	29	38	3	35	6.13	+3.11	1.70	0	12	13	10	7	se.	John Jensen.
Devils Lake	Ramsey	1,478	17	66.9	+4.3	96	30	35	3	30	4.70	+1.17	2.43	0	14	12	10	8	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	69.2	+7.9	98	30	37	3	47	3.09	0.06	1.52	0	8	8	7	15	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	68.3	+7.8	96	30	33	1	39	5.06	+2.15	1.70	0	11	5	19	6	s.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	68.8	......	95	14	46	1†	39	6.14	......	2.00	0	11	16	5	9	se.	W. H. Moede.
Dunseith	Rolette	1,682	25	65.0	+3.8	95	30	34	3	32	2.70	−0.31	0.54	0	14	10	10	10	n.	J. G. Lamont.
Eckman	Bottineau	......	16	67.6^{b}	+6.3	100^{b}	30	37^{b}	3	39	2.56	−0.37	0.82	0	8	......	......	......	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	68.0	+5.2	98	30	35	4	37	5.76	+2.36	3.10	0	7	12	12	6	se.	O. A. Thompson.
Ellendale	Dickey	1,449	23	68.9	......	98	30	39	4	36	3.40	0.00	1.71	0	8	12	10	8	se.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	9	......	......	...	...	...	...	......	2.55	......	0.82	0	7	13	15	2	se.	N. W. Solenberger.
Epping	Williams	2,224	13	......	......	...	...	...	...	......	6.30	+3.17	1.43	0	11	13	15	2	se.	M. E. Eggen.
Fessenden	Wells	1,610	9	67.0	......	99	30	33	4	43	4.90	......	1.42	0	15	16	4	10	se.	T. D. Monsen.
Foxholm	Ward	......	1	66.1	......	91	30	39	4	33	3.28	......	1.47	0	10	15	6	9	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	3	......	......	...	...	...	...	......	4.40	......	1.22	0	12	21	6	3	nw.	Verne King.
Fullerton	Dickey	1,439	23	71.0	+8.3	99	30	37	4	39	3.40	+0.06	1.96	0	8	18	7	5	s.	F. O. Alin.
Garrison	McLean	1,901	26	67.2	+5.0	101	30	38	1	14	2.36	−1.01	0.86	0	8	11	16	3	se.	G. L. Robinson.
Grafton	Walsh	827	29	66.8	+4.3	92^{b}	28	33	4	34	3.67	+0.33	1.09	0	11	16	7	7	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	68.5	+5.6	100	30	32	4	43	2.54	−1.05	0.65	0	10	16	10	4	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	67.8	+4.7	101	30	40	3	36	1.83	1.09	0.40	0	8	8	12	10	se.	W. A. Christianson.
Hannah	Cavalier	1,568	16	......	......	...	...	...	...	......	1.91	−1.54	0.76	0	1	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	13	66.4^{c}	+6.0	100^{c}	28	30	3	41^{c}	1.38	−1.00	0.47	0	4	14	14	2	se.	C. J. Blackorby.
Hettinger	Adams	2,253	13	71.0	+8.9	106	11	44	3	51	1.47	2.04	0.78	0	6	18	4	8	se.	U. J. Downey.
Hillsboro	Traill	901	15	68.0	+3.6	96	30	34	4	38	4.03	+0.47	1.31	0	12	12	12	6	s.	F. E. Mayall.
Howard ‡‡	Williams	2,275	14	65.2	+5.5	91	11†	38	3†	37	6.09	+3.21	2.86	0	9	6	15	9	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	69.4	+6.3	98	30	35	4	34	5.02	+1.33	2.73	0	8	11	10	9	se.	S. Calvelage.
Lamoine	Kidder	1,936	13	67.6	+7.1	93	29	39	4	39	3.57	+0.12	1.22	0	10	9	16	5	se.	E. V. Virgin.
Langdon	Cavalier	1,615	25	64.5	+4.8	97	30	31	3	34	2.55	−1.07	0.85	0	14	16	4	10	......	R. T. Burke.
Larimore	Grand Forks	1,134	26	67.0	+4.9	95	30	33	4	37	5.90	+2.31	1.60	0	11	14	2	11	s.	Reuben Gray.
Linton	Emmons	1,711	3	72.0	......	105	30	37	3	56	0.75	......	0.26	0	6	18	11	1	se.	William Malpass.
Lisbon	Ransom	1,091	17	70.3	+7.2	104	30	33	5	42	1.31	−3.15	0.72	0	6	22	2	6	se.	W. S. Adams.
McClusky	Sheridan	1,943	3	......	......	...	...	...	...	......	4.18	......	1.85	0	11	......	......	......	......	Edw. Tasley.
McKinney ‡‡	Renville	1,640	27	67.2	+6.5	96	29	40	4	41	3.38	+0.04	1.15	0	5	11	11	8	se.	N. P. Swenson.
McLeod	Ransom	1,075	9	70.2	......	98	30	36	4	31	4.15	......	2.02	0	7	18	4	8	se.	J. G. Carlson.
Maddock	Benson	1,604	6	66.7	......	93	30	33	4	35	5.76	......	2.35	0	13	4	20	6	se.	A. T. Felland.
Mandan	Morton	1,644	7	70.8	......	108	30	41	4	44	1.35	......	0.57	0	6	8	15	7	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	68.0	+6.5	95	30	35	4	36	5.93	+2.29	1.90	0	15	14	10	6	se.	P. B. Anderson.
Marmarth	Slope	......	12	68.0	+7.7	102	11	44	2†	50	3.99	−0.56	1.65	0	10	13	6	11	w.	S. P. Grane.
Mayville	Traill	975	25	67.6	+3.1	99	30	34	4	36	3.02	0.62	1.44	0	7	17	6	7	s.	W. C. Gould.
Melville	Foster	1,590	23	67.5^{a}	+4.6	95^{a}	30	35^{a}	4	34^{a}	4.84	+1.23	1.58	0	8	......	......	......	se.	J. P. Kidder.
Minot	Ward	1,557	25	65.0	+2.5	103	30	35	1†	45	2.60	−0.71	0.75	0	10	16	8	6	e.	W. I. Faris.
Minto	Walsh	820	28	68.4	+4.5	99^{a}	30	33	4	36^{a}	4.00	+0.61	1.27	0	10	16	8	6	se.	C. M. Evans.
Mott	Hettinger	2,424	14	71.8	+8.8	103	30	43	15	43	3.76	+0.32	1.50	0	6	16	10	4	se.	O. H. Opland.
Napoleon	Logan	1,955	29	68.5	+6.3	105	30	32	3	49	2.65	1.10	1.60	0	10	17	3	10	sw.	C. J. Hoof.
New England	Hettinger	2,400	27	68.6	+6.6	98	12	42	2	46	2.46	−0.31	0.95	0	9	......	......	......	nw.	W. C. McKenzie.
New Salem	Morton	2,163	16	69.2	+6.4	108	30	38	2	38	1.27	−2.78	0.66	0	5	20	10	0	se.	J. Christiansen.
Park River	Walsh	998	17	67.0	+3.8	94	30	35	3	33	4.10	+0.61	1.37	0	11	12	9	9	se.	C. B. Wright.
Parshall	Mountrail	......	6	......	......	...	...	...	...	......	5.68	......	2.58	0	7	12	17	1	se.	J. A. Johnson.
Pembina	Pembina	789	47	67.4	+4.8	98	30	31	3	37	2.91	−0.67	1.25	0	5	13	16	1	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	68.2	+8.0	103	30	32	4	40	0.82	−2.41	0.54	0	4	17	9	4	se.	S. C. Shanks.
Power	Richland	1,020	28	......	......	...	...	...	...	......	1.15	−2.87	0.65	0	3	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	6	......	......	...	...	...	...	......	7.65	......	2.55	0	9	12	7	11	nw.	C. Frank.
Skaar	McKenzie	......	1	68.6	......	97	14	40	3	42	6.12	......	1.90	0	12	8	12	10	se.	Conrad Brunsvold.
Steele	Kidder	1,857	24	68.2	+5.8	104	30	34	3	34	1.86	−1.59	0.95	0	3	16	13	1	se.	H. S. Wood.
Taylor	Stark	2,493	5	71.2^{a}	......	96^{a}	30	42^{a}	3	44^{a}	4.38	......	2.51	0	6	......	......	......	se.	H. Leutz.
Towner	McHenry	1,482	19	67.8	+5.6	100	30	36	3	36	3.40	−0.16	1.24	0	9	20	5	5	se.	B. Bagley.
Turtle Lake	McLean	1,899	6	67.5	......	99	30	39	4	41	6.58	......	2.39	0	14	10	6	14	nw.	A. T. Anderson.
Valley City	Barnes	1,245	2	67.0	+3.8	95	18	30	4	33	2.74	−0.54	1.15	0	10	20	4	6	e.	C. F. Schroeder.
Wahpeton	Richland	962	27	71.1	+6.3	103	30	31	4	36	1.41	2.53	0.50	0	8	10	18	2	se.	State School of Science.
Walhalla	Pembina	966	14	......	......	...	...	...	...	......	1.97	−1.19	0.61	0	4	......	......	......	......	Ivan Lee.
Westhope	Bottineau	1,508	15	67.2	+5.6	98	30	36	3	37	3.44	+0.46	1.67	0	10	18	5	7	se.	W. A. Meddaugh.
Williston	Williams	1,875	42	68.6	+5.1	95	14	44	2	33	5.68	+2.11	2.02	0	14	8	16	6	e.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	65.5	+4.5	98	30	34	3	40	1.96	−1.34	0.58	0	8	14	13	3	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	11	70.4	+6.1	100	30	38	4	33	1.40	−2.73	0.59	0	7	9	13	8	s.	U. S. Weather Bureau.
Averages	......	......	......	68.2	+5.4	108	30	30	3	56	3.51	+0.01	3.37	0	9	14	10	6	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for June, 1921.

Stations.	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖	Red	T.	.72				.20	T.							.92	.20	.52	T										T.					2.56
Amidon	Lit. Missouri																																
Arnegard	Missouri	T								1.02				.04				1.08	1.50	.45	.23	.01			.04	.37	.14						4.88
Ashley	Missouri	T.												.39		.37	.15													T.			0.91
Beach	Lit. Missouri						.53						.43				.31	2.95	.86	.46	.59						.50	.16		.03	T		6.82
Berthold Agency	Missouri	.09	T			.22								T.		.77	.02		3.37	1.24	.02					.25				.01			5.99
Bismarck ***	Missouri	.22				.06						.05		.05		.01	.47		T	T.	T.			.01		.02		T		.03			0.92
Bottineau	Mouse		.55			.01	.19						.04				.36	.13	.64	.05		.02					.49			.26			2.74
Bowbells ‖	Mouse	.03	.30							.06							1.29		1.20	1.65	.31	.10				.05	.45				.05		5.49
Bowman	Grand						.17	.01		.01	.02	T.				.03			.13	.28	.14						.08			.06			0.93
Cando	Sheyenne	.37	.29			.29	.09									.34			.05								.37						1.80
Carson	Heart	.40										.07				.27			.10						.05					.20			1.09
Cooperstown	Sheyenne	.65				.10			.22			.25			.80	1.83										.05							3.90
Crosby	Mouse	.20				T.			.04	.23		.06				1.35			1.70	.20	1.30	.28					.60			.09	.08		6.13
Devils Lake ***	Sheyenne	.72	.01			.47	.05			T.		.01	.09	.01	2.12	.37			.03	T.			.01	.01			.42			.08	T.		4.70
Dickinson	Heart	T.	.07			T	T	T.	T.		T.	.01	T.	T.		1.52	T	.31	.57	.03	.02	T.					.56	T.	T				3.09
Donnybrook	Mouse	.12	.10			.05								.08		.30	.01		1.25	1.70	1.00	T.					.20			.25			5.06
Dunn Center	Knife	.05	.16										.04	.01			2.00		1.00	1.82	.64	.01					.32			.09			6.14
Dunseith	Mouse	.25	.34			.22	.12					.02			.30	.54	.19		.29	.16		.03		.10			.02			.12			2.70
Eckman	Mouse	.04				.20										.10	.51		.82	.41			.09							.39			2.56
Edgeley	James	.32				T.				.26				.22		.30	.16		3.10	1.40													5.76
Ellendale***	James	.69				T.	T.		T.	.01				.39		.46	.12		1.68	.03								T.		.02			3.40
Energy	Missouri	.12	T.			.58						.09		T.		.48		.82	.36	T.	T.					.10							2.55
Epping	Missouri	.22								.40		.33	.13	.07		1.43		.72	1.32	.62							.83			.23			6.30
Fessenden	James	.15	.10				.92	.04					.45	.02		.09	.86	.15	1.42	.01	.02						.54		.01		.12		4.90
Foxholm	Mouse	.12	.03			.15						.18		T.		.04	.06		1.47	.64							.06	T.		.53			3.28
Fryburg	Lit. Missouri	.05						.01		.09	T.	.11		T.		.10		1.07	1.14	.08	.35			T.		1.22		.05			.13		4.40
Fullerton	James	.49								.14				.29	.09	.34	.03		1.96											.06			3.40
Garrison	Missouri	.16				.38	.02										.15		.86	.56							.15			.08			2.36
Grafton ‖	Red	.10	.75				.55		.01		.25		.09				.55	.18		1.09			.01				.09						3.67
Grand Forks ***	Red	.31	.04			.63	.43						.10	.20	.65	.01	.16			.01							T.				T.		2.54
Granville	Mouse	.21				.21						T.				.40	.10		.38	.30							T.	.11		.12			1.83
Hannah	Pembina	.49				.76														.21				.45									1.91
Hansboro	Red	.35				.40									T.					T.				.16						.47			1.38
Hettinger	Grand						.02					T.				.45	.13			.78	.03				.06	T.	T.						1.47
Hillsboro	Red	.57	.04			.24	.48				.07		.38	.04	1.31	.27	.06			.38											.19		4.03
Howard	Missouri	.37					T.	T.	T.	.20		.37				.36		.24	1.41	2.86	.26				.02		T.		T.		T.		6.09
Jamestown	James	.08	.20				.08				.38				.22	.52	2.73				.81												5.02
Lamoine	Missouri	.30	T.			T.	.21					*	.22	.08		1.22	.29			.14	.04						1.07			T.			3.57
Langdon	Pembina	.14	.52			.10	.85	.04					.04			.08	.11	.08			.15			.11		.02	.24				.07		2.55
Larimore ‖	Red	.11	.83				1.00				.12		.17		.40		1.00	1.60			.20						.45				.02		5.90
Linton	Missouri	.01				.14						.21		.01		.26	.12		T.									T.	T	T.			0.75
Lisbon	Sheyenne	T.	.72										T.	T	.12	.24	.18	T.		.05	T.												1.31
McClusky	Missouri	.23		T.			.25					.15	.08			1.05	.04	*	1.85	.04							.35			.14			4.18
McKinney	Mouse	.35														.65	T.		.90	1.15		T.							.33				3.38
McLeod	Sheyenne	.46				.02				.41					2.02	.41	.81		.02														4.15
Maddock	Sheyenne	.20	.65			.14	.20					.10	.09	T.	1.13	2.35	.17			.06							.28			.30	.09		5.76
Mandan	Missouri	.53	T.			.07	T.							.08			.57							.07			.03			T.			1.35
Manfred	Sheyenne	.28	.07			.07	1.90					T	.11	.03	.08	.96	.26		.64	T.							1.07	.05	.02	.17	.22		5.93
Marmarth	Lit. Missouri	T.		T.			.12			.23	.04	T.				.41			.07	1.65	.17					.79	.45			.36			3.99
Mayville	Red	.29	.06				.60						.22		1.44	.14	.27																3.02
Melville	James					T.	.33						.10	.40	.50	1.58	.10		1.43								.40				T.		4.84
Minot ‖	Mouse	.02	.75				.35						.07				.16	.14	.75	.41	.02									.02			2.69
Minto	Red	.65	.21			.19	.66					T.	.03		T.	.04	1.27			.77					T.		.11				.07		4.00
Mott	Cannon Ball													.05		1.50			.33	1.42					.32			T.		.14			3.76
Napoleon ‖	Missouri	.08	.04				.04				.02		.30		.38	.02	1.60	.10									.07						2.65
New England	Cannon Ball		.07								T.				.10	.95		.11	.16	.18						.28	.44		.17				2.46
New Salem	Heart	.26										T				.28	.01	.06	T.							.66							1.27
Park River	Red	.62	.26			.23	.37			.09		T.	.08		.15	.12	1.57		T.	.56											.05		4.10
Parshall	Missouri					.42										1.29		2.58	.49	.51	.08						.31						5.68
Pembina ‖	Red		1.25				1.00				T.						.50	.15			T.		.01			T.	T.						2.91
Pettibone	James	.04												T.		.15	.09											.54					0.82
Power	Missouri									.22				T.		.28	.65																1.15
Powers Lake	Sheyenne	.10	T.					.45				.30				.70	T.		2.40	2.55	.35				.05		.75						7.65
Skaar	Lit. Missouri	.15						.05		.70	.05			.08	.06	.45		1.90	1.53	.60	.20						.35			T.			6.12
Steele	Missouri	T.	T.			T.	T.	T.							T.	.95	.40											.45					1.80
Taylor	Heart						T.					T.		T.		.70			.31	2.51	.01					.30	.55						4.38
Towner	Mouse	.18	.37		.20	.31										.72	.08		.22	.08							T.			1.24			3.40
Turtle Lake	Missouri	.05	.06			.25	.01	T.				T.	.10	T		2.39	.23		1.60	.75	.02						.89	.01	.19		.03		6.58
Valley City	Sheyenne	.55	.14			.14	.04						.02	T.	.02	.25	1.15	.21		.22													2.74
Wahpeton ‖	Red	.18	.17				.02				.50		.04		.14	.27	.09																1.41
Walhalla	Pembina	.21														.42							.61					.73					1.97
Westhope	Mouse	.10	.19			.10						.10				.12	1.67		.34	.37							.03			.42			3.44
Williston ***	Missouri	.12				T.			.21	.14		.01		.21	.19	1.15		1.50	.52	.68	.01				.01	.89	T.		T.		.04		5.68
Willow City	Mouse	.07	.27			.23	T.					.05				.58	T		.30	.05							T.			.41			1.96
Moorhead, Minn ***	Red	.59	T.			.13			T.			.07		T.	.12	.16	.31			.02						T.							1.40

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	66	61	59	76	70	79	63	73	84	87	83	80	75	81	83	86	87	88	91	80	80	84	92	83	96	91	93	96	93	100	....	82.0
	Minimum...	43	51	39	34	47	53	54	55	50	58	50	60	52	57	60	65	61	61	61	58	56	57	56	51	54	64	63	61	64	64	...	55.5
Arnegard	Maximum...	64	62	65	72	75	77	71	86	77	76	82	82	81	93	79	75	86	79	77	68	77	86	81	83	89	83	85	96	93	90	....	79.7
	Minimum...	51	45	43	45	57	53	55	53	56	54	49	49	49	58	60	58	47	59	60	56	56	55	59	62	65	61	63	61	67	68	...	55.8
Ashley	Maximum...	75	66	65	68	67	75	70	....	84	83	89	86	75	84	83	78	85	85	85	80	88	91	90	84	95	91	90	91	92	100	....	[a]82.6
	Minimum...	51	52	38	35	45	59	56	....	55	52	48	60	53	60	68	63	57	67	62	52	54	59	57	54	66	65	61	61	65	68	...	[a]56.7
Beach	Maximum...	57	70	60	66	74	82	79	76	89	88	83	98	94	90	97	74	81	87	78	86	66	78	84	87	96	86	88	94	96	96	...	82.7
	Minimum...	46	49	37	46	50	58	51	58	56	50	48	54	56	58	65	62	60	58	50	59	58	54	58	51	57	58	60	62	64	54	....	55.1
Berthold Agency	Maximum...	72	69	69	74	71	76	70	89	83	82	91	....	84	97	86	75	88	83	84	71	79	88	88	91	92	90	90	94	97	94	....	[a]83.4
	Minimum...	50	48	45	44	52	55	56	50	59	62	44	...	51	56	66	63	56	58	62	55	53	53	56	58	62	65	58	60	68	66	....	[a]56.2
Bismarck	Maximum...	76	64	65	70	68	72	68	80	83	84	92	82	79	91	82	77	88	86	87	75	81	91	90	93	98	87	88	96	99	107	....	83.3
	Minimum...	52	52	44	43	54	57	55	51	60	56	50	60	60	66	69	65	61	64	61	57	62	56	63	58	66	64	60	66	70	75	....	59.2
Bottineau §§	Maximum...	57	64	62	69	60	61	67	77	79	79	73	76	79	87	77	79	86	80	85	70	75	86	77	77	89	86	90	91	89	95	....	77.5
	Minimum...	45	47	36	40	45	51	52	52	57	47	45	51	51	57	61	61	59	59	60	56	59	52	66	49	54	60	57	57	64	64	....	[illegible]
Bowbells §§	Maximum...	66	64	63	70	70	63	72	85	81	78	77	76	81	92	75	71	85	83	79	69	74	84	79	77	88	87	86	88	88	93	...	78.1
	Minimum...	41	42	37	38	48	50	51	50	57	52	41	47	50	52	61	61	52	56	58	52	55	53	57	51	51	55	58	60	62	61	...	52.0
Bowman	Maximum...	68	65	64	67	82	83	71	82	80	80	102	97	92	95	84	85	90	89	71	67	81	88	94	95	98	95	93	97	100	101	...	85.2
	Minimum...	50	46	46	48	53	53	56	52	57	54	53	53	63	84	63	60	60	60	57	50	52	54	81	65	58	60	61	64	80	65	....	58.6
Bowman	Maximum...	68	65	64	67	82	83	71	82	80	80	102	97	92	95	84	85	90	89	71	67	81	88	94	95	98	95	93	97	100	101	...	85.2
Cando	Maximum...	65	65	65	68	69	60	66	72	83	82	79	78	79	76	76	81	87	88	86	76	77	88	84	75	92	92	89	91	89	96	....	79.2
	Minimum...	51	49	35	37	53	57	54	56	55	55	49	56	56	57	67	66	64	61	65	59	62	55	60	46	59	65	58	63	63	66	....	56.7
Carson	Maximum...	72	60	65	65	72	80	74	80	83	84	98	85	86	92	80	82	89	92	85	70	82	90	95	98	100	90	90	98	101	107	....	81.8
	Minimum...	42	43	45	45	50	53	54	52	53	54	65	55	54	65	66	62	60	62	56	55	55	54	60	58	60	65	62	64	63	70	....	56.7
Crosby	Maximum...	62	60	65	73	75	71	70	85	78	77	78	75	80	93	72	78	85	75	75	79	75	83	79	78	83	82	84	89	94	87	....	78.0
	Minimum...	51	39	38	47	51	48	57	55	60	55	47	50	58	58	64	54	59	60	58	56	57	56	61	57	57	61	60	61	64	61	....	55.4
Devils Lake	Maximum...	61	62	58	68	61	59	61	69	82	82	79	76	77	77	76	78	81	79	86	77	75	85	78	78	89	86	84	90	88	96	....	76.9
	Minimum...	49	46	35	39	53	52	53	57	56	58	52	58	51	56	67	65	66	65	64	60	61	57	55	48	62	65	62	63	66	67	...	56.9
Dickinson §§	Maximum...	70	64	65	70	80	79	75	89	86	83	98	83	90	96	74	77	87	83	79	65	77	85	86	96	92	81	85	92	94	98	...	82.6
	Minimum...	50	48	37	45	56	52	56	57	56	47	49	52	58	59	68	61	60	57	60	58	58	53	59	65	57	58	59	59	55	63	....	55.7
Donnybrook	Maximum...	55	65	68	74	70	65	72	88	83	81	75	78	80	90	89	75	91	85	85	85	77	87	88	85	93	91	92	94	95	96	....	81.7
	Minimum...	33	41	42	39	54	53	56	52	62	59	42	50	64	51	66	61	57	58	62	51	60	58	62	53	57	52	55	60	65	63	....	51.9
Dunn Center §§	Maximum...	71	65	66	71	74	74	71	87	81	80	92	80	82	95	73	76	87	81	82	67	77	86	86	87	88	84	85	90	94	93	...	80.8
	Minimum...	46	46	46	49	62	56	55	49	57	47	61	66	58	56	67	62	57	59	62	55	55	52	59	60	59	59	58	60	66	61	....	56.9
Dunseith	Maximum...	64	61	60	66	65	59	64	72	80	79	73	72	76	83	74	77	83	80	84	76	72	85	80	73	86	85	86	90	86	95	....	76.2
	Minimum...	48	45	34	39	49	48	51	53	55	50	46	58	51	56	65	62	60	59	64	57	58	53	52	49	56	59	55	58	63	64	....	53.9
Edgeley	Maximum...	72	69	61	65	69	78	71	73	85	83	85	80	72	83	84	83	82	87	85	70	78	81	[illegible]	81	93	88	89	84	89	98	...	80.3
	Minimum...	52	53	36	35	47	54	56	55	52	56	48	55	60	57	68	64	57	59	57	59	54	53	55	52	63	63	62	61	62	62	...	[illegible]
Ellendale	Maximum...	72	62	58	67	68	76	64	74	82	83	88	79	72	83	84	86	85	85	84	78	80	81	89	82	94	92	87	80	89	98	...	81.3
	Minimum...	53	46	41	39	50	56	57	57	57	60	52	61	56	58	63	66	62	62	62	53	57	55	58	54	62	63	65	62	65	67	...	[illegible]
Fessenden §§	Maximum...	70	65	61	70	67	62	67	76	86	84	83	78	77	84	80	80	87	80	85	77	78	91	85	80	95	87	87	91	90	90	...	[illegible]
	Minimum...	45	49	38	33	41	51	52	51	54	49	44	56	51	51	63	62	62	60	62	51	56	52	57	58	52	[illegible]	59	61	65	65	....	[illegible]
Fullerton	Maximum...	75	66	62	71	71	79	68	77	87	85	88	80	72	85	86	85	89	87	87	79	79	88	90	83	[illegible]	92	90	91	91	99	...	82.6
	Minimum...	51	48	40	37	58	57	57	57	58	60	63	59	56	63	73	68	70	67	64	55	58	58	56	53	64	68	65	63	63	66	....	59.4
Garrison	Maximum...	74	63	64	70	65	64	64	80	81	80	88	78	82	92	82	79	84	84	83	71	72	87	82	84	89	85	87	94	95	101	...	[illegible]
	Minimum...	49	48	49	38	51	53	53	50	57	54	44	53	53	57	55	55	55	53	62	55	50	53	52	53	54	61	67	63	61	66	...	54.1
Grafton §§	Maximum...	55	63	61	65	61	63	65	70	82	83	79	75	80	76	78	87	73	81	88	77	75	83	81	78	90	87	90	92	90	....	...	[illegible]
	Minimum...	50	50	36	33	49	51	54	56	52	56	59	61	50	60	64	67	68	62	62	62	62	59	61	49	60	67	61	58	65	69	...	[illegible]
Grand Forks	Maximum...	58	63	58	66	65	67	68	70	82	84	77	78	75	78	78	86	86	81	90	83	77	83	82	86	92	90	90	93	92	100	...	79.4
	Minimum...	52	52	40	32	48	52	54	58	55	58	51	62	50	58	67	70	68	61	64	65	60	58	61	43	60	58	64	60	64	73	...	[illegible]
Granville	Maximum...	70	68	65	70	65	63	60	80	82	80	80	78	80	87	80	72	[illegible]	85	77	70	78	88	85	82	[illegible]	[illegible]	88	94	94	101	..	[illegible]
	Minimum...	50	48	40	50	52	53	54	55	58	55	48	50	49	57	66	62	63	60	60	55	60	55	60	52	58	64	55	60	67	65	...	[illegible]
Hannah	Maximum...	...	....	....	..	.	....	....	...	....	...	....	....	..	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....
	Minimum...	...	...	.	..	..	..	...	...	...	...	...	...	...	..	..	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	....
Hansboro	Maximum...	63	64	71	69	60	57	68	73	82	81	79	77	78	76	76	86	88	85	90	75	75	88	86	75	99	92	98	100	...	...	....	[illegible]
	Minimum...	47	47	39	35	50	50	51	60	54	54	48	55	47	57	66	69	60	60	58	60	60	57	56	42	57	65	....	...	....	...	...	[illegible]
Hettinger	Maximum...	76	79	63	65	69	80	73	83	83	85	[illegible]	89	92	95	95	74	82	91	92	77	66	82	88	92	97	96	90	95	98	103	...	85.4
	Minimum...	61	58	44	47	51	51	52	55	45	52	55	56	61	61	62	61	60	62	59	52	52	48	58	65	58	[illegible]	59	62	66	70	...	56.6
Hillsboro	Maximum...	62	61	60	64	64	70	68	70	82	85	82	78	78	80	80	84	85	86	84	73	75	83	88	82	92	92	90	90	91	96	....	79.6
	Minimum...	50	51	38	34	47	52	54	56	52	58	54	52	52	57	67	68	67	63	64	60	57	58	54	50	56	65	63	62	62	66	....	56.5
Howard	Maximum...	55	58	62	65	68	70	72	84	80	74	80	75	80	91	74	78	91	70	85	72	77	85	74	78	84	84	86	90	88	88	..	77.4
	Minimum...	47	38	38	41	45	41	48	51	54	54	47	41	51	51	54	51	57	60	57	[illegible]	54	55	54	59	65	[illegible]	60	63	63	63	....	53.1
Jamestown	Maximum...	69	68	60	69	70	78	78	75	86	85	85	81	75	86	83	79	89	76	87	75	79	85	90	82	95	85	90	91	91	95	....	81.4
	Minimum...	42	53	40	35	52	58	56	56	52	57	51	59	55	59	68	65	62	68	63	55	61	57	62	53	64	66	61	61	65	65	....	57.3
Lamoine	Maximum...	76	60	59	70	65	64	60	77	80	80	84	74	73	86	80	77	84	83	85	76	75	85	81	81	91	83	88	92	93	91	....	78.4
	Minimum...	50	48	40	39	51	53	54	55	54	52	45	57	52	58	67	62	69	73	60	54	58	55	60	52	60	70	57	61	68	79	...	[illegible]
Langdon §§	Maximum...	56	60	58	68	58	56	64	68	80	83	75	72	78	72	74	73	83	79	85	74	72	81	74	74	85	86	90	94	93	97	...	75.5
	Minimum...	48	46	31	34	48	48	49	52	53	58	45	57	45	55	60	63	62	61	62	[illegible]	58	52	55	44	52	62	56	60	65	65	..	53.5
Larimore §§	Maximum...	60	61	60	67	60	65	64	70	82	84	80	80	77	76	75	87	86	88	85	77	76	85	84	81	92	88	[illegible]	91	91	95	..	[illegible]
	Minimum...	49	50	37	33	38	50	50	54	51	55	50	61	50	57	[illegible]	65	67	65	61	60	60	57	61	48	55	65	63	58	61	67	....	[illegible]
Linton	Maximum...	81	77	67	72	68	80	72	79	85	87	98	98	82	94	87	80	90	88	88	82	81	91	95	92	102	99	94	95	97	105	...	[illegible]
	Minimum...	53	52	37	41	54	59	58	46	55	49	42	51	60	65	70	[illegible]	[illegible]	57	65	55	56	47	61	59	64	66	62	64	71	72	....	57.2
Lisbon §§	Maximum...	72	65	60	66	71	81	65	86	85	89	84	[illegible]	75	85	87	[illegible]	92	[illegible]	93	85	84	89	95	87	100	[illegible]	95	96	94	[illegible]	...	81.7
	Minimum...	51	50	40	35	33	56	56	[illegible]	52	58	48	56	53	60	65	66	63	[illegible]	65	[illegible]	57	52	56	52	62	67	66	[illegible]	62	62	...	55.9
McKinney	Maximum...	62	60	65	73	68	65	65	85	82	81	80	75	82	93	80	75	85	83	82	75	87	75	78	77	[illegible]	88	87	90	[illegible]	94	...	79.3
	Minimum...	51	42	42	40	50	54	55	55	60	54	39	49	44	59	65	[illegible]	57	69	62	[illegible]	55	56	55	54	55	60	55	65	70	70	...	55.1
Maddock	Maximum...	68	68	62	68	68	60	61	72	80	82	79	78	76	83	81	77	84	85	81	75	74	85	85	78	81	91	[illegible]	88	89	93	...	78.3
	Minimum...	50	47	36	33	51	52	57	55	53	54	45	56	48	55	66	64	62	62	64	55	[illegible]	55	60	48	56	62	57	59	67	[illegible]	...	55.1
Marmarth	Maximum...	65	65	63	66	81	80	71	84	77	78	102	84	92	97	80	[illegible]	92	84	60	64	80	85	91	[illegible]	91	82	87	92	92	92	...	81.7
	Minimum...	49	44	44	41	53	53	54	52	56	53	52	56	60	57	60	56	60	56	52	48	52	50	55	60	57	57	59	61	54	62	...	[illegible]
Melville	Maximum...	68	68	62	64	69	68	62	75	78	79	82	75	73	81	80	71	86	85	....	84	76	85	83	80	81	85	88	[illegible]	89	96	..	[illegible]
	Minimum..	50	50	40	35	58	55	53	55	55	54	48	58	53	56	67	65	63	61	....	50	61	55	64	50	65	65	68	63	65	[illegible]	...	[illegible]
Minot §§	Maximum...	68	64	64	73	68	63	62	85	80	80	83	78	83	90	87	74	88	85	85	70	72	88	79	82	91	90	92	98	96	103	...	[illegible]
	Minimum...	35	42	36	35	43	47	48	50	[illegible]	49	39	49	41	49	57	57	54	[illegible]	58	51	55	49	56	48	48	56	49	55	62	[illegible]	...	[illegible]
Mott	Maximum...	77	71	81	78	77	82	80	84	94	92	100	85	94	96	74	80	89	87	80	78	83	[illegible]	87	94	94	84	91	94	[illegible]	[illegible]	...	[illegible]
	Minimum...	49	50	50	55	52	64	56	59	53	49	60	58	64	57	[illegible]	61	61	60	57	[illegible]	[illegible]	53	51	[illegible]	64	[illegible]	58	63	68	[illegible]	...	[illegible]
Napoleon §§	Maximum...	80	63	65	72	67	75	69	80	87	[illegible]	92	81	75	87	85	77	90	81	80	75	78	[illegible]	92	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	...	83.4
	Minimum...	50	50	32	35	49	58	55	48	52	49	43	56	54	55	[illegible]	61	55	[illegible]	62	52	53	51	61	53	55	62	55	[illegible]	60	[illegible]	....	[illegible]
New Salem	Maximum...	75	63	66	63	65	71	74	80	82	81	93	81	82	91	[illegible]	77	84	89	90	75	82	90	91	93	98	87	92	87	[illegible]	108	...	82.9
	Minimum...	48	48	42	44	47	48	50	47	[illegible]	53	61	55	57	55	[illegible]	51	53	53	57	52	57	57	63	58	78	[illegible]	57	62	62	78	...	55.5
Pembina §§	Maximum...	58	59	62	70	[illegible]	64	73	75	84	85	79	77	82	79	88	75	85	[illegible]	94	81	73	[illegible]	78	71	88	91	[illegible]	96	87	98	...	79.7
	Minimum...	49	41	31	[illegible]	46	51	51	57	51	54	48	60	50	58	64	67	68	[illegible]	61	66	[illegible]	50	64	42	54	62	55	61	[illegible]	[illegible]	..	55.2
Steele	Maximum...	67	67	68	66	67	68	68	71	82	[illegible]	82	82	80	75	78	75	[illegible]	82	[illegible]	75	82	[illegible]	[illegible]	81	90	98	[illegible]	92	95	104	...	[illegible]
	Minimum...	40	40	31	38	36	40	[illegible]	45	48	50	50	50	48	48	61	66	70	[illegible]	[illegible]	61	55	60	70	58	70	70	71	77	77	[illegible]	.	55.9
Towner	Maximum...	67	63	61	69	65	62	75	78	81	80	77	78	74	84	84	77	88	84	81	79	86	[illegible]	81	80	91	91	[illegible]	94	[illegible]	[illegible]	.	[illegible]
	Minimum...	51	49	36	40	52	54	50	52	[illegible]	56	52	56	54	58	57	62	60	62	65	57	56	54	56	58	57	58	57	58	[illegible]	64	.	55.3
Valley City	Maximum...	66	64	58	65	70	72	62	76	82	82	81	78	71	82	81	83	81	95	88	78	81	84	81	82	94	88	90	93	[illegible]	94	..	[illegible]
	Minimum...	41	40	37	36	46	41	54	51	[illegible]	50	48	58	52	57	60	65	58	62	[illegible]	54	51	58	51	49	60	62	64	61	68	66	..	54.1
Wahpeton §§	Maximum...	71	63	60	69	69	81	67	77	82	83	82	81	71	81	[illegible]	87	89	[illegible]	[illegible]	83	82	[illegible]	92	87	98	96	97	96	[illegible]	103	...	83.1
	Minimum...	50	52	41	34	50	59	56	55	59	62	[illegible]	68	54	58	64	69	65	67	70	[illegible]	57	[illegible]	56	57	62	63	66	63	[illegible]	[illegible]	.	59.1
Westhope	Maximum...	60	67	66	75	60	[illegible]	66	69	81	80	76	77	82	88	75	78	87	[illegible]	85	70	[illegible]	87	76	76	94	90	88	[illegible]	[illegible]	[illegible]	..	78.6
	Minimum...	50	47	36	[illegible]	51	53	55	59	59	65	65	53	50	56	57	58	58	[illegible]	62	58	[illegible]	52	58	[illegible]	51	[illegible]	[illegible]	62	[illegible]	66	.	55.8
Williston	Maximum...	60	62	65	72	73	77	73	88	70	76	80	76	80	95	72	74	85	78	74	68	78	[illegible]	85	82	[illegible]	84	87	[illegible]	94	90	...	[illegible]
	Minimum...	50	44	45	49	57	53	57	57	60	55	59	54	55	60	64	60	62	61	60	58	59	59	62	62	62	62	64	64	68	70	...	58.0
Moorhead, Minn	Maximum...	65	63	58	66	68	80	64	72	81	86	82	80	74	82	84	86	87	84	91	82	81	83	91	84	[illegible]	[illegible]	[illegible]	92	93	[illegible]	..	[illegible]
	Minimum...	51	51	42	38	48	58	56	58	59	60	56	62	56	61	67	69	67	67	[illegible]	61	60	59	57	54	65	[illegible]	68	65	68	74	..	[illegible]

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXX. BISMARCK, N. D., JULY, 1921. No. 7

GENERAL SUMMARY.

The excessive heat of June continued through July. The mean for July, 71.4°, has been exceeded only three times in the past 30 years, being a fraction of a degree higher in 1894 and 1914 and nearly two degrees higher in 1916. The heat was greatest in the south-central portion, where new high temperature records were established at a few stations. The rainfall averaged almost half an inch above normal, but was deficient over the southwestern and central portions. The heaviest falls occurred in the northeastern portion, the monthly total reaching ten inches at Larimore. Many severe windstorms occurred during the month, and there was much damage to crops from hail. The most destructive storm occurred on the 2d, doing the most damage in eastern Dickey County, but also much damage in the adjoining counties to the north and east, and in South Dakota. The damage to buildings by this storm is estimated at over half a million dollars in the North Dakota area. Damaging winds occurred on the 16th in Burleigh, Kidder, Stutsman, Logan and Richland Counties, at Bowman, Bowman County, on the 1st and 25th, and at Pettibone, Kidder County, on the 9th. The heat was unfavorable for most crops in all sections, and drought damage was severe in the southwestern and central portions. Wheat suffered from stem rust in the eastern portion, and the heads were not well filled generally on account of rapid ripening. The grain harvest was fullly ten days earlier than usual, and was well under way at the end of the month.

E. G. L.

TEMPERATURE.

The mean temperature for the State was 71.4°, or 3.9° above the normal, and 3.1° higher than the mean for July, 1920. The highest mean reported was 75.9° at Linton, Emmons County; the lowest was 67.3° at Turtle Lake, McLean County. The highest temperature reported was 110° at Carson, Grant County, and at Mandan, Morton County, on the 9th; the lowest was 35° at Beach, Golden Valley County, on the 30th, and at Turtle Lake, McLean County, on the 31st. The greatest monthly range of temperature was 71° at Turtle Lake, McLean County; the least was 44° at Larimore, Grand Forks County, and at Park River, Walsh County. The greatest daily range was 52° at Eckman, Bottineau County, on the 20th, and at Hettinger, Adams County, on the 8th.

PRECIPITATION.

The average precipitation for the State was 3.07 inches, or 0.46 inch above the normal, and 0.91 inch more than the average for July, 1920. The greatest monthly amount reported was 10.00 inches at Larimore, Grand Forks County; the least was 0.37 inch at Taylor, Stark County. The greatest amount recorded in any 24 consecutive hours was 6.03 inches at Larimore, Grand Forks County, on the 3d. The average number of days with 0.01 inch or more of precipitation was 7.

AURORAS.

Auroras were observed at Westhope on the 13th and 14th, at Foxholm on the 16th, at Berthold Agency, Devils Lake and Westhope on the 29th, and at Foxholm and Skaar on the 30th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.95	30.24	19	29.41	1	57	6,627	8.9	42	n.	12
Devils Lake	29.92	30.22	19	29.28	3	44	6,085	8.1	34	w.	1
Ellendale	29.97	30.24	20	29.31	2	56	8,514	11.4	84	w.	3
Grand Forks	29.88	30.20	20	29.40	2	90	....	......	38	nw.	27
Williston	29.91	30.19	19	29.42	2	48	5,798	7.8	42	e.	25
Moorhead, Minn	29.94	30.22	20	29.42	2	58	5,780	7.8	37	nw.	26
Av'ges and extremes	29.93	30.24	20	29.28	3	....	....	8.8	84	w.	3

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Departure from normal, p. ct.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	379.7	479.2	79	+ 8	74	40	40	13	23
Devils Lake	336.8	483.1	70	+ 2	81	54	58	23	22
Ellendale	316.0	475.2	66	......	85	54	....	29	23
Grand Forks	......	......	......	......	75	....	60	......	....
Williston	395.0	483.1	82	+10	81	49	45	21	22
Moorhead, Minn	......	......	77	......	80	51	52	......	....
Averages and extremes	356.9	480.2	75	+ 7	79	50	51	13	23

* And other dates.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892...	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893...	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894...	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895...	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896...	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897...	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898...	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw
1899...	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900...	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901...	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902...	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903...	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904...	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905...	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906...	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907...	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908...	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909...	67.1	−0.4	99	31	2.89	+0.28	8	15	9	7	nw.
1910...	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911...	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912...	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913...	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914...	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915...	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916...	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917...	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918...	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919...	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920...	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921...	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.

Climatological Data for July, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr. Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Precipitation, in inches. Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	Number of days. With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	Observers.
Amenia	Cass	954	25	71.8	+3.1	99	9	48	31	39	2.81	−0.37	1.10	0	8	22	5	4	se.	E. T. Carley.
Amidon	Slope	.....	6	72.4	.....	99	8	45	3†	43	1.70	.....	0.48	0	4	25	5	1	nw.	Charles Eastgate.
Arnegard	McKenzie	.....	3	69.6	.....	98	13	43	31	47	2.17	.....	0.75	0	7	20	10	1	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	71.0	+2.6	97	1	44	31	34	5.37	+2.73	2.06	0	6	24	5	2	ne.	R. C. Miles.
Beach	Golden Valley	2,579	15	70.1	+2.8	99	20	35	30	50	3.21	+1.37	0.85	0	7	.....	.....	.....	.....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	72.4^{a}	+3.5	101^{a}	8†	37^{a}	31	51^{a}	0.59	−1.35	0.35	0	6	23	6	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	47	74.7	+4.5	108	9	49	31	37	2.18	+0.04	1.28	0	9	11	18	2	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	71.6	+5.8	102	9	43	31	47	1.09	−1.29	0.49	0	7	11	17	3	se.	N. A. Eckberg.
Bowbells	Burke	1,958	9	68.6	.....	93	20	45	24†	43	2.69	.....	0.90	0	6	24	3	4	.....	G. H. Phelps.
Bowman	Bowman	.....	7	72.8	.....	101	8	44	3	47	1.83	.....	0.53	0	7	22	7	2	nw.	W. W. Barr.
Cando	Towner	1,488	20	71.2	+5.1	96	23†	48	31	42	5.09	+2.48	2.75	0	9	9	17	5	nw.	A. J. Swanson.
Carson	Grant	2,500	9	73.4	.....	110	9	46	3	45	1.02	.....	0.50	0	5	19	12	0	se.	J. W. Evens.
Cooperstown	Griggs	1,428	11	.....	.....	.....	.....	.....	.....	.....	3.37	+0.55	1.30	0	8	25	5	1	nw.	S. Friswold.
Crosby	Divide	1,954	14	67.5	+1.6	92	20	47	30	33	3.19	+1.27	1.02	0	8	20	8	3	sw.	John Jensen.
Devils Lake	Ramsey	1,478	17	70.0	+1.9	97	9	51	6	34	4.49	+0.71	1.10	0	12	16	9	6	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	71.0	+3.0	100	8	46	22	49	1.61	−0.79	0.46	0	7	16	5	10	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	71.9	+6.1	104	20	48	24	46	3.58	+0.78	1.42	0	8	11	18	2	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	69.6	.....	96	20	40	31	46	2.13	.....	0.45	0	6	22	6	3	e.	W. H. Moede.
Dunseith	Rolette	1,682	25	70.0	+5.6	101	9	41	31	41	0.63	−1.81	0.35	0	8	17	8	6	nw.	J. G. Lamont.
Eckman	Bottineau	.....	16	72.4	+6.6	101	9	42	18	52	0.80	−1.77	0.34	0	4	26	4	1	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	72.7	+4.2	104	21	46	31	47	2.61	−0.13	1.03	0	6	5	20	6	sw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	71.0	.....	95	1	50	31	37	5.84	+2.94	2.64	0	9	15	11	5	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	9	.....	.....	.....	.....	.....	.....	.....	3.32	.....	1.68	0	4	18	13	0	se.	H. S. Solenberger.
Epping	Williams	2,224	13	.....	.....	.....	.....	.....	.....	.....	2.10	+0.12	0.70	0	8	21	9	1	w.	M. E. Uggen.
Fessenden	Wells	1,610	9	70.0	.....	104	9	46	5†	45	3.41	.....	1.02	0	11	15	12	4	se.	T. D. Monsen.
Foxholm	Ward	.....	1	70.3	.....	95	8	50	5	36	2.36	.....	0.81	0	7	16	12	3	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	3	.....	.....	.....	.....	.....	.....	.....	2.20	.....	1.40	0	5	24	6	1	nw.	Verne King.
Fullerton	Dickey	1,439	23	72.5	+4.1	98	1	48	31	38	6.08	+2.91	1.84	0	7	19	4	8	nw.	F. O. Alin.
Garrison	McLean	1,901	26	71.2^{a}	+3.1	104^{a}	9	49^{a}	22	43^{a}	2.89	+0.81	1.24	0	7	16	12	3	nw.	G. L. Robinson.
Grafton	Walsh	827	29	71.4	+3.9	99	1	51	31	38	4.22	+1.72	1.81	0	7	21	8	2	ne.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	71.8	+4.4	99	1	52	31	41	4.08	+1.38	1.40	0	9	13	15	3	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	71.4	+4.3	104	9	50	31	40	1.22	−0.88	0.65	0	4	8	19	4	s.	W. A. Christianson.
Hannah	Cavalier	1,568	16	.....	.....	.....	.....	.....	.....	.....	2.67	+0.20	1.10	0	5	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	1,597	13	68.9^{b}	+3.5	98^{b}	23	46^{b}	26	46^{b}	5.82	+3.68	4.30	0	6	.....	.....	.....	.....	C. E. Blackorby.
Hettinger	Adams	2,253	13	75.6^{a}	+6.1	107	9	45	3	52	0.57	−2.23	0.37	0	2	.....	.....	.....	nw.	U. J. Downey.
Hillsboro	Traill	901	15	72.6	+3.1	96	1†	49	31	39	2.59	−0.19	0.93	0	9	13	13	5	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	72.0	+3.5	97	1	47	31	38	6.25	+3.51	1.80	0	11	13	6	12	se.	S. Calvelage.
Lamoine	Kidder	1,936	13	69.4	+3.5	104	9	44	31	41	3.66	+1.09	2.00	0	8	12	19	0	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	25	68.0	+3.5	98	9	48	6	38	4.19	+1.53	1.18	0	9	21	1	6	sw.	R. F. Burke.
Larimore	Grand Forks	1,134	26	70.8	+4.1	95	1	51	31	35	10.00	+7.01	6.03	0	11	15	9	7	n.	Reuben Gray.
Linton	Emmons	1,711	3	75.9	.....	103	1†	43	31	40	1.92	.....	0.44	0	11	17	11	3	se.	William Malpass.
Lisbon	Ransom	1,091	17	72.8	+4.6	101	1	52	30	40	4.85	+1.37	1.34	0	11	25	3	3	.....	W. S. Adams.
McClusky	Sheridan	1,943	3	.....	.....	.....	.....	.....	.....	.....	2.91	.....	1.72	0	5	.....	.....	.....	.....	Edw. Tapley.
McKinney ‡‡	Renville	1,640	27	69.9	+3.9	95	9	45	19†	45	2.50	+0.46	1.13	0	4	15	15	1	nw.	N. P. Swenson.
McLeod	Ransom	1,075	9	72.6	.....	95	6†	47	29	37	3.93	.....	1.42	0	8	19	5	7	se.	J. G. Carlson.
Maddock	Benson	1,604	6	69.8	.....	103	9	47	6†	41	5.63	.....	1.59	0	9	12	13	6	se.	A. T. Felland.
Mandan	Morton	1,644	7	74.6	.....	110	9	48	31	40	3.38	.....	1.98	0	9	9	16	6	se.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	18	69.8	+2.9	101	9	45	31	37	3.80	+1.55	1.23	0	11	19	11	1	sw.	P. B. Anderson.
Marmarth	Slope	.....	12	70.8	+3.0	98	8	44	3	42	2.04	+0.22	0.97	0	6	17	8	6	e.	S. P. Grane.
Mayville	Traill	975	25	70.5	+1.1	97	9	49	31	38	1.95	−1.13	0.61	0	5	23	3	5	nw.	W. C. Gould.
Melville	Foster	1,590	23	70.5^{c}	+2.6	97^{c}	9	50	15	40^{c}	4.40	+1.50	1.90	0	6	.....	.....	.....	se.	J. P. Kidder.
Minot	Ward	1,557	25	69.6	+1.5	101	8†	41	31	50	2.49	+0.60	1.11	0	9	15	15	1	w.	W. I. Faris.
Minto	Walsh	820	28	71.8^{a}	+4.7	99^{a}	1	50^{a}	25	38^{a}	6.95	+4.14	3.53	0	10	13	16	2	n.	C. M. Evans.
Mott	Hettinger	2,424	14	74.6	+5.5	107	9	44	31	40	1.09	−1.29	0.70	0	4	17	11	3	se.	O. H. Opland.
Napoleon	Logan	1,955	29	72.3	+4.0	104	9	42	31	50	2.07	−0.41	0.60	0	10	22	5	4	se.	C. J. Hoof.
New England	Hettinger	2,400	27	72.4	+3.9	103	8	45	31	45	1.05	−0.98	0.50	0	3	.....	.....	.....	w.	W. C. McKenzie.
New Salem	Morton	2,163	16	75.8	+6.5	108	9†	51	31	40	1.39	−0.80	0.68	0	6	19	11	1	se.	J. Christiansen.
Park River	Walsh	998	17	70.7^{c}	+2.9	95^{c}	23	51^{c}	25	35^{c}	5.94	+3.50	1.20	0	12	.....	.....	.....	nw.	C. B. Wright.
Parshall	Mountrail	.....	6	.....	.....	.....	.....	.....	.....	.....	2.20	.....	1.07	0	4	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	47	71.2	+3.5	97	9	47	25	37	0.90	−1.68	0.50	0	6	18	12	1	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	70.4	+4.6	105	9	42	31	45	3.08	+0.29	1.35	0	8	.....	.....	.....	ne.	S. C. Shanks.
Power	Richland	1,020	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	6	.....	.....	.....	.....	.....	.....	.....	3.04	.....	1.60	0	7	22	5	4	nw.	C. Frank.
Skaar	McKenzie	.....	1	70.5	.....	98	20	43	22†	51	1.54	.....	0.45	0	7	.....	.....	.....	se.	Conrad Prunsvold.
Steele	Kidder	1,857	24	74.0	+4.6	105	9	41	31	40	2.00	-0.81	0.55	0	8	11	18	2	nw.	H. S. Wood.
Taylor	Stark	2,493	5	72.6^{a}	.....	100^{a}	8	47^{a}	31	45^{a}	0.37	.....	0.24	0	2	.....	.....	.....	se.	H. Leutz.
Towner	McHenry	1,482	19	71.2	+4.1	105	9	46	22†	46	1.62	−0.77	0.44	0	5	26	5	0	sw.	B. Bagley.
Turtle Lake	McLean	1,899	6	67.3	.....	106	9	35	31	50	3.92	.....	1.84	0	10	12	12	7	w.	A. T. Anderson.
Valley City	Barnes	1,245	2	70.8	+2.8	94	1	46	31	37	4.41	+1.45	1.53	0	4	.....	.....	.....	se.	C. F. Schroeder.
Wahpeton	Richland	962	27	73.5^{d}	+4.2	103^{d}	1	45^{d}	31	37^{d}	5.93	+2.09	2.20	0	7	.....	.....	.....	se.	State School of Science
Walhalla	Pembina	966	14	72.6^{b}	+5.9	102^{b}	22	46	25	45^{b}	5.12	+2.04	1.40	0	16	.....	.....	.....	n.	Ivan Lee
Westhope	Bottineau	1,508	15	69.5	+3.4	98	9	45	17	44	1.86	−0.11	1.39	0	5	26	5	0	nw.	W. A. Meddaugh.
Williston	Williams	1,875	42	69.6	+0.2	96	8	47	31	38	2.35	+0.32	1.02	0	9	15	15	1	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	68.9	+3.5	101	9	43	30	46	1.38	−0.77	0.47	0	8	9	22	0	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	72.8	+4.1	96	1	50	31	34	3.08	−0.66	1.18	0	8	12	12	7	s.	U. S. Weather Bureau.
Averages	.....	.....	.....	71.4	+3.9	110	9	35	30†	52	3.07	+0.46	6.03	0	7	17	10	4	se.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for July, 1921.

Stations.	Drainage Basin.	Day of Month.																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia	Red			.30	.12	.10	.25							1.10	T		.35		T								.49	.10					2.81
Amidon	Lit. Missouri	.40	.41													.38										.48							1.70
Arnegard	Missouri	.29	.17	.15			T					.18	.56				T									.08	T		.11				2.17
Ashley	Missouri		.52	2.06		1.36											.11	.03									1.29						5.37
Beach	Lit. Missouri	.80	.45										.82		.85		.04								.16		.09						3.21
Berthold Agency	Missouri	.08	.05								T.	.01		.35		T.	T									.01	.06						0.59
Bismarck ***	Missouri		.21			T		T		T		T.	.03	.31		T.	.12	.03				.01				1.24	.07		.16		T		2.18
Bottineau ‖	Mouse	.09	.10										.09	.14				.03										.49		.15			1.09
Bowbells ‖	Mouse	.73										.19	.50	.32													.05	.90					2.69
Bowman	Grand	.33	.53	.15								.18		T		.27		.01							T	.36							1.83
Cando	Sheyenne	2.75	.12	.11								.52	.02	.28													.63	.53		.13			5.09
Carson	Heart		.16					.05						.06		.25									.50								1.02
Cooperstown	Sheyenne		1.30			.30							.55				.40							.05			.12		.53	.12			3.37
Crosby	Mouse		.49	1.02									.98	.15												.08	.33	.10	.04				3.19
Devils Lake ***	Sheyenne	.36	.28	.14		.03					T	1.03	.14	.96			.03	T.				T.		.32		.63	.30			.27			4.19
Dickinson ‖	Heart	T.	.34	.22	T		T.				T.	.01		.41	T.	.46		T.	T.							.07	.40						1.61
Donnybrook	Mouse	.30		T	T.						.03	.04	.37	1.25												.02	1.42	.15					3.58
Dunn Center ‖	Knife	.45	.15	.16									.85		.07											.45							2.13
Dunseith	Mouse		.09	.01								.05	.02				.05					T.					.05	.35	.01	T.			0.63
Eckman	Mouse											.07	.11	.25													.34						0.80
Edgeley	James		.42	.62		1.03	.06																					.42	.06				2.61
Ellendale***	James		2.51	.25	T	1.32										.36	.31	T.							.20	.27	.21		.41				5.84
Energy	Missouri	T.	T								1.28	1.68	T.			T.									.16	.20	T.						3.32
Epping	Missouri	T.	.23	.43								.15	.12	.70												.35	.06	.06					2.10
Fessenden ‖	James	.15	.42	.18								.15	.30	1.02			.37	.03	T.							.05	.70	.06	T				3.41
Foxholm	Mouse	.05	.25										.10	.75												.15	.81	.25					2.36
Fryburg	Lit. Missouri	.32	.27								T	.13	.08	T.	1.40			T.							T.	T.	T.						2.20
Fullerton	James		.34	1.84		1.35										.15	.70							T.		T	.74		.96				6.08
Garrison	Missouri	.03									T.	.20		1.24			T.	T.				.04				.88	.29	T	.21				2.89
Grafton ‖	Red			1.81		.12						.31	.08	1.10													.78					.02	4.22
Grand Forks ***	Red			.54		.33						.05	T.	.73	.13							T.		.01		T.	.63	.84	T	.82			4.08
Granville	Mouse			.20								.07		.30			T.										.65	T.	T				1.22
Hannah	Pembina	.48	1.10	.22								.51									T.							.36					2.67
Hansboro	Red	.47	4.30											.45				.15									.35			.10			5.82
Hettinger	Grand		.20					T				T		T												.37							0.57
Hillsboro	Red			.48		.29	.11							.33			.14										.09	.93	.15		.07		2.59
Howard	Missouri																																....
amestown ‖	James		.06		1.80	.15	.32							.92			.23	1.16	.08								.03	.02		1.48			6.25
amoine	Missouri	.19	.12	.11		T.						.41		2.00			T.										.60	.05	.18	T			3.66
angdon ‖	Pembina		1.12	.37								.10	.60	.10	.28								.09				1.18	.35					4.19
arimore ‖	Red		.04	6.03		.03	.20					.35	.20	1.00	1.25												.60	.16			.14		10.00
inton	Missouri		.44	.25	T.	.12	.01	.06			T.	T.				.13	.32	.02						T.		.26	.17		.14				1.92
isbon ‖	Sheyenne			.94	.10	.24	.38	T.						.45	T.		.24	.80	T.						.15		1.34	.06		.15			4.85
McClusky	Missouri		.15									.33	.20	1.72												.51							2.91
McKinney	Mouse											T.	.61	.25										T.		1.13	.51						2.50
McLeod	Sheyenne	.87		.43								.03			.83								.25		1.42		.08					.02	3.93
Maddock	Sheyenne	.31	.06	.41								1.41	.10	1.42		T.	.28										1.59	.05					5.63
Mandan ‖	Missouri		.21	T.								T.	.08	.30		.01		.18	.03								1.98	.03		.56			3.38
Manfred	Sheyenne	1.23	.06	.10							.02	.31	.04	.88			.26	T.								.30	.51	.09					3.80
Marmarth	Lit. Missouri	.32	.56	.06							T.			.97											T.	.10			.03			T.	2.04
Mayville	Red					.25	.61								.56			.23									.30						1.95
Melville	James		1.90			.70				T.		T.	T.	1.40			.30							T.		.05	.05						4.40
Minot ‖	Mouse	.04	.10									.01	.01	1.11			.01										.90	.30	.01				2.49
Minto	Red		.02	3.53		.20						.54		1.14	.13										.07		.71	.52				.09	6.95
Mott	Cannon Ball	T.	.09											T.		.70		.05								.25							1.09
apoleon ‖	Missouri		.20	.43		.10	.20		.02					.05				.13	.07								.60			.27			2.07
ew England	Cannon Ball		.40								.15					.50										T.							1.05
ew Salem	Heart		.08										.07		T			.12								.15	.68	T.	.29				1.39
ark River	Red	.30	1.20	.95		.08						.39	.10	.77	.15								.06				.74	1.16		.04			5.94
arshall	Missouri	1.07	.55																						.32	.26							2.20
embina ‖	Red		.01	.33					T.			T.	.02	T											.02		.02			.50	T.		0.90
ettibone	James		T.	.35	.30					.24				1.35			.10									.08	.58	.08					3.08
ower	Missouri																																....
owers Lake	Sheyenne	T.		.30	T.							.05	.35	1.60												.17	.37	.20					3.04
kaar	Lit. Missouri		.45	.40							.03	.08	.08	.10		.40																	1.54
teele	Missouri	T.	T.	.50		.25		T.		T.	T.	T.	T.	.55	T.	.15	.05	T.				T.	T.	T.	T.	.10	.20	.20					2.00
aylor	Heart		T.	.13							T.	T.				.24	T.	T.								T.							0.37
owner	Mouse											.25		.20			.40										.44	.33					1.62
urtle Lake	Missouri	.05	T.								.02	.70	.01	1.84			.08	T.								.72	.22	.02	.26				3.92
alley City	Sheyenne			T.		1.53	.83							.70			1.35										T.						4.41
ahpeton ‖	Red			2.20			.35							.12			.86	1.24									.68	.48		T.			5.93
alhalla	Pembina	.31	1.40	.64		.02						.47	.03	T.	.03							T.	.02				1.38	.30	.21	.16	.04	.11	5.12
esthope	Mouse			.05								T.	.12	.21														1.39	.09				1.86
illiston ***	Missouri	.21	.28	.77							.08	.25	.58				T.					T.			T.	.10	.04		.04				2.35
illow City	Mouse	.05	T.	T.	T.					T.		.02	T.	.09			.18	.36				T.					.47	.16		.05			1.38
oorhead, Minn ***	Red		.18	.55		.22		T.				.35		.28			.29		T.			T.			T.	T.	1.18			.03			3.08

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	98	94	70	82	65	60	86	95	99	83	92	96	86	80	84	86	82	80	83	87	91	87	95	87	87	87	79	82	89	81	84	85.1
	Minimum ...	64	67	64	52	57	57	56	60	60	62	58	62	63	60	56	62	60	57	55	65	60	63	54	58	52	58	58	56	54	55	48	58.5
Arnegard	Maximum...	79	77	72	74	80	88	87	95	89	72	81	84	98	79	89	90	83	80	88	90	85	93	91	85	81	81	77	84	82	74	82	83.5
	Minimum ...	60	59	52	55	52	54	60	55	63	58	57	59	59	66	59	62	53	55	52	59	65	46	55	50	50	55	59	56	48	52	43	55.7
Ashley	Maximum...	97	89	82	78	67	72	82	88	93	82	89	90	88	83	80	94	82	83	83	87	90	89	92	85	82	86	78	82	90	75	75	81.3
	Minimum ...	70	62	45	48	57	57	57	57	61	62	60	67	63	58	53	63	59	51	50	54	65	56	58	60	58	63	60	56	58	54	44	57.7
Beach	Maximum...	86	88	78	77	86	88	89	88	98	92	98	92	80	86	89	87	87	83	88	99	88	95	98	88	88	83	80	89	85	85	80	87.7
	Minimum ...	52	51	46	47	53	59	57	56	63	62	56	56	51	50	62	61	57	53	59	65	47	55	65	51	50	47	42	45	37	35	39	52.5
Berthold Agency	Maximum...	85	78	69	79	86	93	96	101	97	81	91	96	83	87	90	95	85	84	92	101	93	97	100	92	83	86	....	91	92	80	88	a89.0
	Minimum ...	65	58	55	54	54	53	53	55	70	58	59	62	61	55	55	61	52	47	49	59	65	47	57	57	59	59	....	51	54	54	37	a55.9
Bismarck	Maximum...	95	80	73	79	73	83	95	98	108	85	92	92	83	81	84	99	83	82	85	95	104	92	99	87	82	82	76	82	93	72	81	87.0
	Minimum ...	71	63	54	54	59	54	58	61	72	65	63	64	62	62	61	67	61	57	57	63	72	53	67	63	64	65	62	58	59	56	49	61.3
Bottineau §§	Maximum...	91	81	74	75	80	87	89	96	102	85	80	86	87	85	81	93	85	82	87	90	96	92	95	96	90	85	79	85	89	76	81	86.6
	Minimum ...	65	60	60	55	52	53	53	54	65	55	56	57	57	57	55	63	54	50	54	57	65	45	65	66	53	59	57	52	56	51	43	56.5
Bowbells §§	Maximum...	81	88	76	80	81	82	88	87	92	88	82	82	81	83	82	88	86	89	90	93	87	91	90	85	85	79	78	82	81	78	82	84.4
	Minimum ...	58	56	56	52	53	51	50	56	54	59	51	53	58	51	52	55	55	54	53	51	62	48	52	45	50	46	54	53	55	50	45	52.8
Bowman	Maximum...	85	79	64	75	80	89	95	101	99	84	93	95	85	88	94	98	91	85	91	95	90	95	98	94	91	83	80	87	88	77	78	88.0
	Minimum ...	62	53	44	46	55	53	55	59	63	61	60	62	59	57	61	63	61	51	56	60	65	48	85	60	61	61	55	52	56	52	51	57.6
Cando	Maximum...	91	85	83	75	74	77	88	92	99	95	77	81	84	83	81	87	82	81	84	87	89	90	96	96	86	79	79	81	88	80	79	84.7
	Minimum ...	64	63	65	53	58	52	56	60	65	58	58	60	63	59	56	61	60	53	55	57	62	52	59	54	53	58	59	57	59	53	48	57.7
Carson	Maximum...	95	90	74	80	80	92	97	100	110	85	90	95	85	90	90	100	80	90	88	95	88	95	100	90	85	86	80	85	95	78	70	89.0
	Minimum ...	70	54	46	50	58	50	58	55	68	60	65	60	62	50	50	66	56	50	52	62	66	50	66	60	62	60	60	65	57	52	52	57.8
Crosby	Maximum...	77	70	66	75	79	83	83	89	83	78	83	78	74	75	81	84	81	79	81	92	83	86	82	78	78	75	75	80	75	73	78	79.2
	Minimum ...	62	59	52	52	53	55	55	59	67	52	58	57	58	55	58	63	54	53	52	60	55	53	56	48	56	59	57	57	56	47	52	55.8
Devils Lake	Maximum...	92	83	74	77	72	72	86	91	97	77	72	77	82	78	79	86	81	79	82	87	88	89	93	82	73	78	76	80	91	71	79	81.4
	Minimum ...	67	65	60	56	58	51	59	64	67	57	56	60	62	59	57	63	60	55	53	58	64	55	63	56	55	58	58	60	58	54	51	58.7
Dickinson §§	Maximum...	85	73	64	75	81	89	93	100	97	85	90	92	83	89	86	94	86	82	88	97	91	94	98	89	85	83	76	86	88	75	82	86.3
	Minimum ...	63	55	49	49	54	56	53	51	62	59	58	62	61	50	61	62	55	49	50	60	62	46	58	55	53	59	60	54	57	52	51	55.7
Donnybrook	Maximum...	88	79	68	75	85	92	96	100	95	89	88	87	80	84	89	91	91	80	91	104	90	95	92	85	80	82	78	85	82	75	85	[illegible]
	Minimum ...	65	61	55	56	55	57	55	61	68	58	60	69	61	56	53	58	57	54	49	58	65	49	61	48	[illegible]	57	59	56	53	51	51	57.2
Dunn Center §§	Maximum...	81	74	65	75	81	88	89	95	94	74	85	87	80	81	85	92	82	82	84	96	88	92	95	84	79	82	75	86	86	73	82	83.6
	Minimum ...	61	57	59	54	55	53	57	56	66	59	58	61	62	55	59	62	57	50	52	58	46	46	51	53	58	59	61	52	53	53	40	55.7
Dunseith	Maximum...	96	76	76	72	74	84	87	91	101	86	79	82	86	82	82	91	91	79	83	89	91	91	92	85	82	80	79	82	[illegible]	77	80	84.4
	Minimum ...	65	60	59	56	52	58	52	54	63	59	56	58	57	55	56	60	60	54	55	57	61	53	57	50	57	56	57	49	54	49	41	55.7
Edgeley	Maximum...	96	92	88	80	69	70	82	88	91	89	91	90	84	81	84	94	88	95	91	98	104	102	94	87	83	88	81	83	93	83	78	87.5
	Minimum ...	66	62	56	50	57	57	68	59	61	59	57	63	68	59	49	62	61	57	53	51	[illegible]	58	58	58	55	63	61	54	58	52	46	57.9
Ellendale	Maximum...	95	91	74	78	65	70	84	88	92	80	92	90	84	80	79	94	83	81	79	85	89	85	90	84	82	88	78	79	87	71	73	82.9
	Minimum ...	70	60	57	50	58	59	61	60	62	61	60	63	65	59	53	66	64	59	54	54	61	62	53	59	57	64	62	56	60	51	50	59.0
Fessenden §§	Maximum...	96	85	76	80	81	73	93	93	104	79	81	84	85	85	80	85	83	81	83	88	94	92	98	87	77	87	82	86	93	78	84	85.6
	Minimum ...	66	60	58	52	46	46	52	55	61	67	56	58	60	55	52	57	57	49	51	52	57	47	53	51	52	53	57	53	56	51	51	54.5
Fullerton	Maximum...	98	91	79	85	70	70	87	90	94	81	93	94	81	80	82	92	84	82	81	89	90	88	93	[illegible]	84	88	88	84	86	71	77	85.4
	Minimum ...	68	64	59	50	59	58	59	70	69	64	60	56	59	50	52	54	59	52	64	61	64	60	62	65	58	69	58	63	57	53	48	59.6
Garrison	Maximum...	91	81	74	76	91	....	96	98	104	78	83	89	82	80	82	92	85	80	85	94	94	91	[illegible]	86	77	81	74	81	90	71	80	a85.4
	Minimum ...	58	55	53	54	51	....	53	56	72	66	56	60	60	56	56	62	56	50	56	58	68	49	57	54	61	57	59	55	59	53	53	a56.9
Grafton §§	Maximum...	99	98	77	77	76	79	86	87	99	89	74	80	83	80	82	83	84	80	82	85	90	80	95	86	82	80	81	85	88	80	79	84.3
	Minimum ...	68	67	63	54	53	54	53	61	62	58	58	64	65	61	52	60	63	53	57	65	63	62	57	58	51	58	61	57	55	55	51	58.5
Grand Forks	Maximum...	99	93	71	79	70	77	86	90	98	79	80	82	81	80	83	86	82	79	82	88	92	90	94	84	78	89	80	83	91	71	78	[illegible]
	Minimum ...	71	73	56	54	62	60	65	63	62	53	54	64	63	63	53	62	63	57	56	57	56	65	53	62	53	62	60	60	58	56	52	59.7
Granville	Maximum...	89	80	72	75	80	90	91	96	104	79	77	87	85	83	85	91	83	84	84	94	95	94	95	85	73	80	78	82	76	70	80	84.5
	Minimum ...	67	60	60	52	53	50	57	60	72	56	55	[illegible]	60	55	53	65	57	55	54	55	63	65	64	53	62	60	62	55	60	54	50	58.3
Hannah	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hansboro	Maximum...	....	....	....	....	....	....	....	....	....	....	74	84	72	80	82	[illegible]	92	82	[illegible]	[illegible]	....	....	[illegible]	[illegible]	88	....	[illegible]	87	95	75	79	
	Minimum ...	....	....	....	....	....	....	....	....	....	....	55	56	55	56	56	55	55	54	47	51	....	....	52	48	....	46	[illegible]	52	[illegible]	[illegible]	52	
Hettinger	Maximum...	86	82	69	71	78	91	98	103	107	87	95	97	93	90	85	104	83	88	91	96	97	95	102	91	97	84	82	84	94	77	....	90.1
	Minimum ...	56	53	45	47	49	47	53	51	60	62	60	59	60	55	64	66	64	76	71	80	79	78	83	75	62	65	57	56	52	48	....	a61.2
Hillsboro	Maximum...	96	89	87	80	72	74	84	91	96	94	84	89	84	80	84	81	83	80	81	87	91	81	95	92	84	89	80	[illegible]	89	87	87	85.9
	Minimum ...	71	76	59	52	60	60	58	60	60	61	61	64	64	61	55	62	61	57	56	55	63	55	56	54	56	61	59	59	55	56	49	59.2
Howard	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Jamestown	Maximum...	97	90	85	80	72	70	89	91	95	82	81	94	82	80	82	91	73	79	82	86	91	87	89	87	76	[illegible]	81	77	93	80	85	84.5
	Minimum ...	70	63	62	51	61	57	61	62	60	60	63	63	62	55	63	62	60	55	57	61	60	55	....	61	56	65	63	56	57	55	47	a59.4
Lamoine	Maximum...	91	82	82	74	71	77	88	93	104	88	83	83	79	78	80	84	78	78	80	88	95	85	90	85	71	84	78	83	81	67	78	82.8
	Minimum ...	65	58	56	51	59	50	54	59	63	58	58	60	60	58	56	60	55	55	51	55	63	48	53	53	54	58	57	[illegible]	[illegible]	52	44	56.0
Langdon §§	Maximum...	81	81	80	72	70	76	82	85	98	75	70	75	79	76	82	83	88	74	80	88	88	87	91	81	81	75	76	80	[illegible]	75	74	80.4
	Minimum ...	68	60	61	60	51	48	55	60	60	52	55	55	60	56	52	53	57	43	49	55	62	51	57	55	51	54	57	54	57	52	50	[illegible]
Larimore §§	Maximum...	95	91	71	77	68	78	88	92	93	78	75	82	84	80	83	84	82	82	83	87	80	[illegible]	94	84	75	88	82	83	90	80	80	83.5
	Minimum ...	67	65	61	51	56	54	61	60	61	56	58	64	62	58	55	61	60	54	51	53	63	60	53	58	52	58	58	59	58	51	51	58.1
Linton	Maximum...	103	100	80	81	75	79	95	96	103	96	98	100	99	91	84	102	82	89	88	94	103	95	98	90	87	85	83	85	96	93	[illegible]	91.1
	Minimum ...	76	68	60	54	62	58	55	58	68	68	61	69	65	60	62	65	61	52	55	62	70	55	60	62	61	65	61	57	56	53	43	60.7
Lisbon §§	Maximum...	101	99	65	84	68	72	96	87	98	86	99	96	97	85	87	96	85	83	85	92	[illegible]	89	[illegible]	88	84	85	81	82	80	79	80	87.4
	Minimum ...	61	65	59	53	53	55	56	61	59	63	59	63	65	63	56	63	60	59	55	54	60	62	55	[illegible]	53	63	62	55	53	52	53	58.3
McKinney	Maximum...	86	85	80	80	81	88	90	92	95	80	82	82	82	82	83	92	82	82	85	94	93	92	90	81	78	73	85	76	83	82	82	84.6
	Minimum ...	[illegible]	50	50	53	52	65	57	65	65	52	60	60	60	60	53	55	56	49	45	47	50	50	[illegible]	55	60	64	57	60	52	57	58	55.2
Maddock	Maximum...	92	81	81	75	75	72	89	89	103	94	74	89	83	82	79	87	81	81	80	85	88	89	91	91	82	80	77	81	81	81	81	83.9
	Minimum ...	67	63	59	53	56	47	53	58	63	55	54	60	60	57	53	60	58	52	50	52	60	48	54	[illegible]	52	58	57	55	57	[illegible]	47	[illegible]
Marmarth	Maximum...	80	66	61	74	79	84	90	98	93	82	93	92	86	83	91	90	86	84	91	95	88	95	[illegible]	[illegible]	94	82	82	85	86	76	77	[illegible]
	Minimum ...	60	51	44	48	48	49	53	56	68	60	58	60	56	55	60	62	60	48	68	58	63	59	60	54	63	60	52	52	54	50	49	56.1
Melville	Maximum...	96	86	....	....	75	70	81	90	97	....	85	77	80	77	75	84	80	79	81	84	88	87	92	....	82	87	77	84	94	75	....	[illegible]
	Minimum ...	71	62	....	....	62	51	56	63	57	....	55	60	61	58	50	62	59	55	52	57	58	52	52	....	56	60	59	58	63	55	....	[illegible]
Minot §§	Maximum...	89	80	72	73	84	94	97	101	101	79	83	89	84	83	85	96	82	[illegible]	86	98	94	94	[illegible]	87	90	84	78	84	88	[illegible]	81	[illegible]
	Minimum ...	64	55	53	51	49	52	50	56	64	54	52	54	56	52	49	53	53	50	43	51	62	44	51	45	54	52	55	50	54	[illegible]	41	[illegible]
Mott	Maximum...	93	83	73	79	79	88	96	100	107	90	94	94	86	86	87	99	[illegible]	91	87	95	94	94	93	94	89	84	78	93	84	78	77	[illegible]
	Minimum ...	68	59	53	48	56	51	64	68	73	59	63	67	58	57	63	71	61	57	58	60	67	63	71	[illegible]	60	58	55	53	58	48	44	[illegible]
Napoleon §§	Maximum...	103	91	75	83	70	73	93	98	104	87	98	100	90	85	84	103	100	84	87	95	100	94	100	91	82	90	80	83	95	73	82	[illegible]
	Minimum ...	73	58	52	50	56	54	53	54	60	61	58	58	60	50	50	53	55	[illegible]	[illegible]	51	55	49	57	58	57	62	58	[illegible]	56	51	42	55.1
New Salem	Maximum...	96	84	82	79	78	86	99	102	108	89	93	95	84	86	86	108	80	86	89	98	100	98	102	88	[illegible]	82	79	[illegible]	95	77	76	[illegible]
	Minimum ...	77	69	56	52	53	56	69	72	75	63	64	61	64	63	61	68	57	63	61	71	65	63	[illegible]	57	[illegible]	58	[illegible]	[illegible]	55	52	51	[illegible]
Pembina §§	Maximum...	90	85	90	85	74	81	87	88	97	84	78	80	85	80	86	89	90	80	87	90	90	90	92	82	[illegible]	83	81	85	90	70	75	[illegible]
	Minimum ...	69	65	56	66	56	50	60	59	60	52	55	59	62	58	63	55	54	56	54	55	61	58	57	52	47	60	61	62	60	55	53	[illegible]
Steele	Maximum...	101	90	75	80	80	78	92	98	105	90	95	92	83	80	97	75	78	81	85	92	98	99	97	88	82	87	76	82	95	75	76	87.1
	Minimum ...	80	70	50	50	50	52	52	54	72	70	62	59	68	61	61	61	60	60	61	55	63	70	72	70	55	60	62	69	61	45	44	[illegible]
Towner	Maximum...	99	80	83	75	76	82	91	94	105	94	74	86	82	83	85	91	86	87	83	90	95	92	97	92	81	[illegible]	81	82	84	[illegible]	[illegible]	[illegible]
	Minimum ...	68	54	59	55	55	57	54	60	68	55	54	58	58	58	55	62	56	50	53	60	58	46	60	57	50	54	56	54	51	50	[illegible]	[illegible]
Valley City	Maximum...	94	93	82	....	....	....	86	90	91	83	80	91	83	80	80	84	78	77	82	81	88	84	90	87	88	87	80	81	91	72	83	[illegible]
	Minimum ...	62	60	50	....	....	....	57	61	74	59	57	58	61	56	55	57	58	56	51	53	55	57	64	57	52	61	[illegible]	54	51	51	[illegible]	[illegible]
Wahpeton §§	Maximum...	98	97	64	83	70	74	91	97	96	87	96	95	86	87	86	....	....	....	....	85	88	88	[illegible]	87	84	[illegible]	[illegible]	[illegible]	88	73	[illegible]	[illegible]
	Minimum ...	74	67	63	51	61	59	64	64	74	64	61	65	67	63	[illegible]	62	....	....	....	....	61	62	[illegible]	[illegible]	54	[illegible]	[illegible]	[illegible]	55	[illegible]	46	[illegible]
Westhope	Maximum...	86	78	70	75	78	88	90	95	98	83	85	88	84	81	84	90	82	79	86	93	[illegible]	92	88	83	80	[illegible]	79	[illegible]	84	[illegible]	82	[illegible]
	Minimum ...	66	63	60	56	60	60	51	57	62	52	52	58	60	54	[illegible]	50	45	51	40	[illegible]	[illegible]	[illegible]	[illegible]	48	51	[illegible]	[illegible]	[illegible]	55	[illegible]	48	[illegible]
Williston	Maximum...	79	72	66	74	82	88	88	96	89	71	81	82	78	79	86	90	79	79	83	95	83	92	[illegible]	[illegible]	78	78	[illegible]	85	[illegible]	71	[illegible]	[illegible]
	Minimum ...	62	57	53	54	57	61	58	60	61	58	57	58	60	57	62	63	58	51	51	64	60	54	52	52	44	60	60	58	[illegible]	[illegible]	[illegible]	[illegible]
Moorhead, Minn	Maximum...	96	93	69	81	68	74	84	91	95	84	94	92	84	81	83	86	82	80	83	84	88	88	[illegible]	[illegible]	84	88	78	80	[illegible]	[illegible]	[illegible]	[illegible]
	Minimum ...	73	66	55	53	59	60	66	64	65	64	60	66	65	64	58	63	64	63	58	59	[illegible]	68	62	[illegible]	57	64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXX. Bismarck, N. D., August, 1921. No. 8

GENERAL SUMMARY.

The temperature and precipitation for the month averaged nearly the normal, the former being slightly above, and the latter slightly below, the normal. The first decade was the driest, and during this period harvesting of small grains was practically completed. The ground, however, was mostly too dry for fall plowing, and late planted potatoes suffered. The second decade was the coolest of the month, and frequent showers, in many instances quite heavy, relieved the droughty conditions. The third decade was the warmest as well as the wettest, and at the close of the month the ground was generally in excellent condition. Threshing, however, was delayed considerably during the last decade, especially in the eastern portion of the State. No frosts or severe storms were reported.

TEMPERATURE.

The mean temperature for the State was 67.2°, or 1.8° above the normal, and 1.6° lower than the mean for August, 1920. The highest mean reported was 72.8° at Bowman, Bowman County; the lowest was 63.2° at Minot, Ward County. The highest temperature reported was 108° at Carson, Grant County, on the 31st; the lowest was 31° at Minot, Ward County, on the 20th. The greatest monthly range of temperature was 72° at Minot, Ward County; the least was 51° at Hillsboro, Traill County. The greatest daily range was 58° at Minot, Ward County, on the 21st, and at Skaar, McKenzie County, on the 8th.

PRECIPITATION.

The average precipitation for the State was 1.99 inches, or 0.29 inch below the normal, and 0.43 inch more than the average for August, 1920. The greatest monthly amount reported was 6.64 inches at Ashley, McIntosh County; the least was 0.03 inch at Skaar, McKenzie County. The greatest amount recorded in any 24 consecutive hours was 4.53 inches at Devils Lake, Ramsey County, on the 25th. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS.

Auroras were observed at Foxholm on the 2d, 7th and 30th; at Marmarth on the 4th; at Ellendale on the 5th and 30th; at Eckman on the 22d and 30th; at Arnegard and Grand Forks on the 29th, and at Pettibone and Skaar on the 31st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.98	30.38	14	29.52	31	57	6,720	9.0	34	nw.	4
Devils Lake	29.96	30.36	14	29.51	31	44	6,552	8.8	36	w.	4
Ellendale	30.02	30.41	14	29.58	31	56	8,624	11.6	62	se.	27
Grand Forks	29.95	30.34	14	29.54	31	90	....	......	65	w.	5
Williston	29.92	30.36	13	29.42	31	48	5,699	7.7	40	nw.	4
Moorhead, Minn	29.98	30.37	14	29.61	31	58	5,420	7.3	26	nw.	6
Av'ges and extremes	29.97	30.41	14	29.42	31	.....	....	8.9	65	w.	5

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p. c t.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	367.5	439.4	84	+17	78	39	40	21	8*
Devils Lake	296.0	442.0	67	+ 3	83	47	53	24	8
Ellendale	306.2	437.4	70	......	88	49	....	25	23
Grand Forks	....	....	......	......	76	.....	60	.....	....
Williston	383.2	442.0	87	+18	76	42	37	20	8*
Moorhead, Minn	....	....	69	......	84	48	52	.....	....
Averages and extremes	338.2	440.2	75	+13	81	45	48	20	8*

* And other dates.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw
1913	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917	65.2	−0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.

Climatological Data for August, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	66.5	+0.2	95	9	40	20	47	3.75	+0.94	1.76	0	7	21	9	1	se.	E. T. Carley.
Amidon	Slope		6	69.6		99	31	45	20	45	1.74		1.14	0	5	24	7	0	nw.	Charles Eastgate.
Arnegard	McKenzie		3	68.4		100	31	34	20	52	0.52		0.52	0	1	24	7	0	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	67.8	+1.9	97	9	38	7	42	6.64	+4.32	3.40	0	7	26	4	1	se.	R. C. Miles.
Beach	Golden Valley	2,579	15	67.2	+2.2	103	31	35	1	55	0.25	−1.80	0.16	0	3					J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	27	70.1^{a}	+2.4	104^{a}	31	37^{a}	23	57^{a}	0.72	−1.06	0.60	0	3	18	11	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	47	70.2	+2.1	100	31	44	14	42	0.18	−1.80	0.06	0	6	13	15	3	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	65.6	+2.0	98	31	37	20	48	3.16	+1.15	1.42	0	7	18	11	2	se.	N. A. Eckberg.
Bowbells	Burke	1,958	9	63.8		100	31	35	20	53	0.89		0.41	0	5	16	6	9		G. H. Phelps.
Bowman	Bowman		7	72.8		100	31	47	1†	43	1.07		0.49	0	7	15	14	2	s.	W. W. Barr.
Cando	Towner	1,488	20	66.7	+2.8	95	31	37	7	41	1.91	−0.36	0.83	0	7	12	10	9	nw.	A. J. Swanson.
Carson	Grant	2,500	9	70.2		108	31	40	7	50	0.38		0.20	0	2	18	12	1	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11								3.62	+1.25	1.00	0	6	21	8	2	w.	S. Friswold.
Crosby	Divide	1,954	14	65.6	+1.9	92	30†	40	20	39	1.64	−0.73	0.66	0	7	19	11	1	w.	John Jensen.
Devils Lake	Ramsey	1,478	17	65.5	+0.4	93	31	41	7	37	5.63	+2.87	4.53	0	10	18	7	6	s.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	66.7	+0.4	97	31	39	7	47	2.73	+0.78	1.10	0	5	20	9	2	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	67.3	+4.0	104	31	36	19	48	0.73	−1.43	0.33	0	4	13	18	0	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	67.0		100	31	36	20	50	0.18		0.18	0	1				se.	W. H. Moede.
Dunseith	Rolette	1,682	25	64.9	+1.3	96	31	35	7	42	3.58	+1.29	2.01	0	6	16	8	7	n.	J. G. Lamont.
Eckman	Bottineau		16	67.2	+3.9	101^{a}	31	32^{a}	20	48^{a}	1.30	−0.94	0.64	0	5	23	8	0	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	67.6	+1.2	98	9	37	20	48	1.27	−1.04	0.70	0	5	9	19	3	se.	O. A. Thompson.
Ellendale	Dickey	1,449	23	67.1		93	29	40	7	44	2.19	−0.33	0.81	0	9	13	15	3	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	9								0.29		0.22	0	3	16	13	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	13								0.05	−2.35	0.05	0	1	27	4	0	w.	M. E. Uggen.
Fessenden	Wells	1,610	9	66.2		98	4	34	7	51	1.46		1.01	0	6				nw.	F. D. Monsen.
Foxholm	Ward		1	66.7		99	31	42	20	40	0.62		0.49	0	2	14	17	0	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	3								3.04		2.01	0	4	24	7	0	nw.	Verne King.
Fullerton	Dickey	1,439	23	69.1	+2.8	94	9†	39	7	45	1.97	−0.76	0.73	0	5	24	3	4	s.	F. O. Alin.
Garrison	McLean	1,901	26	66.4	+0.7	102	31	38	20	46	1.22	−0.80	0.58	0	6	15	15	1	nw.	G. L. Robinson.
Grafton	Walsh	827	29	66.0	+1.5	94	31	39	20	40	2.83	+0.21	1.30	0	6	22	3	6	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	66.0	+1.1	92	31	38	20	41	2.53	+0.07	1.49	0	7	19	9	3	e.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	67.2	+3.3	103	31	40	14†	45	1.45	−0.74	0.82	0	7	11	17	3	s.	W. A. Christianson.
Hannah	Cavalier	1,568	16								2.38	+0.52	1.02	0	4					J. Moffatt.
Hansboro	Towner	1,597	13	64.8^{d}	+2.0	96^{d}	31	32^{d}	7	51^{d}	3.30	+1.12	1.60	0	3				sw.	C. E. Blackorby.
Hettinger	Adams	2,253	13	70.8	+3.8	102	31	36	7	46	0.23	−1.18	0.15	0	2	25	6	0	nw.	U. J. Downey.
Hillsboro	Traill	901	15	67.1	+0.2	91	9†	40	20	42	2.13	−0.72	1.00	0	10	11	17	3	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	14	67.2	+3.7	98	30†	38	6	53	0.65	−0.89	0.62	0	3	9	22	0	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	69.0	+2.8	100	31	40	7	46	1.86	−0.72	1.06	0	6	15	10	6	nw.	S. Calvelage.
Lamoine	Kidder	1,936	13	65.6	+1.7	98	31	37	6	49	0.82	−1.12	0.48	0	2	5	23	3	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	25	62.7	+1.0	93	31	35	7	44	2.49	−0.17	0.43	0	11	20	1	10	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	64.8	+0.5	94	31	38	21	48	5.71	+3.06	4.65	0	8	17	8	6	n.	Reuben Gray.
Linton	Emmons	1,711	3	71.4		100	9†	38	7	50	0.60		0.36	0	5	22	8	1	se.	William Malpass.
Lisbon	Ransom	1,091	17	67.8	+1.3	98	31	37	7	49	2.72	+0.47	1.11	0	9	25	3	3	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3								0.33		0.18	0	2					Edw. Tapley.
McKinney ‡‡	Renville	1,640	27	65.8	+2.3	96	31	34	20	50	1.60	−0.07	1.40	0	2	19	12	0	w.	N. P. Swenson.
McLeod	Ransom	1,075	9	68.7		94	9†	39	7†	38	3.46		2.24	0	10	21	5	5	nw.	J. G. Carlson.
Maddock	Benson	1,604	6	65.8		96	31	36	7	46	2.27		0.85	0	6	7	19	5	se.	A. T. Felland.
Mandan	Morton	1,644	7	70.4		102	31	43	8	42	0.25		0.21	0	4	17	12	2	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	66.6	+2.3	97	31	37	20	48	1.70	−0.56	1.03	0	6	18	12	1	nw.	P. B. Anderson.
Marmarth	Slope		12	68.9^{a}	+3.3	101^{a}	31	35^{a}	7	47^{a}	1.63	−0.15	0.75	0	6	13	10	8	w.	S. P. Grane.
Mayville	Traill	975	25	65.5	−0.8	95	31	37	20	42	1.52	−1.24	0.46	0	5				nw.	W. C. Gould.
Melville	Foster	1,590	23	66.2^{c}	−0.2	95	4	42^{c}	15	35	5.94	+3.95	3.80	0	5				nw.	J. P. Kidder.
Minot	Ward	1,557	25	63.2	−1.9	103	31	31	20	58	0.77	−1.48	0.32	0	6	21	10	0	e.	W. I. Faris.
Minto	Walsh	820	28	65.2	+1.6	93	31	37	20	46	3.46	+0.99	2.10	0	11	18	8	5	ne.	C. M. Evans.
Mott	Hettinger	2,424	14	71.2	+5.3	101	4†	44	22	44	0.34	−1.27	0.28	0	3	15	12	4	se.	O. H. Opland.
Napoleon	Logan	1,955	29	68.0	+2.0	98	1†	35	20	50	1.74	−0.68	1.25	0	8	25	4	2	s.	C. J. Hoof.
New England	Hettinger	2,400	27	66.8	+0.1	93	5	38	7	45	0.95	−0.87	0.52	0	4					W. C. McKenzie.
New Salem	Morton	2,163	16	70.2	+3.8	101	31	43	7†	41	0.89	−0.81	0.49	0	3	18	13	0	nw.	J. Christiansen.
Park River	Walsh	998	17	67.4	+1.9	94	31	39	25	48	2.32	−0.01	1.08	0	9	14	10	7	se.	C. B. Wright.
Parshall	Mountrail		6								1.34		0.76	0	3					J. A. Johnson.
Pembina	Pembina	789	47	64.5	+0.4	95	31	34	7	45	5.56	+3.23	1.75	0	7	16	6	9	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	66.8^{d}	+4.4	98^{d}	3†	36^{d}	7†	56^{d}	4.41	+2.04	3.45	0	6				se.	S. C. Shanks.
Power	Richland	1,020	28								3.12	+0.55	1.80	0	5					J. A. Power.
Powers Lake	Burke	2,205	6								0.22		0.20	0	2	20	11	0	w.	C. Frank.
Skaar	McKenzie		1	65.3^{i}		100^{i}	31	35^{i}	7	58^{i}	0.03		0.03	0	1				nw.	Conrad Brunsvold.
Steele	Kidder	1,857	24	68.6	+1.8	98	25	35	7	49	1.57	0.69	0.55	0	11	22	7	2	se.	H. S. Wood.
Taylor	Stark	2,493	5	69.2		98	31	41	8	50	2.24		0.92	0	5				se.	H. Leutz.
Towner	McHenry	1,482	19	67.2	+2.8	98	31	36	7	48	2.48	+0.43	1.62	0	6	21	8	2	nw.	B. Bagley.
Turtle Lake	McLean	1,899	6	67.0		100	31	39	1	45	0.63		0.27	0	3	14	12	5	w.	A. T. Anderson.
Valley City	Barnes	1,245	2	66.0	+0.4	94	9	37	7	42	4.09	+1.62	0.85	0	9	24	6	1	se.	C. F. Schroeder.
Wahpeton	Richland	962	27	68.4	+1.5	96	29	40	7	44	2.36	−0.68	1.61	0	7	8	19	4	se.	State School of Science.
Walhalla	Pembina	966	14	66.0^{a}	+1.6	95^{a}	31	36^{a}	20	38^{a}	3.32	+0.84	0.76	0	11	17	9	5	w.	Ivan Lee.
Westhope	Bottineau	1,508	15	65.4	+1.3	95	31	36	20	44	2.81	+0.62	1.31	0	6	24	7	0	se.	W. A. Meddaugh.
Williston	Williams	1,875	42	68.1	+0.2	97	31	44	23	43	0.40	−0.91	0.30	0	3	19	12	0	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	63.6	+0.1	94	4	33	20	51	1.25	−0.81	0.67	0	7	15	12	4	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	68.2	+2.3	93	9	44	20	37	3.94	+0.84	2.35	0	11	10	17	4	s.	U. S. Weather Bureau.
Averages				67.2	+1.8	108	31	31	20	58	1.99	−0.29	4.53	0	6	18	10	3	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for August, 1921.

Stations.	Drainage Basin.	Day of Month.																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red					.22								1.30			.04	.10		T.		.23					1.76			.10			3.75
Amidon	Lit. Missouri										.19						1.14								.21				.08	.09			1.71
Arnegard	Missouri					T.	T.																		T.			.59					0.59
Ashley	Missouri												.16	.10		.12	.08										2.70	3.40	.08				6.64
Beach	Lit. Missouri				.03																						.06				.16		0.25
Berthold Agency	Missouri				T.		.07																					.05	.60				0.72
Bismarck ***	Missouri	T.	T.		T.		T.						.06				.03			.01	.01	.03				T.		.04	T.	T.			0.18
Bottineau ‖	Mouse					.16	.34							.22				.02								1.42		.98	.02				3.16
Bowbells ‖	Mouse		.18														.10					.08				.11		.69					0.89
Bowman	Grand	T.		T.			T.						.02				.13	.07		.02							.22		.49	.12			1.07
Cando	Sheyenne	T.	.05			.19							T.	.11				.09								.83		.42	.22				1.91
Carson	Heart	.20																.18															0.38
Cooperstown	Sheyenne												.40				.25				.95					.85		1.00	.17				3.62
Crosby	Mouse	.53			T.		.02										.23						.66		.08	.09		T.	.03				1.64
Devils Lake ***	Sheyenne				.01	.02					.04		.27	.01		T.	.06					.03				4.53		.28	.38				5.63
Dickinson ‖	Heart		T.										T.	T.			T.	.68				1.10				.82			.11		.02		2.73
Donnybrook	Mouse	.15											.15				.33									.10	T.						0.73
Dunn Center ‖	Knife																	T.								T.	.18						0.18
Dunseith	Mouse	T.				.05	.16	T.					.19				.19						T.			.98		2.01					3.58
Eckman	Mouse		.32			.08							.04										T.			.22		.64					1.30
Edgeley	James													.25		.02	.11			.19							.70						1.27
Ellendale ***	James				.17		T.			T.			.10	.01		.03	.81		.06	T.	T.					.61	.01	.39					2.19
Energy	Missouri	T.				.05	T.			T.																.02		.22					0.29
Epping	Missouri																											.05					0.05
Fessenden ‖	James					.18						.03		.09			T.	.02										.13	1.01				1.46
Foxholm	Mouse		T			T.					T.		.13				.49									T.		T.					0.62
Fryburg	Lit. Missouri					T.	T.			T.	T.	T.	T.				.98	.02							2.01				.03	T.			3.04
Fullerton	James									.73			.07	.23			.40			T.		T.					.54						1.97
Garrison	Missouri	.16			.02	.01								.37												.08		T.	.58				1.22
Grafton ‖	Red					.41							.10				.33	.23								1.30			.46				2.83
Grand Forks ***	Red	T.				.48						.02	.35			.13	T.					.03				1.49		.03					2.53
Granville	Mouse					.03					T.	.10	.17				.23					.82						.07	.03				1.45
Hannah	Pembina	.31											.13													1.02		.92					2.38
Hansboro	Red					.30																				1.40		1.60					3.30
Hettinger	Grand	.15									.08																						0.23
Hillsboro	Red		.04			.26							.01	.45			.01	.12				.18				.02	1.00		.04				2.13
Howard	Missouri	.62		.01	T.	T.	T.				T.						.02		T.				T.		T.			T.					0.65
Jamestown ‖	James					.41								.07				.26				.02					1.06	.04					1.86
Lamoine	Missouri																.34											.48					0.82
Langdon ‖	Pembina		.20			.43	.15	.10				.05		.25				.30								.20	.13	.37	.31				2.49
Larimore ‖	Red					.40						.04		.50			.35	.02									4.05		.15	.20			5.71
Linton	Missouri	T.			T	T.							.09				T.	.36		.06							T.	.03			.06		0.60
Lisbon ‖	Sheyenne		.35			T.					T.			.50			.04	.28		.11		.05	.24				1.11		.04		T.		2.72
McClusky	Missouri													.15															.18				0.33
McKinney	Mouse		T			T.				T.	T.		T.	T.			T.					T.				1.40		.20					1.60
McLeod	Sheyenne			.48		.04							.14	.23		.02		.08		.04		.13					2.24		.06				3.46
Maddock	Sheyenne					T.						.04		.31								.85				.09		.81	.17				2.27
Mandan ‖ ‖	Missouri		.02															.01		T.		.21				T.	.01				T.		0.25
Manfred	Sheyenne					.05						.02	.06	.05								.49						T.	1.03				1.70
Marmarth	Lit. Missouri	.25			T.		.08				.22	T.					.75								.21					.12			1.63
Mayville	Red					.33								.23								.40				.46		.10					1.52
Melville	James				T.	T.								.40			1.30				.04					3.80		T.	.40				5.94
Minot ‖	Mouse		.03											.10				.32				.05						.20	.07				0.77
Minto	Red	.10	.20			.02						.20	T.	.05		.15	.12									2.10	.20	.07	.25				3.46
Mott	Cannon Ball				.03					T.								.28			.03									T.			0.34
Napoleon ‖	Missouri					.04								.03		T.	.01			.04		.03					.28		1.25		.06		1.74
New England	Cannon Ball				T.												T.	.52		.03						.25					.15		0.95
New Salem	Heart	.49					T.						T.				T.	.05			T.					.35				T.			0.89
Park River	Red	.10				.12	.03					.08		.19												1.08	.23	.17	.32				2.32
Parshall	Missouri														.08		.50												.76				1.34
Pembina ‖ ‖	Red	T.	1.75			1.75	T.					T.		.15			T.	.33					T.			.33	.50	T.	.75				5.56
Pettibone	James					.10							.01		T.		.02		T.							3.45		.75	.08				4.41
Power	Missouri		.18							T.			.16	.38						.60		T				1.80							3.12
Powers Lake	Sheyenne					.02					T.				.20												T.						0.22
Skaar	Lit. Missouri						.03													T.													0.03
Steele	Missouri			.02	.01					.04	.02	T.	.25	.55		.02	.05	T.					T.			.35	.15	.11					1.57
Taylor	Heart						T.				T.		T.				.18	.06			.92					.80			.28	T.			2.24
Towner	Mouse	T.	.02			.25								.28			T				.28		T.					1.62	.03				2.48
Turtle Lake	Missouri		T.			T.								.23			.13				T.						T.		.27				0.63
Valley City	Sheyenne					.21				T.			.24	.65		T.	.82	.04				.31				.85	.72	.25					4.09
Wahpeton ‖	Red		.12			.10					.20			.22						.04		.07					1.61						2.36
Walhalla	Pembina	.10	.60		.49	.50	.03						.05	.13				.23								.76		.17	.26				3.32
Westhope	Mouse	.08											.41				.32									1.31		.62	.07				2.81
Williston ***	Missouri	T.				.06	.30			T.															T.			.04					0.40
Willow City	Mouse		T			T.	T.					.08	T.	.09			.07					.03	.02			.29		.67	T.				1.25
Moorhead, Minn ***	Red		T.		.01	.20				.01			.25	.68		.01	.15	.15		.04		.09				2.35		T.					3.94

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	83	76	84	90	76	71	78	91	95	80	87	82	80	78	71	70	77	86	76	75	81	86	86	89	93	78	88	89	89	85	92	82.6
	Minimum...	48	50	46	51	56	46	41	47	48	51	53	49	52	48	45	49	57	48	50	40	43	60	59	46	49	61	54	56	61	53	51	50.4
Arnegard	Maximum...	82	78	94	92	71	72	83	91	80	90	76	87	77	80	81	82	85	90	81	86	97	82	90	92	87	93	90	90	83	96	100	85.7
	Minimum...	46	50	50	59	46	40	43	46	60	45	45	55	48	44	52	57	55	64	42	31	54	53	43	54	51	52	57	60	58	52	65	51.0
Ashley	Maximum...	77	79	85	92	82	70	79	89	97	80	85	83	72	74	65	85	80	92	78	74	85	87	86	85	91	83	83	88	91	84	90	82.9
	Minimum...	44	56	45	56	53	46	38	50	55	51	56	56	55	39	49	58	56	53	58	39	52	60	45	46	67	51	59	60	58	57	61	52.6
Beach	Maximum...	78	82	95	95	81	68	85	87	90	92	93	73	89	85	70	73	80	79	83	78	83	91	82	82	83	88	88	89	90	92	103	84.7
	Minimum...	35	40	43	40	45	40	37	45	48	50	67	49	50	50	46	56	50	52	50	45	48	55	46	54	63	56	57	52	56	50	62	49.6
Berthold Agency	Maximum...	84	82	97	97	84	72	84	95	88	91	84	96	....	83	75	80	89	91	77	85	99	85	92	95	101	96	94	91	88	85	104	[a]88.8
	Minimum...	47	54	47	60	57	42	38	38	60	46	48	48	...	40	51	55	61	53	51	38	56	60	37	51	61	53	59	59	49	52	64	[a]51.4
Bismarck	Maximum...	80	75	90	96	72	69	82	89	93	83	80	88	74	77	66	79	82	89	84	79	93	85	86	89	94	89	95	93	90	90	100	84.6
	Minimum...	51	55	51	65	53	48	46	47	64	53	59	54	53	41	57	61	55	59	56	47	62	59	45	55	66	59	65	65	58	52	66	55.8
Bottineau §§	Maximum...	79	72	87	94	71	69	79	87	84	76	79	75	75	80	77	82	79	89	81	74	87	82	85	86	84	89	84	87	77	89	98	82.0
	Minimum...	54	54	47	54	46	42	39	44	50	42	49	49	42	45	47	51	46	49	50	37	39	59	41	51	55	59	57	60	54	54	55	49.1
Bowbells §§	Maximum...	79	72	87	75	75	70	82	87	79	81	77	77	79	89	80	81	83	86	71	80	91	79	86	89	83	90	82	91	90	94	100	82.5
	Minimum...	49	49	42	53	44	42	41	45	51	38	42	42	37	41	46	46	40	44	45	35	38	51	39	42	50	49	50	54	51	50	53	45.1
Bowman	Maximum...	81	82	94	96	82	70	82	93	93	93	80	80	92	88	84	84	83	86	81	87	96	95	88	92	93	88	94	90	87	91	100	87.9
	Minimum...	47	64	51	75	53	55	63	76	66	50	50	54	59	64	56	58	47	53	69	48	56	58	50	58	62	60	57	60	56	57	60	57.8
Cando	Maximum...	73	91	82	91	91	67	77	86	84	77	78	77	73	77	76	77	77	89	84	81	84	82	84	85	82	86	82	85	84	83	95	81.9
	Minimum...	49	53	47	61	50	44	37	47	54	47	54	45	44	42	46	57	53	50	53	41	53	60	45	46	63	60	61	62	57	52	63	51.5
Carson	Maximum...	80	77	90	98	85	70	80	92	95	88	82	90	85	75	72	75	84	80	80	82	95	85	85	89	95	90	98	95	95	95	108	85.8
	Minimum...	50	50	52	62	50	45	40	50	60	48	55	56	55	55	55	58	48	58	50	42	55	58	45	55	65	55	55	60	60	45	65	53.5
Crosby	Maximum...	75	74	85	82	73	67	77	88	72	81	74	72	72	73	80	76	78	82	73	77	89	80	82	86	81	85	81	88	78	92	92	79.7
	Minimum...	55	49	49	58	47	45	45	49	52	47	48	49	43	48	49	59	45	58	52	40	52	50	45	57	60	50	56	57	55	55	70	51.4
Devils Lake	Maximum...	79	70	82	92	72	62	77	86	83	77	78	73	72	76	73	71	78	89	70	72	83	84	83	84	72	84	77	86	80	83	93	78.7
	Minimum...	50	53	49	62	46	43	41	53	56	45	54	47	45	43	50	56	53	52	49	43	56	59	48	50	62	60	61	61	57	54	64	52.3
Dickinson §§	Maximum...	79	72	83	96	73	69	81	90	87	90	71	90	70	71	73	80	78	81	76	81	96	80	82	84	89	87	88	87	82	89	97	82.5
	Minimum...	48	47	51	56	48	43	39	46	51	45	53	54	52	47	57	57	50	55	52	42	53	58	41	53	61	57	57	53	53	48	50	50.9
Donnybrook	Maximum...	82	76	90	92	80	68	80	89	80	85	89	74	75	85	80	80	83	85	76	84	100	81	83	92	80	93	87	90	80	96	104	84.5
	Minimum...	49	52	50	58	48	45	43	43	64	40	48	45	46	38	46	51	47	52	36	51	54	57	42	46	62	50	58	60	56	48	68	50.1
Dunn Center §§	Maximum...	79	75	92	94	70	89	80	90	79	88	88	86	85	78	75	78	81	86	75	83	94	82	87	89	92	89	90	91	82	93	100	85.2
	Minimum...	40	54	47	53	46	44	39	42	44	38	52	52	51	45	54	53	42	50	50	36	46	63	38	48	59	56	58	56	52	49	56	48.8
Dunseith	Maximum...	73	70	83	92	77	65	77	86	83	75	76	74	71	79	77	80	76	87	73	73	85	80	82	86	80	86	81	85	82	86	96	79.9
	Minimum...	52	52	46	60	52	41	35	44	56	45	51	48	43	41	44	45	51	49	51	40	52	56	42	55	57	56	58	59	53	50	60	49.9
Edgeley	Maximum...	78	79	83	91	85	72	79	91	98	83	86	80	76	77	70	77	81	91	79	74	87	91	86	89	92	84	86	89	93	87	93	84.1
	Minimum...	44	56	41	57	54	47	38	52	53	51	53	48	45	38	44	55	59	46	57	37	57	56	46	41	61	59	55	63	60	53	57	51.1
Ellendale	Maximum...	74	78	83	88	75	71	77	88	92	77	84	84	72	74	62	78	79	88	77	71	82	86	84	87	90	82	86	88	93	86	91	81.5
	Minimum...	47	53	46	57	56	47	40	44	53	53	51	54	48	43	49	59	57	49	50	42	56	59	50	46	64	61	55	67	61	58	60	52.7
Fessenden §§	Maximum...	83	73	88	98	75	75	85	90	88	80	82	79	76	80	70	77	78	95	77	....	....	89	88	87	86	92	91	95	86	89	100	[b]84.6
	Minimum...	45	51	50	58	46	39	34	44	50	42	46	42	46	38	47	51	55	47	50	36	....	...	40	41	57	52	58	56	55	50	59	[b]47.9
Fullerton	Maximum...	76	77	83	88	75	70	78	89	91	77	82	80	72	77	64	75	80	88	77	72	83	87	84	87	92	90	86	88	94	92	90	82.2
	Minimum...	47	55	45	65	57	56	39	44	52	60	60	58	56	42	47	57	59	48	60	59	55	68	48	48	68	64	59	70	63	65	63	56.0
Garrison	Maximum...	80	72	87	94	89	64	80	82	79	80	77	86	73	73	69	76	81	87	73	80	92	84	86	91	88	91	85	91	85	91	102	82.8
	Minimum...	48	53	39	63	46	46	39	42	61	44	52	40	49	41	45	55	49	53	49	38	53	56	49	49	42	55	65	61	55	51	64	50.1
Grafton §§	Maximum...	73	74	80	90	83	67	75	87	88	78	82	75	74	79	80	74	75	85	78	73	83	87	83	83	77	80	80	88	82	80	94	80.2
	Minimum...	51	50	45	58	55	....	40	60	51	48	58	45	45	41	45	56	59	47	57	39	46	59	49	43	60	59	60	59	64	48	58	[a]51.8
Grand Forks	Maximum...	72	72	80	90	78	60	73	87	89	78	80	75	72	82	78	74	75	87	65	72	79	82	81	83	72	79	80	88	89	83	92	79.1
	Minimum...	55	58	50	60	56	48	41	46	50	52	60	47	51	42	48	57	61	48	45	38	50	62	50	49	63	62	59	62	62	52	60	53.0
Granville	Maximum...	78	85	90	95	72	70	82	87	85	85	80	77	76	80	78	82	80	88	72	78	80	82	82	88	86	90	82	91	80	93	103	85.1
	Minimum...	46	50	45	65	49	45	40	47	48	45	50	43	46	40	48	52	50	52	52	40	57	60	45	48	65	55	68	63	55	50	68	51.3
Hannah	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hansboro	Maximum...	....	70	....	95	76	67	78	91	84	80	80	80	75	80	....	...	80	89	80	74	82	84	85	[illegible]	82	84	79	86	80	85	96	[d]81.9
	Minimum...	....	42	...	44	43	40	32	46	52	42	50	41	52	35	....	...	52	48	47	33	52	51	53	42	60	52	66	59	56	48	51	[d]47.6
Hettinger	Maximum...	82	82	93	94	96	72	82	92	98	91	79	91	74	88	92	72	81	87	73	88	85	87	89	91	95	91	96	97	94	93	102	88.0
	Minimum...	56	52	52	57	56	47	36	46	62	50	58	51	47	54	48	48	53	62	48	49	50	59	41	57	63	63	62	63	59	59	60	53.7
Hillsboro	Maximum...	80	76	81	90	89	72	76	88	91	80	85	80	72	77	77	69	77	86	84	72	80	85	84	86	88	76	82	88	88	83	91	81.7
	Minimum...	51	54	49	59	57	47	41	46	50	52	54	49	51	44	46	55	59	49	60	40	50	61	49	47	58	63	56	56	62	52	59	52.5
Howard	Maximum...	77	73	90	84	68	69	91	89	74	84	84	80	70	79	81	77	85	84	70	92	88	82	90	90	90	91	84	90	82	98	98	83.4
	Minimum...	52	47	49	58	45	38	79	55	54	42	57	42	43	44	47	47	44	51	46	39	54	43	55	56	60	52	58	56	48	62	62	51.0
Jamestown	Maximum...	82	71	83	91	82	70	86	91	93	84	89	75	72	83	78	73	81	91	81	81	85	91	90	90	99	92	90	91	90	91	100	85.4
	Minimum...	48	55	45	59	53	46	40	48	53	51	53	43	55	42	48	51	60	50	64	43	53	59	50	46	65	60	58	61	59	58	60	52.6
Lamoine	Maximum...	72	69	88	92	80	78	77	85	89	85	80	84	79	80	78	78	82	86	87	77	78	80	86	83	92	88	85	90	88	89	98	81.0
	Minimum...	44	53	45	50	46	37	40	46	48	46	48	45	41	46	46	48	50	50	50	38	44	46	44	44	41	54	55	56	55	55	55	47.3
Langdon§§	Maximum...	66	67	80	88	69	70	72	83	79	75	76	76	70	78	80	73	72	86	62	80	85	83	73	84	67	79	67	84	77	81	93	76.7
	Minimum...	47	51	48	60	43	42	35	45	50	43	49	43	41	39	45	50	50	49	53	36	39	59	46	49	58	58	58	57	58	49	60	48.7
Larimore §§	Maximum...	81	72	82	90	73	70	77	88	89	78	82	74	77	80	77	75	79	87	70	81	79	89	85	86	67	80	81	88	85	85	94	80.7
	Minimum...	50	50	43	54	52	45	39	40	50	50	56	45	47	43	43	57	57	45	55	39	38	45	50	45	51	57	50	56	61	50	53	48.8
Linton	Maximum...	81	80	90	99	95	72	81	91	100	87	87	87	80	82	72	86	81	94	87	80	93	90	86	89	100	91	96	95	98	90	98	88.4
	Minimum...	44	52	51	61	53	45	38	42	62	51	54	58	56	41	54	63	55	55	56	45	59	61	47	54	69	61	64	65	48	55	64	54.3
Lisbon §§	Maximum...	83	75	83	90	76	77	78	91	93	82	87	87	73	79	61	70	73	90	78	71	81	80	84	90	93	82	89	91	94	95	98	83.6
	Minimum...	47	58	47	53	58	47	37	42	51	53	51	51	53	42	46	55	58	42	60	49	52	57	47	57	55	62	51	62	62	58	57	51.9
McKinney	Maximum...	80	73	85	92	82	70	83	88	82	78	78	75	75	80	82	81	82	86	75	78	88	80	90	90	81	88	80	90	78	95	96	82.6
	Minimum...	50	54	50	50	50	46	60	55	60	38	50	45	40	50	42	43	45	45	47	34	55	52	40	40	40	55	57	60	55	50	65	49.1
Maddock	Maximum...	78	78	83	93	92	71	78	86	82	80	78	76	73	77	75	76	78	90	88	75	85	82	82	85	84	86	82	88	86	87	96	82.2
	Minimum...	46	54	41	57	46	44	36	41	53	43	47	45	46	41	41	55	54	50	52	33	54	53	43	45	51	56	59	60	58	50	61	49.3
Marmarth	Maximum...	80	82	92	94	73	70	82	92	90	90	78	91	79	72	80	78	90	85	....	86	95	80	88	92	93	88	91	90	81	83	101	[a]86.1
	Minimum...	53	53	49	56	47	46	35	47	60	46	53	53	52	49	57	55	47	52	...	51	50	51	48	60	50	56	58	56	54	50	59	[a]51.7
Melville	Maximum...	82	73	78	95	80	68	....	82	86	80	80	85	72	....	67	68	74	80	79	75	....	76	82	83	76	85	85	90	75	79	92	[c]79.6
	Minimum...	48	53	45	68	50	45	....	45	57	45	51	51	50	....	42	55	55	58	53	43	....	54	50	50	62	56	59	60	60	55	62	[c]52.9
Minot §§	Maximum...	82	79	90	94	73	70	82	91	84	83	79	81	75	81	73	83	80	87	73	80	92	83	87	91	88	93	85	92	84	95	103	84.3
	Minimum...	42	48	42	49	43	40	34	37	41	36	41	38	41	32	41	45	43	45	45	31	34	52	35	39	42	47	59	51	52	44	45	42.1
Mott	Maximum...	81	84	93	101	83	80	86	94	94	90	92	90	83	83	79	81	89	88	86	86	94	78	90	80	93	90	97	93	91	93	101	88.8
	Minimum...	55	49	52	66	50	46	46	55	52	56	53	55	54	53	52	56	57	55	53	55	53	41	46	45	61	63	57	54	51	55	61	53.5
Napoleon §§	Maximum...	84	78	91	98	74	72	82	91	96	85	85	82	75	80	62	84	84	95	81	82	91	90	90	90	98	90	94	92	90	88	96	86.1
	Minimum...	41	45	41	62	50	44	37	44	53	47	48	50	54	37	47	54	51	47	53	35	45	60	43	44	67	58	49	59	57	54	57	49.8
New Salem	Maximum...	78	75	88	96	87	82	79	82	94	88	79	88	76	73	71	78	88	89	85	89	93	90	88	90	94	88	96	94	92	93	101	86.8
	Minimum...	48	50	48	64	63	45	43	48	53	51	52	52	53	51	45	43	51	53	50	55	58	60	48	55	65	64	59	56	56	53	62	53.5
Pembina §§	Maximum...	75	75	82	89	72	59	76	86	81	86	80	75	75	81	81	74	73	72	70	76	84	86	84	81	71	86	84	91	79	84	95	79.5
	Minimum...	51	51	44	52	55	45	34	49	56	46	54	47	43	41	47	54	54	48	44	39	45	55	50	[illegible]	51	45	61	57	65	47	50	49.5
Steele	Maximum...	85	89	90	92	72	75	75	85	96	82	90	80	71	72	60	76	76	92	75	82	86	85	84	88	98	89	96	93	95	96	97	84.6
	Minimum...	41	41	41	50	51	46	35	38	55	57	52	50	45	38	45	55	51	57	59	44	51	60	52	52	69	67	66	69	70	59	60	52.6
Towner	Maximum...	82	81	89	96	91	67	84	88	91	75	80	78	75	81	86	70	79	89	87	85	83	85	88	89	86	87	86	90	88	89	97	84.5
	Minimum...	52	54	45	58	55	45	36	42	45	47	51	45	45	40	54	40	49	55	52	52	50	55	49	41	52	50	57	58	51	54	65	49.8
Valley City	Maximum...	77	72	81	90	75	75	78	88	94	80	81	76	82	76	71	70	78	86	74	74	83	87	84	85	91	80	85	88	87	84	93	81.5
	Minimum...	46	54	46	54	44	44	37	48	52	49	57	51	49	47	46	52	50	53	48	40	52	51	56	43	56	60	53	51	60	51	62	50.6
Wahpeton §§	Maximum...	80	79	80	87	76	70	77	88	94	77	87	84	82	77	72	73	79	87	79	75	83	82	86	88	92	80	87	96	93	85	94	82.7
	Minimum...	50	52	49	59	60	48	40	47	59	58	52	50	55	41	49	55	59	49	61	40	52	58	54	44	61	63	57	66	65	61	59	54.0
Westhope	Maximum...	77	73	87	91	75	72	79	88	82	76	77	73	73	79	79	82	78	85	80	77	87	80	80	88	78	88	80	88	77	91	97	81.3
	Minimum...	54	50	45	52	45	52	43	45	45	41	45	44	42	44	45	55	47	55	45	35	54	56	45	50	60	56	60	54	54	51	63	48.5
Williston	Maximum...	79	75	91	88	68	67	81	90	76	88	75	83	74	78	79	80	81	83	71	80	91	79	87	88	83	91	88	91	82	96	97	82.6
	Minimum...	54	52	58	51	48	45	46	47	55	52	48	55	46	51	51	57	47	62	51	45	[illegible]	55	44	60	61	52	58	63	56	58	[illegible]	[illegible]
Moorhead, Minn	Maximum...	79	75	78	87	75	65	75	88	93	77	85	77	71	76	70	71	76	85	78	72	81	84	81	85	89	78	85	80	91	81	92	81.5
	Minimum...	52	58	52	62	59	49	44	53	56	55	56	53	54	49	49	56	58	53	51	44	54	64	56	55	66	65	59	68	65	58	57	55.9

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXX. BISMARCK, N. D., SEPTEMBER, 1921. No. 9

GENERAL SUMMARY.

From a temperature standpoint the weather during September throughout North Dakota was nearly normal, the mean varying but 0.6° from the normal. There was, however, an excess of precipitation in nearly all parts of the State. While this excessive precipitation delayed threshing considerably, it was very beneficial for fall plowing, and for the seeding and the germination of winter rye and wheat. The month opened warm and dry, a condition which prevailed until the close of the 7th. From the 8th to the close of the 20th, precipitation in the form of general rains or local showers occurred, after which the weather was again generally fair. A few light frosts were recorded on the 10th, but killing frosts were not frequently reported until the 25th, and in some instances not until the 30th. As a rule the 1st was the warmest day and the 30th the coldest. Corn ripened rapidly during the first decade, and was out of danger of frosts before they occurred.

TEMPERATURE.

The mean temperature for the State was 57.0°, or 0.6° above the normal, and 2.0° lower than the mean for September, 1920. The highest mean reported was 60.6° at Jamestown, Stutsman County; the lowest was 52.8° at Bowbells, Burke County. The highest temperature reported was 101° at Hettinger, Adams County, on the 1st; the lowest was 25° at Hettinger, Adams County, on the 30th. The greatest monthly range of temperature was 76° at Hettinger, Adams County; the least was 49° at Williston, Williams County. The greatest daily range was 53° at Berthold Agency, McLean County, on the 2d, and at McKinney, Renville County, on the 24th.

PRECIPITATION.

The average precipitation for the State was 3.30 inches, or .66 inches above the normal, and 1.04 inches more than the av- rage for September, 1920. The greatest monthly amount reported was 6.83 inches at Pembina, Pembina County; the east was 1.37 inches at Mott, Hettinger County. The greatest mount recorded in any 24 consecutive hours was 2.75 inches t Jamestown, Stutsman County, on the 8th. The average number of days with 0.01 inch or more of precipitation was 12. Traces of snow occurred at six stations, and 0.7 inch at one tation.

AURORAS.

Auroras were observed at Bismarck, Foxholm, Garrison, Pet- ibone and Skaar on the 1st; at Crosby on the 2d; at Ellendale, Foxholm, Fullerton, Larimore, Linton and McLeod on the 3d; t Wahpeton on the 4th; at Skaar on the 5th; at Wahpeton on he 9th; at Crosby on the 27th; at Bismarck, Eckman, Fes- enden, Foxholm and Linton on the 28th; at Howard and Steele on the 29th, and at Eckman, Ellendale, Foxholm, How- rd and Steele on the 30th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.91	30.38	15	29.37	28	57	8,252	11.5	42	w.	11
Devils Lake	29.84	30.34	15	29.25	28	44	7,337	10.2	37	w.	28
Ellendale	29.91	30.37	15	29.34	28	56	10,680	14.8	68	se.	9
Grand Forks	29.85	30.36	18	29.41	28	90	....	......	40	w.	27
Williston	29.86	30.35	14	29.27	19	48	6,447	9.0	40	se.	2
Moorhead, Minn	29.87	30.33	15	29.34	28	58	6,027	8.4	33	nw.	28
Av'ges and extremes	29.87	30.38	15	29.25	28	....	....	10.8	68	se.	9

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	259.4	376.6	69	+ 7	74	43	50	16	26
Devils Lake	169.8	377.2	45	−13	83	57.	67	27	27*
Ellendale	227.2	376.0	60	.....	82	....	51	23	2
Grand Forks	......	......	......	.....	80	.....	69	.....	....
Williston	204.6	377.2	54	− 6	75	48	52	16	2
Moorhead, Minn	......	......	......	.....	80	55	60	.....	....
Averages and extremes	215.2	376.8	57	− 4	79	51	58	16	2*

* And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	93	21	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919...	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920...	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921...	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.

Climatological Data for September, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	58.4	+1.1	96	1	32	27	42	3.87	+1.86	1.10	0	13	17	9	14	nw.	E. T. Carley.
Amidon	Slope	......	6	56.3	......	91	1	33	10†	41	2.61	......	0.79	0	11	18	7	5	w.	Charles Eastgate.
Arnegard	McKenzie	......	3	54.6	......	84	2	34	10†	44	3.08	......	1.26	0	11	14	6	10	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	58.0	+0.7	91	1	32	25†	36	4.34	+3.29	1.45	0	9	15	11	14	nw.	R. C. Miles.
Beach	Golden Valley	2,579	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	57.8^{b}	+0.8	93^{b}	1†	33^{b}	25	53^{b}	3.24	+1.79	1.17	0	11	15	5	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	47	59.2	+2.1	93	1	34	25	45	1.67	+0.48	0.62	0	10	10	12	8	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	54.0	−1.5	85	1	31	29	38	4.70	+3.04	0.90	0	16	9	12	9	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	9	52.8	......	85	1	28	15	44	2.80	......	0.65	0	11	19	0	11	......	G. H. Phelps.
Bowman	Bowman	......	7	56.0	......	90^{a}	1†	32	11	42^{a}	1.95	......	0.55	0	12	12	11	7	w.	W. W. Barr.
Cando	Towner	1,488	20	56.2	+0.6	90	1	33	25†	39	5.53	+4.04	1.40	0	12	6	14	10	w.	A. J. Swanson.
Carson	Grant	2,500	9	57.6	......	98	1	32	11	40	2.41	......	0.90	0	8	13	12	5	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11	......	......	......	......	......	......	......	4.55	+2.83	2.10	0	5	15	11	4	nw.	S. Friswold.
Crosby	Divide	1,954	14	56.4	+2.7	87	1	32	15	36	2.65	+1.41	0.85	0	10	7	12	11	nw.	John Jensen.
Devils Lake	Ramsey	1,478	17	56.6	+1.0	87	1	36	30	35	3.58	+2.19	1.31	0	13	8	8	14	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	54.0	−2.5	89	1	30	11	46	2.15	+1.07	0.59	T.	13	6	15	9	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	54.9	+0.9	91	1	32	15†	45	2.16	+0.33	0.84	0	10	5	15	10	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	55.6	......	88	1	33	11	46	1.98	......	1.10	0	7	19	1	10	nw.	W. H. Moede.
Dunseith	Rolette	1,682	25	53.8	−1.0	87	1	29	30	38	3.71	+2.07	1.24	0	16	10	7	13	nw.	J. G. Lamont.
Eckman	Bottineau	......	16	57.2	+1.7	90	1	31	25	33	3.67	+2.43	1.05	0	13	15	7	8	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	59.1	+1.6	97	1	31	30	48	4.01	+2.25	1.75	0	10	10	16	4	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	58.3	......	95	1	33	30	39	5.78	+4.20	2.64	0	11	5	19	6	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	9	......	......	......	......	......	......	......	2.79	......	1.48	0	8	13	11	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	13	......	......	......	......	......	......	......	2.86	+1.45	1.56	0	9	12	10	8	w.	M. E. Uggen.
Fessenden	Wells	1,610	9	57.4	......	95	1	29	25†	43	4.17	......	1.12	T.	13	6	15	9	nw.	T. D. Monsen.
Forman	Sargent	1,249	28	......	......	......	......	......	......	......	3.88	+1.93	1.22	0	8	......	......	......	......	O. Enger.
Foxholm	Ward	......	1	55.6	......	86	1	35	15†	37	3.04	......	1.06	0	9	11	11	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	3	......	......	......	......	......	......	......	2.10	......	0.56	0	9	16	7	7	nw.	Verne King.
Fullerton	Dickey	1,439	23	58.9	+2.2	95	1	31	30	42	4.31	+2.20	1.38	0	9	16	8	6	nw.	F. O. Alin.
Garrison	McLean	1,901	26	56.0	−0.8	90	1	34	30	44	3.60	+2.22	1.04	0	12	9	12	9	nw.	G. L. Robinson.
Grafton	Walsh	827	29	58.1	+2.2	89	1	34	30	38	3.06	+1.27	1.00	0	8	10	8	12	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	58.2	+2.0	92	1	36	25†	33	2.44	+0.65	0.78	0	9	10	16	4	w.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	57.4	+3.0	88	1	35	30	36	3.81	+2.46	1.57	0	7	7	14	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	16	......	......	......	......	......	......	......	3.53	+1.39	0.73	0	19	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	13	54.8^{d}	+0.7	90^{d}	1	32^{d}	29†	39^{d}	3.75	+1.95	1.10	0	6	......	......	......	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	13	57.2	−0.8	101	1	25	30	46	1.62	+0.08	0.37	0	8	17	7	6	nw.	U. J. Downey.
Hillsboro	Traill	901	15	59.9	+0.9	95	1	36	25†	42	3.21	+0.47	1.07	0	11	7	12	11	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	14	54.4	+0.6	84	1	32	30	37	3.21	+1.78	1.79	T.	10	5	14	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	60.6	+3.9	94	1†	38	11†	41	4.93	+3.40	2.75	0	12	13	6	11	nw.	S. Calvelage.
Lamoine	Kidder	1,936	13	57.0^{g}	+0.4	94^{g}	1	26^{g}	30	48^{g}	2.21	+0.70	1.51	0	4	......	......	......	......	E. V. Virgin.
Langdon	Cavalier	1,615	25	54.6	+1.1	86	1	33	11†	40	4.59	+2.55	1.03	0	13	15	2	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	57.8	+2.6	90	1	37	26	40	2.78	+1.07	1.00	0	8	11	4	15	w.	Reuben Gray.
Linton	Emmons	1,711	3	60.0	......	95	1	30	30	44	2.83	......	1.06	0	13	15	9	6	nw.	William Malpass.
Lisbon	Ransom	1,091	17	56.4	−1.3	98	1	28	26	43	3.52	+1.27	1.36	0	10	16	7	7	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3	......	......	......	......	......	......	......	2.02	......	0.43	0	6	......	......	......	......	Edw. Tapley.
McKinney ‡‡	Renville	1,640	27	56.6^{c}	+2.5	90^{c}	1	32^{c}	15†	53^{c}	3.20	+1.66	0.80	0	7	......	......	......	nw.	N. P. Swenson.
McLeod	Ransom	1,075	9	60.5	......	95	1	30	30	41	4.53	......	1.56	0	11	14	6	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	6	57.4	......	88	1	29	25	42	4.84	......	2.18	0	9	5	14	11	nw.	A. T. Felland.
Mandan	Morton	1,644	7	60.0	......	95	1	31	30	47	1.58	......	0.45	0	9	15	4	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	56.7	+0.8	90	1	32	25†	38	3.47	+2.00	1.92	0	11	14	5	11	nw.	P. B. Anderson.
Marmarth	Slope	......	12	55.6^{c}	0.0	91^{d}	2	30^{f}	11	59^{f}	1.51	+0.24	0.34	T.	10	9	10	11	nw.	S. P. Grane.
Mayville	Traill	975	25	59.0	+1.6	86	2	35	30	40	1.70	−0.64	0.70	T.	5	11	0	19	w.	M. G. Satern.
Melville	Foster	1,590	23	57.8^{b}	+1.4	88^{b}	1	32	30	35	3.06	+1.62	1.47	0	4	......	......	......	nw.	J. P. Kidder.
Minot	Ward	1,557	25	53.2	−3.5	89	1	28	30	51	4.36	+2.78	1.05	0	12	10	12	8	w.	W. I. Faris.
Minto	Walsh	820	28	58.6	+2.2	90	1	34	30	37	3.73	+1.73	1.18	0	11	8	12	10	n.	C. M. Evans.
Mott	Hettinger	2,424	14	53.8	−2.5	91	2	31	11†	47	1.37	−0.20	0.42	0	10	12	9	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	29	56.7	−0.2	95	1	27	30	43	2.89	+1.60	0.75	0	11	20	1	9	w.	C. J. Hoof.
New England	Hettinger	2,400	27	54.5	−1.3	98	3	33	25	48	2.25	+1.08	0.53	T.	9	8	8	14	w.	W. C. McKenzie.
New Salem	Morton	2,165	16	57.9	+0.7	94	1†	33	11	42	2.12	+0.67	0.55	0	10	11	12	7	nw.	J. Christiansen.
Park River	Walsh	998	17	58.3^{i}	+1.4	89^{b}	1	36^{i}	30	38^{i}	3.71	+2.15	1.11	0	12	......	......	......	nw.	C. B. Wright.
Parshall	Mountrail	......	6	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson
Pembina	Pembina	789	47	57.0	+3.2	90	1	34	30	42	6.83	+5.03	2.50	0	6	15	0	15	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	56.3	+2.6	90	1	26	30	39	3.62	+2.10	1.42	0	9	18	5	7	nw.	S. C. Shanks.
Power	Richland	1,020	28	......	......	......	......	......	......	......	3.14	+1.12	0.85	0	6	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	6	......	......	......	......	......	......	......	2.45	......	0.60	0	8	6	18	6	nw.	C. Frank.
Skaar	McKenzie	......	1	53.9^{h}	......	88^{h}	1	32^{h}	6†	48^{h}	2.54	......	0.60	T	9	......	......	......	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	24	57.1	−0.6	92	1	29	30	40	2.87	+1.60	0.80	0	16	5	21	4	nw.	H. S. Wood.
Taylor	Stark	2,493	5	55.5^{d}	......	98^{d}	1	32^{d}	11	42^{d}	1.99	......	0.49	0	11	......	......	......	......	H. Leutz.
Towner	McHenry	1,482	19	57.2	+1.4	98	1	32	25	40	4.80	+3.14	1.62	0	6	16	6	8	nw.	B. Bagley.
Turtle Lake	McLean	1,899	6	56.3^{i}	......	91^{c}	1	33	25	43^{c}	3.24	......	0.94	0	11	10	8	12	nw.	A. T. Anderson.
Valley City	Barnes	1,215	2	57.0	−1.2	94	1	30	30	42	3.28	+1.56	0.89	0	9	19	5	6	se.	C. F. Schroeder.
Wahpeton	Richland	962	27	60.1	+1.5	95	1	31	30	38	4.46	+2.16	0.88	0	11	5	21	4	se.	State School of Science.
Walhalla	Pembina	966	14	58.0	+2.1	93	1	35	30	40	3.55	+1.70	1.25	0	11	10	12	8	n.	Ivan Lee.
Westhope	Bottineau	1,508	15	55.4	+0.6	95	1	30	25	45	3.83	+2.47	1.14	0	11	14	5	11	nw.	W. A. Meddaugh.
Williston	Williams	1,875	42	55.4	−4.1	84	1	35	11	36	2.43	+1.52	1.25	0	12	7	13	10	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	54.8	+0.5	86	1	30	25	42	4.01	+2.35	1.13	0	10	6	13	11	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	59.6	+3.0	95	1	35	30	33	4.35	+2.05	0.96	0	14	7	13	10	nw.	U. S. Weather Bureau.
Averages	......	......	......	57.0	+0.6	101	1	25	30	53	3.30	+1.66	2.75	T.	12	12	10	8	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for September, 1921.

Stations.	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ||	Red		.33		.10				.30	.10			.10	.10	.50	.13	.68			1.10	.23	.14			.06								3.87
Amidon	Lit. Missouri	.02	.30	.31				.38	.15	.64			.15	.31	.08	.05					.22												2.61
Arnegard	Missouri			.45					.09	1.26	.51	.04	.05	.25	.02	.04	.17				.18												3.08
Ashley	Missouri	T			.06			1.26	1.45	.10				.50	.10	.25	.36			.26													4.34
Beach	Lit. Missouri																																
Berthold Agency	Missouri	T	T	.31				.33			1.17		.13	.22	.16	.07	.30				.47	.03							.02				3.21
Bismarck ***	Missouri	T			T			.60	.03	.18			.06	.28	.17	.05	.26		T		.02				.02				T				1.67
Bottineau ||	Mouse			.24	.50	.04			.05	.90	.82	.35	.06	.34	.03		.36	.82		.11	.02	.03								.03			4.70
Bowbells ||	Mouse			.29	.37				.48	.50	.65	.06		.10	.04		.16	.14		.01													2.80
Bowman	Grand			.50	.03			T		T.	.50		.02	.55	.04	.08	.09		.01	.02		.08								.03			1.95
Cando	Sheyenne			1.40	.07				.56		.34		.02	.28	.36		1.17		.06	.50	.69							.02			T.		5.53
Carson	Heart							.90	.15	.16			.10	.30	.10	.40	.33																2.44
Cooperstown	Sheyenne			2.10					.60				.12				1.63			.76													4.55
Crosby	Mouse			.49	.05			T	.06		.85	.05	T.	.15			.78	.07			.07						T		.08				2.65
Devils Lake ***	Sheyenne	T.		.25	T				.78	.15	.05		T.	.19	.14		1.27	.01	.04	.37	.25				.01		.04	T					3.58
Dickinson ||	Heart		.02	.21	.03				.33	.13	.59		.03	.36	.07	.06	.13	.01				.18											2.15
Donnybrook	Mouse		T.	.30	T.				T.		.84	.02	T.				.60	.05		.03	.10	.05						.02	.15				2.16
Dunn Center ||	Knife			.25	.10				.40	T	1.10			.30	T	.17					.55												1.98
Dunseith	Mouse			.36	.09				.27	.04	1.24	.13	.05	.43	.02		.70	.05	.02	.07	.01	.13						T	.10				3.71
Eckman	Mouse			.45					1.05	.06	.93		.05	.10			.79	.02	.09	.05	.06							.01			.01		3.61
Edgeley	James				.10				1.75		.11		.07	.62	.35	.25	.45			.21										.10			4.01
Ellendale***	James	.13			.13			2.64		.42				.89	.08	.34	.39		T.	.51	.21				T			T.	.01	T			5.78
Energy	Missouri			.03	.08	T			.50	1.18	T		.40		.05		.38		T.		.17												2.79
Epping	Missouri			.14	.05				.12	.22	.56		.06	.15			.41	.05			.10												2.86
Fessenden ||	James			.03		.11			1.12	.78	.30	.03		.35	.10	.06	.33	.68		.08		.20											4.17
Forman	Sheyenne								.50		.37			.94		.39	.35			1.22	.09			.02									3.88
Foxholm	Mouse			.55	T.				.62		.51		T.	.08		T.	1.06	.01	.05	T.	.15	.01			T.		T.	T.	T.				3.04
Fryburg	Lit. Missouri	T			.08	T.		.47	T.	.56	.05		.36	.14	.11	.18				T.	.15												2.10
Fullerton	James	T.			.30				1.38	.28				.79	.08	.27	.74			.40									.07				4.31
Garrison	Missouri			.62	.01			T.	.58	.22	1.04		.05	.30	.06	.05	.28				.32				T.			.07					3.60
Grafton ||	Red			.16					.55		.16			.14	.12		1.00			.70		.23			T.								3.06
Grand Forks ***	Red			.29					.78		.05			.11	.01		.71			.41	.07		.01		T.				T.		T.		2.44
Granville	Mouse		T	.05					1.57		1.39		.02	.24	.39	T.			T.		.15										T.		3.81
Hannah	Pembina			.51			.64		.16	T.	.25		.43	.26	.09				.73			.11			.32								3.53
Hansboro	Red			.80					1.10		.70			.50					.25										.40				3.75
Hettinger	Grand			.37	.10					.20	.25	.22		.34	.12					.04													1.62
Hillsboro	Red			.25	.39				.33	.03	.01			.14	.01		.75			1.07	.13	.10											3.21
Howard	Missouri		.77	.57			T	.02	.01	.01	.79	T.	T.	.30		.02	.45	T.		.02	.02			T.			T.	T.	T				3.21
Jamestown ||	James						.10		2.75	.04	.08	.12		.04	.08	.06	.80	.48			.35	.03											4.93
Lamoine	Missouri						.56							T.	T.	T.	*	1.51				.14											2.21
Langdon ||	Pembina				.62	.07			.15	.68	.26			.05	.30	.10	.40	1.03		.77	.11						T.	.05					4.59
Larimore ||	Red				1.00				.88	.18	.06				.14	.02				.10		.40											2.78
Linton	Missouri	T.			.04			.02	1.06	.11			.19	.18	.18	.33	.44		.01	.18		.01			.08			T.	T.	T			2.83
Lisbon ||	Sheyenne		.05		.09				.35		.23		T.	.35	.30	.39	.35	T.		1.36	.05												3.52
McCusky	Missouri								.43	T.	.52			.32	.20		.43					.12											2.02
McKinney	Mouse			.80					.54		.68	T.	.15	.11			.70			T.	.22												3.20
McLeod	Sheyenne	.10		.15	.06				.29		.17			.91		.27	.80			1.56	.20									.02			4.53
Maddock	Sheyenne								2.18	.39	.35	.03		.19	.08		.92	.02	T.			.68											4.84
Mandan ||	Missouri								.45	.03	.17			.23	.04	.24	.31	T.		.07		.01			T.				T.				1.55
Manfred	Sheyenne	.07							1.92	.03	.18	.03	T.	.26	.10		.52		T.	.09	.16	.11											3.47
Marmarth	Lit. Missouri		.03	.20	.13			T.		.21	T.		.34	.06	.10	.30					.13								.01	T.			1.51
Mayville	Red								.10					.10			.70			.70		.10											1.70
Melville	James	T.							1.47					.12	T.		1.33		.14			T.						T.					3.06
Minot ||	Mouse			.65		.01			.70	.23	1.05	.05		.16	.01		.89		.30		.30	.01											4.36
Minto	Red	T.		.32	.03				.59	.02	.05			.06	.05		1.18			.88	.02	.53											3.73
Moit	Cannon Ball			.03				.05		.26	.03		.04	.42		.15	.34				.02												1.37
Napoleon ||	Missouri	.15			.05				.75		.15		.15	.16	.02	.50	.71			.10		.15											2.89
New England	Cannon Ball		.50	.15				.42		.25			.17	.53		.06	.02				.15												2.25
New Salem	Heart	T.		.14				.38	.24	.55	.18		.19	.21	.02	.07	.14																2.12
Park River	Red			.19	.05				.80	.03	.15		.15	.13	.11		1.11		.85			.10						.04					3.71
Parshall	Missouri																																
Pembina ||	Red				T.				T.	1.50	.50	.33		T.	T.	.50		2.50		1.50							T.	T.					6.83
Pettibone	James	T.			.04				1.42	.20	T		.12	.18	.18	T.	1.28			.12		.08			T.			T.	T.				3.62
Power	Missouri	.48								.31		.10		.60			.85			.80													3.14
Powers Lake	Sheyenne								.15		.10	.25			.25	.60	.35		T.	.35			.40			T.							2.45
Skaar	Lit. Missouri		.01		.35					.30	.60	.50	T.	.38	.10	.15	.15																2.54
Steele	Missouri	.02	.05		.02	.02			.60	.20			.30	.25	.22	.10	.80	T.			.10	.05			.10			.02	.02	T.			2.87
Taylor	Heart	T.		.34				.39	T.	.28	.22	T.	.07	.49	.04	.04	.04				.05	.03											1.99
Towner	Mouse			T.					1.62		1.07		.08	.28	.48		1.27	T	T.														4.80
Turtle Lake	Missouri	T.		T.				T.	.94	.25	.88	.03	.08	.29	.08		.40	T.	.02		.19	.08											3.24
Valley City	Sheyenne			.37	.05				.28	T.			.42	.37	.08		.73	T		.89	.09				T					T.			3.28
Wahpeton ||	Red		.88		.11				.69		.40			T.	.69	.46	.11	.35		.60	.04	.13								T.			4.46
Walhalla	Pembina			.09		T.			.53	.16	.26			.14	.35		1.25			.67	.02							.05	.03				3.55
Westhope	Mouse		.49						1.14	.30	.63		.08	.16			.84	.03	.07	.07	.02												3.83
Williston ***	Missouri		.02	.05				.06	.19	.63	.65		.15	.16		.03	.27		T.		.20						.02		T.				2.43
Willow City	Mouse			.60	T.				.90	.11	1.13	.08	T.	.19	.03		.90	T.	.04	.03	T.				T.		T.	T		T.			4.01
Moorhead, Minn ***	Red	.30		.68	.05			T	.55	.01			.04	.96	.12	.01	.54			.78	.10	.12			T.				.09				4.35

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	96	86	84	71	79	81	78	70	71	65	61	62	58	60	68	66	70	64	68	72	74	80	64	71	76	71	85	60	68	67	....	71.5
	Minimum ...	59	55	48	51	43	45	44	44	49	50	40	37	43	49	46	48	46	38	52	56	50	43	44	46	34	47	51	38	32	35	....	45.4
Arnegard	Maximum...	81	84	80	71	75	70	79	73	59	54	49	44	51	52	55	60	69	74	75	57	74	66	67	79	80	67	69	59	59	60	....	66.1
	Minimum ...	61	45	53	45	48	42	46	50	43	34	34	40	43	40	41	46	39	40	56	47	45	39	45	35	42	43	42	35	39	38	....	43.2
Ashley	Maximum...	91	82	82	72	74	68	72	70	63	58	58	62	62	59	60	67	63	68	75	69	73	69	73	67	68	75	68	78	58	68	....	69.1
	Minimum ...	68	52	52	53	48	40	46	52	48	42	45	38	48	50	46	50	44	40	54	59	45	46	44	47	32	45	48	50	40	32	....	46.8
Beach	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Berthold Agency	Maximum...	93	93	81	73	72	84	89	71	..	..	62	50	54	57	59	65	69	78	78	68	75	74	71	66	82	83	73	75	59	67	....	²71.8
	Minimum ...	55	40	56	53	44	37	45	51	..	..	35	37	44	45	42	48	41	39	61	43	42	44	48	37	33	43	46	45	38	34	....	²43.8
Bismarck	Maximum...	93	88	86	69	76	81	77	71	68	53	56	57	58	54	61	66	67	74	80	66	76	70	75	67	79	82	69	79	58	68	....	70.8
	Minimum ...	66	50	65	55	50	47	46	53	50	39	37	42	47	49	48	50	46	43	58	51	47	47	51	42	34	49	48	46	37	36	....	47.6
Bottineau §§	Maximum...	85	82	73	66	71	74	76	60	67	56	49	51	58	57	63	59	66	67	74	65	68	65	70	62	70	74	64	72	50	65	....	66.0
	Minimum ...	65	45	50	52	44	39	40	52	45	46	35	35	38	44	36	37	40	41	48	46	43	44	43	36	32	41	41	42	31	32	....	42.1
Bowbells §§	Maximum...	85	79	80	69	74	73	79	62	60	61	44	45	51	58	61	54	68	67	71	69	70	71	66	61	62	78	69	60	61	61	....	65.6
	Minimum ...	59	41	42	48	44	39	38	50	49	45	34	34	37	40	28	29	35	36	51	50	39	40	50	34	32	39	41	31	31	30	....	39.9
Bowman	Maximum...	90	90	79	68	71	76	73	73	58	41	52	52	56	47	51	63	80	78	76	65	76	73	68	70	82	82	72	60	62	..	....	¹68.5
	Minimum ...	65	49	60	49	44	38	50	41	48	33	32	38	42	43	42	45	39	44	50	47	39	38	38	44	39	40	46	50	35	33	....	43.4
Cando	Maximum...	90	83	76	71	72	74	75	71	69	60	51	54	59	57	63	59	67	68	73	71	68	65	73	64	62	72	68	75	61	62	....	67.7
	Minimum ...	65	46	59	52	45	41	49	55	40	44	37	37	46	48	40	47	44	46	53	40	42	49	46	40	33	47	46	46	35	33	....	44.8
Carson	Maximum...	98	90	85	80	75	80	75	77	60	55	55	52	55	50	56	64	70	75	80	70	68	70	75	80	77	75	80	80	65	68	....	71.3
	Minimum ...	68	50	50	42	45	40	50	50	45	34	32	38	45	45	44	47	44	42	45	46	40	44	45	40	42	45	44	45	38	35	....	44.0
Crosby	Maximum...	87	79	77	68	71	71	74	67	77	60	45	48	50	54	58	54	64	66	63	62	70	60	64	61	74	75	70	64	54	56	....	64.8
	Minimum ...	62	56	54	49	50	46	53	52	53	39	31	39	41	40	32	45	37	41	42	45	42	43	45	38	38	46	43	42	35	39	....	44.0
Devils Lake	Maximum...	87	81	76	64	75	76	76	60	67	56	50	54	57	58	62	60	64	68	73	66	68	66	73	64	68	71	65	77	52	65	....	66.6
	Minimum ...	62	52	58	51	50	46	50	53	46	39	38	39	46	49	46	47	44	45	53	50	48	47	47	44	37	49	47	42	37	36	....	46.6
Dickinson §§	Maximum...	89	88	78	68	76	76	63	76	57	55	51	47	52	49	53	61	65	79	74	60	73	68	70	64	80	81	68	73	58	64	....	67.2
	Minimum ...	55	43	48	50	43	34	33	43	43	35	30	39	45	45	40	45	41	40	50	42	40	38	39	42	34	38	33	47	37	35	....	40.9
Donnybrook	Maximum...	91	84	80	71	74	75	80	70	65	58	48	45	50	52	55	54	57	68	72	64	70	68	67	60	78	80	73	68	43	61	....	66.0
	Minimum ...	61	45	56	52	52	44	45	53	49	40	37	37	41	40	32	47	40	41	53	48	44	46	43	36	33	47	44	41	33	32	....	43.8
Dunn Center §§	Maximum...	88	87	80	70	73	78	70	71	59	46	50	47	53	50	63	67	76	75	66	74	69	69	63	79	81	71	71	68	63	59	....	67.9
	Minimum ...	54	43	46	52	43	38	43	45	45	35	33	37	40	46	43	52	41	37	58	43	42	42	45	42	37	40	52	45	40	40	....	43.3
Dunseith	Maximum...	87	80	72	67	71	77	77	66	67	58	50	50	55	56	61	56	61	68	72	65	67	64	71	63	68	73	68	73	48	63	....	65.9
	Minimum ...	65	49	55	48	43	42	48	52	43	40	31	33	42	39	31	41	46	38	41	38	41	45	40	35	30	35	46	41	34	29	....	41.7
Edgeley	Maximum...	97	87	87	73	80	82	78	72	70	89	67	61	57	58	62	66	64	69	78	69	73	70	69	70	71	76	68	82	65	69	....	72.6
	Minimum ...	64	50	50	53	46	41	39	53	41	41	35	42	49	48	46	50	45	40	54	47	49	47	49	47	33	46	50	42	40	31	....	45.6
Ellendale	Maximum...	95	84	85	71	75	78	77	72	64	58	59	58	58	56	60	67	64	71	78	65	74	70	74	68	72	76	69	82	59	69	....	70.4
	Minimum ...	66	55	55	45	44	44	49	56	49	40	38	38	50	48	48	50	45	38	52	54	50	49	46	45	36	48	43	43	38	33	....	46.4
Fessenden §§	Maximum...	95	86	88	71	81	80	80	62	69	69	53	54	60	56	62	65	69	68	81	76	73	71	77	69	72	78	69	80	58	72	....	71.3
	Minimum ...	69	45	55	56	42	38	45	46	47	47	36	36	40	45	45	45	40	39	53	45	44	44	42	41	29	40	44	44	36	29	....	43.6
Fullerton	Maximum...	95	85	85	71	77	80	80	72	68	60	58	61	57	58	61	66	63	70	76	74	70	73	73	63	70	75	69	82	58	63	....	70.8
	Minimum ...	71	58	53	55	44	43	45	58	48	47	37	37	49	47	48	55	45	35	59	48	50	46	45	48	36	46	47	40	40	31	....	47.0
Garrison	Maximum...	90	87	78	72	75	77	76	60	63	55	50	47	54	53	58	63	67	72	75	69	72	67	72	66	78	80	72	74	55	64	....	68.0
	Minimum ...	63	43	54	52	47	41	47	53	45	38	35	37	43	44	42	45	46	38	58	43	40	40	41	40	35	45	45	47	35	34	....	43.9
Grafton §§	Maximum...	89	81	81	65	76	78	78	65	64	61	56	59	54	60	66	64	65	72	63	65	68	69	73	68	65	74	72	80	69	60	....	68.7
	Minimum ...	68	51	53	55	47	42	40	55	53	51	40	44	48	48	48	44	47	39	51	58	51	49	54	48	35	45	45	43	39	34	....	47.5
Grand Forks	Maximum...	92	84	83	66	76	76	79	60	67	64	55	58	60	56	66	60	65	70	62	70	67	69	73	65	66	74	68	73	57	62	....	68.3
	Minimum ...	76	52	55	49	49	43	51	57	55	43	43	43	50	50	45	46	44	39	54	52	52	48	46	43	36	43	49	52	37	36	....	48.0
Granville	Maximum...	88	83	78	70	75	80	80	70	65	55	55	50	58	54	61	62	68	70	77	73	76	74	70	75	77	78	68	72	60	65	....	69.6
	Minimum ...	58	48	58	48	49	45	44	55	45	40	37	37	45	46	40	48	43	40	57	43	45	47	43	45	35	48	45	48	37	35	....	45.1
Hannah	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Hansboro	Maximum...	90	80	74	..	78	79	77	72	67	62	53	54	57	57	62	65	..	..	70	69	[illegible]	..	76	63	69	73	69	77	55	64	....	⁴68.2
	Minimum ...	60	47	57	..	35	42	42	50	42	42	36	34	43	45	35	42	..	..	36	43	47	..	42	36	33	41	40	38	32	32	....	⁴41.3
Hettinger	Maximum...	101	92	80	82	70	74	79	77	80	79	55	76	52	57	59	63	67	71	76	79	71	76	68	63	69	72	76	65	68	71	....	72.9
	Minimum ...	60	47	63	51	45	35	55	45	47	34	33	40	42	45	42	48	38	46	49	29	40	43	38	41	36	41	39	34	31	25	....	42.5
Hillsboro	Maximum...	95	91	83	70	76	88	78	71	70	63	60	61	57	59	67	63	64	63	65	66	68	70	75	72	67	74	71	80	75	62	....	71.0
	Minimum ...	68	55	56	55	46	46	47	56	53	56	41	45	50	49	47	45	47	37	53	57	50	49	47	50	36	51	51	45	39	35	....	48.8
Howard	Maximum...	84	82	81	81	82	79	71	71	70	54	44	44	54	53	58	56	67	69	69	59	72	65	62	61	77	66	66	67	60	58	....	68.1
	Minimum ...	52	45	48	51	48	44	45	42	42	35	34	38	36	38	33	40	36	50	52	45	40	33	42	36	38	50	57	57	42	32	....	42.8
Jamestown	Maximum...	94	94	90	84	..	..	..	..	..	60	62	61	58	60	63	65	66	71	79	70	73	71	73	71	73	76	70	79	76	78	....	72.8
	Minimum ...	66	53	54	56	48	48	42	42	46	42	38	39	49	48	46	49	46	38	59	50	51	47	45	50	53	47	59	46	54	51	....	48.4
Lamoine	Maximum...	94	..	..	..	78	68	..	..	..	..	64	56	56	58	69	68	71	68	70	71	72	67	71	75	77	76	78	78	70	67	....	⁷70.2
	Minimum ...	68	..	..	..	42	54	..	..	..	..	36	40	45	50	48	50	41	41	49	48	44	45	44	28	42	44	44	44	40	26	....	⁷43.7
Langdon §§	Maximum...	86	80	78	63	72	74	76	60	58	56	53	55	54	56	64	55	78	73	59	60	65	67	72	63	65	70	63	75	63	57	....	65.7
	Minimum ...	46	48	55	52	43	39	45	51	44	45	33	35	42	46	36	44	44	41	51	51	48	45	45	42	34	45	45	45	35	33	....	43.6
Larimore §§	Maximum...	90	85	82	66	75	77	77	58	70	60	55	60	53	55	60	55	60	72	60	65	68	70	76	66	70	74	75	80	78	80	....	69.1
	Minimum ...	65	50	55	55	46	45	45	48	52	52	39	42	40	45	45	45	42	40	52	53	50	49	43	48	40	37	48	44	42	40	....	46.6
Linton	Maximum...	95	90	87	84	80	82	79	72	70	61	58	57	57	56	62	62	65	73	89	71	76	72	78	71	75	81	77	83	62	69	....	72.8
	Minimum ...	71	48	63	54	40	38	53	53	48	43	37	39	49	51	48	51	46	39	56	54	44	44	52	50	32	41	50	49	42	30	....	47.2
Lisbon §§	Maximum...	98	85	83	74	81	83	80	83	70	62	60	64	58	51	60	65	64	75	70	64	63	70	68	64	60	58	72	68	64	62	....	69.4
	Minimum ...	62	55	50	64	46	40	42	50	46	55	59	35	43	50	48	45	42	46	36	34	40	38	37	35	39	28	30	36	34	[illegible]	....	43.4
McKinney	Maximum...	90	84	78	74	75	74	78	72	75	70	65	60	58	58	60	62	68	69	75	65	71	65	68	85	..	..	..	65	70	64	....	³70.3
	Minimum ...	58	46	48	50	48	39	40	52	50	50	39	38	39	42	32	38	50	38	55	45	40	45	42	32	..	..	..	35	35	34	....	43.0
Maddock	Maximum...	88	81	86	78	76	78	79	64	68	60	51	52	58	56	62	61	65	67	76	71	74	74	73	71	71	74	72	76	67	65	....	69.8
	Minimum ...	62	57	58	55	46	37	44	55	45	44	37	36	45	49	45	46	42	37	53	45	46	47	41	41	29	45	45	47	36	32	....	44.9
Marmarth	Maximum...	88	91	78	69	70	77	70	76	60	..	50	52	47	49	..	..	70	81	75	64	73	71	68	64	84	70	69	70	57	..	....	⁴69.0
	Minimum ...	62	48	57	46	..	35	..	40	..	31	30	44	40	41	..	..	47	41	53	41	41	36	49	40	34	44	44	40	35	..	....	⁶41.1
Melville	Maximum...	88	83	78	..	78	70	77	76	68	65	58	..	60	57	56	63	65	67	68	68	61	62	61	62	72	67	66	78	65	65	....	²68.0
	Minimum ...	68	51	55	..	50	45	45	55	50	45	37	..	47	50	47	48	43	53	57	50	48	46	45	45	37	49	48	46	38	32	....	47.5
Minot §§	Maximum...	89	83	80	70	72	79	80	60	65	53	50	47	57	54	63	64	70	71	72	73	68	71	64	79	80	68	74	52	62	61	....	67.7
	Minimum ...	55	39	40	50	41	36	38	44	45	45	31	29	32	40	32	31	39	37	51	42	39	40	35	33	29	43	42	40	33	28	....	38.7
Mott	Maximum...	90	91	80	69	72	83	76	78	70	55	46	55	54	51	55	63	64	69	75	62	75	70	63	60	81	72	73	61	66	70	....	68.0
	Minimum ...	58	44	47	50	43	46	40	44	34	34	31	36	40	34	32	42	44	42	43	41	41	35	34	36	41	36	37	35	33	31	....	39.5
Napoleon §§	Maximum...	95	88	85	70	78	82	78	71	70	55	57	58	55	55	64	67	64	70	79	70	77	78	75	68	70	68	69	70	58	76	....	70.4
	Minimum ...	65	48	55	52	45	42	44	46	43	42	32	35	38	45	45	46	42	35	48	50	44	43	42	43	29	40	42	43	38	27	....	43.0
New Salem	Maximum...	94	90	94	82	76	80	80	70	55	61	54	52	53	54	59	58	67	74	80	76	72	63	71	66	79	78	73	79	66	55	....	70.6
	Minimum ...	59	53	62	53	51	43	42	53	39	38	33	37	42	49	44	41	42	44	50	47	51	46	48	47	37	42	43	45	37	36	....	45.2
Pembina §§	Maximum...	90	81	81	68	76	77	81	59	62	63	55	59	55	60	70	65	75	62	70	65	60	69	75	65	68	76	67	71	56	59	....	68.5
	Minimum ...	64	49	55	55	47	44	39	45	52	53	41	36	40	45	45	45	43	48	47	45	42	45	43	46	36	47	49	46	39	34	....	45.5
Steele	Maximum...	92	95	83	61	74	81	79	67	66	52	54	56	51	52	59	61	52	69	72	69	71	67	78	64	72	68	67	68	52	69	....	67.5
	Minimum ...	71	60	60	53	44	41	44	60	54	42	36	38	45	50	47	49	44	49	52	49	44	44	48	49	32	44	42	42	39	29	....	45.7
Towner	Maximum...	98	84	81	78	75	78	76	72	70	68	50	52	56	54	64	64	67	67	72	69	70	67	73	65	72	74	75	73	70	66	....	70.0
	Minimum ...	64	44	60	54	48	38	46	55	50	43	38	33	34	47	38	47	43	39	48	46	45	43	45	40	32	35	48	47	45	33	....	44.3
Valley City	Maximum...	94	83	80	70	75	80	78	78	69	64	60	51	57	54	60	62	64	68	67	69	71	76	78	73	63	74	73	75	70	64	....	70.2
	Minimum ...	52	49	58	49	42	42	42	45	47	48	41	38	42	43	40	41	43	34	50	51	43	51	52	43	32	41	50	44	34	30	....	43.9
Wahpeton §§	Maximum...	95	83	83	73	80	80	75	75	70	65	62	62	60	60	62	65	66	71	69	74	74	73	75	68	70	77	71	82	60	69	....	71.7
	Minimum ...	69	59	53	57	45	43	51	58	49	53	38	36	45	52	50	49	49	41	54	54	50	48	49	47	35	49	53	45	41	31	....	48.5
Westhope	Maximum...	95	77	75	68	74	75	78	59	67	59	50	46	55	57	63	57	68	69	75	68	72	70	68	63	75	74	76	72	58	64	....	67.6
	Minimum ...	58	49	57	52	47	40	45	54	44	38	37	36	44	45	33	42	42	40	55	45	44	46	43	36	30	44	45	44	37	37	....	43.3
Williston	Maximum...	84	82	82	70	74	77	72	72	69	53	48	45	51	54	56	60	68	73	72	60	74	64	65	63	79	80	67	66	56	60	....	66.2
	Minimum ...	57	46	57	47	50	44	55	51	45	36	35	40	43	42	35	44	40	46	57	47	44	42	44	41	44	48	45	42	37	39	....	44.6
Moorhead, Minn	Maximum...	95	82	82	70	77	78	74	70	68	61	59	57	57	57	64	63	63	69	63	75	72	69	76	65	68	75	70	82	57	63	....	69.5
	Minimum ...	70	60	60	53	49	49	50	57	52	44	40	42	53	51	49	47	50	40	54	52	52	54	48	50	38	52	50	49	41	35	....	46.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ¹ 1 day missing, ² 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXX. BISMARCK, N. D., OCTOBER, 1921. No. 10

GENERAL SUMMARY.

The weather throughout the month was favorable for outdoor work, and field operations were advanced far ahead of the seasonal average in consequence. Due to both favorable soil and weather conditions, there was more than the usual amount of fall plowing done, although this activity was stopped in some sections, due to dryness of the soil. The seeding of winter rye and wheat was generally completed during the first and second decades, and at the close of the month both crops presented both good stand and color. With the exception of a few fields, corn-husking was completed during the month. There were three short stormy periods, and practically all of the precipitation occurred at those times; from the 6th to the 10th, inclusive, the 17th-18th, and from the 25th to the 28th, inclusive. During the last half of the month there were heavy shipments of both grain and livestock.

TEMPERATURE.

The mean temperature for the State was 47.3°, or 3.5° above the normal, and 2.0° lower than the mean for October, 1920. The highest mean reported was 49.8° at Jamestown, Stutsman County; the lowest was 44.3° at Bowbells, Burke County. The highest temperature reported was 88° at Skaar, McKenzie County, on the 20th; the lowest was 16° at Pettibone, Kidder County, on the 11th, and at Marmarth, Slope County, on the 27th. The greatest monthly range of temperature was 70° at Skaar, McKenzie County; the least was 45° at Melville, Foster County. The greatest daily range was 60° at Fessenden, Wells County, on the 4th.

PRECIPITATION.

The average precipitation for the State was 0.73 inch, or 0.27 inch below the normal, and 0.27 inch more than the average for October, 1920. The greatest monthly amount reported was 2.75 inches at Jamestown, Stutsman County; there was none at Parshall, Mountrail County. The greatest amount recorded in any 24 consecutive hours was 1.55 inches at Linton, Emmons County, on the 26th. The average number of days with 0.01 inch or more of precipitation was 4. The greatest depth of snowfall reported was 3.0 inches at Grand Forks, Grand Forks County.

AURORAS.

Auroras were observed at Howard, Marmarth and Pettibone on the 1st; at Foxholm and Valley City on the 4th; at McLeod on the 5th; at Grand Forks on the 7th; at Grand Forks, Linton and Skaar on the 8th; at Eckman on the 10th; at Arnegard, Donnybrook, Foxholm and Marmarth on the 11th; at Donnybrook and Foxholm on the 20th; at Howard on the 26th; at Ellendale, Foxholm and Howard on the 28th; at Ellendale on the 29th; at Foxholm on the 30th, and at Carson, Donnybrook, Eckman and Foxholm on the 31st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.01	30.53	31	29.38	21	57	6,470	8.7	49	w.	21
Devils Lake	29.94	30.48	31	29.24	21	44	6,899	9.3	44	w.	21
Ellendale	29.96	30.40	31	29.42	21	56	10,121	13.6	53	nw.	10
Grand Forks	29.93	30.37	31	29.39	21	90	....	......	51	w.	21
Williston	29.97	30.53	31	29.29	21	48	5,441	7.3	43	w.	21
Moorhead, Minn	29.96	30.40	31	29.36	21	58	5,789	7.8	44	nw.	21
Av'ges and extremes	29.96	30.53	31	29.24	21	.....	....	9.3	53	nw.	10

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	233.3	336.9	69	+10	76	45	48	21	4*
Devils Lake	206.3	335.6	61	+ 7	84	55	62	22	8
Ellendale	204.0	338.3	60	......	83	50	....	25	5
Grand Forks	......	......	......	......	85	.....	64	.....	....
Williston	231.7	335.6	69	+16	76	42	48	23	13
Moorhead, Minn	......	......	......	......	82	57	59	.....	....
Averages and extremes	218.8	336.6	65	+11	81	50	56	21	4*

* And other dates.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893...	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894...	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895...	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896...	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897...	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898...	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899...	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900...	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901...	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902...	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903...	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904...	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905...	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906...	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907...	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908...	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909...	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910...	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911...	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912...	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913...	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914...	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915...	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916...	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917...	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918...	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919...	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920...	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921...	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.

Climatological Data for October, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	47.8	+3.5	78	13	20	31	48	0.62	−0.72	0.17	T.	6	21	5	5	nw.	E. T. Carley.
Amidon	Slope	......	6	47.6	......	82	13	20	7	50	0.37	......	0.12	0	4	21	9	1	w.	Charles Eastgate.
Arnegard	McKenzie	......	3	47.9	......	79	20	23	7	46	T.	......	T.	0	0	20	9	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	48.1	+4.4	78	4	24	11	41	1.57	+0.53	1.12	0	3	18	6	7	nw.	R. C. Miles.
Beach	Golden Valley	2,579	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	27	48.2^a	+3.5	87^a	13	19^a	11	52^b	0.06	−0.83	0.05	T.	2	16	11	4	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	47	48.9	+4.8	85	4	24	12	46	1.58	+0.55	1.03	T.	6	14	9	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	47.0	+5.4	77	13	21	7†	43	0.69	−0.35	0.19	0	8	16	7	8	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	9	44.3	......	81	13	18	7†	50	0.33	......	0.24	......	2	26	0	5	......	G. H. Phelps.
Bowman	Bowman	......	7	48.2	......	82	13†	19	27†	49	0.05	......	0.05	0	1	19	9	3	nw.	R. Love, Jr.
Cando	Towner	1,488	20	47.3^a	+3.6	76^a	4	23^a	7	40^a	1.48	+0.68	0.63	0	7	......	......	......	nw.	A. J. Swanson.
Carson	Grant	2,500	9	48.1	......	80	13	22	11	40	0.96	......	0.52	T.	4	24	3	4	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11	......	......	......	......	......	......	......	0.70	0.30	0.25	T.	3	20	8	3	nw.	S. Friswold.
Crosby	Divide	1,954	14	47.6^i	+6.1	74^i	14	23^i	11	36^i	0.09	−0.64	0.04	T.	3	......	......	......	......	John Jensen.
Devils Lake	Ramsey	1,478	17	46.4	+5.9	79	4	24	7	38	1.31	+0.08	0.57	0.2	11	16	7	8	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	46.4	+2.5	82	13	20	11	51	0.13	−0.66	0.06	0	3	9	18	4	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	47.0^a	+4.9	80^a	13	19^a	11	48^b	0.55	−0.42	0.28	0	3	15	12	4	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	48.4	......	79	4	19^a	7	55^c	T.	......	T.	T.	0	22	5	4	nw.	W. H. Moede.
Dunseith	Rolette	1,682	25	45.0	+3.9	75	4	22	7†	45	0.70	−0.07	0.18	0	6	13	12	6	nw.	J. G. Lamont.
Eckman	Bottineau	......	16	46.4	+3.7	80	4	20	11	45	0.44	−0.40	0.27	0	3	18	5	8	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	48.0	+2.1	79	4	24	7†	46	0.62	−0.37	0.47	0	5	11	12	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	47.8	......	78	14	25	30	44	0.72	−0.45	0.50	0	6	12	10	9	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	9	......	......	......	......	......	......	......	0.29	......	0.15	0	3	16	10	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	13	......	......	......	......	......	......	......	0.03	−0.74	0.03	0	1	22	8	1	w.	M. E. Uggen.
Fessenden	Wells	1,610	9	46.8^b	......	84^c	4	22^b	10	60^c	1.70	......	0.54	T.	8	......	......	......	nw.	T. D. Monsen.
Forman	Sargent	1,249	28	......	......	......	......	......	......	......	0.54	−0.84	0.42	0	2	17	7	7	sw.	O. Enger.
Foxholm	Ward	......	1	47.3	......	75	4†	22	11	37	0.56	......	0.28	T.	3	15	9	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	3	......	......	......	......	......	......	......	0.04	......	0.04	T.	1	25	6	0	nw.	Verne King.
Fullerton	Dickey	1,439	23	47.8	+3.5	77	16	24	11	43	0.83	−0.49	0.48	0	3	15	11	5	nw.	F. O. Alin.
Garrison	McLean	1,901	26	47.7^a	+3.9	81^a	13	20^a	11	48^a	0.76	−0.17	0.23	T.	6	14	12	5	nw.	G. L. Robinson.
Grafton	Walsh	827	29	46.8	+4.1	77	4	26	24†	44	0.66	−0.25	0.23	0	7	13	12	6	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	46.8	+3.3	75	14	26	7	41	0.50	−0.74	0.29	3.0	8	13	9	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	48.0	+3.9	80	14	23	11	48	0.72	−0.16	0.32	T.	4	15	11	5	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	16	......	......	......	......	......	......	......	1.72	+0.74	0.81	T.	5	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	13	46.6^b	+5.3	75^b	4	25^b	11†	40	1.22	+0.32	0.80	T.	4	14	14	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	13	49.4^a	+3.0	85^a	13†	19^a	7†	55^a	0.02	−0.68	0.02	......	1	......	......	......	nw.	C. J. Downey.
Hillsboro	Traill	901	15	48.2	+2.2	75	14	25	30	41	0.65	−0.37	0.32	T.	6	9	17	5	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	14	45.5	+4.1	75	20	20	7	42	0.04	−0.78	0.04	T.	1	17	8	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	49.8	+5.0	82	4	26	11†	49	2.75	+1.76	0.75	0	6	14	4	13	nw.	S. Calvelage.
Lamoine	Kidder	1,936	13	45.8^e	+2.7	80^e	3	20^e	7†	56	1.54	+0.84	......	T.	3	......	......	......	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	25	45.2	+4.8	77	4	25	3†	47	0.58	−0.41	......	T.	6	16	0	15	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	48.2	+4.9	84	16	26	29	44	0.95	−0.29	0.60	0	3	14	8	9	w.	Reuben Gray.
Linton	Emmons	1,711	3	49.2^a	......	84^a	4	19^a	11	48^a	2.65	......	1.55	T.	9	......	......	......	nw.	William Malpass.
Lisbon	Ransom	1,091	17	46.2	+0.9	75	16	23	30	38	0.08	1.06	0.08	0	1	18	6	7	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3	......	......	......	......	......	......	......	1.24	......	......	T.	5	......	......	......	......	Edw. Tapley.
McKinney ‡‡	Renville	1,640	27	46.6	+4.9	76	20	20	11	46	0.80	−0.03	0.60	0	2	14	12	5	nw.	N. P. Swenson.
McLeod	Ransom	1,075	9	49.6	......	78	14†	23	11	44	0.56	......	0.29	......	7	16	4	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	6	47.5	......	78	13	23	7†	48	1.78	......	0.57	......	7	9	15	7	nw.	A. T. Felland.
Mandan	Morton	1,644	7	49.0	......	84	4	24	11	49	1.39	......	0.62	0	6	18	2	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	46.2	+2.9	78	4	21	11	43	1.61	+0.71	0.75	T.	8	15	5	11	nw.	P. B. Anderson.
Marmarth	Slope	......	12	47.0	+2.9	82	13	16	27	48	0.07	−0.68	0.07	T.	1	18	6	7	w.	S. P. Grane.
Mayville	Traill	975	25	46.6	+1.7	76	4	26	3	44	0.55	−0.63	0.55	0	1	......	......	......	......	M. G. Sateren.
Melville	Foster	1,590	23	45.4^c	+1.8	70^c	15	25^c	7	33^c	1.15	+0.24	0.70	0	3	......	......	......	nw.	J. P. Kidder.
Minot	Ward	1,557	25	45.3	+1.7	82	13	17	11	50	0.51	−0.43	0.21	0	5	15	9	7	nw.	W. I. Faris.
Minto	Walsh	820	28	47.1	+3.9	79	4	25	7	43	0.73	−0.41	0.30	0	7	16	9	6	n.	C. M. Evans.
Mott	Hettinger	2,424	14	46.0	+3.0	86	13	20	7†	49	0.05	−1.07	0.03	0	2	19	6	6	nw.	O. H. Opland.
Napoleon	Logan	1,955	29	47.4	+5.5	79	13	20	7	53	1.78	+0.81	1.08	T.	4	25	2	4	w.	C. J. Hoof.
New England	Hettinger	2,400	27	45.5	+1.8	78^a	13†	18	11	59	0.02	−0.64	0.02	0.2	1	12	12	7	nw.	W. C. McKenzie.
New Salem	Morton	2,163	16	48.3	+4.0	84	4	22	10†	48	0.42	−0.63	0.14	0	5	11	13	7	nw.	J. Christiansen.
Park River	Walsh	998	17	47.5	+3.2	79	4	27	24	38	0.81	−0.23	0.30	T.	6	14	9	8	nw.	C. B. Wright.
Parshall	Mountrail	......	6	......	......	......	......	......	......	......	0.00	......	0.00	0	0	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	47	47.0	+6.1	79^a	4	26	12	44	0.33	−1.16	0.33	0	1	16	0	15	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	46.2	+5.0	81	4	16	11	49	1.83	+1.07	1.06	0	5	17	8	6	nw.	S. C. Shanks.
Power	Richland	1,020	28	......	......	......	......	......	......	......	0.50	−1.00	0.16	T.	6	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	6	......	......	......	......	......	......	......	0.18	......	0.18	0	1	17	11	3	nw.	C. Frank.
Skaar	McKenzie	......	1	46.8^g	......	88^g	20	18^g	22†	55^g	0.01	......	0.01	0	1	......	......	......	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	24	47.1	+3.1	85	5	20	7	51	2.20	+1.34	0.90	T.	5	14	12	5	nw.	H. S. Wood.
Taylor	Stark	2,493	5	47.6^c	......	81^c	13	21^c	11	49^c	0.08	......	0.08	T.	1	......	......	......	nw.	H. Leutz.
Towner	McHenry	1,482	19	47.6	+5.2	78	4	18	11	45	0.58	−0.38	0.56	0	2	22	4	5	nw.	B. Bagley.
Turtle Lake	McLean	1,899	6	47.4	......	80	13	23	7†	50	0.63	......	0.28	T.	4	10	7	14	nw.	A. T. Anderson.
Valley City	Barnes	1,245	2	46.6	+1.4	78	16†	22	3†	46	0.46	−0.46	0.30	0.2	5	23	2	6	nw.	C. F. Schroeder.
Wahpeton	Richland	962	27	49.6	+3.7	78	13†	24	22	47	0.84	−0.71	0.33	T.	5	10	13	8	nw.	State School of Science.
Walhalla	Pembina	966	14	49.7^c	+6.7	80^c	4	24^c	24	48^c	0.71	−0.30	0.23	0	6	16	6	9	n.	Ivan Lee.
Westhope	Bottineau	1,508	15	46.6	+5.2	76	4†	20	6	46	0.48	−0.26	0.38	0	2	18	4	9	nw.	W. A. Meddaugh.
Williston	Williams	1,875	42	47.8	+4.9	77	20	25	31	40	0.10	−0.67	0.07	0	3	13	12	6	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	44.8	+3.1	74	4†	19	11	45	0.46	−0.25	0.13	0	6	14	11	6	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	47.8	+5.0	75	13	29	30	43	0.84	−1.23	0.41	0.2	8	7	14	10	nw.	U. S. Weather Bureau.
Averages	......	......	......	47.3	+3.5	88	20	16	11†	60	0.73	−0.27	1.55	T.	4	16	8	7	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for October, 1921.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red		T.				.06			.12	.17								.09						T.			.12	.16				0.62
Amidon	Lit. Missouri	.05					.12				T.						T.	.09	.11														0.37
Arnegard	Missouri						T.																										T.
Ashley	Missouri																	T.								.40	1.12	.05					1.57
Beach	Lit. Missouri																																
Berthold Agency	Missouri						.01		T		T.								T.						.05			T.					0.06
Bismarck ***	Missouri						.05				.02						T.		.01							.63	.86	.01					1.58
Bottineau	Mouse	.02	.02							.15	.10						.04									.19		.12	.05				0.69
Bowbells ‖	Mouse						.24																			.09							0.33
Bowman	Grand		.05													T		T.	T.									T.					0.05
Cando	Sheyenne						.01			.18							.07		.21	T						.63	.24	.14					1.48
Carson	Heart						.07												.06							.31	.52						0.96
Cooperstown	Sheyenne						.25			.20																		.25					0.70
Crosby	Mouse	.01					.04				.04																						0.09
Devils Lake ***	Sheyenne	.01	.02				.01	.01		.15	.24						T.	T.	.03	.01						.29	.51	.03					1.31
Dickinson ‖	Heart							.06				.05								.02													0.13
Donnybrook	Mouse										.20															.07		.28					0.55
Dunn Center ‖	Knife						T.																										T.
Dunseith	Mouse									.15	.16								T.	.02						.18		.12	.07				0.70
Eckman	Mouse									.10	.07																	.27					0.44
Edgeley	James						.02												.03							.05	.47	.05					0.62
Ellendale***	James		T.				.02	T.			.04							.01	.04	T.						.11	.50	T.					0.72
Energy	Missouri	T.					.04				T.									T.						.15	T.	.10					0.29
Epping	Missouri						T.																		.03								0.03
Fessenden ‖	James		.05					.18		.12	T.									.04	T.					.23	.44	.54	.10				1.70
Forman	Sheyenne																.12										.42						0.54
Foxholm	Mouse						.16				T.															.12		.28					0.56
Fryburg	Lit. Missouri					T.													.04														0.04
Fullerton	James																		.12								.23	.48					0.83
Garrison	Missouri						.14				.11							*	.02							.23	T.	.23					0.76
Grafton	Red										.23						.05		.08							.05	.11	.06	.08				0.66
Grand Forks ***	Red		.02				T.			.01	.29						T.	T.	T.	.07	.01	T.				T.	.08	.01	.01				0.50
Granville	Mouse	T.					.25			.04	.11					T.			T.	T.		T.				T.	T.	.32					0.72
Hannah	Pembina						.06														.11					*	.74			.81			1.72
Hansboro	Red						T.				T.								.80	T.						.20	.12	.10					1.22
Hettinger	Grand	T.									.02														T.								0.02
Hillsboro	Red									.22	.32							.01	.03								.03	.04					0.65
Howard	Missouri						T.				T.								T.						T.	.04							0.04
Jamestown	James						.50				.75														.25	*	.75		.50				2.75
Lamoine	Missouri						T.				T.															*	*	1.54					1.54
Langdon	Pembina					T.					*	.15						*	.23			T.				*	.20						0.58
Larimore	Red										.60																.30	.05					0.95
Linton	Missouri		.01				.01	.02			.02							.12	.05	T.						.78	1.55	.09					2.65
Lisbon ‖	Sheyenne										T.							T.			T.						.08	T.					0.08
McClusky	Missouri		T.					T.			.22								T.							*	.52	.35	.15				1.24
McKinney	Mouse						T.				T.					T.										.20		.60					0.80
McLeod	Sheyenne						.02	.01			.06							.11	.05	T.						.02		.29					0.56
Maddock	Sheyenne						.28			.08	.12															.41	.57	.26	.06				1.78
Mandan ‖	Missouri					T.		.08			.04							T.		T.						.14	.48	.62	.03				1.39
Manfred	Sheyenne		T.				.10	.10		.03	.07								.03							.33	.75	.20					1.61
Marmarth	Lit. Missouri	.07	T.				T.										T.		T.									T.					0.07
Mayville	Red										.55																						0.55
Melville	James									T.									T.							.35		.70	.10				1.15
Minot	Mouse						.13			.02	.03															.12		.21					0.51
Minto	Red										.30						.04		.10							.10	.14	.01	.04				0.73
Mott	Cannon Ball						T.	.03											.02														0.05
Napoleon ‖	Missouri							T.			.05															.30	1.08	.35					1.78
New England	Cannon Ball							.02									T.												T.				0.02
New Salem	Heart						.08				.03								T.							.14	.13	.04					0.42
Park River	Red							.10			.30						.10		.03								.22	T.	.06				0.81
Parshall	Missouri																																0.00
Pembina ‖	Red										T.						T.			T.						T.	.33	T.					0.33
Pettibone	James		T.				.05			T.	.10															.52	1.06		.10				1.83
Power	Missouri						.14	.04		.05								.06									.16	.05					0.50
Powers Lake	Sheyenne						.18												T.						T.								0.18
Skaar	Lit. Missouri																		.01														0.01
Steele	Missouri									.05	T.															.50	.90	.60	.15	T.			2.20
Taylor	Heart						T.				T.															.08							0.08
Towner	Mouse									T.																.02		.56					0.58
Turtle Lake	Missouri						T.	.09																		.28	.10	.16					0.63
Valley City	Sheyenne					.03				.07									T.							.02	.30	.04					0.46
Wahpeton	Red						.06	T.										.31	.08								.33	.06					0.84
Walhalla	Pembina											.23							.08	T	T.					.12	.10	.11	.07				0.71
Westhope	Mouse									.10																	.38						0.48
Williston ***	Missouri					.07			T.	.01									T.						.02	T.							0.10
Willow City	Mouse		.02					T.		.11	.05						T.	T	T							.10	T.	.13	.05				0.46
Moorhead, Minn ***	Red		T.				.07	.01		.21	.33							T.	.04	T.						T.	.09	.07	.02				0.84

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch

Daily Temperatures for October, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	60	60	75	77	53	45	72	60	48	52	68	75	78	66	75	70	60	52	72	71	60	60	55	62	55	48	54	65	67	58	55	62.2
	Minimum ...	37	38	27	30	34	27	27	30	40	31	27	30	38	35	35	40	31	30	39	36	39	30	28	44	43	45	41	38	23	32	20	33.4
Arnegard	Maximum...	56	58	65	75	78	61	54	71	56	56	61	40	78	71	78	71	64	60	57	79	56	50	55	57	54	55	56	58	67	63	53	61.7
	Minimum ...	32	30	28	42	48	33	23	45	40	34	24	30	38	42	40	37	35	35	34	33	36	27	36	33	35	26	32	30	32	42	25	34.1
Ashley	Maximum...	58	58	60	78	67	53	46	71	60	49	54	68	75	73	71	70	65	58	50	65	67	58	61	64	55	47	45	55	60	67	65	61.1
	Minimum ...	35	38	34	37	38	33	25	35	36	39	24	30	38	38	40	42	42	35	38	28	36	31	30	35	44	40	40	36	27	30	33	35.1
Beach	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Berthold Agency	Maximum...	62	56	66	81	66	59	53	73	65	56	61	..	87	75	79	73	66	62	58	81	67	54	59	61	55	57	50	58	67	69	58	[1]64.6
	Minimum ...	26	35	25	36	32	34	21	37	37	36	19	22	..	37	32	29	40	33	39	29	42	28	32	33	44	26	41	33	24	26	22	[1]31.7
Bismarck	Maximum...	62	57	64	85	66	48	52	72	56	52	58	70	80	75	76	71	56	61	53	74	64	55	59	65	50	45	46	57	60	71	55	62.1
	Minimum ...	30	39	29	39	39	34	27	46	41	32	26	24	39	44	36	40	41	34	34	31	43	35	36	34	44	42	42	35	27	35	30	35.7
Bottineau	Maximum...	65	53	60	75	74	59	50	66	60	50	55	68	77	75	68	72	73	65	55	69	68	50	55	53	50	49	46	54	63	62	55	61.1
	Minimum ...	27	30	25	37	31	36	21	31	38	33	22	26	36	39	32	34	32	33	40	32	42	33	33	37	41	38	40	30	21	33	34	32.8
Bowbells §§	Maximum...	62	53	66	75	62	51	51	62	54	43	62	74	81	70	72	71	72	70	73	76	55	43	56	51	52	54	46	56	57	61	57	60.9
	Minimum ...	28	28	27	28	26	26	18	28	37	33	18	24	34	36	34	35	32	31	33	29	25	26	23	28	30	21	22	30	25	22	18	27.7
Bowman	Maximum...	65	60	60	70	80	66	43	73	66	55	60	71	82	73	77	67	63	63	56	82	60	64	57	65	51	53	55	57	67	69	51	61.0
	Minimum ...	30	30	32	49	40	38	22	42	42	30	21	27	33	38	39	37	35	37	29	34	40	25	30	31	35	29	19	19	31	35	29	32.5
Cando	Maximum...	59	53	59	76	68	54	47	65	59	59	55	56	73	73	65	71	62	56	51	65	58	52	..	54	52	47	46	54	57	64	51	[1]58.7
	Minimum ...	31	34	28	35	32	38	23	48	40	43	25	31	33	37	38	42	39	32	41	41	37	34	..	32	42	42	41	35	28	34	31	[1]35.6
Carson	Maximum...	58	60	66	60	70	50	50	70	69	50	58	70	80	70	75	68	65	62	55	75	60	55	60	64	55	45	50	60	65	70	60	61.8
	Minimum ...	28	35	30	40	30	32	25	35	36	32	22	31	40	40	40	38	40	39	35	35	45	28	32	31	49	35	40	35	30	35	25	34.4
Crosby	Maximum...	53	54	61	70	58	48	50	67	56	51	59	65	71	74	65	68	62	60	..	..	..	..	..	..	..	..	..	58	64	59	55	[9]60.4
	Minimum ...	34	36	30	38	34	33	24	44	44	36	23	33	37	46	38	37	40	34	..	..	..	..	..	..	..	..	..	28	33	24	25	[9]34.8
Devils Lake	Maximum...	59	53	58	79	59	49	45	66	55	42	52	66	76	74	60	71	63	56	48	62	61	50	54	57	48	46	46	52	57	64	50	57.4
	Minimum ...	33	33	29	41	36	34	24	40	35	32	25	32	41	40	36	45	39	33	34	34	38	35	36	34	43	41	42	35	29	39	30	35.4
Dickinson §§	Maximum...	58	60	65	79	64	50	53	72	60	41	59	72	82	73	72	69	65	60	54	79	58	52	54	65	51	55	51	53	63	69	54	61.7
	Minimum ...	24	30	24	35	29	36	23	38	34	40	20	22	35	37	33	33	35	33	36	28	46	26	33	28	31	30	32	29	25	36	25	31.2
Donnybrook	Maximum...	57	53	65	74	64	65	58	68	54	..	60	65	80	70	65	65	65	60	51	73	70	40	52	54	53	47	45	48	68	58	56	[1]60.2
	Minimum ...	32	31	31	42	34	38	24	37	39	..	19	37	48	40	37	43	40	30	33	28	26	30	22	38	32	25	39	33	25	46	27	[1]33.7
Dunn Center §§	Maximum...	59	58	64	79	65	57	52	70	68	53	59	72	82	73	75	71	66	58	55	78	58	52	56	62	57	58	59	60	66	67	56	63.4
	Minimum ...	26	32	25	36	41	36	19	50	39	41	20	23	27	45	42	35	42	42	42	28	47	27	30	28	42	33	31	28	24	..	22	[1]33.4
Dunseith	Maximum...	57	51	60	75	66	51	47	64	58	44	55	67	74	71	58	70	61	55	53	67	55	50	51	53	50	47	41	54	61	66	55	57.8
	Minimum ...	28	30	26	30	33	34	22	33	36	31	22	29	37	40	32	34	34	31	39	32	33	32	32	34	30	38	39	32	23	23	31	32.1
Edgeley	Maximum...	61	59	58	79	70	57	47	73	59	52	54	68	73	78	72	73	68	62	51	59	69	57	60	62	53	48	49	56	55	71	61	61.7
	Minimum ...	34	40	27	33	36	37	24	30	41	33	24	31	34	37	41	43	46	35	39	39	36	31	26	28	42	42	41	37	27	30	32	34.4
Ellendale	Maximum...	60	58	58	75	66	48	46	73	58	49	54	65	73	78	74	74	67	61	59	60	71	56	61	63	51	48	50	56	50	64	55	60.6
	Minimum ...	35	35	32	31	36	33	28	35	37	38	27	27	33	40	40	42	45	37	31	31	37	33	33	36	48	43	42	33	29	25	33	35.9
Fessenden §§	Maximum...	65	58	65	84	64	52	52	70	44	59	71	82	76	78	75	75	65	60	52	69	64	52	55	60	60	46	45	55	..	..	..	[3]62.6
	Minimum ...	29	32	23	24	28	32	23	21	25	22	23	31	36	32	36	45	42	40	41	27	32	29	33	28	31	35	38	32	23	..	..	[2]29.9
Fullerton	Maximum...	60	58	57	73	66	51	45	73	57	48	52	64	72	73	76	77	67	58	51	58	71	56	61	61	59	50	49	55	49	63	54	60.2
	Minimum ...	31	40	29	30	39	33	26	32	35	35	24	29	32	39	49	45	43	35	40	36	35	32	32	35	46	43	43	33	29	27	35	35.3
Garrison	Maximum...	59	55	63	80	64	57	50	68	60	57	60	70	81	74	..	70	64	59	55	75	68	52	61	59	57	48	45	56	66	67	60	[1]62.4
	Minimum ...	28	33	28	37	32	33	23	42	39	34	20	25	33	34	..	37	41	35	37	31	41	31	35	32	43	33	39	33	27	35	24	[1]33.4
Grafton	Maximum...	61	55	60	77	72	58	58	68	59	48	49	68	72	74	70	72	67	59	49	53	63	55	50	59	52	51	47	50	55	69	60	60.0
	Minimum ...	32	39	29	33	34	35	27	27	40	28	29	33	32	36	34	30	41	30	41	39	29	28	33	26	31	44	42	42	26	31	32	33.6
Grand Forks	Maximum...	61	54	57	75	63	50	44	70	59	47	48	68	73	75	59	72	67	53	49	52	62	52	54	60	55	47	48	50	56	66	52	58.0
	Minimum ...	36	35	28	34	35	36	26	35	32	33	29	34	34	42	33	41	38	32	40	39	40	35	37	35	45	45	45	40	30	39	24	35.6
Granville	Maximum...	65	55	65	79	77	55	50	68	56	50	58	71	75	80	62	73	65	60	62	75	65	50	60	52	52	48	43	63	67	66	68	62.4
	Minimum ...	32	33	27	39	34	34	27	40	40	31	23	31	37	32	37	40	40	35	33	29	35	32	30	30	40	33	39	37	25	35	28	33.5
Hannah	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Hansboro	Maximum...	61	52	60	75	63	58	..	65	58	47	55	67	73	74	64	73	70	54	54	66	62	53	55	55	51	48	48	54	59	65	..	[2]60.1
	Minimum ...	32	32	28	36	33	33	..	35	38	28	25	30	33	35	38	39	37	29	36	26	34	32	32	25	40	38	40	33	26	35	..	[2]33.0
Hettinger	Maximum...	72	61	67	83	67	59	74	69	71	57	61	72	85	83	72	70	66	65	69	70	76	85	66	71	61	59	54	64	62	70	..	[1]68.8
	Minimum ...	26	31	26	34	35	34	19	21	43	39	19	24	36	34	32	34	38	34	33	34	32	24	29	21	27	31	26	29	20	35	..	[1]30.0
Hillsboro	Maximum...	61	56	57	73	71	58	47	70	65	53	47	67	73	75	68	72	67	62	62	53	70	60	56	59	55	53	48	53	51	65	55	60.7
	Minimum ...	36	37	29	32	39	41	29	29	41	31	30	34	32	38	37	41	39	34	43	38	39	34	33	31	45	42	42	41	31	25	31	35.6
Howard	Maximum...	54	57	67	71	60	40	52	69	62	54	62	68	72	70	70	69	62	58	53	75	55	54	50	58	54	55	65	60	60	60	58	60.6
	Minimum ...	28	26	26	36	28	25	20	40	42	34	35	28	36	36	34	34	32	38	33	33	31	21	28	34	26	25	25	25	28	25	24	30.4
Jamestown	Maximum...	65	60	69	82	77	58	48	76	67	54	55	69	77	78	73	67	60	52	63	71	56	60	54	52	54	48	49	55	64	70	64	62.8
	Minimum ...	55	31	28	33	38	35	27	34	41	37	26	33	34	41	63	47	35	40	39	35	35	34	37	45	31	41	42	37	26	31	33	36.9
Lamoine	Maximum...	68	70	80	68	62	51	56	54	70	49	51	67	77	75	76	74	64	60	51	64	50	58	54	..	..	..	..	..	60	67	52	[5]62.6
	Minimum ...	26	24	24	28	32	31	20	20	20	35	20	20	31	30	34	30	35	31	38	27	31	38	35	..	..	..	..	..	26	35	28	[5]28.7
Langdon	Maximum...	59	53	59	77	67	57	45	64	55	47	52	65	76	75	61	72	66	56	45	56	55	51	57	55	46	45	46	59	55	64	52	57.5
	Minimum ...	32	33	25	30	30	34	25	26	41	30	27	28	34	36	36	39	34	29	37	35	37	31	36	34	36	42	41	41	25	27	23	32.8
Larimore	Maximum...	62	62	68	76	80	50	45	70	60	70	52	67	74	75	77	84	67	65	59	55	64	54	57	60	45	45	47	53	60	70	60	62.2
	Minimum ...	35	36	28	32	40	38	27	40	43	29	28	40	36	35	37	40	38	35	39	38	35	39	34	27	29	32	42	43	26	27	30	34.2
Linton	Maximum...	62	57	62	84	72	60	50	73	65	53	57	69	78	77	77	73	67	59	55	68	66	56	61	56	58	47	46	57	61	60	..	[1]63.5
	Minimum ...	27	41	29	36	38	36	24	37	38	37	19	24	41	35	38	36	42	32	35	25	40	31	39	41	47	42	42	35	26	32	..	[1]34.9
Lisbon §§	Maximum...	56	55	60	58	60	57	55	53	51	47	53	60	58	55	74	75	60	65	62	60	71	69	71	65	61	63	60	50	45	49	55	[illegible]
	Minimum ...	34	35	26	29	34	30	28	30	36	39	25	28	32	33	36	40	39	34	36	40	33	32	35	39	36	32	32	36	30	23	24	33.0
McKinney	Maximum...	60	56	75	70	70	63	61	69	61	61	57	70	75	70	69	71	70	68	61	76	68	63	60	55	51	55	50	55	65	62	58	63.7
	Minimum ...	31	33	32	31	31	33	23	32	24	26	20	27	32	34	37	36	40	32	32	30	30	30	25	25	32	29	32	33	25	27	21	28.5
Maddock	Maximum...	65	57	59	77	73	58	50	67	64	51	54	67	78	73	68	71	64	69	59	67	66	56	53	57	55	57	45	53	50	65	57	61.8
	Minimum ...	31	39	24	37	31	35	23	37	39	34	23	31	30	37	34	40	41	29	41	26	30	30	32	30	41	41	40	34	27	34	28	33.2
Marmarth	Maximum...	49	58	68	78	66	48	56	73	65	55	65	73	82	72	75	68	62	61	57	81	60	53	52	64	50	53	51	53	60	67	55	62.5
	Minimum ...	29	27	33	32	36	30	24	46	40	33	18	25	34	41	38	32	37	37	33	33	42	24	27	30	36	25	16	27	32	33	25	31.4
Melville	Maximum...	65	55	57	65	64	57	37	60	63	45	48	..	..	68	70	..	65	58	48	60	58	56	48	52	53	46	45	45	56	60	55	55.7
	Minimum ...	34	36	27	40	33	33	25	36	38	37	26	..	..	36	37	..	45	35	42	32	35	31	34	32	45	43	40	35	28	37	24	35.3
Minot	Maximum...	61	55	65	79	63	52	52	68	60	50	58	71	82	73	63	72	65	57	70	76	63	59	60	58	53	51	43	57	67	67	55	61.8
	Minimum ...	26	29	21	33	29	27	20	45	35	30	17	23	36	33	31	36	36	35	26	26	30	26	23	23	33	24	33	21	19	33	22	28.8
Mott	Maximum...	75	65	76	76	68	45	39	47	45	42	68	74	86	75	77	64	63	62	58	73	63	60	68	73	72	61	62	68	64	63	65	[illegible]
	Minimum ...	30	31	31	35	32	31	20	32	30	29	26	28	37	35	31	27	30	26	20	24	23	26	25	24	26	27	25	24	22	25	24	[illegible]
Napoleon §§	Maximum...	61	59	61	81	65	45	47	67	57	55	58	68	79	70	72	73	71	68	58	67	68	70	60	64	52	44	45	55	61	68	53	62.2
	Minimum ...	28	26	27	28	32	34	20	35	40	35	38	40	40	36	38	37	38	30	32	23	31	28	32	34	54	40	38	35	24	31	29	32.5
New Salem	Maximum...	61	58	65	84	66	48	53	59	71	65	60	70	82	72	75	72	65	62	65	69	62	61	54	65	58	62	59	67	64	61	66	64.0
	Minimum ...	23	37	31	40	30	27	28	27	38	22	22	23	34	35	38	48	42	26	35	34	42	37	29	30	32	29	32	32	34	30	31	32.0
Pembina §§	Maximum...	60	53	60	79	61	51	45	64	56	45	48	70	71	70	59	75	68	56	48	50	60	56	60	54	52	47	48	50	63	65	..	[1]59.8
	Minimum ...	35	36	31	35	31	31	28	31	34	33	31	26	27	34	37	36	40	29	31	39	37	39	35	32	44	43	44	38	36	33	28	34.5
Steele	Maximum...	58	57	58	80	85	45	47	57	67	54	65	65	72	72	77	75	65	57	58	65	65	68	50	50	45	46	45	54	62	67	52	60.9
	Minimum ...	28	30	28	30	34	39	20	40	43	40	29	29	29	37	37	37	37	35	32	27	25	25	33	37	43	41	41	38	25	32	32	[illegible]
Towner	Maximum...	59	55	63	78	73	64	50	67	63	48	57	71	76	73	70	71	68	59	59	71	69	65	64	52	52	47	44	55	63	62	54	62.0
	Minimum ...	32	31	24	39	29	27	23	38	40	36	18	26	33	34	33	35	33	31	44	40	35	33	32	33	43	38	41	35	25	33	32	33.1
Valley City	Maximum...	58	53	63	74	54	60	45	74	60	45	56	68	75	60	65	78	75	78	70	48	74	70	59	63	55	50	47	54	55	68	54	[illegible]
	Minimum ...	24	26	22	28	26	30	22	42	36	22	36	32	33	54	29	42	45	35	35	36	36	28	29	30	42	40	29	29	24	22	28	[illegible]
Wahpeton	Maximum...	63	60	57	73	73	55	47	75	56	49	53	67	78	78	72	75	68	62	54	55	75	68	61	62	62	55	52	59	55	57	61	[illegible]
	Minimum ...	35	40	26	32	39	33	33	28	44	30	27	31	36	47	38	50	41	31	39	39	42	24	39	38	48	43	46	36	31	28	37	[illegible]
Westhope	Maximum...	57	55	64	76	62	53	61	70	56	51	63	71	76	72	63	73	68	54	62	71	57	74	53	55	43	43	56	64	62	60	62	[illegible]
	Minimum ...	30	30	26	35	28	20	26	25	28	23	21	43	34	36	37	56	37	29	34	46	28	28	37	36	27	40	33	25	34	[illegible]	26	[illegible]
Williston	Maximum...	54	54	66	74	60	50	55	71	54	52	60	71	75	70	70	71	64	59	58	77	56	48	53	60	55	53	53	58	68	63	[illegible]	60.8
	Minimum ...	31	34	30	43	36	33	26	46	43	33	28	31	38	40	38	40	41	42	37	41	35	30	35	39	33	26	32	32	33	32	25	[illegible]
Moorhead, Minn	Maximum...	61	56	56	73	62	45	41	71	56	43	48	66	75	74	61	71	67	56	53	53	71	52	56	59	55	47	50	57	51	65	55	[illegible]
	Minimum ...	37	39	30	30	40	33	31	33	38	34	31	35	36	45	41	48	45	35	43	40	42	35	38	39	47	43	45	40	32	[illegible]	[illegible]	[illegible]

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§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [1] 1 day missing. [2] 2 days etc

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXX. Bismarck, N. D., November, 1921. No. 11

GENERAL SUMMARY.

Changeable weather as regards temperature prevailed throughout the State during the month. The weather at the opening of the month was above normal, a condition which prevailed during the first decade. The temperature during the second decade and during the first half of the third decade was below the normal. The month closed with generally mild temperature. There was practically no precipitation over the State during the first six days. From the 7th to the 18th, snow flurries were frequent in all sections, the snowfall being fairly heavy in some sections. From the 19th to the close of the month scattered snows occurred. The weather, taken as a whole, was favorable for outdoor work and for livestock.

TEMPERATURE.

The mean temperature for the State was 21.0°, or 5.6° below the normal, and 7.0° lower than the mean for November, 1920. The highest mean reported was 28.2° at Beach, Golden Valley County; the lowest was 16.2° at Hansboro, Towner County. The highest temperature reported was 69° at Bowman, Bowman County, on the 3d; the lowest was -30° at Howard, Divide County, on the 19th. The greatest monthly range of temperature was 92° at Berthold Agency, McLean County; the least was 63° at Lisbon, Ransom County. The greatest daily range was 60° at Minot, Ward County, on the 28th.

PRECIPITATION.

The average precipitation for the State was 0.68 inch, or 0.10 inch above the normal, and 0.31 inch more than the average for November, 1920. The greatest monthly amount reported was 1.52 inches at Amidon, Slope County; the least was 0.10 inch at Lamoine, Kidder County. The greatest amount ecorded in any 24 consecutive hours was 1.00 inch at Howard, Divide County, on the 16th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 6.3 inches.

AURORAS.

Auroras were observed at Arnegard on the 4th; at Bismarck, Dickinson and McLeod on the 5th; at Howard on the 26th, and at McLeod on the 30th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.15	30.73	8	29.38	30	57	5,826	8.1	32	nw.	12
Devils Lake	30.10	30.66	8	29.26	30	44	6,874	9.5	25	ne.	7
Ellendale	30.13	30.65	8	29.30	30	56	8,670	12.0	42	nw.	13
Grand Forks	30.12	30.65	8	29.34	30	90	....	......	32	s.	27
Williston	30.07	30.61	8	29.23	30	48	5,503	7.6	37	se.	22
Moorhead, Minn	30.14	30.70	22	29.41	30	58	5,812	8.1	21	s.	12
Av'ges and extremes	30.12	30.73	8	29.23	30	.....	....	9.1	42	nw.	13

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	124.7	281.1	44	− 9	90	72	79	32	3
Devils Lake	97.3	278.2	35	−13	87	73	84	43	3
Ellendale	115.9	284.1	41	......	91	78	....	44	1
Grand Forks	......	......	......	......	88	.....	75	.....	....
Williston	87.8	278.2	32	−14	87	70	77	28	3
Moorhead, Minn	......	......	......	......	84	72	77	.....	....
Averages and extremes	106.4	280.4	38	−12	88	73	78	28	3

* And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901	26.8	+.02	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917	36.8	+10.2	77	7	0.14	−0.44	1	16	6	8	nw.
1918	28.9	+2.3	71	18	1.04	+0.46	4	13	6	11	nw.
1919	15.6	−11.0	57	36	1.16	+0.58	5	11	8	11	nw.
1920	28.0	−1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921	21.0	−5.6	69	30	0.68	+0.10	5	7	8	15	nw.

Climatological Data for November, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	22.0	−5.3	64	3	−21	20	40	0.43	−0.03	0.30	4.3	3	18	2	10	e.	E. T. Carley.
Amidon	Slope		6	26.0		67^{a}	3	−22	19	36^{a}	1.52		0.70	8.0	7	9	11	12	w.	Charles Eastgate.
Arnegard	McKenzie		3	24.6		66	6	−21	19	41	0.40		0.20	4.0	3	12	3	15	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	20.9	−6.8	61	3	−14	20	35	1.00	+0.50	0.40	10.0	4	11	1	18	nw.	R. C. Miles.
Beach	Golden Valley	2,579	15	28.2	−3.2	64	6	−18	19†	34	0.98	+0.50	0.24		5					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	21.9	−6.9	66	3	−26	23	43	0.29	−0.22	0.17	5.8	5	7	9	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	47	22.6	−3.4	66	3	−12	19	35	0.84	+0.16	0.27	8.7	8	4	13	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	18.0	−5.6	58	3	−25	19	35	0.38	−0.17	0.17		6	6	6	18	se.	N. A. Eckberg.
Bowbells	Burke	1,958	9																	G. H. Phelps.
Bowman	Bowman		7	25.7		69	3	−22	19	37	0.43		0.20	4.3	6	9	19	2	nw.	R. Love, Jr.
Cando	Towner	1,488	20	19.2	−7.3	59	3	−21	19	31	0.39	−0.07	0.23		3	4	9	17	se.	A. J. Swanson.
Carson	Grant	2,500	9	22.4		65	4†	−20	19	33	0.97		0.40	9.7	6	6	11	13	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11								0.20	−0.18	0.20	2.0	1	10	16	4	nw.	S. Friswold.
Crosby	Divide	1,954	14	22.6	−5.2	62	3	−18	19	32	0.49	−0.36	0.02	4.7	5	7	7	16	sw.	John Jensen.
Devils Lake	Ramsey	1,478	17	18.6	−4.0	60	3	−17	19	29	0.43	−0.28	0.19	5.1	6	4	8	18	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	24.0	−4.6	63	5†	−22	19	47	1.05	+0.54	0.31	4.5	13	3	9	18	sw.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	22.7^{l}	−6.1	60^{c}	3	−22	19	33^{c}	2.06	+1.46	0.96	8.0	5	4	10	16	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	22.5		66	3	−23	19	37	0.45		0.20	4.5	4				se.	W. H. Moede.
Dunseith	Rolette	1,682	25	16.5	−9.7	61	3	−25	19	35	0.62	+0.21	0.30	6.2	6	6	11	13	nw.	J. G. Lamont.
Eckman	Bottineau		16	19.7^{a}	−6.6	58^{a}	1	−22^{a}	19	36^{a}	0.54	+0.07	0.20	8.0	5	12	4	14	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	21.1	−9.3	66	3	−17	20	39	0.30	−0.01	0.20	3.0	3	4	11	15	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	20.2		65	3	17	19	40	0.65	−0.05	0.22	6.4	8	4	10	16	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	9								0.54		0.30	5.5	4	10	8	12	nw.	H. S. Solenberger.
Epping	Williams	2,224	13								0.31	−0.03	0.25	4.0	2	11	12	7	e.	M. E. Uggen.
Fessenden	Wells	1,610	9	19.4		62	1†	−23	20	42	1.40		0.90	13.9	11	7	9	14	nw.	T. D. Monsen.
Forman	Sargent	1,249	28								0.90	+0.43	0.30	9.0	5	9	2	19	nw.	O. Enger.
Foxholm	Ward		1	20.4		62	3	−19	19	30	0.69		0.25	9.0	6	6	8	16	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	3								1.50		0.33	13.0	8	9	13	8	nw.	Verne King.
Fullerton	Dickey	1,439	23	21.2	−8.5	64	3	−16	20	39	1.12	+0.54	0.58	10.6	7	10	6	14	nw.	F. O. Alin.
Garrison	McLean	1,901	26	21.7	−5.3	64	3	−22	19	37	0.59	−0.01	0.22	5.8	7	4	12	14	nw.	G. L. Robinson.
Grafton	Walsh	827	29	20.2	−3.8	55	3	−15	20	27	0.40	−0.19	0.18	5.8	5	5	6	19	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	18.9	−7.2	59	3	23	21	31	0.36	−0.26	0.20	3.6	6	2	6	22	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	14																	W. A. Christianson.
Hannah	Cavalier	1,568	16								0.80	+0.21	0.60	8.0	3					J. Moffatt.
Hansboro	Towner	1,597	13	16.2^{b}	−9.7	62^{a}	3	−22^{l}	19	35	0.70	+0.29	0.40	7.0	2	6	8	16	nw.	C. E. Blackorby.
Hettinger	Adams	2,253	13	24.5	−8.9	54	1	−19	19	32	0.80	+0.46	0.40	8.0	3	6	4	20	nw.	U. J. Downey.
Hillsboro	Traill	901	15	20.6	−8.2	62	3	−20	20	32	0.59	−0.11	0.33	2.6	6	3	12	15	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	14	18.8	−8.9	63	4	−30	19	36	1.25	+0.70	1.00	11.5	3	13	7	10	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	22.2	−5.4	65	3	−14	20	40	0.60	−0.07	0.20	6.0	8	12	5	13	nw.	S. Calvelage.
Lamoine	Kidder	1,936	13	18.3	−8.7	62	3	−20	19	38	0.10	−0.44	0.10	1.0	1	14	4	12	w.	E. V. Virgin.
Langdon	Cavalier	1,615	25	17.6	−8.1	54	3	−19	19	34	1.10	+0.51	0.40	11.0	6	5	10	15	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	19.8	−6.0	58	4	−15	20	29	0.34	−0.21	0.15	3.5	5	4	10	16	n.	Reuben Gray.
Linton	Emmons	1,711	3	23.2		68	6	−10	19	32	0.53		0.17	6.0	9	5	6	19	nw.	William Malpass.
Lisbon	Ransom	1,091	17	21.8	−8.4	45	11†	−18	20	34	0.05	−0.43	0.05	0.5	1	13	7	10	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3								1.05		0.20	8.5	9					Edw. Tapley.
McKinney ‡‡	Renville	1,640	27	21.1	−3.5	60	2	−20	19	35	0.65	+0.02	0.25	6.5	4	1	13	16	nw.	N. P. Swenson.
McLeod	Ransom	1,075	9	22.1		62	2	−19	20	38	0.60		0.18		7	13	2	15	se.	J. G. Carlson.
Maddock	Benson	1,604	6	19.8		60	3	−19	19	35	0.26		0.15		4	3	13	14	nw.	A. T. Felland.
Mandan	Morton	1,644	7	21.6		66	3	15	19	37	0.87		0.29	7.0	10	7	5	18	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	19.6	−9.4	59	3	−18	19	32	0.75	+0.10	0.10	7.6	10	7	10	13	sw.	P. B. Anderson.
Marmarth	Slope		12	25.8	−8.2	65	3	−23^{a}	19	39^{a}	1.03	+0.76	0.32	10.9	10	7	11	12	w.	S. P. Grane.
Mayville	Traill	975	25	19.1	−10.2	63	3	−17	20	36	0.30	0.32	0.30	3.0	1	9	2	19	s.	M. G. Sateren.
Melville	Foster	1,590	23	19.2^{a}	−9.8	50^{a}	1	−14^{a}	19	33^{a}	0.70	+0.28	0.30	7.0	4				nw.	J. P. Kidder.
Minot	Ward	1,557	25	18.6	−11.1	64	3	−22	28	60	0.74	+0.15	0.40	7.2	5	8	11	11	w.	W. I. Faris.
Minto	Walsh	820	28	20.2	−4.3	57	3†	16	20	30	0.54	0.00	0.20	4.0	4	5	14	11	ne.	C. M. Evans.
Mott	Hettinger	2,424	14	21.5	−9.7	57	1	−23	19	29	1.32	+0.88	0.34	11.5	10	6	6	18	nw.	O. H. Opland.
Napoleon	Logan	1,955	29	18.2	−8.4	63	2	17	20	36	0.50	−0.12	0.20	5.0	4	8	6	16	w.	C. J. Hoof.
New England	Hettinger	2,400	27	25.0	−5.2	66	4	−22	19	42	1.25	+0.75	0.50	11.7	7	1	17	12	nw.	W. C. McKenzie.
New Salem	Morton	2,163	16	23.0	−7.7	66	3	−19	19	38	0.83	+0.52	0.25	8.0	8	8	7	15	se.	J. Christiansen.
Park River	Walsh	998	17	19.6	−8.4	58	3	−16	20	30	0.16	−0.58	0.10	1.0	2	2	6	22	nw.	C. B. Wright.
Parshall	Mountrail		6								0.30		0.20	3.0	2					J. A. Johnson.
Pembina	Pembina	789	47	17.4	−5.3	50	3	−16	22	28	0.40	−0.29	0.20	4.0	2	11	3	16	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	19.5	−7.4	60	3	22	19	42	0.39		0.12	3.8	6	9	7	14	sw.	S. C. Shanks.
Power	Richland	1,020	28								0.63	+0.04	0.20	5.0	6					J. A. Power.
Powers Lake	Burke	2,205	6								0.95		0.50	9.5	4	2	7	21	ne.	C. Frank.
Skaar	McKenzie		1	24.5^{l}		65^{b}	3	−24^{l}	19	43^{b}	0.90		0.55	1.0	4				nw	Conrad Brunsvold.
Steele	Kidder	1,857	24	17.2	−11.2	54	3	−16	18	33	0.25	−0.29	0.25	2.5	1	8	8	14	ne.	H. S. Wood.
Taylor	Stark	2,493	5	21.9^{e}		63^{c}	3	−20^{c}	19	39^{c}	1.14		0.57		5				sw.	H. Leutz.
Towner	McHenry	1,482	19	20.6	−4.4	61	3	−22	19	36	1.00	+0.55	0.80	10.0	3	10	8	12	se.	B. Bagley.
Turtle Lake	McLean	1,899	6	20.1		58	5	−19	19	30	0.40		0.10	5.8	6	5	7	18	se.	A. T. Anderson.
Valley City	Barnes	1,245	2	17.4	−12.3	53	1	−21	22	31	0.75	+0.23	0.20	7.0	8	9	8	13	ne.	C. F. Schroeder.
Wahpeton	Richland	962	27	23.4	−4.9	63	3	−15	20	37	0.63	0.00	0.38	5.0	5	6	12	12	nw.	State School of Science.
Walhalla	Pembina	966	14	22.6^{d}	−4.5	57^{g}	4	−17	22	30^{c}	0.83	−0.29	0.40	8.3	5	3	4	23	n.	Ivan Lee.
Westhope	Bottineau	1,508	15	17.9	−8.9	56	1	−23	19	33	0.30	−0.15	0.20	3.0	3	4	12	14	nw.	W. A. Meddaugh.
Williston	Williams	1,875	42	23.0	−2.2	65	3	−20	20	37	0.65	+0.05	0.23	6.5	10	3	9	18	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	16.6	−5.5	57	3	−28	19	33	0.65	+0.21	0.20	6.5	5	6	8	16	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	21.8	−2.6	61	3	−16	20	31	0.52	−0.46	0.23	4.5	10	4	7	19	n.	U. S. Weather Bureau.
Averages				21.0	−5.6	69	3	−30	19	60	0.68	+0.10	1.00	6.3	5	7	8	15	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for November, 1921.

Stations.	Drainage Basin.	Day of Month.																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red								.03						.30	T.		T.		.10														0.43
Amidon	Lit. Missouri								.25			.22			.14		.04			.10			.70					.07			T.			1.52
Arnegard	Missouri								.20			.10						.10																0.40
Ashley	Missouri	T.						.30			.20						T.	.10				.40											1.00
Beach	Lit. Missouri								.24								.11			.18	T.		.22								.20			0.98
Berthold Agency	Missouri	T.						.02			.17	T.		T.		.06		.02								T.	.02						0.29
Bismarck ***	Missouri								.27	T.		.26		.04	T.	.03	.12	T.	.02	T.			.07	T.		T.	T.	.03	T.	T.				0.84
Bottineau	Mouse								T.			.03		.17		.03	T.	.10						.02						T.	.03			0.38
Bowbells ‖ ‖	Mouse																																
Bowman	Grand								.03	.01	.06	T.			T.	T.	.08	.05		T.			.20							T.				0.43
Cando	Sheyenne								T.						.23			.10		T.				T.	T.		T.				.06			0.39
Carson	Heart								.10	.05		.15				.02	.15		.10				.40											0.97
Cooperstown	Sheyenne								T.					.20	T.	T.			T.								T.	T.		T.				0.20
Crosby	Mouse						T.	T.		.20						.20		T.					.05			T.	.02			T.	.02		0.49
Devils Lake ***	Sheyenne						.02	.02	T.		T.	T.	.19	.05	T.	.08		T.	T.				T.	T.		T.	T.		.07		T.		0.43
Dickinson ‖	Heart								.31	.04		.02	.12	.04		.12	.04	.19	T.	.05	T.		.07	.02				T.	.02		.01			1.05
Donnybrook	Mouse										.30	.30	.20			.96	T.	T.									.30	T.					2.06
Dunn Center ‖	Knife								.10			.05					.20		.10															0.45
Dunseith	Mouse								T.			.03		.30	.02	.07		.15		T.				T.			T.			T.	.05			0.62
Eckman	Mouse								.10			T.		.20			*	.14					T.				T.	.10		T.	T.	T.		0.54
Edgeley	James								.20		.05	T.						T.	.05				T.		T.		T.							0.30
Ellendale ***	James	T.						.22			.14	T.	T.	T.	.01	.05	T.	.07		.03	.06	.07	T.	T.		T.	T.		T.				0.65
Energy	Missouri								.04			.30					.15											.05						0.54
Epping	Missouri								T.			T.					.06		.25									T.			T.			0.31
Fessenden ‖‖	James								.02			.10		.10		.06	.06	.03	.02	.02								.90	.05	.04				1.40
Forman	Sheyenne								.20			.10							.30			.20	.10											0.90
Foxholm	Mouse								.06			.13		.05			.25	.12	T.	T.				T.			T.	.08						0.69
Fryburg	Lit. Missouri								.25			.21		.16		.11	.25		.16				.33							.03				1.50
Fullerton	James	T.						.58			.12					.12		.07			.07	.10					T.	T.	.06				1.12
Garrison	Missouri								.02			.11		.02		.02		.22		.11								.09	T.					0.59
Grafton	Red								T.					.12	.02			.07		.01											.18			0.40
Grand Forks ***	Red	T.	T.				T.	T.	T.				.20	.02	.01		.01	T.	T.				T.	T.	T.	.01	T.	T.	T.	.11			0.36
Granville	Mouse																																
Hannah	Pembina					.10	T.	T.						.10																	.60		0.80
Hansboro	Red															.30													T.	.40			0.70
Hettinger	Grand	.20						.20													T.	.40											0.80
Hillsboro	Red												.10	.05	.03		.03		.05											.33			0.59
Howard	Missouri								T.			.10		T.				1.00	T.					T.				.15			T	T.		1.25
Jamestown	James								.20		.10			.05	.02		.03		.08									.07		.05				0.60
Lamoine	Missouri								T.			T.					.10																	0.10
Langdon	Pembina								.20						.40	.10		.05			.10				T.					.25				1.10
Larimore	Red								.02					.10				.15										.02			.05			0.34
Linton	Missouri								.01			.17		T.	T.	.14	T.	.01	.01	.01	.05	T.	.10	T.				.03	T.	T.				0.53
Lisbon ‖	Sheyenne								.05	T.		T.					T.	T.																0.05
McClusky	Missouri								.15	.15	.10			.10			.15			.10								.05	.05	.20				1.05
McKinney	Mouse										.15		.20				.25	T.						T.		T.	.05			T.			0.65
McLeod	Sheyenne								.07			.04		.11	.07	T.		.08		.18											.05			0.60
Maddock	Sheyenne												.04		.03		.04											.15	T.				0.26
Mandan ‖	Missouri								.29	T.	.17		.06	.03	T.	.03	.02	.09	T.	.05	T.		.09	T.			T.		.04					0.87
Manfred	Sheyenne								.05			.08	.05			.05	.19	T.		.07							T.	.10	.10	.10	.05			0.75
Marmarth	Lit. Missouri	T.						*	.12		.04			.01	.07	.30		.08	.04			.32	T.						.05				1.03
Mayville	Red															.30																	0.30
Melville	James	T.						.05			.15		.20		T.	T.		T.								T.		.30					0.70
Minot	Mouse								T.			.10		.10		.04	.40											.10						0.74
Minto	Red						T.	T.					.15		.05		.20												T.	.14			0.54
Mott	Cannon Ball								.08			.06	.02			.11	.34		.03	.11			.30			T.	.11			.16				1.32
Napoleon ‖‖	Missouri						*	.20			.10					T.							.20										0.50
New England	Cannon Ball								.02	.20		.08				.05	.30		.10				.50					T.		T.				1.25
New Salem	Heart								.20			.25			T.	.04	.20		.05	T.	T.	.03	.02	.04		T.		T.		T.				0.83
Park River	Red												.06									T.								.10			0.16
Parshall	Missouri						.20			.10																							0.30
Pembina ‖‖	Red				.20																			.20									0.40
Pettibone	James								.02	T.		.05		.12			.05		T.	.05										.10				0.39
Power	Missouri								.15	.05					.10				.20										.08			.05		0.63
Powers Lake	Sheyenne									.15			.20	T		T.	.50						T.	.10	T.				T.		T.	T.		0.95
Skaar	Lit. Missouri								.55			.20				.05						.10												0.90
Steele	Missouri	T.						.25	T.	T.		T.	T.	T.	T.	T.	T.	T	T.			T.	T.	T.	T.	T.	T.	T.	T.				0.25
Taylor	Heart								.57			.15					.26	T.	.04	T.			.12											1.14
Towner	Mouse								T.			.10	.10	T.				.80																1.00
Turtle Lake	Missouri								.02			.09		.07		T.	.10	.05	T.								T.	.07	T.					0.40
Valley City	Sheyenne	.01						T.					.10		.20	.20		.10	.02							T.		.08			.04		0.75
Wahpeton	Red								.38					.05	.08		.07		.05												T.			0.63
Walhalla	Pembina	T.				.12	.01						.20				.10													.40			0.83
Westhope	Mouse						T.				.03	.07	T.			.20																	0.30
Williston ***	Missouri						.09	.02		.01	.22	.05	T.			.22	T.	T.	.01			T.	.01			T.	.01			.01	T.		0.65
Willow City	Mouse								.10			.15		.20			.10	.10	T.	T.				T.	T.		T.		T.	T.	T.			0.65
Moorhead, Minn ***	Red	.01						.04				T.	.21	.02	.04	.04		.07	T.	T.	.02			.01		T.		T.	.06				0.52

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	46	57	64	56	55	45	35	30	40	30	27	22	24	38	32	40	33	30	22	15	10	10	20	21	27	27	35	38	40	46	....	33.8
	Minimum ...	17	20	24	33	18	24	23	4	4	10	2	2	11	15	17	21	12	11	-8	-21	-7	-6	3	1	8	12	7	18	14	18	....	10.2
Arnegard	Maximum...	64	60	52	60	53	66	43	33	47	31	38	39	40	40	31	27	25	20	0	-3	-3	8	32	20	31	29	40	39	35	40	....	34.6
	Minimum ...	34	25	33	35	17	25	15	16	16	19	19	26	22	28	24	23	15	-3	-21	-19	-16	-6	8	-7	10	13	18	29	23	20	....	14.7
Ashley	Maximum...	50	51	61	50	54	49	32	19	35	29	27	38	36	37	31	29	28	23	5	7	0	5	18	21	11	22	25	35	32	39	....	30.0
	Minimum ...	27	30	31	30	26	22	16	2	5	19	0	3	11	9	18	21	15	5	-11	-14	-8	-4	1	1	5	11	18	20	25	20	....	11.8
Beach	Maximum...	62	60	56	58	60	64	60	46	30	41	40	45	40	40	41	40	20	20	5	5	-1	8	40	34	25	40	42	40	36	40	....	39.7
	Minimum ...	31	30	28	26	30	36	26	17	12	19	28	22	24	21	27	18	17	0	-18	-18	-10	-4	10	13	11	10	13	28	20	30	....	16.6
Berthold Agency	Maximum...	61	58	66	56	61	45	38	30	38	36	24	40	39	40	36	30	24	16	4	2	3	9	27	22	16	16	31	41	40	40	....	33.0
	Minimum ...	30	22	23	30	29	16	16	13	10	13	15	15	18	27	26	18	15	0	22	-23	-26	9	5	-8	6	6	3	14	27	15	....	10.8
Bismarck	Maximum...	58	54	66	48	62	38	33	22	37	29	20	41	29	37	30	25	23	21	0	6	2	7	22	19	17	26	26	39	34	40	....	30.4
	Minimum ...	33	30	29	32	32	22	15	13	13	20	1	19	19	21	25	19	17	0	12	-6	-7	2	5	1	8	12	17	18	25	23	....	14.9
Bottineau	Maximum...	54	52	58	54	42	36	55	24	36	30	24	20	27	33	30	25	22	20	10	8	1	1	15	14	11	17	20	32	32	30	....	27.8
	Minimum ...	29	23	29	26	24	27	14	9	11	16	-3	10	-3	12	18	15	18	3	-25	-20	-23	-17	-2	-13	2	8	11	18	16	11	....	8.1
Bowbells §§	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Bowman	Maximum...	60	60	69	57	64	59	48	28	41	40	37	47	40	40	52	38	38	20	4	3	1	8	37	27	25	32	31	37	31	40	....	37.2
	Minimum ...	28	23	33	32	33	26	17	12	10	30	10	30	22	22	22	16	8	0	22	-12	-8	-2	6	5	8	13	6	25	15	18	....	14.2
Cando	Maximum...	47	49	59	52	41	37	33	23	28	30	22	19	20	34	31	26	25	24	10	2	1	1	16	17	10	19	24	34	35	33	....	26.7
	Minimum ...	28	28	31	29	25	21	14	13	17	18	5	11	16	8	19	20	20	-7	-21	-12	-14	11	0	7	2	9	16	20	20	20	....	11.7
Carson	Maximum...	62	55	60	65	65	50	35	20	35	30	25	45	35	35	30	25	25	15	5	0	0	5	20	20	20	30	25	36	32	40	....	31.5
	Minimum ...	32	25	32	32	32	20	14	9	10	20	15	20	19	25	24	15	10	0	-20	-12	10	-5	0	7	7	8	15	18	20	20	....	13.4
Crosby	Maximum...	55	52	62	57	53	50	30	29	45	31	39	36	36	38	36	32	29	17	3	3	1	8	21	16	16	21	31	36	37	38	....	31.9
	Minimum ...	35	27	32	28	28	29	18	19	18	19	22	20	19	31	23	17	17	-9	-18	-13	-16	-10	1	-8	4	11	-1	27	16	17	....	13.4
Devils Lake	Maximum...	48	48	60	42	35	35	25	23	35	26	22	20	19	34	29	24	23	19	-3	6	1	5	17	15	11	19	24	35	33	35	....	25.5
	Minimum ...	30	29	31	25	24	25	8	7	18	16	5	13	10	13	18	20	18	-6	-17	-11	-11	-10	5	-4	2	10	17	20	21	22	....	11.6
Dickinson §§	Maximum...	60	60	61	56	63	63	27	28	35	36	35	42	38	34	32	26	21	18	8	2	0	14	35	24	20	35	33	37	32	39	....	33.8
	Minimum ...	32	21	29	29	34	16	25	11	10	24	18	22	17	20	26	18	18	8	-22	-15	-10	-8	0	11	11	10	11	17	26	18	....	14.2
Donnybrook	Maximum...	46	45	60	58	44	45	35	25	35	22	22	30	33	36	34	23	22	22	5	....	....	....	19	18	15	27	35	48	47	47	....	[c]33.3
	Minimum ...	31	27	27	28	26	26	17	5	22	19	-5	20	12	29	22	14	13	0	22	10	10	8	0	1	3	7	-3	26	24	22	....	12.1
Dunn Center §§	Maximum...	60	59	66	59	....	44	44	33	44	35	24	42	36	38	34	28	22	21	1	1	-2	7	29	22	17	33	....	39	35	39	....	[b]32.5
	Minimum ...	43	22	31	29	....	14	15	11	23	23	17	24	21	22	25	19	16	-1	-23	-20	-10	-5	5	-4	3	3	....	5	23	19	....	[b]12.5
Dunseith	Maximum...	53	49	61	54	35	34	32	21	36	28	21	19	20	31	28	22	22	19	0	5	1	2	15	13	7	17	20	21	34	30	....	25.0
	Minimum ...	27	28	26	28	22	25	11	11	13	14	-4	6	8	12	19	15	16	0	-25	-20	19	17	-4	11	-2	3	11	15	15	16	....	8.0
Edgeley	Maximum...	53	51	66	56	47	40	35	24	34	30	22	36	35	38	32	28	38	32	7	9	3	5	16	22	13	20	29	37	37	39	....	31.1
	Minimum ...	24	30	27	31	22	22	14	0	1	20	5	-1	17	8	18	21	8	4	-9	17	-7	-6	1	0	2	10	19	16	29	24	....	11.1
Ellendale	Maximum...	53	51	65	46	45	42	30	17	35	28	17	36	29	38	30	27	24	26	4	7	2	6	18	19	15	22	27	38	31	38	....	29.0
	Minimum ...	24	29	25	25	24	23	11	0	0	16	4	10	11	8	23	24	9	3	-17	-16	-4	2	4	2	7	14	13	22	24	24	....	11.5
Fessenden §§	Maximum...	62	54	62	46	49	40	32	25	36	31	24	42	26	36	30	45	24	20	3	7	1	-2	20	18	12	22	25	40	35	45	....	30.3
	Minimum ...	26	27	25	26	24	25	10	7	13	15	-6	0	5	5	14	18	15	-1	-19	-23	-13	-9	-2	5	1	3	10	18	20	16	....	8.5
Fullerton	Maximum...	52	49	64	48	47	40	32	18	34	30	23	36	35	38	30	30	27	25	13	7	6	7	21	20	16	23	29	37	35	37	....	30.3
	Minimum ...	23	30	25	25	24	23	18	0	0	21	5	4	13	8	22	23	22	5	6	-16	5	-3	1	1	5	13	19	14	25	24	....	12.1
Garrison	Maximum...	62	53	64	55	58	48	38	32	37	35	21	37	35	37	35	26	23	20	3	2	3	6	26	19	13	24	25	39	31	35	....	31.5
	Minimum ...	33	27	27	30	29	30	14	7	18	19	-5	15	17	21	23	16	16	0	-22	-18	-15	9	2	-6	3	7	14	20	23	21	....	11.9
Grafton	Maximum...	47	48	55	54	35	32	30	25	39	35	22	19	23	35	34	29	28	25	12	10	5	3	17	18	13	21	25	35	35	35	....	28.1
	Minimum ...	20	31	30	33	22	27	13	15	14	15	3	7	15	16	21	20	22	11	-13	-15	13	-11	2	1	4	11	18	23	19	9	....	12.4
Grand Forks	Maximum...	51	47	59	46	35	34	28	23	38	31	22	19	21	36	29	28	26	27	0	1	5	9	17	29	16	25	28	33	26	35	....	27.1
	Minimum ...	22	31	28	21	22	28	6	2	12	12	1	6	18	8	20	21	18	-4	-14	16	23	-9	5	0	7	15	20	25	18	21	....	10.7
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hannah	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hansboro	Maximum...	....	50	62	48	40	34	26	30	38	30	18	10	20	35	30	28	24	20	10	10	2	16	16	10	18	18	24	34	36	34	...	[a]26.6
	Minimum ...	....	25	27	26	20	....	10	10	16	15	0	-4	5	11	20	15	16	-12	-22	-18	-20	-18	-6	-10	-10	-5	10	18	24	22	....	[b]5.7
Hettinger	Maximum...	54	46	39	46	52	49	44	26	42	46	48	50	46	41	33	38	26	21	7	-4	4	7	26	26	29	30	31	39	41	44	...	34.2
	Minimum ...	27	24	26	31	34	29	17	14	12	17	16	20	18	30	28	26	14	7	-19	15	-12	-3	6	10	3	8	12	19	21	24	...	14.8
Hillsboro	Maximum...	50	49	62	58	38	41	36	21	35	35	35	18	21	34	34	26	25	23	14	4	2	2	14	15	11	24	25	33	30	35	...	25.5
	Minimum ...	19	31	30	33	20	29	20	4	8	19	4	3	17	16	8	20	21	14	-8	-20	-7	-7	2	1	9	15	19	23	19	20	...	12.7
Howard	Maximum...	46	56	62	63	60	54	38	28	40	30	35	40	39	39	29	28	22	17	-17	-16	-3	3	15	15	15	11	28	38	38	40	....	29.8
	Minimum ...	24	23	29	29	24	17	15	15	18	19	19	19	14	27	16	11	15	-17	30	-25	-25	-20	-15	-12	-10	-1	1	20	20	15	...	7.8
Jamestown	Maximum...	54	49	65	63	53	45	36	20	37	35	23	36	32	37	32	28	27	23	12	10	4	5	17	20	14	25	28	46	39	39	...	31.8
	Minimum ...	45	31	25	25	23	18	12	5	5	20	3	3	4	7	18	23	20	5	-12	-14	6	-6	3	4	8	12	18	28	27	25	...	12.6
Lamoine	Maximum...	48	52	62	48	52	40	31	21	32	30	20	36	35	30	26	26	20	18	-3	5	-3	3	16	16	11	16	22	37	33	37	...	27.2
	Minimum ...	28	24	24	28	26	21	13	8	8	20	-3	14	10	10	15	20	18	-3	20	-16	-15	-16	0	-5	0	2	11	18	23	18	...	9.4
Langdon	Maximum...	44	45	54	40	40	31	19	25	34	23	24	17	23	34	29	25	25	18	15	10	4	8	16	14	14	20	22	32	33	32	....	25.7
	Minimum ...	29	26	28	29	25	19	11	4	12	15	8	6	10	10	15	20	18	15	-19	-15	-16	-16	-4	-16	6	7	11	17	18	22	....	9.4
Larimore	Maximum...	50	48	52	58	35	35	33	33	34	30	22	18	20	34	33	34	33	25	15	10	2	4	17	19	19	22	27	35	35	37	...	29.0
	Minimum ...	21	30	27	32	21	25	15	5	13	22	3	2	15	12	13	15	12	10	-13	-15	-12	-10	-10	0	3	8	19	20	15	22	....	10.7
Linton	Maximum...	49	53	52	49	48	68	39	24	32	28	22	38	38	39	35	31	25	23	9	9	2	8	17	21	19	26	26	39	39	31	...	31.3
	Minimum ...	25	27	31	29	19	36	19	16	12	20	14	12	19	16	24	24	21	9	10	-8	-6	-4	5	0	10	14	5	18	29	21	....	15.0
Lisbon §§	Maximum...	33	41	38	35	40	36	32	26	28	32	45	42	40	45	36	26	24	21	15	16	19	26	28	25	20	25	26	28	32	35	...	32.0
	Minimum ...	18	16	22	16	20	18	12	10	9	16	14	16	20	12	20	19	10	5	-6	-18	-8	5	6	5	8	10	16	17	14	18	...	11.6
McKinney	Maximum...	58	60	59	54	50	40	38	28	33	30	22	38	35	38	33	30	25	20	4	4	0	5	18	18	9	21	25	38	36	37	....	30.2
	Minimum ...	28	25	25	28	28	28	15	13	15	20	13	20	28	28	24	15	19	0	-20	-16	-18	-15	-1	9	1	8	-4	25	20	18	....	12.0
Maddock	Maximum...	50	58	60	57	43	39	37	23	35	33	23	36	34	34	33	27	23	23	10	3	1	2	18	19	11	20	23	37	36	34	....	29.4
	Minimum ...	27	26	25	31	24	26	13	9	15	18	4	4	15	17	16	18	18	5	-19	-17	-13	-13	-1	-6	2	9	13	18	20	14	...	10.3
Marmarth	Maximum...	57	60	65	62	62	60	....	46	28	43	40	43	46	40	35	38	29	22	20	2	0	8	36	28	31	36	37	36	31	38	...	[a]36.0
	Minimum ...	30	21	30	32	33	33	....	13	12	27	30	31	20	29	27	11	11	0	-23	-14	-10	-6	7	5	7	18	25	27	11	16	....	[a]15.6
Melville	Maximum...	50	47	45	45	45	....	28	15	33	33	22	35	35	32	32	26	22	21	9	-2	0	2	15	15	10	20	22	36	36	35	....	[a]26.5
	Minimum ...	29	28	28	35	24	....	15	5	17	21	-2	2	16	7	16	20	20	9	-14	-12	-9	-5	0	0	5	10	12	19	24	25	....	[a]11.9
Minot	Maximum...	58	57	64	50	50	41	38	22	37	30	33	38	35	36	35	25	23	22	10	3	1	2	23	20	10	24	27	38	35	38	...	30.9
	Minimum ...	25	21	21	24	22	22	8	3	14	14	-10	13	10	18	17	8	14	-8	-25	-19	-20	16	3	-12	-12	3	-2	22	18	16	...	6.2
Mott	Maximum...	57	50	54	47	42	43	33	27	34	26	25	36	32	25	26	25	14	16	-10	-11	5	10	26	23	16	39	19	35	33	35	...	27.7
	Minimum ...	40	38	38	37	30	33	23	18	24	21	20	21	15	21	23	10	11	-5	-23	-16	-7	-3	0	9	7	10	12	12	18	21	....	15.3
Napoleon §§	Maximum...	50	51	63	58	46	29	26	17	33	29	20	38	20	36	30	24	22	20	4	7	1	8	15	20	15	23	25	36	32	41	...	28.1
	Minimum ...	27	26	27	30	17	18	12	3	5	12	0	-1	13	5	12	69	16	4	15	17	-8	8	0	-3	-2	7	12	11	18	18	....	8.4
New Salem	Maximum...	62	62	66	47	47	46	38	31	27	33	29	42	32	32	28	30	22	22	3	2	5	5	25	20	18	29	28	39	34	38	....	31.4
	Minimum ...	29	30	28	35	31	28	31	10	19	21	12	16	17	18	19	21	17	3	-19	-18	-8	-5	0	14	9	18	11	11	22	21	....	14.7
Pembina §§	Maximum...	44	47	50	32	35	30	28	14	25	35	30	25	20	18	25	20	26	24	12	9	-2	10	19	10	15	22	28	32	29	36	...	24.9
	Minimum ...	24	30	32	31	25	28	15	2	10	14	0	20	18	12	5	10	9	12	-14	-14	-13	-16	-9	-12	7	5	15	15	16	18	....	9.8
Steele	Maximum...	52	50	54	42	44	44	22	12	35	25	15	35	32	36	31	32	18	0	10	4	-2	5	15	15	18	15	22	32	34	38	....	25.4
	Minimum ...	32	31	28	32	28	21	12	6	2	15	0	2	12	8	15	18	0	-16	-14	-14	-9	-8	2	2	2	5	10	15	18	19	....	9.0
Towner	Maximum...	55	50	61	54	46	39	38	35	34	32	26	35	33	36	28	25	25	20	0	6	19	19	22	24	18	25	24	34	35	35	...	31.1
	Minimum ...	30	26	25	25	26	26	14	12	15	18	18	11	8	9	5	0	-8	-12	-22	17	-6	0	5	14	6	5	14	22	18	15	....	10.1
Valley City	Maximum...	53	46	40	37	40	34	30	31	32	31	14	19	23	37	28	28	29	21	9	-2	4	3	3	17	11	27	26	34	34	36	....	25.8
	Minimum ...	22	20	24	22	21	28	20	3	3	16	3	4	11	15	14	20	18	2	-13	-17	-14	-21	-5	-2	6	10	20	12	12	13	....	8.9
Wahpeton	Maximum...	53	42	63	53	43	45	38	37	35	32	27	28	27	34	32	31	29	27	18	11	5	10	18	21	25	28	35	30	35	40	....	31.7
	Minimum ...	22	31	28	35	22	27	26	6	-1	23	2	3	17	16	13	25	25	18	-2	-15	-4	2	8	8	5	19	25	24	25	21	....	15.0
Westhope	Maximum...	56	53	48	42	42	38	42	26	36	26	23	30	32	37	23	26	22	20	10	5	0	6	22	13	10	12	20	23	36	20	....	26.6
	Minimum ...	28	32	32	30	28	28	18	14	14	16	-6	6	10	18	13	13	15	5	-23	-16	-20	-19	0	-12	3	5	9	7	20	10	. .	9.2
Williston	Maximum...	55	57	65	52	59	48	34	28	40	33	31	38	40	40	33	24	25	19	1	0	-2	15	24	14	17	27	39	39	35	42	....	32.4
	Minimum ...	37	26	32	31	26	20	17	17	19	20	20	24	25	30	17	16	19	-14	-18	-20	-11	-6	0	-7	9	5	2	27	26	23	....	13.7
Moorhead, Minn	Maximum...	52	46	61	47	41	38	33	24	35	31	20	22	33	37	33	28	28	25	6	10	5	9	18	20	21	27	29	36	36	38	....	29.3
	Minimum ...	26	32	30	25	24	32	17	9	7	15	5	6	18	18	15	23	21	6	-14	-16	-4	-1	7	7	10	18	22	25	23	25	....	14.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

UNNT

ITY OF ILL 1922

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXX. BISMARCK, N. D., DECEMBER, 1921. No. 12

GENERAL SUMMARY.

The month opened with mild temperature, a condition that prevailed during the first and second decades, and during this period the snow covering rapidly disappeared. This allowed outdoor work, which principally consisted of marketing of hay and grain and the feeding of livestock, to progress under favorable circumstances. In most parts of the State there was much grazing of livestock on ranges, pastures and harvested fields. During this period the ice in the Missouri River broke up at many points in North Dakota and Montana, but no damage resulted. During the last decade there was a change to decidedly colder, the minimum for the month generally being recorded on the 20th. Practically no precipitation occurred during the first decade. Light scattered snows occurred from the 15th to the 22d, and again on the 30th-31st.

TEMPERATURE.

The mean temperature for the State was 16.5°, or 3.5° above the normal, and 1.3° higher than the mean for December, 1920. The highest mean reported was 19.9° at Edgeley, LaMoure County; the lowest was 10.7° at Pembina, Pembina County. The highest temperature reported was 59° at Edgeley, LaMoure County, on the 14th; the lowest was -33° at Pettibone, Kidder County, on the 24th. The greatest monthly range of temperature was 83° at Skaar, McKenzie County; the least was 64° at Cando, Towner County, and other stations. The greatest daily range was 49° at Minot, Ward County, on the 29th.

PRECIPITATION.

The average precipitation for the State was 0.41 inch, or 0.13 inch below the normal, and 0.09 inch more than the average for December, 1920. The greatest monthly amount reported was 1.60 inches at Amenia, Cass County; the least was at Donnybrook, Ward County, McKinney, Renville County, New England, Hettinger County, and Towner, McHenry County. The greatest amount recorded in any 24 consecutive hours was 0.60 inch at Amenia, Cass County, on the 15th. The average number of days with 0.01 inch or more of precipitation was 4. The average depth of snowfall was 3.9 inches.

AURORAS.

Auroras were observed at Donnybrook, Grand Forks and McLeod on the 2d; at Eckman on the 12th; at McLeod on the 20th; at Mandan on the 21st; at Bismarck, Bowman, Ellendale, Foxholm, Howard, McKinney, McLeod and Marmarth on the 22d; at Ellendale, Foxholm, Howard, McLeod, Park River, Pettibone and Valley City on the 23d; at Bowman, Eckman, Foxholm, Howard, Park River and Valley City on the 26th; at Arnegard, Bowman, Eckman, Howard, McLeod, Park River, Steele and Valley City on the 27th; at Arnegard, Berthold Agency, Eckman, Foxholm, Fullerton, Grand Forks, McLeod, Marmarth, Park River, Skaar and Steele on the 28th, and at Foxholm, Pettibone and Steele on the 29th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.19	30.83	20	29.43	1	57	6,557	8.8	41	nw.	13
Devils Lake	30.10	30.77	20	29.33	1	44	7,843	10.5	36	nw.	13
Ellendale	30.11	30.74	20	29.32	1	56	11,260	15.1	54	nw.	30
Grand Forks	30.10	30.73	20	29.33	12	90	....	......	40	nw.	31
Williston	30.15	30.79	20	29.42	1	48	6,224	8.4	33	nw.	30
Moorhead, Minn	30.13	30.78	20	29.36	30	58	6,572	8.8	36	nw.	13
Av'ges and extremes	30.13	30.83	20	29.32	1	.....	....	10.3	54	nw.	30

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	145.6	265.8	55	+ 6	83	72	81	44	12
Devils Lake	125.5	262.1	48	+ 3	87	79	86	62	5*
Ellendale	158.2	269.6	59	......	86	74	....	46	12
Grand Forks	......	......	......	......	84	.....	85	....	....
Williston	138.0	262.1	53	+10	86	74	83	52	10
Moorhead, Minn	......	......	......	......	87	75	82	....	....
Averages and extremes	141.8	264.9	54	+ 6	86	75	82	44	12

* And other dates.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	nw.
1899	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918	18.5	+5.5	65	41	0.88	+0.34	5	9	8	14	nw.
1919	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921	16.5	+3.5	59	−33	0.41	−0.13	4	14	7	10	nw.

Climatological Data for December, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	25	16.6	+3.9	48	13	−27	24	35	1.60	+1.18	0.60	16.0	3	23	1	7	nw.	E. T. Carley.
Amidon	Slope	.....	6	19.4	.....	48	5	−25	20	35	0.25	.....	0.12	2.0	3	15	6	10	w.	Charles Eastgate.
Arnegard	McKenzie	.....	3	19.2	.....	55	13	−27	20	34	0.62	.....	0.30	6.0	4	16	2	13	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	24	17.0	+3.5	49	13	−27	24	27	0.80	+0.29	0.40	7.5	5	20	1	10	nw.	R. C. Miles.
Beach	Golden Valley	2,579	15	19.0	+2.5	50	13	−24	20	36	0.81	+0.31	0.40	.....	4	.....	.....	.....	.....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	27	18.7	+3.0	50	12	30	20	43	0.38	−0.01	0.21	5.5	3	16	5	10	w.	C. L. Hall.
Bismarck	Burleigh	1,674	47	18.6	+3.6	51	13	−24	24	33	0.29	−0.33	0.11	3.9	5	15	5	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	29	14.6	+7.9	40	9†	27	20†	42	0.20	−0.30	0.15	.....	2	16	5	10	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Phelps.
Bowman	Bowman	2,961	7	16.8^{a}	.....	49^{a}	13	−21^{a}	20	31^{a}	0.16	.....	0.09	1.6	3	10	11	10	nw.	R. Love, Jr.
Cando	Towner	1,488	20	16.3	+9.1	40	12	24	20	37	0.13	−0.22	0.08	.....	4	12	4	15	nw.	A. J. Swanson.
Carson	Grant	2,500	9	17.6	.....	48	13	−23	20	29	0.50	.....	0.30	5.0	4	11	11	9	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	11	.....	.....	.....	.....	.....	.....	.....	0.35	−0.07	0.20	3.8	2	19	11	1	w.	S. Friswold.
Crosby	Divide	1,954	14	17.9	+5.6	42	12†	−23	20	29	0.40	−0.18	0.30	4.0	2	15	4	12	nw.	John Jensen.
Devils Lake	Ramsey	1,478	17	15.2	+7.2	41	13	−24	20	36	0.75	+0.36	0.30	7.8	10	14	4	13	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	29	17.0	−0.3	52	10	24	20	36	0.61	+0.17	0.30	6.0	5	14	4	13	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	22	19.8	+7.6	49	4	−25	20†	39	T.	−0.49	T.	T.	0	10	11	10	w.	E. H. Wolsey.
Dunn Center	Dunn	2,191	6	18.4	.....	53	12	−29	20	40	0.82	.....	0.35	6.0	4	20	1	10	w.	W. H. Moede.
Dunseith	Rolette	1,682	25	13.8	+5.5	42	5	−29	20	45	0.34	0.07	0.20	1.0	4	15	8	8	nw.	J. G. Lamont.
Eckman	Bottineau	.....	16	15.8^{b}	+6.2	42^{a}	12	26^{a}	20	44^{a}	0.30	−0.32	0.20	3.0	2	18	3	10	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	20	19.9	+3.4	59	14	−25	24	39	0.31	−0.10	0.11	3.1	4	8	12	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	23	18.1	.....	54	13	−28	24	36	0.28	−0.40	0.19	2.8	5	12	5	14	nw.	U. S. Weather Bureau.
Energy ‡‡	McLean	1,750	9	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.30	5.0	3	18	6	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	13	.....	.....	.....	.....	.....	.....	.....	0.27	−0.21	0.17	2.0	3	18	6	7	w.	M. E. Uggen.
Fessenden	Wells	1,610	9	15.6	.....	47	5	29	20	45	1.04	.....	0.50	5.5	4	15	5	11	nw.	T. D. Monsen.
Forman	Sargent	1,249	28	.....	.....	.....	.....	.....	.....	.....	0.20	−0.30	0.10	2.0	2	11	14	6	sw.	O. Enger.
Foxholm	Ward	.....	1	17.8	.....	45	12	24	20	37	0.03	.....	0.02	0.5	2	13	10	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	3	.....	.....	.....	.....	.....	.....	.....	0.59	.....	0.30	6.0	3	13	7	11	nw.	Verne King.
Fullerton	Dickey	1,439	23	19.0	+5.3	53	13	−26	24	32	0.95	+0.09	0.50	9.1	5	7	11	13	nw.	F. O. Alin.
Garrison	McLean	1,901	26	17.3	+3.7	49	12	−26	20	38	0.54	−0.06	0.36	4.8	3	17	4	10	nw.	G. L. Robinson.
Grafton	Walsh	827	29	13.9	+6.2	41	10†	22	20†	43	0.52	0.03	0.15	6.8	6	12	6	13	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	29	12.7	+2.1	42	5†	25	23†	41	0.47	−0.12	0.15	3.5	10	10	12	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Christianson.
Hannah	Cavalier	1,568	16	.....	.....	.....	.....	.....	.....	.....	0.60	+0.02	0.30	6.0	3	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	1,597	13	15.0^{a}	+7.7	44^{a}	5	−27^{a}	20†	45^{a}	0.30	−0.40	0.10	3.0	3	.....	.....	.....	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	13	19.6	+3.8	52	13	−18	20	34	0.42	+0.02	0.30	.....	4	17	5	9	nw.	C. J. Downey.
Hillsboro	Traill	901	15	14.0^{a}	+1.4	42^{a}	5	−26^{a}	24	28^{a}	0.25	−0.70	0.20	2.5	2	9	13	9	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	14	13.8	+2.0	42	13	26	20	34	0.20	−0.65	0.20	1.6	1	13	8	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	29	18.1	+4.5	55	13	26	24	41	0.67	−0.05	0.45	6.8	4	18	3	10	sw.	S. Calvelage.
Lamoine	Kidder	1,936	13	15.8	+4.6	45	12	−27	24	40	0.30	−0.17	0.10	3.0	3	21	4	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	25	12.8	+5.5	40	12	−28	20	38	0.20	0.56	0.10	1.5	3	15	5	11	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	26	14.8	+4.0	44	5	−25	20†	31	0.74	+0.22	0.25	6.8	8	11	6	14	nw.	Reuben Gray.
Linton	Emmons	1,711	3	19.2	.....	51	13	−28	24	43	0.27	.....	0.20	2.6	5	13	6	12	nw.	William Malpass.
Lisbon	Ransom	1,091	17	18.8	+4.7	53	13	−26	24	33	0.80	+0.32	0.30	8.0	4	14	8	9	nw.	W. S. Adams.
McClusky	Sheridan	1,943	3	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.30	4.5	4	.....	.....	.....	.....	Edw. Tapley.
McKinney ‡‡	Renville	1,640	27	17.6	+6.9	47	13	−22	20	39	T.	0.42	T.	T.	0	.....	.....	.....	w.	N. P. Swenson.
McLeod	Ransom	1,075	9	19.4^{b}	.....	53^{c}	13	−26	24	25^{c}	0.39	.....	0.17	.....	5	14	4	13	nw.	J. G. Carlson.
Maddock	Benson	1,604	6	15.1	.....	40	12†	−29	20	40	0.22	.....	0.12	2.2	3	14	5	12	nw.	A. T. Felland.
Mandan	Morton	1,644	7	17.0	.....	50	13	−26	24	34	0.24	.....	0.10	3.2	5	15	6	10	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	18	15.7	+4.4	44	13	−29	20	41	0.61	−0.16	0.20	5.5	5	16	7	8	nw.	P. B. Anderson.
Marmarth	Slope	2,714	12	18.6	+0.9	49	12†	−20	20	30	0.52	+0.18	0.24	5.6	5	13	6	12	w.	S. P. Crane.
Mayville	Traill	975	25	13.8	+0.7	41	12	−23	20	31	0.55	0.00	0.30	3.5	3	15	4	12	nw.	M. G. Sateren.
Melville	Foster	1,590	23	16.2	+4.4	44	13	−26	20	33	0.55	+0.14	0.25	3.0	3	14	6	11	nw.	J. P. Kidder.
Minot	Ward	1,557	25	14.4	+2.0	47	12	−32	20	49	0.17	−0.28	0.10	0.8	3	10	9	12	w.	W. I. Faris.
Minto	Walsh	820	28	13.8	+2.9	41	12	−23	24	43	0.37	−0.11	0.17	5.0	4	17	3	11	n.	C. M. Evans.
Mott	Hettinger	2,424	14	15.6	+1.5	45	13	−21	20	23	0.57	−0.05	0.24	5.5	6	11	9	11	w.	O. H. Opland.
Napoleon	Logan	1,955	29	16.6	+4.2	48^{a}	13	−25	20†	41^{a}	0.40	−0.10	0.20	4.0	4	13	4	14	sw.	C. J. Hoof.
New England	Hettinger	2,400	27	17.2	−0.2	48	13	−29	20	35	T.	−0.44	T.	T.	0	.....	.....	.....	nw.	W. C. McKenzie.
New Salem	Morton	2,163	16	18.4	+3.5	47	12†	−20	20	25	0.33	−0.17	0.20	3.1	4	15	7	9	w.	J. Christiansen.
Park River	Walsh	998	17	15.8^{a}	+4.7	41	12	−23	24	37	0.16	−0.41	0.14	2.5	2	.....	.....	.....	nw.	C. B. Wright.
Parshall	Mountrail	.....	6	.....	.....	.....	.....	.....	.....	.....	0.20	.....	0.20	2.0	1	.....	.....	.....	.....	J. A. Johnson.
Pembina	Pembina	789	47	10.7	+4.7	40	12†	−26	25	37	0.20	−0.65	0.10	2.0	2	13	11	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	2	15.5	+5.1	46	12	−33	24	43	0.60	−0.11	0.30	5.7	5	18	3	10	nw.	S. C. Shanks.
Power	Richland	1,020	28	.....	.....	.....	.....	.....	.....	.....	0.65	+0.15	0.25	6.5	3	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	6	.....	.....	.....	.....	.....	.....	.....	0.05	.....	0.05	0.5	1	8	6	17	nw.	C. Frank.
Skaar	McKenzie	.....	1	18.9^{f}	.....	52^{f}	11	−31^{f}	20	44^{f}	0.35	.....	0.20	3.0	3	.....	.....	.....	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	24	13.2	−0.4	41	10	−23	20	33	0.14	−0.38	0.05	1.5	4	12	8	11	ne.	H. S. Wood.
Taylor	Stark	2,493	5	17.6^{a}	.....	42^{a}	10†	−23^{a}	20	25^{a}	0.41	.....	0.17	.....	3	.....	.....	.....	sw.	H. Lentz.
Towner	McHenry	1,482	19	15.2	+5.2	42	12	−28	19	38	T.	−0.41	T.	T.	0	20	3	8	nw.	B. Bagley.
Turtle Lake	McLean	1,899	6	16.6	.....	45	12†	−24	20	25	0.25	.....	0.10	3.0	3	6	12	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	2	15.0	+1.3	51	13	−28	24	34	0.32	−0.19	0.20	3.0	4	25	2	4	nw.	C. F. Schroeder.
Wahpeton	Richland	962	27	19.2	+4.5	52	13	−23	24	38	0.38	−0.08	0.15	4.7	4	8	14	9	nw.	State School of Science.
Walhalla	Pembina	966	14	17.8^{c}	+8.3	47^{c}	12	−29^{c}	21	46^{c}	0.24	−0.85	0.09	2.4	6	15	8	8	nw.	Ivan Lee.
Westhope	Bottineau	1,508	15	12.9	+3.9	40	10†	−24	20	25	0.17	−0.18	0.17	.....	1	3	21	7	nw.	W. A. Meddaugh.
Williston	Williams	1,875	42	17.2	+3.6	46	13	−24	20	33	0.33	−0.33	0.13	4.5	6	11	7	13	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	29	13.4	+4.9	40	9†	−29	20	43	0.39	−0.12	0.17	2.0	4	12	13	6	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	41	16.5	+5.8	47	13	−23	24	33	0.35	−0.39	0.12	2.7	9	4	10	17	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	16.5	+3.5	59	14	−33	24	49	0.41	−0.13	0.60	3.9	4	14	7	10	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for December, 1921.

Stations.	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Amenia ‖	Red															.60					.60											.10	1.30
Amidon	Lit. Missouri															.12				.10											.03		0.25
Arnegard	Missouri										.02					.20		T	.10													.30	0.62
Ashley	Missouri											.05				.05				.40		.20									.10		0.80
Beach	Lit. Missouri															.20		.40	T.	.11	T										.10		0.81
Berthold Agency	Missouri										T.					.07		T.		.10											.21		0.38
Bismarck ***	Missouri										T.	T.				.08		T.	.02	.09			T.								.05	.05	0.29
Bottineau	Mouse											.15						T.		.05													0.20
Bowbells ‖	Mouse																																
Bowman	Grand																		.09	.05										.02			0.16
Cando	Devils Lake			T						T.		T		T.			T.		.02	.08	.02		T.								.01		0.13
Carson	Heart															.05	.05			.30											.10		0.50
Cooperstown	Sheyenne															.15															.20		0.35
Crosby	Mouse										T.							.10		T.			T								.30		0.40
Devils Lake ***	Devils Lake		T.							.08	.06	.09		T.	T.	.08	.01	.03	.01	.09			T.						T		.29	.01	0.75
Dickinson ‖	Heart		.01	T.				T.				T.				T.	.30		T.	T.	.10										.05	.15	0.61
Donnybrook	Mouse															T.		T.	T.	T.			T.								T.		T.
Dunn Center ‖	Knife											.07				.20				.20											.35		0.82
Dunseith	Mouse								.04			.20							T.	.05												.05	0.34
Eckman	Mouse	T.										.20				T.		T.	T.				T.								T.	.10	0.30
Edgeley	James											T.				.10	.05	T.		.11		T.									.05		0.31
Ellendale***	James	T.	T.	T.			T.					T.				.08		.01		.14		.04									.01		0.28
Energy	Missouri															.30				.10											.10		0.50
Epping	Missouri										.17					.06			T.												.04		0.27
Fessenden	James											.50				.18	T.	T.	T.	.14			T								.22		1.04
Forman	Sheyenne															.10					.10												0.20
Foxholm	Mouse		T.									T.				T.		T.	T.	.01	.02		T.								T		0.03
Fryburg	Heart	T.														.30				.07											.22		0.59
Fullerton	James	T.											.04			.08		T.		.50		.18									.15		0.95
Garrison	Missouri											T.				.16		.02													.36		0.54
Grafton	Red											.03	T.			.01			.11	.15	.02										.20		0.52
Grand Forks ***	Red		T.	T.			T.			T.		.02	T.	.10	T.	.12	.05	.04	T.	.03	.02		.04	T.					.02		.03	T.	0.47
Granville	Mouse																																
Hannah	Pembina				.20																.10									.30			0.60
Hansboro	Devils Lake											.10							.10													.10	0.30
Hettinger	Grand						T.									.10				.30		.01								.01			0.42
Hillsboro	Red											T.	T.		.20	.05							T.								T		0.25
Howard	Missouri										T.	T.				T.							T.								.20		0.20
Jamestown	James																.45	.05	.12												.05		0.67
Lamoine	Missouri															.10	T.	T.	T.	.10											.10		0.30
Langdon	Pembina	T.	.05										.05	T.	T.	T.															*	.10	0.20
Larimore	Red									.03	.03	.03				.10	.20	.05		.05											.25		0.74
Linton	Missouri																.02	T.	T.	.20		.01									.01	.03	0.27
Lisbon ‖	Sheyenne																.10			.20	.30	T.										.20	0.80
McClusky	Missouri											*	.10	T.			.15														.30		0.55
McKinney	Mouse	T.	T.									T.						T.	T.											T			T.
McLeod	Sheyenne							T.								.17				*	.12		T								*	.10	0.39
Maddock	Sheyenne																.04			.06											.12		0.22
Mandan ‖	Missouri												T.			.08	.04		T.	.10	.02											T.	0.24
Manfred	James											.07	T.			.20				.07			.05								.22		0.61
Marmarth	Lit. Missouri	T.														*	.18	T.	*	.24			T.	T.							.10		0.52
Mayville	Red												.20																	.05	.30		0.55
Melville	James											.25				.20				.10													0.55
Minot	Mouse											.10			.05					.02													0.17
Minto	Red											.05				T.	.10			.05									T.		.17		0.37
Mott	Cannon Ball	.06									.01					.09			.03	.24											.14		0.57
Napoleon ‖	Missouri											T.				.10					.20										*	.10	0.40
New England	Cannon Ball																													T.	T.		T.
New Salem	Heart											.02				.20		T.	T.	.03											.08		0.33
Park River	Red									T.		T.				T.	.02														.14		0.16
Parshall	Missouri																															.20	0.20
Pembina ‖	Red														.10																	.10	0.20
Pettibone	James											.08				.30		.05		.07											.10		0.60
Power	Sheyenne											T.	T.			.25				.30									T.		.10		0.65
Powers Lake	Missouri										.05						T.	T.					T.										0.05
Skaar	Yellowstone	T.									T.	T.				.20		.05		T.											.10		0.35
Steele	Missouri													.02	T.	T.	.02	T.	T.	.05		T.	T.								T.	.05	0.14
Taylor	Heart						T.					T.				.15				.17											.09		0.41
Towner	Mouse															T.																	T
Turtle Lake	Missouri															.10	T.	T.	T.	.05											.10	T	0.25
Valley City	Sheyenne												.02				.20	T.		.05											.05		0.32
Wahpeton	Red										T.		.04			.09				.10												.15	0.38
Walhalla	Pembina												T.	.05						.09	.01		.05								.03	.01	0.24
Westhope	Mouse										.17																						0.17
Williston ***	Missouri		T.	T.				T.			.01	T.				.10		.01	.05	.03		T.	T.								.13		0.33
Willow City	Mouse											.17	.02					T.	T.	.10			.10								T.	T.	0.39
Moorhead, Minn ***	Red		T.	T.			T.			.01		.05	.02	T.	T.	.09	.02	T.	.01	.03			T.						T.		.10	.02	0.35

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight * Precipitation included in the next following measurement T. Trace, or less than 0.01 inch

Daily Temperatures for December, 1921.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	42	38	37	44	45	40	42	37	39	42	44	45	48	38	34	29	27	20	11	17	14	20	-10	6	6	6	16	25	34	34	20	28.7
	Minimum	18	21	16	9	25	20	17	22	20	27	14	19	17	23	4	10	2	3	1	-19	-10	-11	-19	-27	-24	-15	-9	-9	-11	6	2	4.6
Arnegard	Maximum	39	37	29	39	46	35	31	38	40	45	45	47	55	35	31	33	24	22	2	-10	6	10	3	15	10	15	30	24	34	32	28	28.1
	Minimum	27	25	19	19	29	24	22	27	22	28	35	33	35	24	23	4	4	-5	-11	-27	-21	2	-17	-20	7	-12	4	2	7	15	4	10.2
Ashley	Maximum	35	27	27	38	40	38	35	37	40	40	40	47	49	38	32	28	25	23	5	-5	0	5	5	0	8	0	12	12	18	28	28	24.4
	Minimum	25	20	18	21	24	28	25	16	25	30	33	32	32	29	25	9	2	2	5	-20	-24	0	-19	-27	3	-11	-9	5	-5	15	5	9.6
Beach	Maximum	36	26	36	42	44	38	31	41	45	44	45	47	50	37	32	21	21	21	2	9	5	1	0	16	17	24	33	30	33	37	15	27.6
	Minimum	23	16	22	16	29	27	24	18	28	29	34	38	35	25	21	2	3	-2	-12	-24	-20	3	-12	-14	-11	-12	3	11	12	14	-1	10.3
Berthold Agency	Maximum	40	31	31	41	49	41	34	42	42	50	48	55	50	39	31	24	26	26	8	5	6	14	10	14	10	16	26	29	40	34	28	30.0
	Minimum	26	19	19	23	27	24	23	13	16	27	34	37	29	26	21	4	9	2	10	30	-27	-1	-16	-27	-13	-21	-8	-5	-3	11	3	7.4
Bismarck	Maximum	39	27	31	39	44	32	32	38	42	44	44	48	51	39	31	19	24	21	7	-7	4	17	2	8	9	14	19	27	36	35	19	26.9
	Minimum	27	21	19	31	28	25	25	13	27	32	34	38	30	30	19	5	4	4	-8	18	-19	2	-19	-24	-7	12	-9	1	3	14	2	10.3
Bottineau	Maximum	33	31	25	32	33	32	29	31	40	36	35	40	37	34	30	21	19	22	15	14	13	12	10	10	7	13	20	19	31	32	28	25.3
	Minimum	20	15	18	10	12	19	20	9	10	21	21	31	29	25	18	5	-1	2	-12	-27	-25	5	-25	-27	-15	-19	-11	3	-11	8	0	3.8
Bowbells §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bowman	Maximum	30	24	28	39	42	....	35	40	40	42	40	45	49	35	30	5	20	20	0	-10	5	10	4	5	10	13	25	29	34	21	19	*24.3
	Minimum	23	16	14	26	22	....	20	15	29	22	35	35	32	12	20	4	1	-1	-10	21	-10	-3	-11	-12	-1	6	-6	12	11	10	1	*9.3
Cando	Maximum	34	22	26	37	37	33	29	31	38	38	35	40	38	34	31	23	22	23	10	4	2	14	11	12	9	12	22	23	33	28	27	25.1
	Minimum	22	17	18	19	21	19	22	15	18	26	22	30	32	29	20	4	5	2	-9	-24	-22	-2	-22	-20	-7	-14	-5	9	-4	10	....	*7.5
Carson	Maximum	40	28	25	35	44	34	30	40	40	42	40	45	48	40	30	26	22	22	5	0	1	15	10	5	10	10	15	25	33	28	20	26.1
	Minimum	25	18	15	24	24	20	24	18	28	26	32	35	32	25	25	5	4	-1	-10	-23	-20	0	-17	-20	-7	-12	-10	5	4	8	4	9.1
Crosby	Maximum	40	35	29	38	39	33	29	31	37	37	40	42	42	38	32	23	26	22	-6	-6	6	12	9	10	8	15	23	19	33	29	25	25.5
	Minimum	25	19	19	26	25	22	22	21	22	23	33	35	33	27	19	10	9	-6	-15	23	14	-1	-20	-18	5	-12	12	8	4	16	4	10.3
Devils Lake	Maximum	34	24	26	36	40	31	27	36	37	39	35	40	41	34	29	20	22	17	6	-11	3	14	-5	7	8	10	21	24	34	26	19	23.4
	Minimum	16	16	17	25	24	19	23	18	23	28	24	33	32	27	12	3	3	0	-12	-24	-17	-5	22	-20	-10	-14	-4	-2	-2	13	-5	7.1
Dickinson §§	Maximum	28	28	33	39	40	33	31	41	42	52	46	47	49	37	30	25	24	8	-6	5	12	13	-2	15	-3	11	17	21	35	29	15	25.3
	Minimum	28	16	17	24	25	22	27	16	19	26	31	35	33	26	25	6	-1	-1	-7	24	-22	-5	-11	-21	-3	16	-14	10	2	13	-2	8.8
Donnybrook	Maximum	46	40	31	49	48	38	31	35	38	42	42	46	42	38	32	21	25	22	6	9	13	16	10	14	5	18	25	28	36	31	26	28.5
	Minimum	23	24	19	26	29	24	20	20	26	28	32	37	34	28	19	8	8	-2	-11	-25	-10	0	-22	-25	-7	-12	0	9	15	22	3	11.0
Dunn Center	Maximum	39	29	29	39	45	31	36	42	43	46	46	53	51	43	32	22	25	23	5	-8	4	11	6	14	10	19	20	27	34	34	22	28.1
	Minimum	26	19	22	25	17	18	13	24	25	33	35	35	36	31	21	5	2	-2	-11	-29	-18	4	-14	-26	1	-17	-11	6	-5	10	2	8.6
Dunseith	Maximum	34	22	26	36	42	38	27	34	40	40	35	41	38	34	27	25	21	20	5	-10	-4	13	7	5	10	8	20	23	32	27	27	24.0
	Minimum	18	12	15	15	19	16	18	12	14	23	19	29	28	25	26	4	-4	1	-16	-29	-23	-6	-27	-27	-12	-19	-10	4	-13	7	4	3.6
Edgeley	Maximum	38	27	28	40	44	37	34	42	45	47	41	49	50	59	45	46	22	23	6	-1	0	13	6	5	14	14	18	27	33	35	27	29.5
	Minimum	25	21	18	21	29	25	25	19	21	31	32	33	30	26	27	8	6	2	-3	-20	-21	1	-15	-25	-7	-12	-7	8	-6	18	10	10.3
Ellendale	Maximum	37	26	29	39	43	31	33	38	44	44	43	50	54	41	33	21	24	23	7	6	6	12	3	3	15	14	20	31	23	34	21	27.0
	Minimum	24	20	20	25	30	27	20	19	22	34	33	33	28	29	21	9	3	7	-6	-17	-18	3	-23	-28	-6	-13	-9	-5	-6	11	-2	9.2
Fessenden	Maximum	37	25	27	38	47	35	32	40	36	43	37	44	44	36	32	20	21	21	7	8	2	16	10	5	6	13	22	24	35	28	28	25.9
	Minimum	18	17	16	17	23	20	20	14	20	25	30	32	30	27	15	0	-4	-1	-12	-29	-25	2	-20	-28	-9	-18	-7	-2	-9	10	0	5.4
Fullerton	Maximum	39	26	29	39	42	33	34	39	44	44	43	49	53	41	33	26	24	23	8	-3	5	13	8	3	14	12	21	27	24	34	28	27.6
	Minimum	23	18	19	23	27	27	24	18	18	33	33	33	34	28	24	9	3	6	-5	-20	-20	4	-14	-26	6	-11	-7	9	6	2	8	10.3
Garrison	Maximum	31	27	32	38	43	36	36	37	40	46	39	49	45	38	31	22	29	23	4	-10	2	15	9	10	6	10	20	22	38	32	28	26.7
	Minimum	24	18	18	23	27	24	15	15	22	27	32	34	33	26	20	1	1	-5	12	26	22	-3	-18	24	-6	-16	-10	8	0	14	4	7.9
Grafton	Maximum	35	24	25	35	35	34	29	25	39	41	35	41	37	34	26	15	10	19	7	5	-3	14	14	7	10	12	20	20	34	26	24	23.2
	Minimum	23	15	15	14	23	21	19	11	10	10	17	18	26	25	16	3	-8	0	-8	-22	-22	8	21	-22	-7	-4	-5	9	-9	7	-3	4.6
Grand Forks	Maximum	35	25	27	35	42	32	30	22	36	41	35	42	40	35	24	15	17	21	8	-5	2	14	2	2	10	10	18	21	25	24	16	22.6
	Minimum	21	10	15	22	23	21	16	11	20	26	13	25	24	24	15	-8	9	1	16	-22	21	2	-25	-25	-10	-14	-12	-8	-10	4	-25	2.8
Granville	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hannah	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hansboro	Maximum	....	30	40	42	41	32	30	38	38	40	41	40	40	34	26	25	22	24	10	-5	5	14	4	6	6	14	26	18	34	35	30	*26.1
	Minimum	....	10	17	30	30	20	18	10	14	20	18	31	18	18	14	5	4	2	15	-27	-21	-12	27	-26	-12	-20	4	-7	4	20	15	*4.0
Hettinger	Maximum	38	30	36	42	47	38	31	41	46	50	47	50	52	38	33	21	23	21	2	16	3	17	1	8	14	15	20	29	34	39	15	28.9
	Minimum	25	12	16	24	28	22	20	17	27	21	36	28	35	25	11	12	0	0	-11	-18	3	-1	-10	-14	-5	13	-1	13	10	11	1	10.3
Hillsboro	Maximum	31	25	29	37	42	33	29	30	36	38	34	41	36	33	20	14	18	6	-8	....	-4	10	8	0	10	9	17	25	19	25	23	*22.2
	Minimum	25	19	12	21	22	23	20	18	19	29	22	21	31	20	2	-8	5	8	-19	....	-20	-14	-20	-26	5	-14	-3	7	-9	3	-2	*5.7
Howard	Maximum	32	29	28	37	38	30	28	30	39	34	40	40	42	32	28	26	20	6	-4	14	1	4	4	10	4	14	20	21	22	26	16	22.0
	Minimum	24	15	15	16	18	18	8	8	13	21	30	30	36	26	18	12	1	4	-16	-26	-17	-4	22	24	-9	-14	-5	5	1	5	-1	5.7
Jamestown	Maximum	40	27	29	41	44	35	33	43	51	44	46	49	55	45	34	25	22	23	11	-7	2	13	10	6	26	12	18	25	32	32	33	29.0
	Minimum	25	20	18	23	28	26	23	20	21	20	19	20	19	19	18	8	1	0	7	21	-20	-10	-17	-26	-6	-14	8	4	-9	10	4	7.2
Lamoine	Maximum	36	25	30	37	40	33	28	35	40	42	38	45	44	40	30	28	24	20	4	-10	-4	15	5	2	7	16	21	21	30	30	26	25.1
	Minimum	18	18	15	20	23	20	22	13	20	22	30	31	20	24	28	12	-4	-3	-10	-26	-24	-4	-18	-27	-6	-17	-10	5	-10	9	6	6.4
Langdon	Maximum	31	25	28	32	37	31	26	29	35	36	37	40	33	33	36	28	24	10	0	-11	7	12	10	6	6	22	15	24	28	26	19	23.1
	Minimum	16	15	14	15	16	17	20	9	11	19	16	25	23	29	16	6	-4	-5	-11	-28	-23	-8	-26	-27	-10	-19	5	-10	10	6	-16	2.6
Larimore	Maximum	34	25	24	40	44	35	35	35	33	42	35	43	35	35	29	21	21	22	8	-8	6	14	-8	6	13	8	18	25	33	25	20	24.1
	Minimum	20	12	14	20	25	25	15	18	19	24	21	25	23	28	15	0	-3	0	8	25	-20	8	-24	27	-7	-13	-13	-5	8	10	5	5.4
Linton	Maximum	38	30	34	40	44	34	32	37	43	47	43	49	51	40	34	29	26	24	8	-1	8	17	10	6	10	14	23	21	32	35	30	28.6
	Minimum	28	20	20	25	27	24	27	17	25	28	35	35	32	28	29	12	9	6	-4	-19	-20	0	-10	-28	-7	-14	-10	-6	-5	-8	8	9.8
Lisbon §§	Maximum	40	37	35	38	44	40	36	40	42	43	40	47	53	45	38	28	25	24	14	4	8	15	13	6	16	11	29	24	19	16	26	28.7
	Minimum	23	20	10	25	25	20	24	16	20	29	32	31	29	26	25	7	-4	5	-3	-19	22	0	-15	26	7	-12	-4	14	-7	11	5	9.0
McKinney	Maximum	41	28	30	38	40	35	32	34	35	40	40	43	47	38	30	25	25	15	5	5	5	15	10	15	9	20	30	28	35	35	30	27.4
	Minimum	20	20	20	25	26	18	20	10	15	23	32	32	30	28	20	8	2	0	-12	22	14	-3	-20	-21	-9	-15	-9	5	-4	20	5	7.7
Maddock	Maximum	35	25	25	35	38	36	29	36	34	39	38	40	40	35	33	22	22	22	8	1	-1	15	15	6	6	8	20	19	32	30	20	24.6
	Minimum	22	15	18	18	21	14	20	14	18	24	26	33	31	28	21	0	-2	-1	-9	-29	-20	-2	-23	23	8	-16	-9	-8	-8	8	1	5.6
Marmarth	Maximum	38	25	28	38	40	35	29	42	42	44	46	49	49	32	30	18	20	18	1	-5	4	14	3	16	16	18	26	30	33	34	17	26.7
	Minimum	22	15	15	25	27	25	20	12	29	29	34	35	30	28	18	-5	-4	-1	-14	20	-9	-3	-13	10	4	-5	2	14	14	16	1	10.4
Melville	Maximum	30	25	25	34	38	37	30	34	34	37	37	37	44	32	32	22	20	20	5	-5	0	10	10	2	10	8	15	15	28	28	22	23.1
	Minimum	22	20	17	20	26	21	25	18	24	30	30	32	32	30	22	3	2	0	-5	-26	-19	0	-22	-22	2	-12	0	7	5	16	3	9.3
Minot	Maximum	37	27	33	40	43	38	34	38	38	43	42	47	43	32	23	24	24	22	5	-14	4	14	-8	12	2	18	23	28	38	32	23	26.0
	Minimum	22	15	20	15	23	18	15	11	18	14	27	29	25	12	-2	2	2	-6	-17	-32	19	-8	-25	-27	-9	20	-11	-2	-11	11	1	2.9
Mott	Maximum	24	26	32	38	41	30	32	41	38	40	42	43	45	34	30	25	19	11	-2	10	-2	10	6	4	5	11	11	20	30	32	14	23.1
	Minimum	15	16	16	20	21	15	18	22	26	30	33	32	30	22	23	11	3	-2	-11	-21	-20	-10	-14	-18	8	-12	-8	4	9	10	-3	8.1
Napoleon §§	Maximum	30	24	30	37	40	32	28	37	40	41	43	46	48	38	30	25	23	8	5	-1	5	14	-5	5	10	25	20	29	33	33	...	*25.5
	Minimum	19	18	16	17	22	20	23	10	14	26	30	31	30	25	25	20	0	1	-1	-25	-25	-3	-17	-28	-5	-16	0	-7	8	10	3	7.8
New Salem	Maximum	34	28	27	39	43	33	34	36	38	34	42	47	47	40	30	25	20	15	12	6	0	14	1	6	8	5	20	26	35	34	20	25.4
	Minimum	24	18	17	22	22	24	25	26	29	28	32	29	34	27	23	5	8	-1	-8	-20	-19	0	-19	-19	8	9	-3	10	25	20	10	11.4
Pembina §§	Maximum	31	24	28	34	38	31	32	21	37	41	34	40	46	33	26	18	16	8	8	-5	5	-10	-5	8	2	3	20	15	3	20	10	19.0
	Minimum	27	21	10	15	28	19	19	8	10	18	15	12	22	26	8	-2	-11	9	9	-25	-25	-23	25	18	25	-15	-17	10	-9	30	10	2.4
Steele	Maximum	28	25	27	35	39	26	23	32	40	41	35	35	33	40	30	25	20	4	2	6	0	13	10	5	5	0	20	30	25	20	16	21.9
	Minimum	19	23	22	18	24	20	19	12	20	26	32	33	25	26	25	7	0	0	-6	-23	-22	19	-19	-28	5	-15	8	5	10	10	10	4.5
Towner	Maximum	34	25	25	31	39	37	32	32	30	34	35	42	41	35	30	25	22	23	10	-9	-1	10	10	8	4	20	25	24	28	23	25	24.2
	Minimum	18	20	18	20	21	20	16	10	16	18	15	30	30	30	22	10	5	0	-28	-18	-12	-1	-22	-22	10	-10	6	0	-5	-1	5	6.1
Valley City	Maximum	28	30	32	34	43	36	28	38	35	41	43	47	51	40	39	29	21	15	12	-8	-4	2	-10	-2	12	15	23	26	24	30	22	24.9
	Minimum	14	6	16	14	20	24	20	11	19	26	28	26	28	26	26	5	-4	-1	-8	23	22	18	-25	-28	-6	-15	-7	8	10	6	-2	5.1
Wahpeton	Maximum	38	30	27	38	44	36	33	36	42	44	41	48	52	40	38	31	20	19	3	3	1	15	15	2	20	12	29	28	25	36	29	28.2
	Minimum	30	20	12	25	27	22	22	18	21	30	26	26	32	28	28	9	-1	9	-12	13	-19	1	-13	-23	-2	-12	6	13	4	10	9	10.1
Westhope	Maximum	20	26	32	28	28	29	32	30	35	40	35	40	32	33	28	24	15	12	10	4	0	15	9	0	10	10	25	27	25	24	23	22.2
	Minimum	5	10	10	12	10	9	18	18	10	6	24	29	20	24	10	4	4	-6	-13	-24	-17	-2	-23	-20	2	-15	0	3	5	0	-2	3.6
Williston	Maximum	31	25	35	39	43	30	30	36	40	45	44	46	46	34	28	17	25	10	-8	-7	8	11	1	14	8	9	26	26	34	32	17	25.0
	Minimum	24	19	19	29	27	24	23	18	27	30	34	36	32	28	11	5	6	-8	-17	-24	-14	0	-18	-19	-7	14	-6	7	6	12	4	9.5
Moorhead, Minn	Maximum	37	26	27	36	42	32	33	33	39	42	35	45	47	37	29	20	17	21	8	-7	2	14	5	0	14	9	27	23	24	30	25	25.1
	Minimum	23	12	12	25	26	24	20	20	21	31	24	28	32	28	20	3	-4	6	-8	-15	-17	2	-20	-23	-3	-11	-6	0	7	8	5	7.9

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. ² 2 days, etc.

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CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXX. BISMARCK, N. D., ANNUAL, 1921. No. 13

GENERAL SUMMARY.

Owing to the fact that there was a deficiency in precipitation during the last five months of 1920 over North Dakota, taken as a whole, much interest was naturally felt in the precipitation conditions during the opening months of 1921. The conditions during January were favorable for comfort, for livestock and for outdoor work, for the temperature was very mild, but the precipitation was deficient. This condition prevailed during February also. March was more favorable from a crop standpoint, but the excess of precipitation was slight. April was an improvement over March and, while there was still a decided deficiency in subsoil moisture, conditions at the close of the month were favorable. There was a deficiency in precipitation in May and a slight excess in temperature, but crop conditions were very favorable at the end of the month. The high temperature during June, with normal precipitation, followed by excessively high temperature during July, damaged crops seriously, especially in the central and southwestern portions of the State. August produced temperature slightly above, and precipitation slightly below, the normal. The heavy precipitation during September, while it helped fall plowing and some late crops, came too late to affect small grains.

The mean annual temperature was 42.0°, or 3.2° above the normal, and 2.5° higher than the mean for 1920. The highest mean annual temperature reported was 45.6° at Hettinger, Adams County; the lowest was 37.5° at Langdon, Cavalier County. The highest temperature reported was 110° at Carson, Grant County, on July 9th; the lowest was -33° at Langdon, Cavalier County, on February 19th, and at Pettibone, Kidder County, on December 24th. The temperature averaged above the normal during all months of the year, except April and November. The mean annual temperature is the highest of record during the thirty years since the Climatological Service was established in the State. The nearest approach was 41.0° in 1900 and again in 1910. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was -56° at Goodall, McKenzie County, on January 12, 1916.

The average precipitation for the State was 19.59 inches, or 1.65 inches above the normal, and 4.25 inches greater than the average for 1920. The greatest annual precipitation reported was 33.78 inches at Larimore, Grand Forks County; the least was 9.22 inches at Hettinger, Adams County. The greatest monthly amount reported was 10.00 inches at Larimore, Grand Forks County, in July; there was no precipitation at Bowbells, Burke County, in December, and at Parshall, Mountrail County, in October. The precipitation averaged above the normal during six months, and below the normal during six months. During the past 30 years there have been 5 wetter and 24 drier years. The heaviest annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.92 inches in 1917. The average snowfall for the State was 29.4 inches. The average number of days with 0.01 inch or more of precipitation was 74. There were 158 clear days, 111 partly cloudy, and 96 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—The weather during January was unusually warm, there having been but two warmer Januarys in the climatological history of the State. Except for the cold wave on the 16th, there were no severe temperature changes. There was little precipitation during the month, amounts in excess of one-half inch being recorded at but five stations. Scattered snow flurries occurred at several stations during the first half of the month, while during the second half the precipitation was nearly all confined to the 19th, and from the 29th to the 31st, inclusive.

FEBRUARY.—The weather was the warmest of record for February since the Climatological Service was established in 1892. The month, however, was not continuously warm; during the first and third decades the temperature was near the normal, and readings below zero were of frequent occurrence. The second decade was exceptionally warm. The precipitation was less than the normal at most stations, but was considerably above the normal in the northeast portion, where amounts in excess of one inch were recorded at three stations. Much feeding of livestock was saved by mild temperature, and some spring wheat was sown.

MARCH.—March averaged slightly warmer and wetter than the normal, but there was more than the usual cloudiness. The first week was warm, but was followed by colder weather. During the latter half of the month the temperature was nearly normal, except some low temperatures on the 21st, 27th and 28th. The distribution of precipitation over the State was very irregular, but generally along the northern border the amounts were less than one-half inch, more than one-half inch over the southern half of the State, with the larger amounts in the central and southeastern portions. Thunderstorms were frequent on the evening of the 14th, which is an unusual occurrence at that season of the year. Farm work did not progress very satisfactorily.

APRIL.—The temperature was generally moderate during the month, and the means were near the normal at all stations. High temperatures occurred on the 2d, 3d and 4th, followed by a cool period that continued until the 9th. Fair weather, with moderate temperature, prevailed from the 10th to the 20th, inclusive. The precipitation was well distributed geographically, the totals being more than two inches over the greater portion of the State, and over three inches at four stations. Farm work made good progress, as the precipitation generally occurred in small amounts.

MAY.—The weather was favorable for outdoor work, and for the germination and growth of farm products in all parts of the State. The temperature averaged slightly above the normal, due generally to high day temperatures. The nights, however, were generally cool, freezing temperatures being recorded generally during the first decade, and in many parts of the State during the middle of the month. The precipitation averaged slightly below the normal. The distribution was quite uniform, both geographically and throughout the month. The seeding of small grains made rapid progress during the early part of the month, germination was generally satisfactory, and at the close of the month both condition and color were excellent. While the weather was not quite so favorable for corn, the condition was reported excellent at the end of the month. Ranges, pastures, meadows and livestock were in excellent condition.

[Continued on page 53]

Climatological Data for the Year 1921.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).								Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	26	43.2	100	June 30	−27	Dec. 24	26	22.34	4.14	May	0.20	Jan.	29.8	65	210	70	85	nw.
Amidon	Slope	......	5	44.9	102	June 11	−25	Dec. 20	8	14.48	2.61	Sept.	T.	Feb.	......	61	......	......	......	w.
Arnegard	McKenzie	......	7	42.6	100	Aug. 31	−27	Dec. 20	7	17.96	4.88	June	T.	Oct.	36.0	57	201	76	88	nw.
Ashley	McIntosh	2,001	26	43.5	100	June 30	−27	Dec. 24	26	30.42	6.64	Aug.	0.20	Feb.	36.5	61	......	......	......	nw.
Beach	Golden Valley	2,579	16	......	103	Aug. 31	−24	Dec. 20	16	16.96	6.82	June	0.26	Feb.	......	......	......	......	......	......
Berthold Agency	McLean	2,082	28	44.8	104	Aug. 31	−30	Dec. 20	29	17.42	5.99	June	0.06	Oct.	25.2	70	......	......	......	nw.
Bismarck	Burleigh	1,674	47	44.4	108	July 9	−24	Dec. 24	47	14.05	2.72	May	0.12	Jan.	28.6	94	116	148	101	nw.
Bottineau	Bottineau	1,638	30	39.3	102	July 9	−31	Jan. 11	30	18.38	4.70	Sept.	0.10	Jan.	......	84	151	111	103	nw.
Bowbells	Burke	1,958	10	38.0	100	Aug. 31	−30	Dec. 20	10	18.28	5.49	June	0.00	Dec.	......	61	......	......	......	......
Bowman	Bowman	2,961	7	45.5	102	June 11	−22	Nov. 19	8	10.25	2.13	May	0.16	Dec.	17.3	77	164	122	79	nw.
Cando	Towner	1,488	19	40.8	96	June 30†	−26	Feb. 19	21	21.02	5.53	Sept.	0.09	Jan.	......	80	......	......	......	nw.
Carson	Grant	2,500	10	43.9	110	July 9	23	Dec. 20	10	13.60	3.60	May	0.10	Feb.	29.7	66	183	120	62	nw.
Cooperstown	Griggs	1,428	......	......	......	......	......	......	16	21.24	4.55	Sept.	0.10	Jan.	17.3	49	207	112	46	nw.
Crosby	Divide	1,954	15	41.1	94	June 29	−23	Dec. 20	15	20.04	6.13	June	0.09	Oct.	25.1	85	......	......	......	nw.
Devils Lake	Ramsey	1,478	17	40.0	97	July 9	−24	Dec. 20	25	25.39	5.63	Aug.	0.13	Jan.	29.6	119	139	96	130	nw.
Dickinson	Stark	2,543	30	42.5	100	July 8	−24	Dec. 20	30	15.76	3.09	June	0.13	Oct.	......	91	139	113	113	w.
Donnybrook	Ward	1,760	18	42.3	104	July 20†	−26	Feb. 18	23	20.08	5.06	June	T.	Dec.	22.2	68	......	......	......	n.
Dunn Center	Dunn	2,191	18	43.1	100	Aug. 31	−29	Dec. 20	23	16.28	6.14	June	T.	Oct.	28.5	48	......	......	......	nw.
Dunseith	Rolette	1,682	25	38.8	101	July 9	−29	Feb. 19†	26	18.36	4.13	May	0.04	Jan.†	12.0	80	154	100	111	nw.
Eckman	Bottineau	......	17	41.2	101	July 9†	−28	Feb. 19	17	15.21	3.67	Sept.	0.10	Jan.	24.0	67	......	......	......	w.
Edgeley	LaMoure	1,468	21	43.8	104	July 21	−25	Dec. 24	21	21.13	5.76	June	0.10	Jan.	......	61	98	175	92	nw.
Ellendale	Dickey	1,449	19	43.2	98	June 30	−28	Dec. 24	23	27.02	5.84	July	0.16	Jan.	23.5	100	110	136	119	nw.
Energy	McLean	1,750	......	......	......	......	......	......	10	14.92	3.32	July	0.05	Jan.	......	64	167	137	61	nw.
Epping	Williams	2,224	......	......	......	......	......	......	14	19.68	6.30	June	0.03	Oct.	21.0	58	205	102	58	w.
Fessenden	Wells	1,610	10	40.9	104	July 9	−29	Dec. 20	10	24.70	4.90	June	0.40	Feb.	29.6	104	......	......	......	nw
Foxholm	Ward	......	1	41.1	99	Aug. 31	24	Dec. 20	1	14.70	3.28	June	0.03	Dec.	22.5	61	141	137	87	nw.
Fryburg	Billings	2,790	......	......	......	......	......	......	4	18.44	4.40	June	0.04	Oct.	39.0	74	211	100	54	nw.
Fullerton	Dickey	1,439	24	44.4	99	June 30	−26	Dec. 24	24	28.57	6.08	July	0.37	Jan.	52.0	72	163	108	94	nw.
Garrison	McLean	1,901	27	42.3	104	July 9	−26	Dec. 20	27	18.05	3.60	Sept.	0.21	Jan.	32.8	85	143	147	75	nw.
Grafton	Walsh	827	30	40.6	99	July 1	27	Jan. 16	30	19.30	4.22	July	0.35	Jan.	29.5	77	175	78	112	nw.
Grand Forks	Grand Forks	830	31	40.7	100	June 30	−25	Dec. 23	31	18.21	4.08	July	0.36	Nov.	29.8	99	155	121	89	nw.
Granville	McHenry	1,504	15	41.8	104	July 9	−24	Dec. 20	15	15.98	3.81	Sept.	0.10	Jan.	19.5	60	104	147	114	nw.
Hannah	Cavalier	1,568	26	......	......	......	......	......	28	21.71	4.31	May	0.60	Dec.	45.0	57	......	......	......	......
Hansboro	Towner	1,597	14	39.0	100	June 28	27	Dec. 20	14	22.76	5.82	July	T.	Jan.	24.5	41	......	......	......	nw.
Hettinger	Adams	2,253	14	45.6	107	July 9	−19	Nov. 19	15	9.22	2.64	May	0.02	Oct.	......	53	......	......	......	nw.
Hillsboro	Traill	901	16	42.2	96	June 30†	−26	Dec. 24	16	19.81	4.03	June	0.25	Dec.	19.6	86	117	157	91	n.
Howard	Williams	2,275	15	40.1	98	Aug. 30†	−30	Nov. 19	15	21.80	6.09	June	0.04	Oct.	44.4	51	131	142	92	nw.
Jamestown	Stutsman	1,390	30	43.9	100	Aug. 31	−26	Dec. 24	30	28.45	6.25	July	0.16	Feb.	28.8	84	158	77	130	nw.
Lamoine	Kidder	1,936	16	41.0	104	July 9	−28	Feb. 19	17	17.60	3.66	July	T.	Jan.	19.0	57	......	......	......	nw.
Langdon	Cavalier	1,615	26	37.5	98	July 9	−33	Feb. 19	26	20.78	4.59	Sept.	0.20	Jan.†	23.0	82	191	55	119	nw.
Larimore	Grand Forks	1,134	28	40.5	95	June 30†	−25	Dec. 20†	28	33.78	10.00	July	0.32	Jan.	......	87	132	96	137	n.
Linton	Emmons	1,711	4	45.5	105	June 30	−28	Dec. 24	4	14.80	2.83	Sept.	0.09	Feb.	27.6	100	172	100	93	nw.
Lisbon	Ransom	1,091	18	43.7	104	June 30	−26	Dec. 24	18	18.12	4.85	July	0.05	Nov.	20.0	59	203	77	85	nw.
McClusky	Sheridan	1,943	......	......	......	......	......	......	4	20.17	4.18	June	0.20	Jan.	45.5	75	......	......	......	......
McKinney	Renville	1.640	28	41.4	96	June 29†	−28	Feb. 19	28	17.38	3.45	May	T.	Dec.	19.0	44	......	......	......	nw.
McLeod	Ransom	1,075	9	44.3	98	June 30	−26	Dec. 24	10	25.97	4.53	Sept.	0.29	Jan.	......	92	200	47	118	nw.
Maddock	Benson	1,604	7	41.1	103	July 9	−29	Dec. 20	7	26.24	5.76	June	T.	Jan.	......	67	89	153	123	nw.
Mandan	Morton	1,644	8	44.0	110	July 9	−26	Dec. 24	8	15.31	3.38	July	0.16	Feb.	......	83	146	94	125	nw.
Manfred	Wells	1,605	19	41.1	101	July 9	−29	Dec. 20	19	25.41	5.93	June	0.05	Jan.	32.2	102	156	110	99	nw.
Marmarth	Slope	2,714	9	44.1	102	June 11	−23	Nov. 19	13	14.71	3.99	June	0.07	Oct.	35.8	84	141	83	141	w.
Mayville	Traill	975	26	40.7	99	June 30	23	Dec. 20	26	17.51	3.78	May	0.27	Jan.	......	61	......	......	......	nw.
Melville	Foster	1.590	24	41.2	97	July 9	−26	Dec. 20	24	25.27	5.94	Aug.	0.10	Jan.	29.5	50	......	......	......	nw.
Minot	Ward	1,557	23	39.4	103	June 30	−32	Dec. 20	26	17.67	4.36	Sept.	0.17	Dec.	32.0	80	160	124	81	w.
Minto	Walsh	820	29	40.9	99	June 30†	−23	Dec. 24	29	24.74	6.95	July	0.15	Jan.	......	89	161	113	91	n.
Mott	Hettinger	2,424	15	43.1	107	July 9	−23	Nov. 19	15	12.43	3.76	June	0.05	Oct.	......	72	141	110	114	nw.
Napoleon	Logan	1.955	30	42.5	105	June 30	−25	Dec. 20†	30	16.53	2.89	Sept.	0.15	Jan.	23.0	79	206	47	112	sw.
New England	Hettinger	2,400	28	......	103	July 8	−29	Dec. 20	28	12.15	2.46	June	T.	Dec.	29.9	54	......	......	......	nw.
New Salem	Morton	2,163	18	44.0	108	June 30†	−20	Dec. 20	18	13.53	2.28	May	0.18	Jan.	31.1	74	164	135	66	nw.
Park River	Walsh	998	18	41.2	95	July 23	−24	Jan. 17	18	20.90	5.94	July	0.09	Jan.	......	76	......	......	......	nw.
Parshall	Mountrail	......	......	......	......	......	......	......	7	17.99	5.68	June	0.00	Oct.	......	32	......	......	......	......
Pembina	Pembina	789	42	38.0	98	June 30	−26	Dec. 25	48	21.92	6.83	Sept.	0.20	Jan.†	29.0	53	166	106	93	s.
Pettibone	Kidder	1,856	12	41.3	105	July 9	−33	Dec. 24	13	21.58	4.41	Aug.	0.15	Jan.	37.5	71	......	......	......	nw.
Power	Richland	1,020	......	......	......	......	......	......	28	21.92	5.72	July	0.25	Jan.	34.0	68	......	......	......	......
Powers Lake	Burke	2,205	......	......	......	......	......	......	8	20.10	7.65	June	0.05	Dec.	39.5	58	110	134	121	nw.
Skaar	McKenz.	......	1	42.7	100	Aug. 31	−31	Dec. 20	2	16.49	6.12	June	0.01	Oct.	37.5	65	......	......	......	nw.
Steele	Kidder	1.857	25	42.6	105	July 9	−23	Dec. 20	26	16.92	2.87	Sept.	0.14	Dec.	26.4	81	168	145	52	nw.
Taylor	Stark	2,493	6	......	100	July 8	−23	Dec. 20	6	14.02	4.38	June	0.08	Oct.	......	62	......	......	......	......
Towner	McHenry	1,482	20	41.3	105	July 9	−29	Feb. 19	20	18.66	4.80	Sept.	T.	Dec.	32.0	45	206	78	81	nw.
Turtle Lake	McLean	1,899	7	41.4	106	July 9	−24	Dec. 20	7	22.22	6.58	June	0.25	Dec.	42.9	85	109	103	153	nw.
Valley City	Barnes	1,245	17	41.3	95	June 18	−28	Dec. 24	17	25.81	4.41	July	0.17	Jan.	38.0	86	239	53	73	nw
Wahpeton	Richland	962	28	44.9	103	June 30	−23	Dec. 24	28	23.33	5.93	July	0.25	Jan.	24.7	76	......	......	......	se.
Walhalla	Pembina	966	14	......	......	......	29	Dec. 21	18	21.51	5.12	July	0.24	Dec.	41.2	80	......	......	......	......
Westhope	Bottineau	1,508	16	39.9	98	June 30†	−27	Feb. 19	16	17.22	3.83	Sept.	0.17	Dec.	......	57	177	100	88	nw.
Williston	Williams	1,875	43	42.6	97	Aug. 31	−24	Dec. 20	43	17.43	5.68	June	0.10	Oct.	28.8	87	120	147	98	w.
Willow City	Bottineau	1,471	30	38.5	101	July 9	−31	Feb. 19	30	16.74	4.01	Sept.	0.20	Jan.	40.5	76	142	138	87	nw.
Moorhead, Minn.	Clay	935	41	43.0	100	June 30	−23	Dec. 24	41	22.28	4.35	Sept.	0.35	Dec.	35.2	111	85	139	141	s.

† Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1921, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	0.20	-0.27	0.30	-0.08	0.45	-0.17	1.61	-0.38	4.14	+1.32	2.56	-1.45	2.81	-0.37	3.75	+0.94	3.87	+1.86	0.62	-0.72	0.43	-0.03	1.60	+1.18	22.34	+1.83
Amidon	0.12	......	T.	......	1.15	......	1.26	......	1.70	......	2.06	......	1.70	......	1.74	......	2.61	......	0.37	......	1.52	......	0.25	......	14.18	
Arnegard	0.20	......	0.30	......	1.37	......	2.39	......	2.03	......	4.88	......	2.17	......	0.52	......	3.08	......	T.	......	0.40	......	0.62	......	17.96	
Ashley	0.40	-0.15	0.20	0.25	1.87	+0.61	4.72	+2.70	2.60	+0.12	0.91	-2.55	5.37	+2.73	6.64	+4.32	4.31	+3.29	1.57	+0.53	1.00	+0.50	0.80	+0.25	30.42	†12.14
Beach	0.33	-0.31	0.26	-0.26	0.65	+0.04	1.31	+0.09	0.94	-1.91	6.82	+3.01	3.21	+1.37	0.25	-1.80	1.03	-0.33	0.37	-0.55	0.98	+0.50	0.81	0.31	16.96	+0.16
Berthold Agency	0.11	-0.30	0.12	0.16	0.66	-0.19	1.83	+0.71	3.43	+0.87	5.99	+1.86	0.59	-1.35	0.72	-1.06	3.24	+1.79	0.06	-0.83	0.29	0.22	0.38	0.01	17.42	+0.81
Bismarck	0.12	-0.42	0.15	0.35	1.00	-0.04	2.40	0.52	2.72	+0.22	0.92	-2.62	2.18	+0.04	0.18	-1.80	1.67	+0.48	1.58	+0.55	0.84	+0.16	0.29	0.23	[illegible]	[illegible]
Bottineau	0.10	-0.35	0.39	+0.01	0.28	0.56	1.63	+0.74	3.02	+0.91	2.74	-0.49	1.09	-1.29	3.16	+1.15	4.70	+3.04	0.69	-0.35	0.38	-0.17	0.20	0.30	18.38	+2.34
Bowbells	0.12	......	0.35	......	0.47	......	1.04	......	3.59	......	5.49	......	2.69	......	0.89	......	2.80	......	0.33	......	0.51	......	0.00	......	18.28	......
Bowman	0.30	......	0.30	......	0.55	......	0.55	......	2.13	......	0.93	......	1.83	......	1.07	......	1.95	......	0.05	......	0.43	......	0.16	......	10.25	......
Cando	0.09	-0.29	0.40	+0.16	0.93	+0.25	1.94	+1.03	1.33	-1.11	1.80	-1.97	5.09	+2.48	1.91	-0.36	5.53	+4.04	1.48	+0.68	0.39	-0.07	0.13	-0.22	21.02	+4.62
Carson	0.30	......	0.10	......	0.71	......	1.53	......	3.60	......	1.09	......	1.02	......	0.38	......	2.44	......	0.96	......	0.97	......	0.50	......	13.60	......
Cooperstown	0.10	-0.41	0.30	-0.06	0.80	+0.15	1.90	+0.90	1.45	0.56	3.90	+0.21	3.37	+0.55	3.62	+1.25	4.55	+2.83	0.70	-0.30	0.20	-0.18	0.35	0.07	21.24	+4.31
Crosby	0.11	-0.46	0.36	+0.12	0.30	-0.36	2.24	+1.22	2.44	+0.38	6.13	+3.11	3.19	+1.27	1.64	-0.73	2.65	+1.41	0.09	-0.64	0.49	-0.36	0.40	0.18	20.04	+4.78
Devils Lake	0.13	-0.47	0.46	-0.67	0.71	-0.30	2.17	+0.14	1.03	-1.17	4.70	+1.17	4.49	+0.71	5.63	+2.87	3.58	+2.19	1.31	+0.08	0.43	-0.28	0.75	+0.30	25.39	+5.23
Dickinson	0.23	-0.19	0.35	-0.09	1.01	+0.12	1.02	+0.19	1.78	-0.71	3.09	-0.06	1.61	-0.79	2.73	+0.78	2.15	+1.07	0.13	-0.66	1.05	+0.54	0.61	+0.17	15.76	-0.01
Donnybrook	0.10	-0.30	0.43	-0.13	1.16	+0.38	2.31	+1.36	1.94	-0.39	5.06	+2.15	3.58	+0.78	0.73	-1.43	2.16	+0.33	0.55	-0.42	2.06	+1.46	T.	0.49	20.08	+3.30
Dunn Center	0.03	......	0.16	......	1.35	......	1.35	......	1.69	......	6.14	......	2.13	......	0.18	......	1.98	......	T.	......	0.45	......	0.82	......	16.28	......
Dunseith	0.04	-0.44	0.04	-0.40	0.07	-0.76	1.80	+1.00	4.13	+2.46	2.70	-0.31	0.63	-1.81	3.58	+1.29	3.71	+2.07	0.70	-0.07	0.62	+0.21	0.34	0.07	18.36	+3.17
Eckman	0.10	-0.51	0.36	-0.03	1.06	+0.61	1.70	+0.67	2.38	+0.14	2.56	-0.37	0.80	-1.77	1.30	-0.94	3.67	+2.43	0.44	-0.40	0.54	+0.07	0.30	0.32	15.21	+0.42
Edgeley	0.10	-0.20	0.16	-0.18	0.99	+0.10	1.69	-0.22	3.31	+0.66	5.76	+2.36	2.61	-0.13	1.27	-1.04	4.01	+2.25	0.62	-0.37	0.30	-0.01	0.31	0.10	21.13	+3.12
Ellendale	0.16	-0.50	0.25	-0.37	1.56	+0.29	1.66	-0.34	4.53	+1.75	3.40	0.00	5.84	+2.94	2.19	-0.33	5.78	+4.20	0.72	-0.45	0.65	-0.05	0.28	0.40	27.02	+6.74
Energy	0.05	......	0.52	......	0.65	......	1.64	......	1.78	......	2.55	......	3.32	......	0.29	......	2.79	......	0.29	......	0.54	......	0.50	......	14.92	......
Epping	0.05	-0.54	0.18	-0.18	0.31	-0.12	1.60	+0.41	5.62	+3.40	6.30	+3.17	2.10	+0.12	0.05	-2.35	2.86	+1.45	0.03	-0.74	0.31	-0.03	0.27	-0.21	19.68	+4.38
Fessenden	0.43	......	0.40	......	0.91	......	3.13	......	1.75	......	4.90	......	3.41	......	1.46	......	4.17	......	1.70	......	1.40	......	1.04	......	24.70	......
Forman	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1.19	-0.61	3.88	+1.93	0.54	-0.84	0.90	+0.43	0.20	0.30	......	......
Foxholm	0.09	......	0.25	......	0.57	......	1.38	......	1.83	......	3.28	......	2.36	......	0.62	......	3.04	......	0.56	......	0.69	......	0.03	......	14.70	......
Fryburg	0.20	......	0.30	......	1.09	......	1.36	......	1.62	......	4.40	......	2.20	......	3.04	......	2.10	......	0.04	......	1.50	......	0.59	......	18.44	......
Fullerton	0.37	-0.41	0.49	-0.31	2.69	+1.41	2.19	+0.22	4.17	+1.08	3.40	+0.06	6.08	+2.91	1.97	-0.76	4.31	+2.20	0.83	-0.49	1.12	-0.54	0.95	+0.09	28.57	+6.54
Garrison	0.21	-0.26	0.38	-0.14	1.48	+0.42	2.08	+0.90	1.94	-0.17	2.36	-1.01	2.89	+0.81	1.22	-0.80	3.60	+2.22	0.76	-0.17	0.59	-0.01	0.54	-0.06	18.05	+1.73
Grafton	0.35	-0.26	0.44	-0.15	0.87	+0.16	1.23	-0.26	1.05	-1.03	3.67	+0.33	4.22	+1.72	2.83	+0.21	3.06	+1.27	0.66	-0.25	0.40	-0.19	0.52	-0.03	19.30	+1.52
Grand Forks	0.38	-0.18	0.77	+0.22	0.74	0.00	1.72	-0.25	1.68	-0.77	2.54	-1.05	4.08	+1.38	2.53	+0.07	2.44	+0.65	0.50	-0.74	0.36	-0.26	0.47	0.12	18.21	-1.05
Granville	0.10	-0.31	0.27	-0.07	0.49	+0.01	2.23	+1.24	2.53	+0.67	1.83	1.09	1.22	-0.88	1.45	-0.74	3.81	+2.46	0.72	-0.16	1.10	+0.68	0.23	0.26	15.98	+1.55
Hannah	0.70	-0.01	1.10	+0.54	0.90	+0.25	1.09	-0.23	4.31	+2.20	1.91	1.54	2.67	+0.20	2.38	+0.52	3.53	+1.39	1.72	+0.74	0.80	+0.21	0.60	+0.02	21.71	+4.29
Hansboro	T.	-0.89	0.23	-0.27	1.10	+0.50	1.84	+0.50	3.12	+0.92	1.38	-1.00	5.82	+3.68	3.30	+1.12	3.75	+1.95	1.22	+0.32	0.70	+0.29	0.30	-0.40	22.76	+6.72
Hettinger	0.12	-0.24	0.40	+0.09	0.66	+0.03	0.27	-0.46	2.64	+0.41	1.17	2.04	0.57	-2.23	0.23	-1.18	1.62	+0.08	0.02	-0.68	0.80	+0.46	0.42	+0.02	9.22	-5.74
Hillsboro	0.30	-0.45	0.30	-0.46	0.85	+0.01	1.59	-0.52	3.32	-0.25	4.03	+0.47	2.59	-0.19	2.13	-0.72	3.21	+0.47	0.65	-0.37	0.59	-0.11	0.25	-0.70	19.81	-2.82
Howard	0.30	-0.52	0.34	-0.37	0.57	-0.61	3.18	+1.90	4.21	+2.08	6.09	+3.21	1.76	+0.20	0.65	-0.89	3.21	+1.78	0.04	-0.78	1.25	+0.70	0.20	0.65	21.80	+6.05
Jamestown	0.35	-0.30	0.16	-0.43	1.02	-0.06	3.36	+1.60	1.48	-1.19	5.02	+1.33	6.25	+3.51	1.86	-0.72	4.93	+3.40	2.75	+1.76	0.60	-0.07	0.67	-0.05	28.45	+8.78
Lamoine	T.	-0.61	0.40	+0.06	0.80	+0.01	1.77	+0.87	2.43	+0.24	3.57	+0.12	3.66	+1.09	0.82	-1.12	2.21	+0.70	1.54	+0.84	0.10	-0.44	0.30	-0.17	17.60	+1.59
Langdon	0.20	-0.41	0.40	-0.28	0.35	-0.52	1.45	+0.08	2.68	+0.38	2.55	1.07	4.19	+1.53	2.49	-0.17	4.59	+2.55	0.58	-0.41	1.10	+0.51	0.20	0.56	20.78	+1.63
Larimore	0.32	-0.37	0.83	+0.37	0.87	+0.11	2.50	+0.95	2.84	+0.50	5.90	+2.31	10.00	+7.01	5.71	+3.06	2.78	+1.07	0.95	-0.29	0.34	-0.21	0.74	+0.22	33.78	†14.73
Linton	0.26	......	0.09	......	0.90	......	2.54	......	1.46	......	0.75	......	1.92	......	0.60	......	2.83	......	2.65	......	0.53	......	0.27	......	14.80	......
Lisbon	0.20	0.52	0.25	-0.54	0.82	+0.25	0.57	-1.43	2.95	-0.31	1.31	-3.15	4.85	+1.37	2.72	+0.47	3.52	+1.27	0.08	-1.06	0.05	-0.43	0.80	+0.32	18.12	-3.76
McClusky	0.20	......	0.60	......	2.20	......	2.96	......	1.93	......	4.18	......	2.91	......	0.33	......	2.02	......	1.24	......	1.05	......	0.55	......	20.17	......
McKinney	0.15	-0.24	0.55	+0.25	0.45	-0.29	0.65	-0.18	3.45	+1.45	3.38	+0.04	2.50	+0.46	1.60	-0.07	3.20	+1.66	0.80	-0.03	0.65	+0.02	T.	-0.42	17.38	+2.65
McLeod	0.29	......	0.59	......	1.63	......	2.20	......	3.64	......	4.15	......	3.93	......	3.46	......	4.53	......	0.56	......	0.60	......	0.39	......	25.97	......
Maddock	T.	......	0.70	......	0.90	......	2.41	......	1.47	......	5.76	......	5.63	......	2.27	......	4.84	......	1.78	......	0.26	......	0.22	......	26.24	......
Mandan	0.19	......	0.16	......	0.79	......	2.52	......	2.59	......	1.35	......	3.38	......	0.25	......	1.58	......	1.39	......	0.87	......	0.24	......	15.31	......
Manfred	0.05	-0.62	0.42	-0.03	1.21	+0.39	2.91	+1.65	2.95	+0.58	5.93	+2.29	3.80	+1.55	1.70	-0.56	3.47	+2.00	1.61	+0.71	0.75	+0.10	0.61	-0.16	25.41	+7.90
Marmarth	0.30	+0.02	0.14	-0.19	1.38	+1.06	0.88	-0.22	1.22	-1.27	3.99	+0.56	2.04	+0.22	1.63	-0.15	1.51	+0.24	0.07	-0.68	1.03	+0.76	0.52	+0.18	14.71	+0.57
Mayville	0.27	-0.23	0.47	+0.07	1.35	+0.60	2.05	+0.25	3.78	+0.86	3.02	-0.62	1.95	-1.13	1.52	-1.24	1.70	-0.64	0.55	-0.63	0.30	-0.32	0.55	0.00	17.51	-3.03
Melville	0.10	-0.28	0.30	-0.01	1.55	+0.87	1.62	+0.55	1.06	-1.40	4.84	+1.23	4.40	+1.50	5.94	+3.95	3.06	+1.62	1.15	+0.24	0.70	+0.28	0.55	+0.14	25.27	+8.69
Minot	0.30	-0.16	0.50	+0.03	1.80	+1.08	1.85	+0.55	1.49	0.49	2.69	-0.71	2.49	+0.60	0.77	-1.48	4.36	+2.78	0.51	-0.43	0.74	+0.15	0.17	-0.28	17.67	+1.64
Minto	0.15	0.36	0.60	+0.10	0.54	-0.31	1.57	0.00	2.10	0.24	4.00	+0.61	6.95	+4.14	3.46	+0.99	3.73	+1.73	0.73	-0.41	0.54	0.00	0.37	0.11	24.74	+6.14
Mott	0.52	-0.40	0.14	-0.41	1.27	+0.28	0.56	-0.86	1.44	-0.91	3.76	+0.32	1.09	-1.29	0.34	-1.27	1.37	-0.20	0.05	-1.07	1.32	+0.88	0.57	0.05	12.43	-4.98
Napoleon	0.15	-0.33	0.17	-0.23	0.70	-0.25	2.29	+0.63	1.19	-1.21	2.65	-1.10	2.07	0.41	1.74	-0.68	2.89	+1.60	1.78	+0.81	0.50	-0.12	0.40	0.10	16.53	-1.39
New England	0.75	+0.29	0.05	-0.52	0.65	-0.23	0.87	-0.08	1.85	-0.37	2.46	0.31	1.05	-0.98	0.95	-0.87	2.25	+1.08	0.02	-0.64	1.25	+0.75	T.	-0.44	12.15	-2.32
New Salem	0.18	-0.49	0.20	-0.18	1.46	+0.50	2.16	+0.98	2.28	-0.18	1.27	2.78	1.39	-0.80	0.89	-0.81	2.12	+0.67	0.42	-0.63	0.83	+0.52	0.33	0.17	13.53	-3.37
Park River	0.09	-0.38	0.42	-0.04	0.33	-0.24	1.78	+0.41	1.08	-1.13	4.10	+0.61	5.94	+3.50	2.32	-0.01	3.71	+2.15	0.81	-0.23	0.16	-0.58	0.16	0.41	20.90	+3.65
Parshall	T.	......	T.	......	T.	......	1.26	......	3.79	......	5.68	......	2.20	......	1.34	......	3.22	......	0.00	......	0.30	......	0.20	......	17.99	......
Pembina	0.20	-0.45	1.12	+0.36	1.00	+0.06	0.97	0.59	1.50	-0.93	2.91	0.67	0.90	-1.68	5.56	+3.23	6.83	+5.03	0.33	-1.16	0.40	-0.29	0.20	0.65	21.92	+2.26
Pettibone	0.15	-0.29	0.36	+0.05	1.80	+1.31	2.26	+0.78	2.26	-0.46	0.82	-2.41	3.08	+0.29	4.41	+2.04	3.62	+2.10	1.83	+1.07	0.39	-0.13	0.60	-0.11	21.58	+4.24
Power	0.25	-0.38	0.76	+0.20	1.30	+0.58	2.47	+0.60	2.23	-0.66	1.15	-2.87	5.72	+2.33	3.12	+0.55	3.14	+1.12	0.50	-1.00	0.63	+0.04	0.65	+0.15	21.92	+0.66
Powers Lake	0.20	......	0.55	......	0.87	......	2.14	......	1.80	......	7.65	......	3.04	......	0.22	......	2.45	......	0.18	......	0.95	......	0.05	......	20.10	......
Skaar	0.12	......	0.12	......	1.35	......	1.93	......	1.48	......	6.12	......	1.54	......	0.03	......	2.54	......	0.01	......	0.90	......	0.35	......	16.49	......
Steele	0.40	-0.06	0.39	-0.03	1.62	+0.69	2.05	+0.97	1.63	-0.65	1.80	-1.59	2.00	-0.81	1.57	-0.69	2.87	+1.60	2.20	+1.34	0.25	-0.29	0.14	-0.38	16.92	+0.10
Taylor	0.30	......	0.35	......	0.04	......	0.63	......	2.09	......	4.38	......	0.37	......	2.24	......	1.99	......	0.08	......	1.14	......	0.41	......	14.02	......
Towner	0.30	-0.18	0.30	0.06	0.30	-0.58	2.22	+1.04	1.66	-0.74	3.40	+0.16	1.62	-0.77	2.48	+0.43	4.80	+3.14	0.58	-0.38	1.00	+0.55	T.	0.41	18.66	+2.20
Turtle Lake	0.64	......	0.54	......	2.05	......	1.68	......	1.66	......	6.58	......	3.92	......	0.63	......	3.24	......	0.63	......	0.40	......	0.25	......	22.22	......
Valley City	0.17	-0.44	0.47	+0.14	2.01	+1.46	3.14	+1.42	3.97	+1.02	2.74	-0.54	4.41	+1.45	4.09	+1.62	3.28	+1.56	0.46	-0.46	0.75	+0.23	0.32	0.19	25.81	+7.27
Wahpeton	0.25	-0.25	0.80	-0.24	1.12	+0.18	1.65	-0.56	3.50	+0.82	1.41	-2.53	5.93	+2.09	2.36	-0.68	4.46	+2.16	0.84	0.71	0.63	0.00	0.38	-0.08	23.33	+0.68
Walhalla	0.80	-0.05	1.30	+0.79	0.75	+0.07	1.39	+0.09	1.53	-1.11	1.97	1.19	5.12	+2.04	3.32	+0.84	3.55	+1.70	0.71	-0.30	0.83	+0.29	0.24	-0.85	21.51	+2.32
Westhope	0.24	-0.21	0.42	+0.19	0.26	-0.25	0.77	-0.37	2.64	+0.58	3.44	+0.46	1.86	-0.11	2.81	+0.62	3.83	+2.47	0.48	-0.26	0.30	-0.15	0.17	0.18	17.22	+2.79
Williston	0.15	-0.43	0.39	0.08	1.21	+0.53	1.66	+0.43	2.08	0.18	5.68	+2.11	2.35	+0.32	0.40	-0.91	2.43	+1.52	0.10	0.67	0.65	-0.05	0.33	-0.33	17.43	+2.36
Willow City	0.20	-0.36	0.97	+0.52	0.86	+0.15	1.93	+0.99	2.68	+0.77	1.96	-1.34	1.38	-0.77	1.25	-0.81	4.01	+2.35	0.46	0.25	0.65	+0.21	0.39	0.12	16.74	+1.34
Moorhead, Minn.	1.21	+0.50	0.63	-0.10	1.61	+0.47	1.79	-0.54	2.56	-0.39	1.40	-2.73	3.08	0.66	3.94	+0.84	4.35	+2.05	0.84	1.23	0.52	-0.46	0.35	0.39	22.28	2.64

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace. †Plus

Monthly and Annual Mean Temperatures for the Year 1921, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	14.7	+10.2	20.4	+13.4	29.1	+5.5	45.9	+3.6	56.2	+2.1	68.8	+5.3	71.8	+3.1	66.5	+0.2	58.4	+1.1	47.8	+3.5	22.0	-5.3	16.6	+3.9	43.2	+3.9
Amidon	21.4	.....	28.3	.....	30.9	.....	42.2	.....	51.7	.....	69.9	.....	72.4	.....	69.6	.....	56.3	.....	47.6	.....	26.0	.....	19.4	.....	44.9	.....
Arnegard	17.9	.....	22.0	.....	26.1	.....	40.5	.....	52.4	.....	67.8	.....	69.6	.....	68.4	.....	54.6	.....	47.9	.....	24.6	.....	19.2	.....	42.6	.....
Ashley	20.6	+13.1	24.0	+16.2	27.2	+5.2	44.0	+1.5	54.0	+1.3	[a]69.6	+7.6	71.0	+2.6	67.8	+1.9	58.0	+0.7	48.1	+4.4	20.9	-6.8	17.0	+3.5	43.5	+4.3
Beach	22.8	+13.5	25.8	+12.2	[a]28.4	+1.9	41.0	-1.5	52.5	+2.4	68.9	+7.8	70.1	+2.8	67.2	+2.2	[d]55.4	-0.9	.....	.....	28.2	-3.2	19.0	+2.5	.....	.....
Berthold Agency	19.3	+11.8	[a]26.4	+17.0	[a]31.0	+6.3	[b]44.8	+1.1	57.0	+3.3	[a]69.8	+7.2	[a]72.4	+3.5	[a]70.1	+2.4	[b]57.8	+0.8	[a]48.2	+3.5	21.9	-6.9	18.7	+3.0	44.8	+4.4
Bismarck	18.8	+12.1	22.8	+14.5	27.8	+5.7	43.4	+0.8	54.8	-0.4	71.2	+7.0	74.7	+4.5	70.2	+2.1	59.2	+2.1	48.9	+4.8	22.6	-3.4	18.6	+3.6	41.4	+4.4
Bottineau	9.8	+10.5	14.3	+12.5	22.6	+4.9	39.5	+0.1	49.1	-2.2	65.6	+4.6	71.6	+5.8	65.6	+2.0	54.0	-1.5	47.0	+5.4	18.0	-5.6	14.6	+7.9	39.3	+3.7
Bowbells	11.9	.....	14.1	.....	[b]21.8	.....	34.8	.....	50.4	.....	65.0	.....	68.6	.....	63.8	.....	52.8	.....	44.3	.....	14.6	.....	14.2	.....	38.0	.....
Bowman	24.9	.....	28.3	.....	32.4	.....	43.0	.....	52.8	.....	71.9	.....	72.8	.....	72.8	.....	56.0	.....	48.2	.....	25.7	.....	[a]16.8	.....	45.5	.....
Cando	11.4	+12.9	15.5	+12.7	22.6	+2.1	40.8	+0.2	54.3	+2.8	68.0	+6.8	71.2	+5.1	66.7	+2.8	56.2	+0.6	[a]47.3	+3.6	19.2	-7.3	16.3	+9.1	40.8	+4.3
Carson	19.7	.....	24.8	.....	27.4	.....	41.2	.....	53.7	.....	70.8	.....	73.4	.....	70.2	.....	57.6	.....	48.1	.....	22.4	.....	17.6	.....	43.9	.....
Crosby	16.0	+14.3	18.7	+11.6	24.6	+2.6	37.7	-2.9	51.8	+1.4	66.7	+6.1	67.5	+1.6	65.6	+1.9	56.4	+2.7	[b]47.6	+6.1	22.6	-5.2	17.9	+5.6	41.1	+3.8
Devils Lake	10.5	+10.2	15.4	+10.9	21.0	+2.5	39.2	+1.0	54.2	+1.5	66.9	+4.3	70.0	+1.9	65.5	+0.4	56.6	+1.0	46.4	+5.9	18.6	-4.0	15.2	+7.2	41.0	+3.6
Dickinson	19.6	+ 9.3	24.3	+12.5	27.6	+3.2	39.2	-3.7	51.0	-1.2	69.2	+7.9	71.0	+3.0	66.7	+0.4	54.0	-2.5	46.4	+2.5	24.0	-4.6	17.0	-0.3	42.5	+2.2
Donnybrook	15.0	+11.6	21.4	+14.4	25.2	+2.8	40.0	-0.4	53.6	+3.5	68.3	+7.8	71.9	+6.1	67.3	+4.0	54.9	+0.9	[a]47.0	+4.9	[b]22.7	-6.1	19.8	+7.6	42.3	+4.8
Dunn Center	21.2	.....	[a]24.2	.....	27.7	.....	41.2	.....	52.8	.....	68.8	.....	69.6	.....	67.0	.....	55.6	.....	48.4	.....	22.5	.....	18.4	.....	43.1	.....
Dunseith	11.4	+ 9.9	14.2	+10.8	20.6	+1.8	37.6	-2.8	52.7	+0.8	65.0	+3.8	70.0	+5.6	64.9	+1.3	53.8	-1.0	45.0	+3.9	16.5	-9.7	13.8	+5.5	38.8	+2.5
Eckman	12.8	+12.2	17.8	+11.4	[c]25.1	+3.0	39.8	-1.8	53.2	+2.6	[b]67.6	+6.3	72.4	+6.6	67.2	+3.9	57.2	+1.7	46.4	+3.7	[a]19.7	-6.6	[a]15.8	+6.2	41.2	+4.0
Edgeley	19.7	+11.9	22.8	+11.9	27.9	+1.4	44.4	+1.2	54.6	+1.1	68.0	+5.2	72.7	+4.2	67.6	+1.2	59.1	+1.6	48.0	+2.1	21.1	-9.3	19.9	+3.4	43.8	+3.0
Ellendale	19.2	.....	22.2	.....	27.7	.....	43.8	.....	54.4	.....	68.9	.....	71.0	.....	67.1	.....	58.4	.....	47.8	.....	20.2	.....	18.1	.....	43.2	.....
Fessenden	14.6	.....	18.2	.....	[f]22.0	.....	40.2	.....	53.2	.....	67.0	.....	70.0	.....	66.2	.....	57.4	.....	[b]46.8	.....	19.4	.....	15.6	.....	40.9	.....
Foxholm	14.8	.....	18.8	.....	23.8	.....	38.8	.....	53.2	.....	66.1	.....	70.3	.....	66.7	.....	55.6	.....	47.3	.....	20.4	.....	17.8	.....	41.1	.....
Fullerton	20.4	+12.6	22.7	+13.4	28.4	+3.2	44.7	+1.9	56.8	+3.5	71.0	+8.3	72.5	+4.1	69.1	+2.8	58.9	+2.2	47.8	+3.5	21.2	-8.5	19.0	+5.3	44.4	+4.4
Garrison	18.6	+12.1	21.9	+13.5	26.0	+4.3	40.6	-2.0	53.2	+0.6	67.2	+5.0	[a]71.2	+3.1	66.4	+0.7	56.0	-0.8	[a]47.7	+3.9	21.7	-5.3	17.3	+3.7	42.3	+3.2
Grafton	10.6	+ 9.7	15.0	+10.1	21.0	+1.8	41.8	+1.5	55.0	+2.1	66.8	+4.3	71.4	+3.9	66.0	+1.5	58.1	+2.2	46.8	+4.1	20.2	-3.8	13.9	+6.2	40.6	+3.7
Grand Forks	12.0	+ 8.4	14.6	+ 8.1	20.8	1.6	42.2	+0.2	55.8	+2.4	68.5	+5.6	71.8	+4.4	66.0	+1.1	58.2	+2.0	46.8	+3.3	18.9	-7.2	12.7	+2.1	40.7	+2.4
Granville	14.4	+12.7	19.0	+10.6	23.8	+0.1	40.6	-1.9	54.0	+2.6	67.8	+4.7	71.4	+4.3	67.2	+3.3	57.4	+3.0	48.0	+3.9	20.8	-5.3	17.2	+4.8	41.8	+3.6
Hannah	8.6	+10.3	12.0	+10.0	19.8	+1.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hansboro	[a]11.3	+13.6	[a]14.1	+10.4	[a]20.4	-0.9	37.3	-2.6	[a]52.4	+2.1	[c]66.4	+6.0	[m]68.9	+3.5	[d]64.8	+2.0	[d]54.8	-0.7	46.6	+5.3	16.2	-9.7	[a]15.0	+7.7	39.0	+3.2
Hettinger	24.2	+11.7	26.8	+13.6	31.8	+4.2	42.4	-2.4	53.3	+0.5	71.0	+8.9	[a]75.6	+6.1	70.8	+3.8	57.2	-0.8	[a]49.4	+3.0	24.5	-8.9	19.6	+3.8	45.6	+3.7
Hillsboro	14.2	+10.3	[b]18.3	+ 9.8	24.2	0.5	43.7	+0.1	55.2	+2.0	68.0	+3.6	72.6	+3.1	67.1	+0.2	59.9	+0.9	48.2	+2.2	20.6	-8.2	[a]14.0	+1.4	42.2	+2.1
Howard	16.7	+15.2	19.6	+13.6	22.4	+1.6	38.6	-1.2	52.0	+2.6	65.2	+5.5	66.7	+1.7	67.2	+3.7	51.4	-0.6	45.5	-4.1	18.8	-8.9	13.8	+2.0	40.1	+3.4
Jamestown	16.9	+10.4	22.1	+14.2	26.2	-3.6	44.3	+1.8	56.6	+3.1	69.4	+6.3	72.0	+3.5	69.0	+2.8	60.6	+3.9	49.8	+5.0	22.2	-5.4	18.1	+4.5	43.9	+4.4
Lamoine	[a]15.8	+11.8	[b]18.8	+11.1	[b]24.6	+1.6	40.6	-2.0	52.8	+2.1	67.6	+7.1	69.4	+3.5	65.6	+1.7	[g]57.0	+0.4	[a]45.8	+2.7	18.3	-8.7	15.8	+4.6	41.0	+3.0
Langdon	7.8	+10.5	11.0	+ 8.0	17.4	-1.6	36.3	-1.8	52.6	+1.8	64.5	+4.8	68.0	+3.5	62.7	+1.0	54.6	+1.1	45.2	+4.8	17.6	-8.1	12.8	+5.5	37.5	+2.4
Larimore	11.2	+ 8.6	15.4	+10.2	21.2	+0.2	40.7	+0.3	54.2	+1.8	67.0	+4.9	70.8	+4.1	64.8	+0.5	57.8	-2.6	48.2	+4.9	19.8	-6.0	14.8	+4.0	40.5	+3.0
Linton	19.9	.....	23.9	.....	30.8	.....	44.6	.....	55.4	.....	72.0	.....	75.9	.....	71.4	.....	60.0	.....	[a]49.2	.....	23.2	.....	19.2	.....	45.5	.....
Lisbon	17.2	+11.3	21.0	+11.4	27.8	+1.2	48.2	+5.5	55.8	+2.9	70.3	+7.2	72.8	+4.6	67.8	+1.3	56.4	-1.3	46.2	+0.9	21.8	-8.4	18.8	+4.7	43.7	+3.5
McKinney	14.6	+11.4	18.9	+13.8	24.7	+5.5	40.4	-0.6	[a]54.0	+2.0	67.2	+6.5	69.9	+3.9	65.8	+2.3	[c]56.6	+2.5	46.6	+4.9	21.1	-3.5	17.6	+6.9	41.4	+4.6
McLeod	17.7	.....	22.7	.....	28.4	.....	43.5	.....	56.2	.....	70.2	.....	72.6	.....	68.7	.....	60.5	.....	49.6	.....	22.1	.....	[b]19.4	.....	44.3	.....
Maddock	13.4	.....	18.6	.....	23.5	.....	41.0	.....	54.8	.....	66.7	.....	69.8	.....	65.8	.....	57.4	.....	47.5	.....	19.8	.....	15.1	.....	41.1	.....
Mandan	17.6	.....	22.0	.....	27.6	.....	43.1	.....	54.8	.....	70.8	.....	74.6	.....	70.4	.....	60.0	.....	49.0	.....	21.6	.....	17.0	.....	44.0	.....
Manfred	14.0	+10.0	17.9	+11.1	23.4	+0.3	40.4	-1.4	54.6	+3.0	68.0	+6.5	69.8	+2.9	66.6	+2.3	56.7	+0.8	46.2	+2.9	19.6	-9.4	15.7	+4.4	41.1	+2.8
Marmarth	25.4	+15.1	27.1	+14.0	29.3	+3.3	[b]41.4	-1.4	[a]51.0	+1.0	68.0	+7.7	70.8	+3.0	[b]68.9	+3.3	[c]55.6	0.0	47.0	+2.9	25.8	-8.2	18.6	+0.9	44.1	+3.5
Mayville	12.6	+ 6.5	16.6	+ 8.9	21.8	-1.4	40.8	-2.4	54.2	-0.3	67.6	+3.1	70.5	+1.1	65.5	-0.8	59.0	+1.6	46.6	+1.7	19.1	-10.2	13.8	+0.7	40.7	+0.7
Melville	[b]16.4	+10.8	[b]18.0	+11.4	22.6	+0.3	[c]41.0	+0.9	[c]53.0	+0.5	[a]67.5	+4.6	[c]70.5	+2.6	[c]66.2	-0.2	57.8	+1.4	[c]45.4	+1.8	[a]19.2	-9.8	16.2	+4.4	41.2	+2.4
Minot	13.0	+ 8.0	17.6	+ 9.7	22.6	+1.2	38.6	-3.1	51.7	-0.6	65.0	+2.5	69.6	+1.5	63.2	-1.9	53.2	-3.5	45.3	+1.7	18.6	-11.1	14.4	+2.0	39.4	+0.5
Minto	11.5	+ 9.7	15.6	+ 9.7	21.5	+0.4	41.4	+0.8	55.1	+1.7	68.4	+4.5	[b]71.8	+4.7	66.2	+1.6	58.6	+2.2	47.1	+3.9	20.2	-4.3	13.8	+2.9	40.9	+3.1
Mott	17.4	+ 9.9	22.7	+10.9	27.4	+0.8	42.0	-0.6	53.5	+1.9	71.8	+8.8	74.6	+5.5	71.2	+5.3	53.8	-2.5	46.0	+3.0	21.5	-9.7	15.6	+1.5	45.1	+2.9
Napoleon	17.8	+11.9	21.6	+14.8	27.4	+6.1	42.2	+0.7	53.3	+0.9	68.5	+6.3	72.3	+4.0	68.0	+2.0	56.7	-0.2	47.4	+5.5	18.2	-8.4	16.6	+4.2	42.5	+4.0
New England	16.8	+ 3.5	[b]24.0	+11.9	29.6	+5.2	.....	.....	[a]53.2	+1.6	68.6	+6.6	72.4	+3.9	66.8	+0.1	54.5	-1.3	45.5	+1.8	25.0	-5.2	17.2	-0.2	.....	.....
New Salem	19.4	+11.7	24.2	+13.6	27.2	+2.7	40.6	-1.9	53.2	+1.9	69.2	+6.4	75.8	+6.5	70.2	+3.8	57.9	+0.7	48.3	+4.0	23.0	-7.7	18.4	+3.5	44.0	+3.8
Park River	10.8	+ 9.0	[j]18.4	+12.7	21.4	-0.7	40.8	-0.7	[b]56.2	+4.0	67.0	+3.8	[c]70.7	+2.9	67.4	+1.9	58.3	+1.4	47.5	+3.2	19.6	-8.4	[a]15.8	+4.7	41.2	+2.8
Pembina	10.8	+13.7	10.4	+ 9.0	13.0	-3.0	31.6	-6.3	54.8	+2.3	67.4	+4.8	71.2	+3.5	64.5	+0.4	57.0	+3.2	47.0	+6.1	17.4	-5.3	10.7	+4.7	38.0	+2.8
Pettibone	[a]15.8	+15.8	[a]19.0	+14.4	23.5	-0.3	41.0	-0.9	53.0	+2.5	68.2	+8.0	70.4	+4.6	[d]66.8	+4.4	56.3	+2.6	46.2	+5.0	19.5	-7.4	15.5	+5.1	41.3	+4.5
Skaar	[e]20.0	.....	23.4	.....	27.8	.....	[b]40.6	.....	52.1	.....	68.6	.....	70.5	.....	[b]65.3	.....	[b]53.9	.....	[b]46.8	.....	[b]24.5	.....	[f]18.9	.....	42.7	.....
Steele	20.9	+13.3	22.0	+14.9	29.4	+7.3	42.7	-1.7	51.3	-2.5	68.2	+5.8	74.0	+4.6	68.6	+1.8	57.1	-0.7	47.1	+3.1	17.2	-11.2	13.2	+0.4	42.6	+2.8
Taylor	.....	.....	24.3	.....	27.8	.....	[b]41.8	.....	53.0	.....	[a]71.2	.....	[a]72.6	.....	69.2	.....	[d]55.5	.....	[e]47.6	.....	[b]21.9	.....	[a]17.6	.....	.....	.....
Towner	11.8	+ 9.2	17.4	+12.2	25.0	+5.8	40.6	-0.8	53.5	+1.2	67.8	+5.6	71.2	+4.1	67.2	+2.8	57.2	+1.4	47.6	+5.2	20.6	-4.4	15.2	+5.2	41.3	+4.0
Turtle Lake	16.5	.....	19.6	.....	23.9	.....	41.1	.....	53.0	.....	67.5	.....	67.3	.....	67.0	.....	[d]56.3	.....	47.4	.....	20.1	.....	16.6	.....	41.4	.....
Valley City	15.6	+10.8	20.2	+10.6	23.2	-2.9	42.2	-1.6	55.0	+2.4	67.0	+3.8	70.8	+2.8	66.0	+0.4	57.0	-1.2	46.6	+1.4	17.4	-12.3	15.0	+1.3	41.3	+1.3
Wahpeton	18.0	+10.2	22.9	+13.0	[b]29.0	+2.8	47.4	+3.1	56.4	+1.1	71.1	+6.3	[d]73.5	+4.2	68.4	+1.5	60.1	+1.5	49.6	+3.7	23.4	-4.9	19.2	+4.5	44.9	+3.9
Walhalla	.....	.....	.....	.....	20.6	+0.7	39.6	-0.3	.....	.....	.....	.....	[a]72.6	+5.9	[b]66.0	+1.6	58.0	+2.1	[c]49.7	+6.7	[d]22.6	-4.5	[c]17.8	+8.3	.....	.....
Westhope	10.4	+11.8	18.1	+14.8	22.2	+1.3	38.2	-1.5	55.0	+3.6	67.2	+5.6	69.5	+3.4	65.4	+1.3	55.4	+0.6	46.6	+5.2	17.9	-8.9	12.9	+3.9	39.9	+3.4
Williston	18.7	+12.2	22.0	+14.1	25.8	+4.2	40.4	-0.1	53.8	-0.5	68.6	+5.1	69.6	+0.2	68.1	+0.2	55.4	-4.1	48.0	+5.1	23.0	-2.2	17.2	+3.6	42.6	+3.2
Willow City	8.4	+ 8.1	14.2	+11.5	21.7	+3.4	37.4	-2.8	52.2	+0.7	65.5	+4.5	68.9	+3.5	63.6	+0.1	54.8	+0.5	44.8	+3.1	16.6	-5.5	13.4	+4.9	38.5	+2.7
Moorhead, Minn.	15.3	+12.6	19.2	+12.2	24.2	+2.8	44.1	+2.7	56.6	+1.8	70.4	+6.1	72.8	+4.1	68.2	+2.3	59.6	+3.0	47.8	+5.0	21.8	-2.6	16.5	+5.8	43.0	+4.6

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 19.]

JUNE.—The weather during June was, with but one excep-on, the warmest of record for that month. While the precipi-tion was nearly the normal, the distribution was so uneven iat crop conditions at the close of the month varied greatly in osely situated localities. Up to the 15th, crop conditions never ppeared to better advantage, but the high temperature and ck of precipitation caused rapid deterioration in many parts of le State, while high temperature and heavy showers in other ctions tended to cause damage from stem rust. Hail and high inds did great damage in many parts of the Section.

JULY.—The excessive heat of June continued throughout uly. The mean for the month has been exceeded but three mes in the past 30 years. The heat was greatest in the south-ntral portion, where high temperature records were estab-shed at a few stations. The rainfall averaged nearly one-half ich above the normal, but was deficient over the southwestern nd central portions. The heaviest rainfall occurred in the ortheast portion, Larimore reporting 10 inches. A tornado assed over Dickey County on the 2d, doing much damage. amage to crops from the severe heat was particularly noticeable ver the central and southwestern portions. Small grains ipened prematurely, and harvest was well under way at the lose of the month.

AUGUST.—The temperature and precipitation for the month veraged nearly the normal, the former being slightly above, nd the latter slightly below, the normal. The first decade was ie driest, and during this period the greater portion of small rains was harvested. The second decade was the coolest, and requent showers, in many instances quite heavy, relieved the roughty conditions somewhat. The third decade was both the armest and the wettest. Early threshing was delayed some-hat by showers.

SEPTEMBER.—From a temperature standpoint, the weather uring September was nearly normal. There was, however, an xcess of precipitation in nearly all parts of the State. While is excessive precipitation delayed threshing considerably, it as beneficial for fall plowing and for the seeding and germina-on of winter wheat and rye. Killing frosts were not general ntil the 25th, and in some instances not until the 30th. Corn ipened rapidly during the first decade, and was out of danger om the frosts when they occurred.

OCTOBER.—Favorable weather for outdoor work prevailed, and eld work made rapid advancement. Corn-husking was practi-ally completed during the month. There were but three tormy periods, and practically all of the precipitation occurred t those times; from the 6th to the 10th, inclusive, the 17-18th, nd from the 25th to the 28th, inclusive.

NOVEMBER.—Changeable weather as regards temperature prevailed throughout the State during the month. The weather at the opening of the month was above normal, a condition which prevailed during the first decade. The temperature during the second decade and during the first half of the third decade was below the normal. The month closed with generally mild temperatures. From the 7th to the 18th snow flurries were frequent. From the 19th to the close of the month only scattered snows occurred.

DECEMBER.—The temperature during the first and second decades was mild, and the snow covering rapidly disappeared. During the last decade there was a change to decidedly colder. Light scattered snows occurred from the 15th to the 22d, and again on the 30-31st.

CLIMATOLOGICAL SUMMARY.

Month.	Temperature in degrees Fahrenheit. Mean.	Departure.	Highest.	Lowest.	Precipitation, in inches. Average.	Departure.	Snowfall.	Number of rainy days.	Sky. Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of the wind.
anuary	15.9	+11.0	58	31	0.24	−0.30	2.5	2	13	9	9	nw.
ebruary	19.9	+12.0	64	−33	0.39	−0.10	3.8	3	11	10	7	nw.
arch	25.2	+2.6	75	−22	1.00	−0.17	9.1	6	9	12	10	nw.
pril	41.1	−0.6	91	1	1.81	+0.43	3.8	7	14	7	9	nw.
ay	53.8	+1.2	90	16	2.46	−0.09	T.	9	13	10	8	se.
une	68.2	+5.4	108	30	3.51	+0.01	0	9	14	10	6	se.
uly	71.4	+3.9	110	35	3.07	+0.46	0	7	17	10	4	se.
ugust	67.2	+1.8	108	31	1.99	−0.29	0	6	18	10	3	nw.
eptember	57.0	+0.6	101	25	3.30	+1.66	T.	12	12	10	8	nw.
ctober	47.3	+3.5	88	16	0.73	−0.27	T.	4	16	8	7	nw.
ovember	21.0	5.6	69	−30	0.68	+0.10	6.3	5	7	8	15	nw.
ecember	16.5	+3.5	59	−33	0.41	−0.13	3.9	4	14	7	10	nw.
Annual	42.0	+3.2	110	−33	19.59	+1.65	29.4	74	158	111	96	nw.

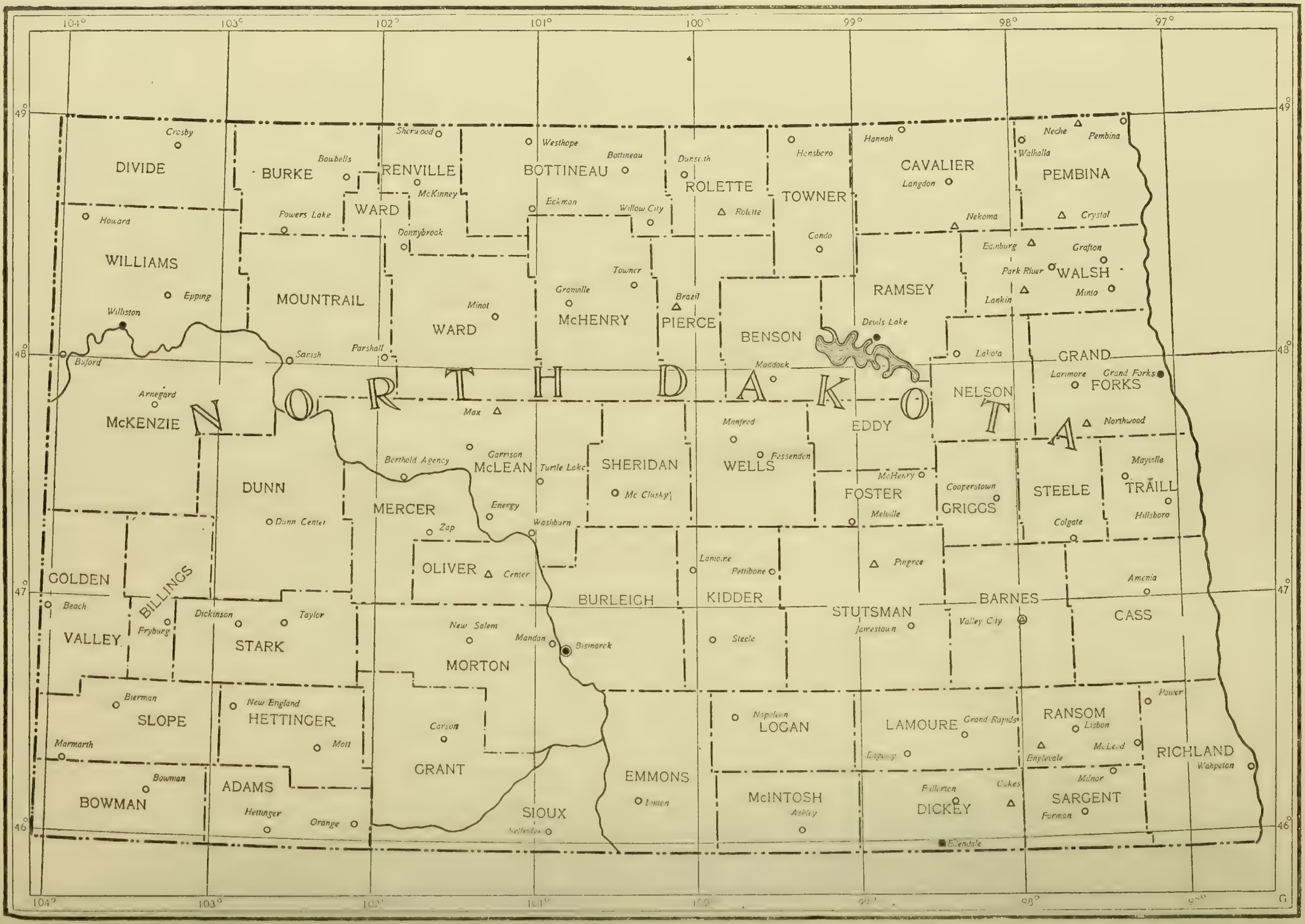
COMPARATIVE ANNUAL STATE DATA.

Year.	Temperature. Mean.	Departure.	Highest.	Lowest.	Average precipitation.	Departure.
1892	37.8	−1.0	108	−58	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	−2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	−48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60
1921	42.0	+3.2	110	−33	19.59	+1.65

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	May 17	Oct. 3	Langdon	May 16	Oct. 3
Amidon	" 15	" 1	Larimore	" 15	" 3
Arnegard	" 15	" 3	Linton	Apr. 29	" 1
Ashley	" 14	" 7	Lisbon	May 16	Sept. 2[illegible]
Beach	" 16	....	McKinney	" 16	Oct. 3
Berthold Agency	Apr. 15	Oct. 1	McLeod	" 15	Sept. 30
Bismarck	May 3	" 1	Maddock	" 15	" 25
Bottineau	" 17	" 1	Mandan	" 13	Oct. 3
Bowbells	" 16	Sept. 15	Manfred	" 17	" 3
Bowman	" 15	Oct. 7	Marmarth	" 15	" 1
Cando	" 15	" 3	Mayville	" 15	" 3
Carson	" 15	" 1	Minot	" 31	Sept. 30
Crosby	" 16	" 7	Melville	" 17	Oct. 3
Devils Lake	" 15	" 3	Minto	" 18	" 3
Dickinson	" 17	" 1	Mott	" 16	" 7
Donnybrook	" 15	Sept. 15	Napoleon	" 15	Sept. 30
Dunn Center	" 17	Oct. 1	New England	" 15	Oct. 1
Dunseith	" 16	Sept. 30	New Salem	" 15	" 1
Eckman	" 16	" 25	Park River	" 15	" 3
Edgeley	" 15	Oct. 3	Pembina	" 18	" 7
Ellendale	" 15	" 3	Pettibone	" 17	Sept. 25
Fessenden	" 17	" 3	Power	....	Oct. 3
Foxholm	" 15	" 7	Skaar	May 17	Sept. 6
Fryburg	" 17	" 1	Steele	" 15	" 25
Fullerton	" 14	" 7	Taylor	" 26	Oct. 1
Garrison	" 17	" 1	Towner	" 16	" 3
Grafton	" 18	" 3	Turtle Lake	" 15	" 3
Grand Forks	" 14	" 3	Valley City	" 17	" 1
Granville	" 15	" 3	Wahpeton	" 16	" 3
Hansboro	" 16	" 3	Walhalla	....	" 3
Hettinger	" 15	Sept. 30	Westhope	May 16	" 3
Hillsboro	" 17	Oct. 3	Williston	" 15	" 1
Howard	" 16	Sept. 15	Willow City	" 16	" 1
Jamestown	" 15	Oct. 3	Moorhead, Minn.	" 3	Nov. 1
Lamoine	" 17	Sept. 24			

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXI. BISMARCK, N. D., JANUARY, 1922. No. 1

GENERAL SUMMARY.

Taken as a whole, the weather of the month was generally unfavorable. Owing to a shortage of feed in the southwest portion of the State, there was much suffering and some loss of livestock. High winds interfered greatly with highway traffic, but during the last decade this condition was somewhat improved. The first decade was the warmest, the highest temperature being generally recorded on the 9th; the last decade was the coldest, the lowest temperature being generally recorded on the 23d. There were two stormy periods, the first of considerable duration, although the amounts recorded were usually light. Scattered snows occurred from the 7th to the 21st, inclusive, and from the 29th to the close of the month, the heaviest snows occurring during the last-named period.

TEMPERATURE.

The mean temperature for the State was 7.0°, or 2.1° above the normal, and 8.9° lower than the mean for January, 1921. The highest mean reported was 20.6° at Medora, Billings County; the lowest was 1.3° at Hansboro, Towner County, and Pembina, Pembina County. The highest temperature reported was 55° at Medora, Billings County, on the 6th; the lowest was -46° at Minot, Ward County, on the 23d. The greatest monthly range was 85° at Donnybrook, Ward County, and at McKinney, Renville County; the least was 59° at Amidon, Slope County. The greatest daily range was 53° at Medora on the 28th.

PRECIPITATION.

The average precipitation for the State was 0.49 inch, or 0.05 inch below the normal, and 0.25 inch more than the average for January, 1921. The greatest monthly amount reported was 1.60 inches at Amenia, Cass County; the least was 0.10 inch at Arnegard, McKenzie County; at Energy, McLean County, and at Parshall, Mountrail County. The greatest amount recorded in any 24 consecutive hours was 0.70 inch at McHenry, Foster County, on the 29th. The average snowfall was 5.2 inches. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS.

Auroras were observed at Valley City on the 1st and 2d; at McLeod and Valley City on the 3d; at Crosby, Foxholm and Valley City on the 4th; at Valley City on the 5th; at Berthold Agency, Eckman, Foxholm, Grand Forks and Valley City on the 6th; at Pettibone and Steele on the 7th; at Grand Forks, Steele and Valley City on the 8th; at Pettibone and Valley City on the 9th; at McKinney on the 11th; at Steele on the 16th, 17th and 18th; at Eckman and Steele on the 19th; at Valley City on the 20th; at Foxholm on the 21st; at Foxholm and Howard on the 22d; at Foxholm, Grand Forks, Howard, McLeod and Valley City on the 23d; at Amidon, Arnegard, Beach, Berthold Agency, Eckman, Fessenden, Foxholm, Grand Forks, Linton, McLeod, Marmarth, Mott, Skaar, Valley City and Williston on the 24th; at Amidon and Eckman on the 25th; at Donnybrook on the 26th and 27th; at Pettibone on the 28th and 31st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
								Average.	Highest.*	Direction.	Date.
Bismarck	30.17	30.99	22	29.47	14	57	6,683	9.0	44	nw.	14
Devils Lake	30.09	30.93	22	29.32	14	44	7,585	10.2	39	n.	14
Ellendale	30.15	30.97	23	29.41	14	56	10,888	14.6	57	nw.	21
Grand Forks	30.13	30.93	22	29.25	14	90	......	......	48	nw.	14
Williston	30.11	30.93	22	29.17	13	48	5,490	7.4	37	nw.	14
Moorhead, Minn	30.13	30.98	22	29.30	14	58	7,163	9.6	32	n.	21
Av'ges and extremes	30.13	30.99	22	29.22	14	.....	....	10.2	57	nw.	21

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent.			Lowest observed.	Date.
					7 a. m.	Mean noon.	7 p. m.		
Bismarck	156.8	279.2	56	+3	87	79	83	55	9*
Devils Lake	136.2	275.8	49	−1	89	80	87	65	6*
Ellendale	190.3	282.9	67	......	86	80	....	63	8
Grand Forks	......	......	......	......	97	.....	83	.....	....
Williston	138.4	275.8	50	0	88	75	81	57	9
Moorhead, Minn	......	......	39	......	83	74	82	.....	....
Averages and extremes	155.4	278.4	52	+1	88	78	83	55	9*

* And other dates.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893...	0.8	−4.1	49	−48	0.98	+0.44	7	11	11	9	nw.
1894...	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895...	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896...	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897...	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898...	14.6	+9.7	69	−32	0.11	−0.43	2	8	8	15	nw.
1899...	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900...	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901...	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902...	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903...	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904...	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905...	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906...	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907...	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908...	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909...	3.5	−1.4	53	−48	0.42	−0.12	1	14	8	9	nw.
1910...	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911...	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912...	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913...	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914...	14.8	+9.9	62	−38	0.50	−0.04	1	16	8	7	nw.
1915...	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916...	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917...	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918...	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919...	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920...	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921...	15.9	+11.0	58	−31	0.24	−0.30	2	13	9	9	nw.
1922...	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.

Climatological Data for January, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	5.3	+0.8	38	10	−35	24	47	1.60	+1.10	0.60	16.0	7	14	6	11	n.	E. T. Carley.
Amidon	Slope	......	9	11.8	......	38	13†	−21	23†	34	0.48	......	0.26	5.8	4	13	6	12	w.	Charles Eastgate.
Arnegard	McKenzie	......	8	8.7^{e}	......	39^{f}	10	−36^{a}	23	39^{f}	0.10	......	0.10	1.0	1	14	3	14	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	8.1^{a}	+0.6	38^{a}	9	−29^{a}	23	36^{a}	0.40	−0.15	0.20	4.0	2	17	4	10	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	9.6	+0.3	38	9	−27	23	38	0.34	−0.29	0.20	......	3	16	8	7	nw.	J. C. Russell.
Berthold Agency††	McLean	2,082	30	7.8	+0.3	39	9†	−40	23	43	0.39	−0.01	0.16	4.7	5	12	9	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	8.4	+1.7	40	9	−32	23	41	0.34	−0.20	0.08	3.9	6	11	9	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	4.9	+5.6	33	2	−43	23	46	0.22	−0.24	0.08	......	6	15	13	3	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	1.7	−1.5	37	13	−43	23	45	0.35	−0.37	0.30	......	2	21	0	10	......	G. H. Phelps.
Bowman	Bowman	2,961	9	10.2	......	36	9†	−25	23	34	0.52	......	0.20	6.5	5	12	10	9	nw.	R. Love, Jr.
Cando	Towner	1,488	22	5.8	+7.3	36	9	−36	23	35	0.59	+0.19	0.26	......	6	12	7	12	nw.	A. J. Swanson.
Carson	Grant	2,500	11	8.4	−1.5	36	9	−35	23	36	0.24	−0.10	0.10	2.0	5	13	10	8	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	......	......	......	......	......	......	......	0.90	+0.40	0.50	9.0	3	13	13	5	nw.	S. Friswold.
Crosby	Divide	1,954	16	6.7	+5.0	38	13	−38	23	36	0.36	−0.19	0.20	3.6	4	13	10	8	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	4.1	+3.8	33	9	−35	23	38	0.58	−0.02	0.28	6.3	11	9	10	12	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	8.6	−1.7	36	9†	−27	23	45	0.22	−0.20	0.10	2.2	4	10	8	13	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	5.1	+1.7	40	13	−45	25	40	0.20	−0.19	0.20	2.0	1	10	18	3	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	9.4	−4.4	43	9	−38	22	39	0.30	−0.21	0.20	3.0	2	17	1	13	w.	W. H. Moede.
Dunseith	Rolette	1,682	27	3.1	+1.6	35	2	45	23	40	0.52	+0.05	0.25	5.2	5	14	12	5	nw.	J. G. Lamont.
Eckman	Bottineau	......	18	5.4	+4.8	38	13	−43	23	43	0.47	−0.09	0.20	5.0	4	19	7	5	nw.	J. Nussbaum.
Edgeley	La Moure	1,468	22	9.8	+2.0	38	9	−30	23	38	0.45	+0.16	0.30	4.8	4	6	17	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	9.0	−1.7	40	9	−24	23	40	0.53	+0.13	0.30	5.1	6	10	8	13	nw.	U. S. Weather Bureau
Energy ††	McLean	1,750	11	......	......	......	......	......	......	......	0.10	−0.19	0.10	1.0	1	14	10	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	......	......	......	......	......	......	......	0.24	−0.32	0.14	3.5	3	17	7	7	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	5.9	+2.7	38	9	−40	23	40	0.40	−0.20	0.11	4.1	8	14	9	8	nw.	T. D. Monsen.
Forman	Sargent	1,249	29	......	......	......	......	......	......	......	0.72	+0.19	0.30	7.2	6	13	10	8	nw.	O. Enger.
Foxholm	Ward	......	2	7.8	......	37	13	−36	23	36	0.56	......	0.36	5.7	4	10	11	10	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	......	......	......	......	......	......	......	0.40	......	0.20	4.5	3	15	11	5	nw.	Verne King.
Fullerton	Dickey	1,439	25	10.4	+2.6	38	9	−27	23	35	1.12	+0.37	0.53	11.2	4	4	16	11	nw.	F. O. Alin.
Garrison	McLean	1,901	28	8.0	+1.5	39	9	−35	22	43	0.19	−0.24	0.10	2.0	4	9	11	11	nw.	G. L. Robinson.
Grafton	Walsh	827	31	5.6	+4.7	40	9	−35	23	40	0.44	−0.16	0.25	3.7	3	16	3	12	n.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	32	4.2	+0.6	35	9	−36	23	44	0.52	−0.06	0.15	5.2	9	15	4	12	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	9.0	+7.3	37	6†	−41	23	40	0.20	−0.31	0.10	2.0	2	9	20	2	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	......	......	......	......	......	......	......	0.80	+0.08	0.30	8.0	5	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	15	1.3^{f}	+3.6	36^{f}	14	−38^{f}	23	47^{f}	0.40	−0.55	0.20	4.0	2	......	......	......	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	10.3	−2.2	37	9	−24	23	41	0.22	−0.10	0.13	......	3	15	6	10	nw.	U. J. Downey.
Hillsboro	Traill	901	17	5.0^{d}	+1.1	35^{c}	9	−33^{d}	23	32^{d}	0.33	−0.41	0.30	3.3	2	......	......	......	n.	F. E. Mayall.
Howard ††	Williams	2,275	16	3.0	+1.5	35	9†	−42	22	48	0.12	−0.63	0.10	1.2	2	13	12	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	11.0	+4.5	43^{a}	14†	−33	23	43^{a}	0.62	−0.02	0.30	6.2	8	13	4	14	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	5.5	+1.5	36	9	−38	23	38	0.25	−0.36	0.10	2.5	4	10	10	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	2.8	+5.5	34	9	−40	23	39	0.70	+0.05	0.30	7.0	4	18	9	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	3.9	+1.3	36	9	−36	23	40	0.50	−0.21	0.30	5.0	4	10	10	11	s.	Reuben Gray.
Linton	Emmons	1,711	5	11.0	......	41	9	−33	22	44	0.28	......	0.10	......	8	12	12	7	nw.	William Malpass.
Lisbon	Ransom	1,091	19	5.2	−0.7	38	27	−32	23	46	1.45	+0.75	0.60	14.5	7	13	6	12	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	......	......	......	......	......	......	......	0.70	......	0.35	7.0	3	......	......	......	......	Edw. Tapley.
McHenry	Foster	1,509	12	......	......	......	......	......	......	......	0.80	+0.11	0.70	8.0	3	......	......	......	......	F. D. Cannon.
McKinney ††	Renville	1,640	29	7.2	+4.0	40	14	−45	23	42	0.45	+0.08	0.20	4.5	3	10	10	11	w.	N. P. Swenson.
McLeod	Ransom	1,075	11	9.8	+2.1	39	10	−31	23	35	0.86	+0.19	0.34	......	8	13	3	15	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	5.8	......	34	9	−39	23	39	0.19	......	0.08	......	4	10	11	10	nw.	A. T. Felland.
Mandan	Morton	1,644	9	6.6	......	40	9	−33	23	42	0.19	......	0.06	2.5	5	10	12	9	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	6.2	+2.2	35	9	−40	23	40	0.60	−0.05	0.30	6.5	9	10	10	11	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	8.2	−2.1	41	9	−28	23	37	0.48	+0.18	0.26	5.7	7	11	6	14	w.	S. P. Grane.
Mayville	Traill	975	27	5.7	−0.4	34	9	−35	23	31	0.50	+0.01	0.30	5.0	3	17	3	11	sw.	M. G. Sateren.
Medora	Billings	2,270	23	20.6	+5.8	55	6	−23	28	53	0.20	−0.42	0.20	2.0	1	......	......	......	......	T. A. Davis.
Melville	Foster	1,590	25	7.0	+1.4	31	2†	33	22†	32	0.32	−0.06	0.30	3.2	2	12	11	8	nw.	J. P. Kidder.
Minot	Ward	1,557	27	5.0	0.0	38	9†	−46	23	42	0.23	−0.22	0.10	2.2	4	11	10	10	w.	W. I. Faris.
Minto	Walsh	820	30	6.0	+4.2	36	9	−35	23	42	0.15	−0.34	0.13	2.0	2	16	7	8	n.	C. M. Evans.
Mott	Hettinger	2,424	16	5.8	−1.7	36	9	−27	23	38	0.93	+0.05	0.31	8.5	9	9	8	14	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	5.8	−0.1	37	9	−34	23	47	0.20	−0.25	0.10	2.0	2	13	3	15	s.	C. J. Hoof.
New England	Hettinger	2,400	29	5.2	−8.1	40	26	−34	23	48	0.87	+0.45	0.40	8.7	5	......	......	......	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	10.8	+3.1	37	13	−31	23	41	0.12	−0.51	0.04	1.4	4	12	11	8	nw.	J. Christiansen.
Park River	Walsh	998	19	5.4	+3.6	36	9	−32	22†	41	0.69	+0.25	0.55	7.2	4	8	13	10	nw.	C. B. Wright.
Parshall	Mountrail	......	8	......	......	......	......	......	......	......	0.10	......	0.10	1.0	1	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	49	1.3	+4.2	35	28	−39	23	46	0.40	−0.24	0.30	4.0	2	13	1	17	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	4.5	+4.5	38	9	−41	23	45	0.55	+0.04	0.10	5.5	8	12	8	11	nw.	S. C. Shanks.
Power	Richland	1,020	29	......	......	......	......	......	......	......	0.95	+0.30	0.40	9.5	7	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	9	......	......	......	......	......	......	......	0.60	−0.18	0.20	6.0	4	4	11	16	nw.	C. Frank.
Skaar	McKenzie	......	3	8.5	......	45	14	−33	23	44	0.90	......	0.25	8.0	8	6	14	11	sw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	5.0	−2.6	33	9	−38	23	39	0.27	−0.25	0.10	2.7	4	14	9	8	nw.	H. S. Wood.
Taylor	Stark	2,493	7	8.0	......	36	13	−25	23	33	0.40	......	0.35	......	2	16	5	10	nw.	H. Leutz.
Towner	McHenry	1,482	21	7.8	+5.2	34	2†	−42	23	40	1.00	+0.51	0.50	10.0	8	18	8	5	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	7.0	......	35	9†	−37	23	38	0.28	......	0.08	3.8	6	5	8	18	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	6.6	+1.8	36	27	−41	23	39	1.07	+0.41	0.30	10.8	6	20	6	5	nw.	C. F. Schroeder.
Wahpeton	Richland	962	29	10.6^{a}	+2.8	40^{a}	9	−29^{a}	23	33^{a}	0.58	+0.07	0.13	6.0	6	......	......	......	nw.	State School of Science.
Walhalla	Pembina	966	19	7.2^{a}	+7.5	40^{b}	9†	−31^{a}	22†	51^{a}	0.79	−0.05	0.50	7.9	5	13	7	11	n.	Ivan Lee.
Westhope	Bottineau	1,508	17	8.2	+9.6	33	14	−41	23	47	0.20	−0.36	0.12	......	2	8	21	2	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	7.4	+0.9	38	9	−36	23	42	0.51	−0.07	0.23	5.0	11	10	4	17	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	3.0	+2.7	34	13	−45	23	41	0.50	−0.08	0.20	5.0	5	6	18	7	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	8.4	+5.7	35	9	−29	23	35	0.42	−0.29	0.13	4.2	11	9	6	16	s.	U. S. Weather Bureau.
Averages				7.0	+2.1	55	6	−46	23	53	0.49	−0.05	0.70	5.2	5	12	9	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for January, 1922.

Stations.	Drainage Basin.	Day of Month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red			.10								.20		.10		.40				.10	.10											.60	1.60
Amidon	Lit. Missouri		.04												T.						.13								.05			.26	0.48
Arnegard	Missouri		T					.10							T.					T										T			0.10
Ashley	Missouri																													.20	.20		0.40
Beach	Lit. Missouri			T	T.						T.		T	.08	T		T.	T	T	.06									T			.20	0.34
Berthold Agency	Missouri							.02			.08	T.			.16		T.		.01	T.		.09								T		T	0.39
Bismarck ***	Missouri		.08	T	T.						.08	T.	T.	T.	T.		T.	.02	.02	T	T.	T							T	.08	T	.06	0.34
Bottineau	Mouse										.02			.02						.01		.08								.04	.02		0.22
Bowbells ‖	Mouse							.05					.30																				0.35
Bowman	Grand		.20											.02				.08	.02													.20	0.52
Cando	Devils Lake								T.		.01			.06		T.			.02	T.	T.	.11								.13	.26		0.59
Carson	Heart		.05												.05		.02		.02											.10			0.21
Cooperstown	Sheyenne											T.	T.	T	.20				T.		T	.20							T	.50			0.90
Crosby	Mouse							.12			.20								T.	.03	.01												0.36
Devils Lake ***	Devils Lake									.01	.03	T.		.02	.02	.01			.01	.01		.12							T.	.16	.13	.06	0.58
Dickinson ‖	Heart				T.						.10				.03			T.	.04		T.									.05			0.22
Donnybrook	Mouse														T.				T				.20										0.20
Dunn Center ‖	Knife									.20																						.10	0.30
Dunseith	Mouse										.02		T.	.05							.25									*	.20		0.52
Eckman	Mouse										.15	T.		T.	.02					T.	.20									T	.10		0.47
Edgeley	James										.05				.05		T.		.05											.30			0.45
Ellendale***	James		T.	T.	T.						.06	T.	T.	T.	T.		T.	T	.10		.01	T.		T.						.28	.02	.06	0.53
Energy	Missouri										.10				T.				T.		T.												0.10
Epping	Missouri							.14				.02			T.					.08													0.24
Fessenden	James							.02			.05	T.			.04	T.	T.		.05	T.	.01	.04							T.	.08	.11		0.40
Forman	Sheyenne									.10	.04				.05							.03								.30	.20		0.72
Foxholm	Mouse							.06	T.		.12	T.			T.				T.	T.	T.	.36								T	.02		0.56
Fryburg	Heart												T.					.10		T.									.10			.20	0.40
Fullerton	James		T.								.35			.06	T.			T.	.18			T.								.53		T.	1.12
Garrison	Missouri							T.	.10							T			.06			.01							T.	.02			0.19
Grafton	Red																		.04			.15									.25		0.44
Grand Forks ***	Red	T.			T.						.04	T.	T.	.05	.04	T	.01		.07	.02	T.	.15					T.	T.		.01	.13		0.52
Granville	Mouse											T.		T.								.10								.10			0.20
Hannah	Pembina												.10									.10							.20	.30		.10	0.80
Hansboro	Devils Lake																			.20										.20			0.40
Hettinger	Grand		.13																.02													.07	0.22
Hillsboro	Red										T.		T.						.03												.30		0.33
Howard	Missouri							.02			.10				T.					T.	T.												0.12
Jamestown	James		.07					.02				.05						.05			.02									*	.30	.10	0.61
Lamoine	Missouri		T.					T.	.10			T.		T.	T.				T.	.05	.05								T.	.05			0.25
Langdon	Pembina													T.	.20	.10					.10	T.								T	.30		0.70
Larimore	Red										.05									.05		.10									.30		0.50
Linton	Missouri		.01	.03							T.	.01	T.	.01	.03		T.	T.	.10	T.		T.								.04	.05	T.	0.28
Lisbon ‖	Sheyenne									.10	T.			.20	.10				.05	.10	T.	T									.60	.30	1.45
McClusky	Missouri							.35	.15						.20														T.			T.	0.70
McHenry	James		T.								.05		.05		T.															.70			0.80
McKinney	Mouse							.05			.20										.20									T.			0.45
McLeod	Sheyenne										.14		.03	.05			T.			.19		*	.11							*	.34		0.86
Maddock	Sheyenne										.02				.02						.08									.07			0.19
Mandan ‖	Missouri										.06	T	T.			T		T.	.05	.01		T.								.04	.03		0.19
Manfred	James							.04			T.			.05	.05	.02			.03	.02	T.									.02	.07	.30	0.60
Marmarth	Lit. Missouri		.26	T.							T.						.02	.05	.05	.01	.01		T.						T.			.08	0.48
Mayville	Red											.10		T.					.10												.30		0.50
Medora	Lit. Missouri	.20																															0.20
Melville	James							T.						.02					T.	T.										.30			0.32
Minot	Mouse								.05										.03			.10								.05			0.23
Minto	Red																		T.	T.								.02			.13		0.15
Mott	Cannon Ball		.28	.02											.04		T.	.11	.07		.03	.03								.31		.04	0.93
Napoleon ‖	Missouri			.10																										.10			0.20
New England	Cannon Ball										T.	.02	.10	.30		.05																.40	0.87
New Salem	Heart		.04	T.				T.			T.	T.			.02		T.	T.	.03		T.									.03			0.12
Park River	Red													.02	.02							.10									.55		0.69
Parshall	Missouri							T.																					T.	.10		T.	0.10
Pembina ‖	Red														.10																.30		0.50
Pettibone	James		.05						.05		T.		.05		T.				.05	.05	.10	T.		.10							.10	T.	0.75
Power	Sheyenne			.20										*	.15						*	.10									.40	.10	0.95
Powers Lake	Missouri									.20	.10				.10				T.	.20	T.								T	T.			0.60
Skaar	Yellowstone		.25					.05			.10			.10	T.			.05	.05	.05									T.			.25	0.90
Steele	Missouri	T.	T.	T.				T.	T.		.10	.10			T.		T.	T.	T.	T.	T	T.							.05	.02			0.27
Taylor	Heart		T	T.							T.				T.															.35		.05	0.40
Towner	Mouse											.10	.10		*				*	*	*	.30										.50	1.00
Turtle Lake	Missouri							.08	.02		.03	T.			T.				T.	T	T.	.08							T.	.04		.03	0.28
Valley City	Sheyenne								T			.02		T.	.20	T.						.30								.20	.30	.05	1.07
Wahpeton	Red								T.		.13		.10		.10	.05			.10												.10		0.58
Walhalla	Pembina													.05					.01	.15		.08									.50		0.79
Westhope	Mouse									.08			.12																				0.20
Williston ***	Missouri	T.	.01	T.				.05		.09	.04	T.			T.		T.	.01	.01	.02	.02	.01							T	.02		.23	0.51
Willow City	Mouse										.10	T.	T.	T.	T.		T.		T.	.05	.05	.10								T.	.20		0.50
Moorhead, Minn ***	Red		T.		T.				T.		.07	.01	.01	.01	.02	T.	T.		.05	.01	T.	.04							T.	.04	.09	.07	0.42

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	22	30	14	5	4	22	24	30	32	38	32	30	21	33	14	16	16	7	0	21	15	-7	-14	-10	10	25	28	26	32	22	24	18.1
	Minimum	-6	-10	-14	-14	-22	-18	-12	-9	11	2	18	-6	-3	-14	3	-8	-7	-5	-10	-17	-2	1	-31	-35	-20	-20	6	12	8	9	7	-7.5
Arnegard	Maximum	36	35	....	....	....	....	....	....	33	39	27	27	39	34	15	14	4	14	25	25	20	-12	-6	10	25	31	27	22	12	0	2	[f]19.9
	Minimum	12	15	-3	-21	-16	-7	9	....	20	11	10	14	12	10	-5	0	-6	-9	-11	-5	18	32	-36	-18	8	10	10	10	0	-20	-16	[a]-2.5
Ashley	Maximum	20	31	31	8	-1	15	23	29	38	27	23	25	31	31	12	8	-5	18	....	20	20	-15	-5	5	24	31	29	29	29	10	9	[a]18.3
	Minimum	0	12	5	-15	-22	-15	-5	8	22	15	12	14	6	9	0	-7	-9	-18	....	8	-15	-25	-29	-18	-8	1	0	22	10	-9	-12	[a]-2.1
Beach	Maximum	37	36	20	7	11	27	26	33	38	32	30	30	36	30	16	17	0	4	21	16	21	-10	-5	21	28	33	28	22	5	2	0	19.5
	Minimum	-1	20	5	-3	-12	-3	6	1	20	16	8	16	23	12	-5	0	-6	-17	-16	4	10	-22	-27	-11	9	10	10	5	11	-24	-7	-0.8
Berthold Agency	Maximum	28	35	30	-2	5	23	30	38	39	32	29	29	39	37	17	15	1	0	27	27	22	-13	1	8	30	36	31	30	17	4	3	20.9
	Minimum	-13	9	7	-24	-28	-15	3	5	26	18	2	18	8	13	-3	-2	-6	10	13	-8	-15	-30	-40	-22	10	-7	3	15	2	-18	19	-5.4
Bismarck	Maximum	24	32	25	-6	0	17	30	36	40	28	27	26	40	33	16	14	2	-3	24	18	24	14	-2	7	26	30	31	29	29	4	6	19.1
	Minimum	1	10	-8	-17	-26	-6	0	9	24	13	11	12	7	8	4	0	4	11	-11	1	-17	-25	-32	-16	-5	-2	4	24	4	-12	-13	-2.4
Bottineau	Maximum	20	33	21	20	4	21	20	28	30	29	17	24	29	30	11	10	3	0	20	24	8	-4	-11	3	24	26	26	29	28	9	4	17.3
	Minimum	-9	10	-9	-23	22	-9	4	4	16	7	-6	14	2	8	6	-5	-19	-13	-26	-13	-20	-40	-43	-22	-8	-5	-1	18	8	-5	-18	-7.5
Bowbells §§	Maximum	35	30	10	0	14	16	26	34	24	22	26	32	37	17	11	-3	11	5	21	5	-10	-22	-17	-10	25	22	31	31	6	5	5	13.8
	Minimum	2	10	4	-25	-25	-15	10	23	14	13	2	4	2	9	-7	-19	-20	-19	-17	-10	-22	-41	-43	-31	-20	-12	10	-13	-12	-21	-22	-10.4
Bowman	Maximum	33	30	26	10	8	18	24	31	36	28	28	28	36	30	16	16	12	2	18	21	16	-6	0	18	26	31	20	17	7	5	2	18.9
	Minimum	2	20	10	-1	-1	2	-1	0	22	12	9	26	24	12	0	3	8	-18	-16	8	-7	-18	-25	-15	0	6	7	6	-5	-20	-8	1.4
Cando	Maximum	18	34	28	-2	3	19	22	29	36	33	21	23	29	30	11	11	5	-3	19	24	-1	17	-9	3	23	29	27	27	28	13	4	16.7
	Minimum	-8	11	-7	-21	-20	-13	0	0	19	13	-3	11	-4	7	2	1	-12	-9	-16	-9	-17	-33	-36	-23	-7	-2	1	20	12	0	-17	-5.2
Carson	Maximum	20	32	25	10	0	17	25	30	36	32	26	25	35	33	15	15	7	-3	20	20	20	-10	-9	6	30	32	28	28	26	10	4	18.9
	Minimum	0	15	0	-15	20	-9	-2	10	24	15	4	12	15	12	-3	3	-7	-16	-16	-8	16	-23	-25	-16	-6	6	10	16	0	-15	-12	-2.2
Crosby	Maximum	23	34	23	1	5	24	28	32	34	30	27	23	38	32	15	16	5	-2	21	24	1	17	-10	5	21	22	29	26	16	3	1	17.0
	Minimum	0	12	-6	-15	-11	3	12	5	23	12	8	15	15	5	1	-4	-13	-9	-10	-12	-23	-37	-38	-23	-2	5	10	10	0	-20	-18	-3.6
Devils Lake	Maximum	22	32	10	-11	0	20	23	29	33	27	21	22	31	31	10	10	-2	5	23	12	0	-20	-10	4	24	28	27	28	26	7	4	14.7
	Minimum	-6	10	-16	-20	-21	-15	1	11	21	4	3	3	-6	3	0	-4	-11	-12	-15	-11	-27	-34	-35	-22	-5	1	4	21	7	-16	-16	-6.5
Dickinson §§	Maximum	33	33	14	7	-2	22	32	32	36	25	27	30	36	35	26	12	0	5	20	19	2	-5	-3	21	33	35	28	21	15	2	2	19.1
	Minimum	-5	7	7	-14	-18	-15	-4	2	14	20	10	18	18	26	-3	0	-9	-9	-11	2	-5	-22	27	-24	-11	9	5	15	0	-19	-17	-1.9
Donnybrook	Maximum	22	37	10	0	10	27	27	33	36	33	19	25	40	34	17	12	2	0	8	23	14	5	-15	-18	-5	0	31	30	20	0	2	15.4
	Minimum	0	-4	-10	-21	-20	-5	16	27	22	16	10	16	3	10	10	0	-12	-10	8	-4	-10	-22	-38	-34	45	-28	-4	17	-4	-13	-16	-5.2
Dunn Center	Maximum	28	37	27	....	-5	22	30	35	43	29	27	28	38	35	34	18	6	23	24	21	-11	-7	12	29	34	28	25	15	16	3	1	[a]21.5
	Minimum	-5	10	2	-22	-22	-16	18	17	26	9	21	18	18	14	-5	4	-8	-2	0	-13	-25	-38	-19	-10	-3	0	14	0	-5	15	-15	-1.7
Dunseith	Maximum	20	35	28	-5	1	18	21	27	34	28	15	23	28	33	10	8	0	13	18	22	-4	16	13	0	17	25	32	26	26	14	8	15.0
	Minimum	-12	6	-11	-29	-25	-14	-1	5	16	13	-4	13	-12	4	-3	-4	-22	-16	-22	-11	-23	-42	-45	-23	-12	-5	1	17	10	4	-15	-8.8
Edgeley	Maximum	26	34	33	9	5	18	28	28	38	32	24	26	24	32	16	26	12	-3	18	21	23	-10	2	9	25	36	29	29	29	19	5	20.6
	Minimum	-6	12	6	-15	-20	-14	-3	14	26	13	13	11	13	11	-2	4	-5	-6	-13	-1	-12	-26	-30	-22	4	-2	1	22	18	-4	-12	-1.1
Ellendale	Maximum	28	33	29	0	3	7	26	32	40	29	26	26	35	34	14	18	2	-3	22	22	24	-10	-3	11	22	29	32	31	28	13	11	19.7
	Minimum	-5	13	0	-14	-18	-16	-7	14	24	11	14	15	0	9	0	1	4	-11	-15	4	16	23	-24	-19	7	1	6	25	13	-10	-8	-1.6
Fessenden	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fullerton	Maximum	27	33	32	9	6	10	25	29	38	29	23	26	25	33	14	17	12	5	18	22	24	-8	3	12	22	29	32	32	29	28	15	20.9
	Minimum	5	12	9	-11	-20	-15	-4	14	23	15	14	14	1	12	1	5	-4	-7	-14	5	-11	-25	-27	-21	7	1	18	24	20	1	-11	-0.2
Garrison	Maximum	25	30	25	-1	0	19	28	33	39	33	30	25	37	32	17	16	6	-2	24	22	9	-2	-5	6	29	30	30	28	25	5	4	19.3
	Minimum	-5	14	-4	-22	24	-13	-1	8	17	15	5	16	8	11	4	2	10	-11	-19	15	5	-35	28	-22	2	4	2	22	4	-7	-16	-3.8
Grafton	Maximum	12	30	30	-8	3	10	16	35	40	34	19	19	14	31	11	10	4	2	10	10	6	17	-11	0	19	25	29	33	32	32	4	15.0
	Minimum	-16	12	-10	-16	20	-16	1	6	23	18	-6	10	10	5	2	-5	10	-8	-15	-4	-20	-31	-35	-26	5	3	7	21	21	4	-15	-3.9
Grand Forks	Maximum	22	27	10	-10	0	12	24	28	35	26	17	19	27	32	13	12	-1	-4	22	16	-3	-15	-10	6	15	26	31	32	30	25	14	15.4
	Minimum	-22	10	-18	-18	-21	-15	1	5	23	0	-7	2	12	4	-9	-7	-9	-7	-15	-10	-26	-31	36	-26	-4	9	12	11	22	-7	-8	6.9
Granville	Maximum	20	35	25	26	10	37	32	37	35	30	37	24	37	37	15	10	4	25	30	29	12	5	5	10	30	30	33	30	20	12	5	22.8
	Minimum	15	10	-12	-18	20	8	10	14	12	16	0	12	3	10	-10	-10	-9	12	-5	-5	-28	-34	-41	-25	-10	-5	3	20	-10	-14	-14	-4.8
Hansboro	Maximum	20	34	24	-8	2	....	....	....	....	....	....	35	30	36	12	10	0	18	10	0	-10	-10	-10	3	26	25	30	30	30	20	10	[f]13.9
	Minimum	-7	5	-14	-27	-27	....	....	....	....	....	....	0	20	0	-5	-5	-19	-17	-20	-19	23	32	38	-32	-21	-2	15	18	-12	-5	-15	[f]-11.3
Hettinger	Maximum	31	32	29	10	8	23	25	32	37	34	29	28	36	33	17	17	11	-3	19	22	22	-8	8	8	30	29	23	29	15	5	3	19.9
	Minimum	4	18	10	8	-10	-18	-2	2	25	21	10	17	24	11	-2	6	8	-15	-14	9	-8	-17	24	14	-2	4	4	14	-2	-17	-11	0.7
Hillsboro	Maximum	20	....	26	-4	0	8	....	....	35	28	20	19	14	29	13	8	4	2	12	20	4	-16	12	10	18	24	30	31	31	30	8	[c]14.6
	Minimum	15	....	-6	-14	-20	-18	....	....	....	16	-2	13	-12	6	-4	-6	-5	-7	-14	2	-17	-30	-33	-22	-4	10	14	23	22	8	-12	[d]-4.7
Howard	Maximum	27	18	10	10	7	21	30	30	35	26	22	29	35	28	14	6	4	-4	28	10	-20	-14	8	21	28	28	20	7	1	-8	-4	14.4
	Minimum	9	4	-10	-18	-16	-8	3	3	20	6	9	9	9	8	-5	-9	-10	-12	-20	-22	-40	-42	-25	4	4	-6	-4	-10	-10	-27	-20	-8.4
Jamestown	Maximum	24	35	37	28	-1	22	28	32	42	....	24	30	30	43	22	15	28	10	20	43	27	-7	-2	-10	29	35	27	30	34	13	6	[a]23.1
	Minimum	7	8	2	-15	22	16	-2	13	27	19	13	17	-2	11	-1	4	6	7	-5	4	-16	-28	-33	-22	-6	-3	4	22	12	-4	-11	-1.2
Lamoine	Maximum	17	33	30	0	0	11	33	28	36	26	23	23	25	29	11	9	7	7	17	21	17	-16	10	1	26	24	29	26	23	9	1	16.2
	Minimum	5	12	-1	-21	-21	-17	5	10	20	13	7	12	3	9	-3	-3	-9	17	-17	7	-16	36	-38	-23	-7	-1	2	21	9	-8	-18	-5.2
Langdon	Maximum	19	33	21	10	8	15	21	25	34	26	20	17	29	25	12	10	2	0	20	16	-10	-18	-15	5	20	24	25	27	27	20	10	14.9
	Minimum	-14	5	-8	-21	-23	-20	-10	5	20	10	8	-7	-10	10	-3	-7	-18	-18	18	-10	-22	-38	40	-24	-15	0	4	5	20	7	-16	-9.2
Larimore	Maximum	15	35	5	-7	4	12	19	27	36	29	14	25	30	12	12	12	0	3	14	22	-4	-15	-8	-5	22	26	28	32	31	28	5	14.6
	Minimum	-16	-5	-9	-16	-22	-18	2	7	23	7	-7	-5	-9	-5	-5	-2	-7	-10	-18	-15	-20	-33	-36	18	-7	-1	7	20	21	0	-10	-6.8
Linton	Maximum	26	31	32	18	12	13	27	32	41	30	27	27	37	32	16	16	12	9	23	26	24	11	3	7	22	27	30	28	30	11	8	22.0
	Minimum	-8	8	14	12	-27	8	5	3	19	16	8	19	5	10	5	-3	5	-9	-18	6	-9	-33	-30	-13	-5	-7	6	22	10	4	-12	0.1
Lisbon §§	Maximum	22	12	12	4	6	20	20	24	35	28	23	11	4	12	8	10	3	3	10	17	20	-1	-19	12	20	19	38	31	29	20	....	[a]14.9
	Minimum	10	12	4	-16	-21	-12	10	10	14	23	11	12	-20	-16	-5	-3	-3	-8	-15	-12	-1	28	-32	-30	-25	-9	-8	18	19	9	-2	-4.5
McKinney	Maximum	24	34	25	-2	14	28	28	32	35	30	26	27	38	40	15	14	0	-3	25	30	2	-19	10	8	25	30	31	30	18	6	16	19.3
	Minimum	3	10	4	-20	-18	-10	10	10	23	10	-6	15	-4	4	-1	0	-12	-10	-12	-5	-19	-36	45	-30	-10	0	0	15	5	-11	0	-5.0
Maddock	Maximum	22	32	30	-1	1	17	23	28	34	27	24	21	33	31	12	11	9	9	22	23	1	1	-7	6	26	31	27	29	27	9	5	18.2
	Minimum	-12	8	-4	-21	-27	-16	-4	12	20	10	2	14	-5	9	-3	-4	-12	-16	-16	-9	-18	37	-39	-28	-9	-8	2	21	9	-4	-17	-6.6
Marmarth	Maximum	33	31	25	14	5	20	23	30	41	30	26	27	33	32	17	....	-4	-6	18	16	14	-5	-4	15	26	28	23	24	3	-2	-1	[a]17.7
	Minimum	-3	14	11	1	-14	-11	-1	-1	24	17	10	14	23	17	-4	4	-11	-16	-19	10	-5	-19	-28	-15	0	3	4	3	-11	-25	-15	-1.4
Melville	Maximum	20	31	31	5	5	13	22	27	30	30	22	20	30	30	12	7	5	-5	18	18	15	-15	-8	5	15	28	23	28	28	13	3	16.3
	Minimum	-3	11	0	-17	-24	-13	4	12	24	19	10	18	-1	10	-2	3	-7	7	14	-5	-15	-33	-33	-23	5	5	5	20	11	3	14	-2.2
Minot	Maximum	24	36	31	9	9	28	24	33	38	32	26	27	38	20	28	10	4	-4	22	20	11	-20	-12	8	28	34	35	30	19	8	1	19.3
	Minimum	-5	6	-15	-22	26	6	4	6	21	-1	-5	5	-5	1	-5	-5	-16	-14	-15	-18	-30	-40	-46	-26	-8	-8	-3	10	-2	-14	-22	-9.4
Mott	Maximum	24	32	24	3	-4	20	15	32	36	19	16	22	35	18	9	8	3	0	18	24	10	-2	-12	13	29	30	21	22	13	3	0	15.3
	Minimum	0	16	1	-15	-20	-5	-4	12	15	12	8	9	11	3	-6	-2	-8	-10	-17	-3	-11	-20	27	18	-9	4	6	0	-3	20	-14	-3.7
Napoleon §§	Maximum	26	32	10	3	-3	13	23	33	37	23	24	23	30	28	12	13	-1	-4	20	21	20	-4	-10	6	20	27	30	30	25	12	5	16.9
	Minimum	-3	10	3	-22	-32	-20	-6	0	10	17	9	12	3	10	-7	-1	9	10	-22	-8	-4	-33	-34	-22	-5	-4	3	10	20	-7	-20	-5.2
New Salem	Maximum	26	34	25	10	-6	16	30	34	36	30	27	26	37	33	23	10	14	0	24	22	26	6	-5	6	33	35	36	28	29	3	3	21.3
	Minimum	11	22	0	-20	-22	-9	13	14	30	13	23	11	14	10	-1	6	-8	-15	-11	1	-15	-26	-31	-21	6	-3	23	20	3	-11	15	0.3
Pembina §§	Maximum	20	30	9	-13	0	9	18	30	32	20	18	12	32	8	10	8	5	-5	15	2	-9	-18	-11	4	10	27	31	35	29	22	12	12.6
	Minimum	14	9	-10	-19	-24	-25	-13	-5	5	14	-10	-9	-14	-10	-4	-20	-10	-19	-15	-9	-22	-34	-39	-33	-21	-10	10	15	22	12	-9	-10.0
Steele	Maximum	21	30	12	4	-5	6	23	25	33	28	26	22	30	26	12	12	-2	12	19	20	10	-18	-7	4	15	18	27	27	18	8	4	14.8
	Minimum	-2	10	4	-19	-27	-18	0	5	8	15	12	18	0	10	-2	-2	-8	-5	-20	-12	18	-31	-38	-26	-4	-2	4	16	8	-8	-16	-4.8
Towner	Maximum	27	34	30	-5	10	17	24	27	31	29	26	28	34	31	22	20	15	-4	25	25	-1	-14	-12	4	24	30	31	29	28	15	8	19.0
	Minimum	8	14	-10	-28	-23	-13	2	9	20	20	-6	8	10	10	0	1	-14	-9	-8	-9	-14	37	-42	-23	-8	-1	20	22	10	-5	-8	-3.4
Valley City	Maximum	34	22	2	-4	-9	2	23	29	35	28	25	20	31	34	12	15	6	6	11	22	8	-10	-8	14	28	32	36	32	30	24	8	17.4
	Minimum	19	-4	-6	-16	-25	-20	0	19	18	12	5	3	-8	8	-8	-4	-7	-17	-8	-2	-17	-33	-41	-19	7	1	19	14	18	10	-14	-4.2
Wahpeton	Maximum	....	34	32	4	-1	14	33	32	40	33	18	25	17	33	28	16	14	0	13	18	23	-10	-3	9	27	32	35	33	34	28	19	[a]21.0
	Minimum	....	18	1	-10	-17	-13	2	15	18	15	-6	15	-11	9	3	2	-8	-8	-14	4	-10	-25	-29	-15	-1	12	17	22	23	9	-9	[a]0.3
Walhalla	Maximum	26	37	34	11	11	20	18	30	40	35	23	25	26	40	16	12	7	1	23	23	-1	-13	-4	10	23	28	30	32	....	30	4	[a]19.9
	Minimum	-11	4	-17	-25	-27	-15	5	8	25	15	-7	14	-4	4	5	-4	-14	-17	-7	-7	23	-31	-31	-19	-5	3	5	19	....	4	-10	[a]-5.4
Westhope	Maximum	26	32	22	20	26	28	30	32	27	25	25	26	29	33	23	24	3	2	25	18	20	8	6	6	26	31	28	28	22	15	3	21.5
	Minimum	-5	0	-5	-22	6	8	12	15	10	12	-10	6	0	9	13	-4	-20	-15	-6	-18	8	-38	-41	-25	10	-6	-3	2	2	-14	-21	-5.2
Williston	Maximum	28	36	15	-1	5	23	28	35	38	27	31	27	36	34	17	16	-1	-4	25	15	19	20	-9	10	26	34	30	22	5	-1	3	17.7
	Minimum	-2	14	-12	-19	-14	-6	9	7	27	9	10	18	26	8	-2	5	-5	-13	-4	-4	-23	-34	-36	-17	-3	8	15	5	-12	-19	-15	-2.9
Moorhead, Minn	Maximum	24	29	26	-5	-3	13	28	28	35	27	19	23	22	33	15	14	-1	0	20	22	15	-12	-9	8	24	29	34	34	32	27	20	18.4
	Minimum	-11	17	-9	-12	-17	-15	1	15	18	6	1	3	-9	4	-3	-2	-5	-3	-13	6	-20	-26	-29	-18	-1	10	16	24	24	-1	-5	-1.7

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc

1.05
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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

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GENERAL SUMMARY.

The mean temperature was more than 7° below the normal, here having been but four colder Februarys in the climatologial history of the State. But one station (Pembina) showed a plus departure in temperature. The first decade was the warmst, and the third was the coldest. There was decidedly more han the normal precipitation, all of which occurred in the form of snow, and, being accompanied often by high winds, delayed ailway traffic, stopped highway traffic, and caused immense uffering and considerable loss of livestock. From a livestock tandpoint it was one of the most critical in the history of the State. The month opened with heavy precipitation in practially all parts of the State, a condition that prevailed until the 5th. From the 10th to the 12th snows were general, and again on the 21st-22d heavy snows occurred.

TEMPERATURE.

The mean temperature for the State was 0.7°, or 7.2° below he normal, and 19.2° lower than the mean for February, 1921. The highest mean reported was 5.4° at Edgeley, LaMoure County; the lowest was -4.5° at Howard, Divide County. The ighest temperature reported was 45° at Skaar, McKenzie County, on the 18th; the lowest was -39° at Skaar, McKenzie County, on the 27th. The greatest monthly range was 84° at Skaar, McKenzie County; the least was 47° at Park River, Walsh County. The greatest daily range was 59° at Beach, Golden Valley County, on the 19th.

PRECIPITATION.

The average precipitation for the State was 1.21 inches, or 0.72 inch above the normal, and 0.82 inch more than the avrage for February, 1921. The greatest monthly amount reported was 3.34 inches at Valley City, Barnes County; the least was a trace at Westhope, Bottineau County. The greatest amount ecorded in any 24 consecutive hours was 1.75 inches at Fulleron, Dickey County, on the 1st. The average number of days with 0.01 inch or more of precipitation was 5. The average nowfall was 12.8 inches.

AURORAS.

Auroras were observed at Valley City on the 2d; at McLeod, Moorhead and Valley City on the 3d; at Foxholm and Valley City on the 12th; at Berthold Agency and Valley City on the 3th; at Amidon, Arnegard, Beach, Bismarck, Eckman, Ellendale, Fessenden, Foxholm, Fullerton, Grand Forks, Howard, Marmarth, Mott, Skaar, Steele and Williston on the 14th; at Amidon, Devils Lake, Grand Forks, McLeod and Skaar on the 5th; at Ellendale, Foxholm and McLeod on the 17th; at Eckman, Steele and Valley City on the 18th; at Arnegard, Eckman, Ellendale, Foxholm, Grand Forks, McKinney, McLeod, Mott nd Valley City on the 19th; at Crosby, Devils Lake, Ellendale, Foxholm and McLeod on the 20th; at Foxholm on the 23d; at Valley City on the 25th; at Foxholm, Steele and Valley City on the 26th; at Crosby, Steele and Valley City on the 27th, and at Crosby, Foxholm, Grand Forks, Howard, McLeod, Mott and Valley City on the 28th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.25	31.02	28	29.46	10	57	6,634	9.9	40	nw.	10
Devils Lake	30.17	30.87	28	29.43	10	44	8,753	13.0	44	nw.	10
Ellendale	30.17	30.94	28	29.44	10	56	11,488	17.1	57	n.	23
Grand Forks	30.15	30.81	28	29.35	1	90	......	......	50	n.	2
Williston	30.21	30.94	28	29.46	9	48	5,382	8.0	30	nw.	10
Moorhead, Minn	30.18	30.90	28	29.28	1	58	7,054	10.5	36	nw.	10
Av'ges and extremes	30.19	31.02	28	29.28	1	......	......	11.7	57	n.	23

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	193.0	288.7	67	+ 9	89	80	85	53	7
Devils Lake	145.8	286.9	51	− 5	90	85	90	68	7
Ellendale	210.5	289.9	73	......	88	84	....	73	26
Grand Forks	......	......	......	......	88	......	84	......	......
Williston	184.9	286.9	64	+11	94	79	84	58	7
Moorhead, Minn	......	......	52	......	84	76	82	......	......
Averages and extremes	183.6	288.1	61	+ 5	89	81	85	53	7

* And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893	− 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904	− 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905	8.2	+0.3	61	−46	0.30	−0.19	2	19	4	5	nw.
1906	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908	13.9	+6.0	62	−34	1.07	+0.58	5	12	7	10	nw.
1909	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw.
1916	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917	− 0.7	−8.6	62	−48	0.66	+0.17	5	10	8	10	nw.
1918	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919	7.7	−0.2	58	−40	0.66	+0.17	5	10	8	10	nw.
1920	12.5	+4.6	53	−36	0.30	−0.19	3	11	9	9	nw.
1921	19.9	+12.0	64	−33	0.39	−0.10	3	11	10	7	nw.
1922	0.7	−7.2	45	−39	1.21	+0.72	5	13	6	9	nw.

Climatological Data for February, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	0.4	-6.6	25	5	-32	15	46	2.30	+1.90	0.60	23.0	6	10	6	12	nw.	E. T. Carley.
Amidon	Slope	...	9	3.0	...	39	9	-28	27	39	1.40	...	0.60	9.3	5	17	5	6	w.	Charles Eastgate.
Arnegard	McKenzie	...	8	-0.2	...	35	18	-32	13	40	0.82	...	0.50	8.2	3	19	2	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	2.6	-5.2	32	17	-24	13†	34	2.30	+1.83	0.60	23.0	6	18	3	7	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	-0.3	-13.9	37	9†	-32	25	59	0.36	-0.15	0.16	...	3	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	0.2^{a}	-9.2	38^{a}	7	-32^{a}	24	43	0.99	+0.44	0.49	10.0	4	18	3	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	2.2	-8.1	35	7	-26	24	36	1.55	+1.05	0.69	17.8	5	10	9	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	-3.0	-4.8	30	7	-34	14	40	0.31	-0.06	0.18	...	2	15	5	8	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	-2.5	-8.3	32	7	-33	9†	50	0.38	+0.01	0.38	...	1	16	0	12	...	G. H. Phelps.
Bowman	Bowman	2,961	9	3.3	...	40	18	-29	27	39	1.30	...	0.79	13.9	3	16	7	5	nw.	R. Love, Jr.
Cando	Towner	1,488	22	1.4	-1.4	29	7	-27	13†	36	0.92	+0.69	0.46	...	7	13	6	9	nw.	A. J. Swanson.
Carson	Grant	2,500	11	0.4	-13.3	35	7	-28	27	35	2.00	+1.70	1.00	20.0	7	15	4	9	nw	J. W. Evens.
Cooperstown	Griggs	1,428	17	...	...	...	...	...	...	...	0.80	+0.49	0.50	8.0	2	10	9	9	nw.	S. Friswold.
Crosby	Divide	1,954	16	-1.8	-8.9	29	18	-29	13	37	0.35	+0.09	0.15	3.5	4	13	6	9	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	-0.4	-4.9	29	7	-26	14	35	0.64	+0.11	0.32	9.3	7	9	4	15	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	-0.6	-12.4	35	7	-27	14†	45	1.09	+0.66	0.25	10.9	9	10	6	12	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	1.4	-5.6	36	7	-26	11	43	0.90	+0.39	0.70	5.0	2	10	12	6	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	2.3	-10.7	36^{a}	7	-30	24	39^{a}	1.90	+1.34	0.80	19.0	5	17	4	7	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	-0.8	-4.2	26	7	-27	14	40	0.30	-0.12	0.20	3.0	3	14	11	3	nw.	J. G. Lamont.
Eckman	Bottineau	...	18	0.3^{a}	-6.1	34^{a}	7	-30^{a}	14	43	1.10	+0.75	0.60	13.0	4	13	3	12	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	5.4	-5.5	42	5	-24	14	47	1.05	+0.73	0.50	10.5	3	10	12	6	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	2.1	-8.6	36	17	-26	14	36	1.48	+1.00	0.46	17.0	8	7	9	12	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	1.3	...	34	7	-28	14	44	1.09	+0.83	0.50	10.5	5	14	9	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	-1.4	...	36	7	-30	13†	42	0.75	+0.40	0.30	10.0	5	16	2	10	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	0.0	-7.9	34	7	-31	14	41	1.06	+0.73	0.38	10.5	7	14	5	9	nw.	T. D. Monsen.
Forman	Sargent	1,249	29	...	...	...	...	...	...	...	1.74	+1.21	0.80	17.4	6	13	9	6	nw.	O. Enger.
Foxholm	Ward	...	2	1.0	...	31	7	-25	13	38	0.79	...	0.22	10.0	4	11	11	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	...	...	...	...	...	...	...	1.71	...	0.99	16.0	5	17	6	5	nw.	Verne King.
Fullerton	Dickey	1,439	25	3.4	-5.9	34	17	-27	14	38	3.16	+2.35	1.75	31.6	6	11	8	9	nw.	F. O. Alin.
Garrison	McLean	1,901	28	0.3	-8.1	32	7	-28	27	34	1.37	+0.84	0.42	13.0	5	12	7	9	nw.	G. L. Robinson.
Grafton	Walsh	827	31	1.2	-3.7	25	25	-29	14	35	1.35	+0.77	0.50	14.1	7	12	8	8	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	1.6	-4.8	25	17	-27	14	37	1.96	+1.43	0.70	19.6	11	15	4	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	1.0	-7.4	35	7	-27	14	42	1.30	+0.82	0.70	13.0	3	13	5	10	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	...	...	...	...	...	...	...	0.90	+0.34	0.30	9.0	5	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	15	-0.9	-4.6	23	28	-27	13	40	1.00	+0.52	0.60	10.0	3	...	...	...	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	2.8	-10.4	37	17	-30	28	34	1.50	+1.22	0.60	15.0	3	19	5	4	nw.	C. J. Downey.
Hillsboro	Traill	901	17	0.6^{b}	-7.9	20^{b}	4	-30^{b}	14	39	1.80	+1.12	1.00	18.0	5	14	5	9	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	-4.5	-10.5	35	7	-33	13	45	0.42	-0.27	0.20	4.2	3	17	3	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	4.0	-3.9	29	4	-27	14	38	1.43	+0.85	0.50	14.2	7	13	5	10	w.	S. Calvelage.
Lamoine	Kidder	1,936	18	-1.2	-8.9	26	4	-30	14	38	0.57	+0.18	0.20	5.7	4	14	3	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	-1.4	-4.4	24	28	-30	14	39	0.10	-0.55	0.05	1.0	2	11	4	10	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	0.8	-4.4	25	17	-27	14	34	1.40	+0.93	0.70	14.0	5	4	16	8	n.	Reuben Gray.
Linton	Emmons	1,711	5	3.2	...	32	4	-34	14	46	1.20	...	0.47	...	9	14	4	10	nw.	William Malpass.
Lisbon	Ransom	1,091	19	1.8	-7.8	25	4†	-26	14	36	2.10	+1.37	0.60	21.0	7	12	7	9	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	...	...	...	...	...	...	...	1.60	...	1.00	16.0	5	...	...	...	...	Edw. Tapley.
McHenry	Foster	1,509	12	1.0	-4.4	29	4	-28	14	42	1.30	+0.79	0.40	13.0	4	19	1	8	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	0.6	-4.5	34	7	-30	11	44	1.00	+0.72	1.00	10.0	1	9	11	8	w.	N. P. Swenson.
McLeod	Ransom	1,075	11	3.4	-8.0	30	17	-30	14	39	2.41	+1.83	...	23.1	11	11	6	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	0.6	...	31	7	-27	27	39	1.12	...	0.85	...	5	10	9	9	nw.	A. T. Felland.
Mandan	Morton	1,644	9	1.2	...	34	7	-24	24†	47	1.85	...	0.30	18.5	9	15	3	10	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	0.7	-6.1	30	7	-30	14	40	0.92	+0.49	0.30	9.2	9	12	9	7	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	1.6	-11.5	36	9	-34	28	41	0.97	+0.58	0.64	10.7	9	15	6	7	w.	S. P. Grane.
Mayville	Traill	975	27	1.5	-6.2	22	17	-29	16	35	1.00	+0.61	0.80	10.0	3	14	4	10	nw.	M. G. Sateren.
Medora	Billings	2,270	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	T. A. Davis.
Melville	Foster	1,590	25	0.4	-6.2	28	7	-26	27	35	1.30	+0.97	0.60	13.0	4	15	4	9	nw.	J. P. Kidder.
Minot	Ward	1,557	27	-2.0	-9.9	37	7	-31	14	45	2.12	+1.66	1.20	21.2	5	14	5	9	w.	W. I. Faris.
Minto	Walsh	820	30	3.0	-2.9	24	25	-26	14	36	1.76	+1.26	0.56	...	7	13	7	8	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	-1.4	-13.2	34	17	-30	27†	43	1.41	+0.84	0.41	15.3	6	15	7	6	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	-1.2	-8.0	29	17	-31	27	40	1.00	+0.60	...	10.0	6	15	3	10	w.	C. J. Hoof.
New England	Hettinger	2,400	29	-1.0	-13.1	33	17	-28	28	48	1.20	+0.66	0.60	12.0	6	...	...	...	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	1.2	-9.4	34	7	-26	27	34	1.61	+1.23	0.80	16.1	6	16	5	7	nw.	J. Christiansen.
Park River	Walsh	998	19	3.4	-2.3	25	7	-22	14	38	0.32	-0.12	0.16	...	3	8	10	10	nw.	C. B. Wright.
Parshall	Mountrail	...	8	...	...	...	...	...	...	...	1.20	...	0.60	12.0	2	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	49	2.0	+0.6	29	28	-25	14	35	1.00	+0.29	0.40	10.0	3	17	0	11	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	1.0^{g}	-3.6	25^{g}	4†	-31^{g}	14	40^{g}	0.90	+0.54	0.40	9.0	8	...	...	...	nw.	S. C. Shanks.
Power	Richland	1,020	29	...	...	...	...	...	...	...	1.40	+0.84	0.50	14.0	8	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	9	...	...	...	...	...	...	...	0.70	+0.22	0.40	7.0	4	4	10	14	nw.	C. Frank.
Skaar	McKenzie	...	3	-0.1	...	45	18	-39	27	50	0.95	...	0.35	7.5	4	8	12	8	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	-2.2	-9.3	27	7†	-28	27	41	1.40	+0.95	0.40	14.0	12	12	10	6	nw.	H. S. Wood.
Taylor	Stark	2,493	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. Leutz.
Towner	McHenry	1,482	21	1.3	-3.9	31	8	-27	11	40	0.80	+0.42	0.50	8.0	2	12	11	5	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	-1.0	...	31	7	-34	10	46	1.23	...	0.52	13.5	5	2	10	16	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	1.2	-8.4	30	18	-28	14	38	3.34	+2.99	1.40	33.5	11	19	1	8	nw.	C. F. Schroeder.
Wahpeton	Richland	962	29	4.8	-5.1	32	17	-27	14	36	1.80	+1.27	1.00	18.0	4	13	9	6	nw.	State School of Science.
Walhalla	Pembina	966	19	3.7	-0.1	27	7†	-23	16	43	0.38	-0.13	0.10	3.8	7	12	4	12	w.	Ivan Lee.
Westhope	Bottineau	1,508	17	-0.8	-4.1	29	14	-28	11	38	T.	-0.19	T.	T.	0	2	18	8	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	-0.8	-8.7	34	7	-26	13	37	0.50	+0.03	0.16	8.3	6	11	5	12	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	-2.3	-5.0	32	7	-34	13†	44	1.40	+0.94	1.20	14.0	3	12	8	8	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	2.6	-4.4	27	17	-30	14	40	0.72	-0.01	0.25	12.3	10	6	10	12	n.	U. S. Weather Bureau.
Averages	...	...	...	0.7	-7.2	45	18	-39	27	59	1.21	+0.72	1.75	12.8	5	13	6	9	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used i determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for February, 1922.

Stations.	Drainage Basin.	Day of Month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red							.40					.10	.60	T																		2.30
Amidon	Lit. Missouri					.16					.06	.20						.38	T				.60										1.40
Arnegard	Missouri	.50			T							.07											.25										0.82
Ashley	Missouri	.50			T.						.20	.40	.20									.40	.60										2.30
Beach	Lit. Missouri		T.	T.	T.	T.					.08	T.									T.	.12	.16	T									0.36
Berthold Agency	Missouri	.30										.20										.22	.27										0.99
Bismarck ***	Missouri	.29		T.	.07	T.			T.	T.	T.	.22	T.	T.					T.	T.		.28	.69	T.			T.						1.55
Bottineau	Mouse	.18											.13																				0.31
Bowbells ‖	Mouse		.38																														0.38
Bowman	Grand											.32	T.									.19	.79	T.									1.30
Cando	Devils Lake	.46	.07	T.		.06	T.					.04	.10		T.			T.				.05	.14				T						0.92
Carson	Heart	.30			.05	.05						.30										.10	1.00	.20									2.00
Cooperstown	Sheyenne	.50			T.	T.						T.			T.							.30	T.				T.						0.80
Crosby	Mouse	.15		T.	T.						T.	.05										.10	.05										0.35
Devils Lake ***	Devils Lake	.28	.02	T.	T.	.02	T.				T.	.06	.02		T.			T.	T.	T.		.09	.15	T.			T.						0.64
Dickinson ‖	Heart	.10	.10		.04	.07						T.	.25	.03								.10	.20	.20									1.09
Donnybrook	Mouse	.70			T.	T.			T.	T.		T.	T.								.20												0.90
Dunn Center ‖	Knife	.60			.10							.10										.30	.80										1.90
Dunseith	Mouse		.20			.05						.05																					0.30
Eckman	Mouse	.60							T.		T		.10									.10	.30										1.10
Edgeley	James	.05									.50												.50										1.05
Ellendale***	James	.39	.03		.06	T.					T.	.21	T.	.02					T.			.22	.46	.09			T.						1.48
Energy	Missouri	.50			.06							.04										.19	.30										1.09
Epping	Missouri	.20			.08							.10										.07	.30										0.75
Fessenden	James	.36	.03			T.			T.		.05	.04	.06		T.					T.		.14	.38			T.							1.06
Forman	Sheyenne	.80	.20									.04	.20									.10	.40										1.74
Foxholm	Mouse	.30			T.				T.	T.		T	.15					T.	T.			.22	.12										0.79
Fryburg	Heart	.26		.08								.18								T.		.20	.99										1.71
Fullerton	James	1.75			T.						.12	.24	T.									.30	.55	.20									3.16
Garrison	Missouri	.42		T.	.10							T.	.20									.42	.23										1.37
Grafton	Red	.50	.29		.12		.05						.16					T.				.10	.13										1.35
Grand Forks ***	Red	.70	.15	T.	.04	.15	.05				.07	.10	.02		.01	T.	T.	T.		T.		.35	.30				.02						1.96
Granville	Mouse	.70																				.40	.20										1.30
Hannah	Pembina	.30	.10	T.									T.								.10	.10	.30						T.				0.90
Hansboro	Devils Lake	.60			.20								.20																				1.00
Hettinger	Grand											.60										.30	.60										1.50
Hillsboro	Red	.50	.10																			.20	*	1.00			T.						1.80
Howard	Missouri	.24		T.								T.											*	.18									0.42
Jamestown	James	*	.40		.08							*	.45									*	.50										1.43
Lamoine	Missouri	.15			.02							.20										T.	.20										0.57
Langdon	Pembina				T.	.05					T.	.05			T.																		0.10
Larimore	Red	.70				.15	.05						.20										.30										1.40
Linton	Missouri	.34	.11		.07	.02						.08	.04	.01						T.		.06		.47									1.20
Lisbon ‖	Sheyenne	.40	.50	.10			.20				.10	T.	.20		T.								T.	.60									2.10
McClusky	Missouri	.30								.20	.10				T.							*	1.00				T.						1.60
McHenry	James	.50									T.	.20										.40	.20										1.30
McKinney	Mouse	1.00			T.	T.			T.			T.										T.											1.00
McLeod	Sheyenne	*	*	.50			.22				*	.14	.36							.10		*	*	1.09			T.						2.41
Maddock	Sheyenne	.15									*	.12										*	.85										1.12
Mandan ‖	Missouri	.30	.20	.15		.05				T.			.30	T.					.05	T.		.20	.30	.30									1.85
Manfred	James	.30	.10		.02						T.	.05	.05		.05							.10	.20				.05						0.92
Marmarth	Lit. Missouri	.01		T.	.02						T.	.08						.08	.06	.02		.03	.64	.03									0.97
Mayville	Red			T.	.20																	*	.80										1.00
Medora	Lit. Missouri																																.....
Melville	James	.60											T.			.30						*	.40										1.30
Minot	Mouse	1.20											.02	.10								.20	.60										2.12
Minto	Red	.56	.45		T.	.12					.04		.06									.33	.20										1.76
Mott	Cannon Ball	.31			.02	.01						.41										.29	.37										1.41
Napoleon ‖	Missouri										*	.20	.30									*	*	.50									1.00
New England	Cannon Ball	.10	T.	T.							T.	.30			.10					.05		.05	.60										1.20
New Salem	Heart	.30			.01				T.			.20							T.	T.		.20	.80	.10									1.61
Park River	Red	.08	.16				.08																										0.32
Parshall	Missouri					T.				T.	.60												.60										1.20
Pembina ‖	Red		.20				.40					.40																					1.00
Pettibone	James	.10				.10					.40	.10			T.			*	.10				*	.10									0.90
Power	Sheyenne	.20	.20	.05	.05	T.				T.	.05	.15		T.							T.	.20	.50										1.40
Powers Lake	Missouri	.40									T.	T.	.10		T.			T.				.15	.05	T.									0.70
Skaar	Yellowstone				.25							.25										.10	.35										0.95
Steele	Missouri	.40		.02	.03	.02			.03		.07	.08		.08			.02					.20	.40	.05									1.40
Taylor	Heart																																.....
Towner	Mouse	.50																					.30										0.80
Turtle Lake	Missouri	.48	T.									.06	.04									.52	.13										1.23
Valley City	Sheyenne	.40	.80	T.	.02	T.	.05				.20	.10	.05							.02		.10	1.40	.20			T.						3.34
Wahpeton	Red		1.00			T.	T.				.10											.10		.60									1.80
Walhalla	Pembina	.10			.03	.10					.02		.08		.03							.02											0.38
Westhope	Mouse				T.							T.																					T.
Williston ***	Missouri	.09		T.	.01		T.		T.	T.	.06	.11	T.						T.			.12	.11										0.50
Willow City	Mouse	1.20		T.	T.					T.		T.	T.	.10								.10	T.				T.						1.40
Moorhead, Minn ***	Red	.20	.03	.01	.04	.03	.01				T.	.07		T.	T.					T.		.18	.14	.01			T.						0.72

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	18	16	15	18	25	14	17	16	23	22	14	-10	-4	-3	14	4	10	17	14	22	17	10	10	10	7	16	15	21	....	....	....	13.1
	Minimum	-12	-5	5	2	-9	4	-5	-6	-10	-12	-14	-18	-18	-25	-32	-17	-26	-14	-12	-6	10	-15	-10	17	-11	-14	14	-23	....	....	....	-12.4
Arnegard	Maximum	2	6	23	12	10	15	34	19	20	15	-5	-8	5	10	8	14	28	35	9	18	14	10	4	-3	10	3	-6	9	....	....	....	10.8
	Minimum	-2	-15	-7	9	-15	-19	7	0	2	-11	-20	-15	32	-25	-14	-9	-1	-5	-8	11	-8	-8	-15	21	-11	-10	-27	-20	....	....	....	-11.1
Ashley	Maximum	9	9	25	29	22	7	29	21	19	18	-5	-9	-6	10	5	9	32	20	22	18	22	0	5	7	12	9	5	5	....	....	....	12.4
	Minimum	0	0	-9	14	-5	-14	-4	0	0	-5	11	-22	24	-22	13	-10	9	-4	-1	-1	2	12	-9	-20	4	-5	-24	-20	....	....	....	-7.2
Beach	Maximum	-2	9	25	22	15	17	36	20	37	15	0	-10	-8	-2	15	12	18	25	37	11	15	4	-7	0	-8	-8	17	17	....	....	....	11.7
	Minimum	-12	-9	9	13	-14	-17	13	0	-4	-12	-17	-20	-20	-23	-20	-16	-11	-20	-22	-7	4	-7	-24	-23	-32	26	-20	-8	....	....	....	-12.3
Berthold Agency	Maximum	4	4	26	30	24	16	38	30	23	....	-7	-6	8	10	10	9	23	35	31	17	17	14	5	3	15	10	3	14	....	....	....	*14.3
	Minimum	-3	-8	-17	9	-9	-25	-5	-6	....	-9	-21	-26	-25	-28	-19	-13	-2	-7	5	-21	5	-10	-9	-32	13	-16	-29	-30	....	....	....	*-13.9
Bismarck	Maximum	7	8	28	31	14	11	35	15	22	18	-8	7	-6	12	9	12	32	24	16	18	15	7	7	5	14	9	3	7	....	....	....	12.6
	Minimum	2	-4	-8	14	-7	-16	2	-1	6	-8	-11	-17	-22	-22	13	-11	2	-2	-6	-11	7	4	12	-26	-10	-11	-21	-22	....	....	....	-8.3
Bottineau	Maximum	9	8	13	19	10	0	30	29	12	12	0	-10	-16	4	-2	4	12	20	7	18	8	2	10	8	18	-4	6	18	....	....	....	8.6
	Minimum	2	-3	-18	-3	-5	-25	-8	-11	-10	-7	-24	-18	-32	-34	-25	20	5	-13	-7	-21	7	-11	-13	20	-13	-13	-27	-17	....	....	....	-14.7
Bowbells §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bowman	Maximum	3	10	28	21	11	22	38	30	30	25	-4	-8	10	10	10	15	38	40	33	16	16	9	10	6	6	1	10	6	....	....	....	15.1
	Minimum	-10	-8	3	11	-11	-16	9	6	0	-10	-10	-20	-22	-22	-15	-8	5	11	-8	-11	8	-8	-11	-24	-11	-12	-29	-26	....	....	....	-8.5
Cando	Maximum	6	11	18	25	24	4	29	27	16	15	-2	-10	-9	8	7	6	19	22	23	16	17	11	11	8	20	15	3	16	....	....	....	12.7
	Minimum	-2	3	-14	10	-2	-19	-7	-1	-3	-4	-21	-13	-27	-27	19	18	0	-10	-1	7	-1	-8	-12	-13	-9	8	-23	13	....	....	....	-9.8
Carson	Maximum	2	5	25	23	15	15	35	25	20	15	-9	-10	5	6	5	6	33	26	22	20	15	10	0	0	4	0	-5	6	....	....	....	11.2
	Minimum	-10	-8	-10	5	9	-18	2	2	0	-10	-13	-23	-24	-26	-12	-10	3	-2	-6	-12	7	-8	-12	-22	-15	-12	-28	-24	....	....	....	10.5
Crosby	Maximum	1	0	20	24	5	11	28	24	20	10	-5	-10	-11	9	4	15	20	29	10	13	10	5	3	-3	12	9	-1	5	....	....	....	9.1
	Minimum	-4	-11	-11	-10	-17	-21	4	-3	5	-11	-25	-26	-29	-26	-15	-13	3	8	6	-12	-13	10	12	-20	-12	-8	-23	-18	....	....	....	-12.6
Devils Lake	Maximum	6	9	18	26	10	4	29	19	16	10	-10	9	-10	8	2	5	17	21	17	17	14	-1	9	7	19	6	4	15	....	....	....	9.9
	Minimum	3	-9	-13	10	3	-19	-6	-2	-2	-11	-21	-21	25	26	-16	-16	-3	-8	-4	-9	-1	-10	11	-14	9	-16	-23	-12	....	....	....	10.6
Dickinson §§	Maximum	-2	18	25	25	6	16	35	12	28	-2	-5	-12	-2	4	10	23	33	34	11	20	10	-6	6	-2	4	-3	-5	3	....	....	....	10.1
	Minimum	-4	-11	10	5	5	-18	-10	0	-2	-5	-13	-21	23	-27	-22	-14	-3	6	-6	-15	-9	-8	-9	-26	-20	10	27	-22	....	....	....	-11.4
Donnybrook	Maximum	5	4	27	25	12	12	36	28	24	20	15	-6	-7	4	10	9	25	33	24	10	13	8	0	6	0	0	0	10	....	....	....	12.4
	Minimum	-4	7	-7	10	-15	-19	2	2	6	0	-26	-25	-24	-21	-6	-15	5	-10	-6	5	0	12	15	-10	-12	-25	-25	-10	....	....	....	-9.6
Dunn Center	Maximum	3	6	26	27	20	....	36	30	24	21	16	-3	-3	11	6	6	28	34	32	19	13	12	4	-1	10	2	-3	7	....	....	....	*14.2
	Minimum	0	8	-5	15	7	-20	-3	-3	2	-9	11	-16	-23	-24	-18	-12	6	-4	-6	-13	5	-10	-10	-30	-10	-8	-25	-22	....	....	....	9.6
Dunseith	Maximum	6	8	11	22	16	2	26	25	13	12	9	-7	-9	7	1	4	13	20	20	15	12	1	10	7	20	17	5	16	....	....	....	10.8
	Minimum	-4	0	-11	10	-6	20	-14	-2	-5	-9	-26	-17	-26	-27	-19	-21	2	-11	-5	-14	6	-12	-14	18	-14	-14	-25	-18	....	....	....	-12.5
Edgeley	Maximum	24	30	34	36	42	6	12	11	16	36	-3	2	-3	9	8	9	32	20	40	20	26	28	24	17	21	29	15	11	....	....	....	19.2
	Minimum	-3	4	-5	7	-5	-10	-6	-3	0	-4	-13	-22	-20	-24	13	-19	1	-4	-1	-9	7	2	8	20	9	-6	23	-19	....	....	....	-8.5
Ellendale	Maximum	10	9	22	27	22	7	14	16	16	24	-6	-8	-4	10	5	16	36	23	25	17	17	13	5	6	14	12	3	9	....	....	....	12.6
	Minimum	2	1	9	12	4	-7	-10	1	2	-6	-12	-22	23	-26	-13	-20	5	-4	-5	-13	10	-3	-11	-21	-10	-10	-20	-17	....	....	....	-8.3
Fessenden	Maximum	5	5	6	29	22	11	34	24	20	10	10	6	-7	10	6	7	18	24	22	18	13	11	6	8	8	6	1	15	....	....	....	12.0
	Minimum	1	-3	-17	4	7	-20	-7	-2	-7	-9	-22	-20	-27	-31	-18	21	-3	-6	-3	-11	1	-7	-12	-20	6	12	-26	-17	....	....	....	-11.9
Fullerton	Maximum	7	9	20	27	23	5	16	17	18	23	1	2	-1	11	12	12	34	30	23	18	17	14	6	8	14	13	12	12	....	....	....	14.3
	Minimum	3	1	8	6	-2	-7	8	1	2	-2	-12	-22	-22	-27	-12	-21	5	-5	4	12	6	2	-7	-19	-11	7	-21	-17	....	....	....	-7.6
Garrison	Maximum	5	3	26	31	23	9	32	26	19	2	-9	-8	8	7	8	8	20	26	23	20	19	14	5	5	15	11	0	10	....	....	....	12.2
	Minimum	-2	-8	-8	12	9	-21	0	0	-8	-12	-21	-22	-25	-25	-18	-12	1	8	-8	-14	-1	-9	-10	-20	-19	-8	-28	-21	....	....	....	11.6
Grafton	Maximum	12	11	13	19	17	9	20	15	20	15	-5	-5	-5	-7	10	1	22	12	15	21	19	16	14	14	25	18	7	23	....	....	....	12.4
	Minimum	-3	1	-9	1	0	-6	-14	0	2	-26	-22	-12	-23	-29	-20	-22	10	-10	2	-5	-4	4	-11	-8	-10	-6	-18	-10	....	....	....	-9.9
Grand Forks	Maximum	19	11	13	19	16	5	17	16	17	17	4	-5	-7	10	5	5	25	14	15	24	16	5	13	10	19	11	6	18	....	....	....	12.1
	Minimum	6	3	-8	5	0	-6	-9	-2	4	-4	-18	-12	24	-27	-18	-22	2	-15	-13	-12	2	2	9	-8	-10	-16	-20	-13	....	....	....	8.8
Granville	Maximum	5	12	25	25	12	10	35	26	18	10	0	-8	5	10	9	8	15	30	20	20	15	7	7	10	17	6	3	12	....	....	....	13.0
	Minimum	-4	-5	12	2	-12	-22	7	-2	2	-12	-23	-20	-25	-27	-16	-16	4	-12	-10	-12	-5	-7	-10	-18	-18	-14	-25	-15	....	....	....	-11.1
Hansboro	Maximum	8	10	15	20	20	12	22	20	20	10	12	-5	-12	-8	2	5	16	15	....	20	15	....	....	....	21	10	10	23	....	....	....	[4]11.7
	Minimum	-5	0	-12	-8	-5	-17	-12	-5	-5	-8	-28	-17	-27	-20	-18	-22	2	-20	....	-10	9	....	....	....	-18	22	-18	-15	....	....	....	[4]-13.5
Hettinger	Maximum	6	10	27	25	17	17	34	25	23	32	-5	-7	4	10	10	23	37	32	33	20	16	10	3	1	9	5	-5	3	....	....	....	14.5
	Minimum	-5	-7	0	11	-7	-13	7	2	2	-8	-10	-28	-26	-20	-16	-3	3	10	-5	-12	9	-5	-23	-29	-11	-9	-26	-30	....	....	....	-9.0
Hillsboro	Maximum	15	11	11	20	16	4	14	14	18	11	-1	-6	3	9	3	2	2	15	18	18	16	....	....	10	18	15	2	17	....	....	....	[2]10.5
	Minimum	4	6	-7	0	2	4	-15	-2	3	-1	-18	-16	-22	-30	-12	-25	-15	-11	3	-13	-3	....	....	-13	-11	-9	-20	-15	....	....	....	[2]-9.4
Howard	Maximum	-2	0	20	21	6	9	35	10	22	4	-9	-12	-12	5	6	7	11	6	29	10	10	12	0	-5	7	0	-5	8	....	....	....	6.9
	Minimum	-4	20	-8	5	-20	-22	3	-4	-5	-12	-27	-30	-33	-30	-28	-22	-20	0	-16	23	-14	-3	-12	-17	-16	-12	-32	-22	....	....	....	-15.9
Jamestown	Maximum	10	9	21	29	25	5	27	19	27	22	4	8	5	11	6	6	26	20	23	19	13	20	9	9	8	13	-1	11	....	....	....	14.4
	Minimum	3	3	11	2	-3	-10	-8	1	0	-4	-15	-18	-19	-27	-13	-21	3	-7	3	-12	5	-3	9	-5	5	-5	-20	-15	....	....	....	6.4
Lamoine	Maximum	5	5	19	26	22	7	25	22	17	18	-5	-12	-14	8	4	4	18	20	20	20	14	12	4	1	10	5	-5	7	....	....	....	9.9
	Minimum	-3	-2	-12	7	-4	-24	-20	-7	-3	-6	-17	-19	-26	-30	-19	-17	3	-10	-10	-15	-1	-6	-10	-20	-11	-10	-29	-20	....	....	....	-12.2
Langdon	Maximum	8	10	15	15	5	6	22	16	22	8	6	0	4	6	5	6	6	21	20	15	12	6	8	12	22	10	6	24	....	....	....	10.7
	Minimum	8	0	-15	-2	-6	-18	-12	0	0	-7	-25	-25	25	-30	-21	-20	-15	-15	5	-15	-12	-15	-13	-12	-12	-10	-24	-15	....	....	....	13.5
Larimore	Maximum	12	15	15	23	18	7	22	10	17	10	5	-4	8	-10	7	0	25	19	22	19	15	15	11	10	18	15	7	18	....	....	....	11.9
	Minimum	-1	-5	-5	0	0	-10	-12	-5	-14	0	-22	-19	-22	-27	-17	-26	-6	-15	2	-4	-5	-5	-13	13	-8	-5	-23	-10	....	....	....	-10.4
Linton	Maximum	8	8	30	32	26	10	26	22	22	20	10	6	-3	12	8	9	23	22	24	20	18	12	10	14	18	14	8	8	....	....	....	15.2
	Minimum	1	1	-14	15	0	-16	0	-1	7	-2	-6	-18	24	-34	-18	-17	5	2	-2	18	-9	-8	-2	-8	-16	-12	-22	-28	....	....	....	8.9
Lisbon §§	Maximum	10	15	12	25	16	15	23	21	18	15	3	3	-3	10	-6	11	16	25	18	20	18	12	8	10	15	16	0	14	....	....	....	13.0
	Minimum	-6	8	-10	-15	-3	-6	-5	0	5	3	13	-18	-18	26	-16	-25	-15	-10	12	8	6	8	-12	-22	-20	-16	-21	-19	....	....	....	9.4
McKinney	Maximum	6	10	20	20	10	10	34	30	15	20	-5	-10	12	10	4	9	24	30	28	20	28	5	4	6	20	13	2	16	....	....	....	13.1
	Minimum	-5	-10	-10	-5	-10	-20	-10	-5	5	5	-30	-29	-20	-25	-15	-22	0	-12	-6	-6	-7	-10	-11	-15	-5	-5	-25	-15	....	....	....	11.9
Maddock	Maximum	10	7	22	27	20	5	31	27	17	16	-3	-8	-9	10	8	7	16	23	21	19	17	10	6	5	19	15	3	15	....	....	....	12.7
	Minimum	-1	0	-15	6	-4	-22	-8	-1	-7	-6	-26	-16	26	-26	-19	-24	0	-14	-4	-10	-2	-7	-11	-17	-10	-9	-27	-17	....	....	....	11.5
Marmarth	Maximum	-1	9	24	21	17	19	30	20	36	31	-7	-9	0	8	8	16	35	34	30	17	14	7	1	3	6	3	-8	1	....	....	....	12.8
	Minimum	-11	-10	9	11	13	-14	-3	3	-1	-10	-12	-20	-22	-22	-15	-5	9	11	-8	-11	7	-8	-17	-29	-13	-12	-30	-34	....	....	....	-9.6
Melville	Maximum	3	3	18	23	25	0	28	26	14	12	5	-13	-10	6	3	3	15	20	20	11	11	14	2	2	8	8	8	6	....	....	....	9.7
	Minimum	3	-1	-10	8	-10	-16	-4	0	-5	-5	-20	-20	20	-24	-15	-17	3	-7	-1	-7	0	2	10	-14	-10	-4	-26	-10	....	....	....	-8.9
Minot	Maximum	5	7	23	31	10	10	37	25	20	10	-5	-8	-10	10	10	10	18	30	10	22	15	-5	6	5	12	5	3	12	....	....	....	11.4
	Minimum	-9	-11	-18	-5	-13	-26	-8	-5	3	-10	-27	-26	-30	-31	-20	-21	-2	-13	-8	-15	-5	-17	-15	-20	-12	-13	-30	-17	....	....	....	-15.4
Mott	Maximum	0	5	24	25	13	12	32	24	22	17	-4	-10	-9	4	7	3	34	32	12	11	13	-6	1	5	8	1	-8	2	....	....	....	9.3
	Minimum	-12	13	4	10	-8	-18	-11	3	-1	-5	-12	-23	-22	-26	-20	-13	5	0	-6	-16	-10	-11	-15	-27	-16	-14	-30	-30	....	....	....	-12.0
Napoleon §§	Maximum	6	6	25	27	6	8	28	14	24	5	-1	-10	-5	9	4	20	29	23	8	17	14	13	3	5	13	7	-5	7	....	....	....	10.7
	Minimum	-10	-5	-15	-3	3	-22	-5	-3	-3	-1	-15	-22	30	-25	-21	-20	-10	-8	7	-12	8	-4	-12	-20	-18	-14	-31	-30	....	....	....	13.2
New Salem	Maximum	6	5	28	28	19	14	34	30	20	22	4	-2	-6	10	10	-1	24	22	26	18	13	2	4	4	12	2	-3	4	....	....	....	12.5
	Minimum	-11	-5	-6	9	10	-15	2	1	5	-8	-15	-21	-21	-24	-14	-14	2	-4	6	-11	2	-11	-14	-23	-11	-6	-26	-23	....	....	....	10.1
Pembina §§	Maximum	17	10	11	22	10	6	18	12	22	20	10	8	-8	8	-8	8	20	12	10	20	20	0	20	15	20	10	15	29	....	....	....	12.8
	Minimum	-10	2	-10	-10	2	5	-12	-10	0	-2	-23	-21	-17	-25	-12	-21	8	-12	-10	-5	2	-4	-15	-12	-5	-6	-20	-5	....	....	....	-8.9
Steele	Maximum	5	2	18	25	10	4	27	18	22	4	5	-10	-10	7	5	5	24	27	5	12	4	-3	2	-10	10	5	-7	2	....	....	....	7.1
	Minimum	-4	-4	-14	10	-2	-21	-14	0	0	-5	-14	-16	-24	27	-17	-15	-5	-4	-5	-15	-6	-4	-10	-22	-22	-11	28	-24	....	....	....	-11.5
Towner	Maximum	5	5	21	25	15	9	9	31	24	12	-4	-8	4	8	14	20	18	25	24	18	15	9	16	6	18	15	6	6	....	....	....	13.2
	Minimum	-4	10	-19	1	-4	-24	-15	-6	1	-4	-27	-20	-15	10	-2	0	-6	-12	-6	-7	-8	6	-10	-20	-10	-10	-25	19	....	....	....	-10.6
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Wahpeton	Maximum	30	17	12	29	29	13	19	23	19	27	5	-4	-1	8	9	7	32	27	22	19	19	19	8	9	13	15	1	10	....	....	....	15.6
	Minimum	17	8	0	3	5	-1	12	3	3	5	-13	-14	-24	-27	-15	-23	3	9	6	-15	6	8	-5	-16	-4	-13	-21	-19	....	....	....	-5.9
Walhalla	Maximum	10	13	17	19	17	11	27	25	16	25	-4	-3	-1	9	7	7	21	18	23	23	20	7	14	15	27	25	10	26	....	....	....	15.1
	Minimum	6	2	-7	3	-2	-8	-16	1	1	-6	-22	17	-19	20	-13	23	0	-13	2	3	6	-8	-12	-3	-2	-6	15	-20	....	....	....	-7.7
Westhope	Maximum	5	2	19	19	11	7	20	15	13	10	3	-5	7	29	10	19	26	10	9	12	10	9	18	15	14	12	10	10	....	....	....	12.1
	Minimum	-4	-7	19	1	-20	27	-10	-8	2	-14	-28	-22	-20	-9	-22	9	-9	-18	-19	-14	-12	-19	-15	-8	-12	-20	-19	-22	....	....	....	-13.5
Williston	Maximum	2	6	24	23	5	15	34	11	24	6	-8	-11	-9	8	10	15	26	33	8	17	14	-3	3	-2	12	1	-3	6	....	....	....	9.5
	Minimum	-3	-14	6	4	-16	-21	7	-3	5	-18	-22	-24	-26	-21	-15	-5	-3	-4	-6	-12	-4	-7	-14	-22	-10	-18	-25	-22	....	....	....	-11.2
Moorhead, Minn	Maximum	25	13	12	24	18	4	16	20	20	26	-6	-5	-3	10	4	9	27	18	21	19	16	16	8	8	16	12	0	12	....	....	....	12.9
	Minimum	10	5	-2	0	1	-9	-13	7	5	-6	-16	-16	-20	-30	-12	-22	5	-7	-4	-16	6	0	-7	-16	-12	-12	-18	-15	....	....	....	-7.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. [2] 2 days, etc.

51.05
ANNT

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MAY 1922

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXI. Bismarck, N. D., March, 1922. No. 3

GENERAL SUMMARY.

The temperature at the opening of the month was below the normal, but rose rapidly and remained above the normal until near the close, when a change to decidedly colder occurred. The second decade was the warmest, the maximum for the month usually occurring on the 13th; the first decade was the coldest, with the minimum being generally recorded on the 1st. Owing to the mild temperature which prevailed during the first and second decades the snow covering was rapidly reduced, allowing livestock to graze on ranges, pastures and harvested fields. The soil was mostly too wet generally for spring farm work, and the highways were too soft for much auto or truck traffic. During the first half of the month there was practically no precipitation of any kind in the State. There was scattered precipitation during the last half of the month, with a general storm covering the State from the 24th to the 27th, inclusive. This storm, which consisted of snow, high winds and freezing temperature, caused much suffering of livestock from both exposure and from lack of feed. Winter grains were generally in good condition at the close of the month.

TEMPERATURE.

The mean temperature for the State was 25.8°, or 3.2° above the normal, and 0.6° higher than the mean for March, 1921. The highest mean reported was 29.4° at Linton, Emmons County, and Wahpeton, Richland County; the lowest was 19.0° at Howard, Divide County. The highest temperature reported was 60° at Hettinger, Adams County, on the 22d; the lowest was −30° at Berthold Agency, McLean County, and Skaar, McKenzie County, on the 1st. The greatest monthly range was 82° at Berthold Agency, McLean County, and Skaar, McKenzie County; the least was 46° at Bowbells, Burke County. The greatest daily range was 52° at Berthold Agency, McLean County, on the 1st.

PRECIPITATION.

The average precipitation for the State was 0.72 inch, or 0.11 inch below the normal, and 0.28 inch less than the average for March, 1921. The greatest monthly amount reported was 2.05 inches at Langdon, Cavalier County; the least was 0.04 inch at Beach, Golden Valley County. The greatest amount recorded in any 24 consecutive hours was 1.20 inches at Howard, Divide County, on the 24th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 6.4 inches.

AURORAS.

Auroras were observed at McLeod on the 1st; at Valley City on the 7th; at Pettibone on the 10th; at Foxholm and Skaar on the 12th; at Howard on the 13th; at McLeod and Steele on the 21st; at Steele on the 23d; at Howard, McLeod and Steele on the 25th; at Eckman and Foxholm on the 26th; at Foxholm, New England and Steele on the 27th; at Foxholm and Steele on the 28th and 30th, and at Eckman and Foxholm on the 31st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.08	30.81	1	29.66	5	57	7,572	10.2	35	nw.	25
Devils Lake	30.04	30.68	1	29.50	25	44	8,797	11.8	36	nw.	25
Ellendale	30.06	30.76	1	29.55	5	56	11,552	15.5	48	ne.	27
Grand Forks	30.04	30.57	1	29.49	25	90	....	.....	48	w.	25
Williston	30.01	30.67	1	29.51	11	48	6,997	9.4	36	se.	16
Moorhead, Minn	30.07	30.78	1	29.53	25	58	7,187	9.7	34	se.	17
Av'ges and extremes	30.05	30.81	1	29.49	25	.....	....	11.3	34	se.	17

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	199.0	369.9	54	−2	86	69	77	34	13
Devils Lake	172.9	369.7	47	−9	86	76	83	46	16
Ellendale	201.9	370.0	55	......	88	74	....	42	13
Grand Forks	......	......	......	......	84	......	77	......	....
Williston	231.1	369.7	63	-1	83	64	69	40	12
Moorhead, Minn	......	......	46	......	86	76	79	......	....
Averages and extremes	201.2	369.8	53	−4	86	72	77	34	13

* And other dates.

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898	21.3	−1.3	79	−24	0.79	−0.04	5	13	8	10	nw.
1899	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905	32.5	+0.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915	23.3	+0.7	63	−23	0.22	−0.71	2	16	6	9	nw.
1916	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921	25.2	+2.6	75	22	1.00	+0.17	6	9	12	10	nw.
1922	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.

Climatological Data for March, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	27.6	+4.0	51	13	-17	1	44	0.73	+0.16	0.58	1.5	3	17	6	8	s.	E. T. Carley.
Amidon	Slope	......	9	24.7	......	54	22	-9	1	29	0.10	......	0.10	......	1	11	11	9	w.	Charles Eastgate.
Arnegard	McKenzie	......	8	25.6	......	51	31	-15	1	32	0.80	......	0.60	8.0	2	16	7	8	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	27.2	+5.2	48	13†	-15	1	31	0.90	-0.29	0.40	6.0	3	15	4	12	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	23.2	-3.3	53	22	-6	1	37	0.04	-0.74	0.04	0.4	1	17	8	6	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	26.6^{c}	+1.9	52	22†	-30^{c}	1	52^{c}	0.19	-0.65	0.12	2.2	3	13	9	9	s.	C. L. Hall.
Bismarck	Burleigh	1,674	48	27.3	+3.1	55	22	-18	1	35	0.70	-0.34	0.37	6.8	5	13	3	15	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	24.0	+6.3	46	16	-20	1	42	0.53	-0.27	0.20	......	5	16	11	4	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	22.6	+3.8	42	30†	4	1	38	1.00	+0.47	......	......	4	15	0	16	......	G. H. Phelps.
Bowman	Bowman	2,961	9	25.0	......	50	22	15	1	39	0.16	......	0.12	0.3	3	16	10	5	se.	R. Love, Jr.
Cando	Towner	1,488	22	26.4^{b}	+5.9	50^{b}	13	-14^{b}	28	37^{b}	1.42	+0.79	0.79	......	6	......	......	......	sw.	A. J. Swanson.
Carson	Grant	2,500	11	25.4	+0.9	52	22	16	1	34	0.77	+0.11	0.50	7.8	4	7	17	7	se.	J. W. Evens.
Cooperstown	Griggs	1,428	17	......	......	......	......	......	......	......	0.80	+0.26	0.50	8.0	3	15	9	7	nw.	S. Friswold.
Crosby	Divide	1,954	16	23.9	+1.9	43	13†	-15	1	35	0.63	-0.03	0.50	6.4	4	7	12	12	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	25.6	+7.1	49	13	9	1	31	0.62	-0.39	0.38	5.3	7	6	10	15	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	24.8	+0.4	52	23	15	1	42	0.37	-0.47	0.10	3.7	5	8	11	12	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	26.6	+4.2	49	31	-18	28	44	0.39	-0.38	0.15	1.0	4	3	17	11	se.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	27.0	+2.9	52	22	-4	28	40	0.05	-1.06	0.05	0.5	1	14	6	11	se.	W. H. Moede.
Dunseith	Rolette	1,682	27	23.8	+5.0	48	12†	13	1	40	0.69	-0.08	0.30	7.0	6	10	15	6	n.	J. G. Lamont.
Eckman	Bottineau	......	18	25.8^{b}	+3.7	50^{b}	13	18^{b}	28	40^{b}	0.70	+0.20	0.50	7.0	3	12	9	10	e.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	28.3	+1.8	49	13	9	1	30	0.55	-0.25	0.25	5.5	3	9	7	15	se.	O. A. Thompson.
Ellendale	Dickey	1,449	24	27.8	+2.2	52	13	-17	1	33	0.87	-0.33	0.40	5.6	6	8	5	18	se.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	11	29.2^{j}	......	56^{j}	22	-8	28	33^{j}	0.30	-0.37	0.20	3.0	2	12	11	8	se.	H. S. Solenberger.
Epping	Williams	2,224	15	24.6	......	48	11†	20	1	34	0.34	-0.22	0.28	3.5	2	17	3	11	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	25.1^{b}	+3.7	50^{b}	13	14^{b}	1	33	0.74	+0.02	0.24	4.3	6	......	......	......	nw.	T. D. Monsen.
Forman	Sargent	1,249	29	......	......	......	......	......	......	......	1.14	+0.24	0.50	9.2	5	12	7	12	sw.	O. Enger.
Foxholm	Ward	......	2	25.2	......	46	13	-8	28	26	0.80	......	0.68	8.8	4	9	10	12	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	......	......	......	......	......	......	......	0.25	......	0.12	3.0	3	15	11	5	nw.	Verne King.
Fullerton	Dickey	1,439	25	28.4	+3.2	50	13	-13	1	32	1.90	+0.68	0.60	12.2	5	8	7	16	s.	F. O. Alin.
Garrison	McLean	1,901	28	27.1	+5.4	54	20	17	1	35	0.43	-0.61	0.22	3.0	4	14	7	10	nw.	G. L. Robinson.
Grafton	Walsh	827	31	27.5	+8.3	54	13	-11	28	38	0.90	+0.21	0.35	6.7	4	11	3	14	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	32	26.6	+4.2	53	13	-14	1	39	1.06	+0.35	0.53	7.6	6	11	4	13	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. A. Christianson.
Hannah	Cavalier	1,568	29	......	......	......	......	......	......	......	1.00	+0.34	0.40	10.0	4	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	15	27.2^{c}	+5.9	50^{c}	13	15	28	40^{c}	1.85	+1.19	......	18.5	4	10	9	12	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	26.0	-1.6	60	22	-15	1	38	0.90	+0.14	0.60	9.0	2	15	7	9	nw.	U. J. Downey.
Hillsboro	Traill	901	17	26.7	+2.0	52	13	-18	1	38	0.50	-0.24	0.40	1.0	3	10	12	9	n.	F. E. Mayall.
Howard‡‡	Williams	2,275	16	19.0	-1.8	45	31	14	28	37	1.70	+0.56	1.20	17.0	4	14	8	9	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	28.6	+6.0	55^{a}	13	-9	1	40^{a}	0.95	-0.05	0.40	9.5	4	13	5	13	se.	S. Calvelage.
Lamoine	Kidder	1,936	18	24.2	+1.2	45	14†	18	1	30	0.50	-0.27	0.20	5.0	3	14	1	16	sw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	24.9	+5.9	50	12	-12	1	49	2.05	+1.21	0.60	20.5	7	11	7	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	26.6	+5.6	52	13	10	28	35	0.90	+0.21	0.30	9.0	5	12	3	16	n.	Reuben Gray.
Linton	Emmons	1,711	5	29.4	......	54	22	8	1	31	0.20	......	0.11	......	5	15	4	12	nw.	William Malpass.
Lisbon	Ransom	1,091	19	27.8	+1.2	52	13	-16	1	42	0.80	+0.24	0.40	4.0	3	14	1	16	se.	W. S. Adams.
McClusky	Sheridan	1,943	5	......	......	......	......	......	......	......	0.45	......	0.30	4.5	3	......	......	......	......	Edw. Tapley.
McHenry	Foster	1,509	12	25.3	+1.7	48	13	-14	1	35	1.10	+0.51	0.40	11.0	4	13	3	15	sw.	F. D. Cannon.
McKinney‡‡	Renville	1,640	29	25.9	+6.7	48	13	-21	28	41	1.49	+0.67	0.60	12.5	7	11	11	9	sw.	N. P. Swenson.
McLeod	Ransom	1,075	11	28.2	+2.3	53	13	-14	1	30	0.61	-0.02	0.28	4.0	6	14	4	13	se.	J. G. Carlson.
Maddock	Benson	1,604	8	26.2	......	48	13	-11	1	33	0.45	......	0.25	......	3	10	7	14	sw.	A. T. Felland.
Mandan	Morton	1,644	9	26.1	......	55	23	-17	1	42	0.52	......	0.15	9.8	7	11	5	15	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	26.0	+2.9	49	13	-16	1	36	0.38	-0.40	0.12	3.5	6	12	5	14	sw.	P. B. Anderson.
Marmarth	Slope	2,714	14	20.9^{p}	-5.1	56^{p}	23	18^{p}	1	35	0.49	+0.04	0.24	4.0	5	......	......	......	......	S. P. Grane.
Mayville	Traill	975	27	26.8	+3.6	51	13	-12	1	36	0.65	-0.06	0.30	4.0	3	14	2	15	ne.	M. G. Soteren.
Medora	Billings	2,270	23	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	T. A. Davis.
Melville	Foster	1,590	25	26.5	+4.2	48	14	-10	1	27	0.80	+0.12	0.40	8.0	4	8	8	15	nw.	J. P. Kidder.
Minot	Ward	1,557	27	23.5	+2.1	48	13	-19	28	44	0.60	-0.17	0.30	6.0	4	12	6	13	ne.	W. I. Faris.
Minto	Walsh	820	30	28.5	+7.4	53	13	-13	28	37	0.93	+0.11	0.50	......	4	12	7	12	s.	C. M. Evans.
Mott	Hettinger	2,424	16	23.8	-2.8	56	22	-18	1	37	0.62	-0.42	0.34	6.5	3	10	4	17	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	23.4	+2.1	46	13†	22	1	45	0.10	-0.83	0.10	1.0	1	15	2	14	sw.	C. J. Hoof.
New England	Hettinger	2,400	29	24.0	-0.4	55	22	24	1	46	0.47	-0.40	0.25	4.8	3	......	......	......	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	25.4	+0.9	47	13	-18	1	28	0.69	-0.27	0.23	6.8	6	11	9	11	se.	J. Christiansen.
Park River	Walsh	998	19	27.3	+5.2	52	13	-10	28	34	0.62	+0.07	0.25	9.3	4	10	6	15	nw.	C. B. Wright.
Parshall	Mountrail	......	8	......	......	......	......	......	......	......	0.20	......	0.20	2.0	1	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	49	26.2	+10.2	53	13	-5	28	35	1.60	+0.70	0.70	16.0	3	13	2	16	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	24.4^{a}	+0.6	48^{a}	22	10^{a}	28	33^{a}	0.23	-0.31	0.10	2.3	3	......	......	......	ne.	S. C. Shanks.
Power	Richland	1,020	29	......	......	......	......	......	......	......	0.91	+0.21	0.36	5.0	4	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	9	......	......	......	......	......	......	......	0.45	-0.43	0.20	4.5	3	6	9	16	w.	C. Frank.
Skaar	McKenzie	......	3	25.1^{a}	......	52^{a}	31	-30^{a}	1	45^{a}	0.40	......	0.35	3.5	2	......	......	......	se.	Conrad Brunsvold.
Steele	Kidder	1,857	27	25.7	+3.6	47	11†	17	1	31	0.65	-0.28	0.30	6.5	3	11	9	11	se.	H. S. Wood.
Taylor	Stark	2,493	7	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. Leutz.
Towner	McHenry	1,482	21	26.6	+7.4	50	13	-14	27	47	0.30	-0.60	0.20	3.0	2	12	6	13	sw.	B. Bagley.
Turtle Lake	McLean	1,899	8	25.0	......	49	13	-14	1	29	0.46	......	0.22	2.2	3	12	10	9	sw.	A. T. Anderson.
Valley City	Barnes	1,245	18	26.0	-0.1	53	14	-14	1	36	1.26	+0.76	0.51	8.2	5	13	2	16	se.	C. F. Schroeder.
Wahpeton	Richland	962	29	29.1	+3.2	52	13	19	1	38	0.54	-0.37	0.45	3.0	3	10	8	13	se.	State School of Science.
Walhalla	Pembina	966	19	27.8	+7.9	53	13	-14	28	38	1.24	+0.57	0.45	12.4	5	12	4	15	n.	Ivan Lee.
Westhope	Bottineau	1,508	17	22.3	+1.4	48	13	-17	28	42	0.51	+0.02	0.35	4.5	4	13	12	6	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	25.5	+3.9	51	31	-17	1	32	0.58	-0.10	0.44	8.2	5	5	11	15	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	24.2	+5.9	50	13	-20	1	42	1.10	+0.37	0.30	9.0	5	8	10	13	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	27.4	+6.0	53	13	-16	1	33	1.30	+0.16	0.60	6.0	10	6	5	20	s.	U. S. Weather Bureau.
Averages	......	......	......	25.8	+3.2	60	22	-30	1	52	0.72	-0.11	1.20	6.4	4	12	7	12	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for March, 1922.

Stations.	Drainage Basin.	Day of Month.																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
menia ‖	Red																								T.	.58		.05			.10		0.73
midon	Lit Missouri							T																	.10								0.10
negard	Missouri						T																		.20	.60							0.80
shley	Missouri																		.30									.40		.20			0.90
each	Lit. Missouri						T	T																T.	T.			T.	.04				0.04
erthold Agency	Missouri							T.										T.			.02				.12	.05							0.19
ismarck ***	Missouri						T.	T	T.									T.	T.		.03	T		.06	.22	T	T	.37		.02			0.70
ottineau	Mouse																		.20		.07				.07	.16	.03						0.53
owbells ‖	Mouse																										*	*	*	1.00			1.00
owman	Grand																							.03	.12			.01					0.16
ando	Devils Lake																	.20	.19	.03	.05	T.				.79	.16			T			1.42
arson	Heart																							.02	.20			.50		.05			0.77
ooperstown	Sheyenne						T											.50			T.				.20			.10		T.			0.80
rosby	Mouse						.01														.02				.50		.10						0.63
evils Lake ***	Devils Lake								T.								T.	.12	.04	T.	.01	T.			.36	.02	.06	.01		T.	T.		0.62
ickinson ‖	Heart								.02									T			T.				.10	.10		.10	.05				0.37
onnybrook	Mouse																				.10	.02		.15	.12		T.	T.	T.	T.			0.39
unn Center ‖	Knife																						T.		.05								0.05
unseith	Mouse																		.10		.11				*	.30	.10				.05		0.69
ckman	Mouse																				.10					.50	.10			T.			0.70
dgeley	James																		.25		.10							.20		T.			0.55
llendale***	James						T											.25	.15		.07				.07	T.		.18		.15	T		0.87
nergy	Missouri						T.											T.			T.				.20	.10		T.		T.			0.30
pping	Missouri						T.														T.				.28		.06						0.34
essenden	James						T.		.04									T.	T.			.10			.22	.24	T.	.13		.01	T.		0.74
orman	Sheyenne																		.30							.22			.02	.10	.50		1.14
oxholm	Mouse						T		T.									T.	T.		.07				.68	.03	.02			T.	T.		0.80
ryburg	Heart																				T.			.05	.08	T		.12					0.25
ullerton	James																		.60		.33				.35			.38		.24			1.90
arrison	Missouri						T.	T.	T.										.06	T.					.22	.07				T.	.08		0.43
rafton	Red																		.35					.23		.19		.13					0.90
rand Forks ***	Red					T.	T.		T.										.20	T.	T.	.01			.53	T.	.08	.23			.01	T.	1.06
ranville	Mouse																																
annah	Pembina											.30												.20	.40	.10				T.			1.00
ansboro	Devils Lake																	T.	.30						.35	*	*	1.20					1.85
ettinger	Grand																								.30			.60					0.90
illsboro	Red																T.			T.	T.				.40		.05	.05			T.		0.50
oward	Missouri						.10	T.										T.	T.		T.				1.20	.20	.20						1.70
amestown	James																		.30		T.				T.			.40		*	.25		0.95
amoine	Missouri						.10											T.	T.		T.				.20		.20						0.50
angdon	Pembina																	.35		.10					.10	.60	.30	.40			.20		2.05
arimore	Red																		.30						.30	.05	.05	.20					0.90
inton	Missouri						.01	T.	T.									T.	.01		.01					.06		.11		T.			0.20
isbon ‖	Sheyenne																	T.	.40						.10			T.	.30				0.80
cClusky	Missouri																		.10						.30					.05			0.45
cHenry	James																T.	T	.20		.10				.40			.40		T.			1.10
cKinney	Mouse						.05		.05									.15		.05					.30	.60	.20			T.			1.40
cLeod	Sheyenne								T.								T.		.28		*	.06			.03	.14			.04		.06		0.61
addock	Sheyenne																		.10						.25	.10							0.45
andan ‖	Missouri						T.	T.	.01	T.									T.		.08				.08	.15		.08	.08	T.	.04		0.52
anfred	James						T.		.05										.01	.05	T.			.12	.10		.05		T.	T.			0.38
armarth	Lit. Missouri						.03	.01	T.																.24	.05		.16					0.49
ayville	Red																		.25						.10			.30					0.65
edora	Lit. Missouri																																
elville	James																		T.		.10				.10	.20		.40		T.			0.80
inot	Mouse																				.15				.30		.10			.05			0.60
into	Red																		.50		T.				.10		.03	.30			T.		0.93
ott	Cannon Ball																							T.	.16			.34		.12			0.62
apoleon ‖	Missouri																				.10												0.10
ew England	Cannon Ball																							.02	.25			.20					0.47
ew Salem	Heart						T											.02			.03				.09	.14		.23		.18			0.69
ark River	Red																		.25						.17	.15	T.	.05					0.62
arshall	Missouri						T.																		.20								0.20
embina ‖	Red																		.50							.70		.40					1.60
ettibone	James																	T.	T.		.10				T.	T.		.08		.05			0.23
ower	Sheyenne																	.30							.36			.20			.05		0.91
owers Lake	Missouri																T.				T.	T.			.20	.15	.10						0.45
kaar	Yellowstone						.05										T.	T.							.35								0.40
eele	Missouri						T.	T	T.											T.	.20				T.	.30		.15		T.	T.		0.65
aylor	Heart																																
owner	Mouse																	T.							.10		.20				T.		0.30
urtle Lake	Missouri						T.	T.									T.	T.	T.		.04			T.	.20					.22			0.46
alley City	Sheyenne								T.								.02		.30	T.	T.				.03	.51		.40	T.	T.	T.	T.	1.26
ahpeton	Red						T.										T.		.45							.04		T.	T.	T.	.05		0.54
alhalla	Pembina																	T	.22						.45	.18	.27	.12					1.24
esthope	Mouse																	.06			.05				.35		.05						0.51
illiston ***	Missouri						.01	.01	T.								T.	T.	T.		T.			.09	.44		.03			T.			0.58
illow City	Mouse								T.									T.	.20		.20				.20	.30	.20	T.		T.	T.		1.10
oorhead, Minn ***	Red						T.		.01								.12	.10	.31	T.	T.	T.			.50	.10		.10	.02	.03	.01		1.30

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of servation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the -hour period, midnight to midnight * Precipitation included in the next following measurement T. Trace, or less than 0.01 inch

Daily Temperatures for March, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	20	36	33	30	26	40	38	40	43	42	50	45	54	53	49	45	42	40	30	44	38	42	37	38	40	32	28	34	38	40	40	38.9
	Minimum ...	-17	-2	0	12	0	-4	6	20	11	23	25	27	28	29	25	21	24	22	22	23	22	20	27	26	22	18	10	4	10	22	29	16.3
Arnegard	Maximum...	12	28	41	39	36	27	29	31	38	39	38	38	40	41	43	34	40	36	39	33	42	46	33	30	25	11	30	24	31	42	51	34.4
	Minimum ...	-15	7	15	18	20	3	6	14	17	13	27	26	28	27	24	26	32	28	22	25	22	29	22	25	7	1	-1	-8	10	27	21	16.7
Ashley	Maximum...	10	32	39	32	32	29	27	29	34	42	35	41	48	42	40	48	48	40	31	31	30	47	39	32	32	35	32	24	29	37	42	35.1
	Minimum ...	-15	1	9	18	16	18	17	16	9	27	28	30	28	24	25	30	30	30	22	20	20	26	26	26	18	24	9	-4	18	26	28	19.4
Beach	Maximum...	16	30	39	36	32	20	30	26	35	35	36	35	40	40	37	34	36	34	41	36	43	53	31	30	27	26	20	25	32	44	48	33.8
	Minimum ...	-6	4	17	14	7	4	-5	-1	0	-2	8	14	22	20	15	22	30	24	15	24	16	30	25	11	16	13	-2	-1	10	22	26	12.6
Berthold Agency	Maximum...	22	32	42	41	35	31	33	....	42	41	42	44	....	46	45	39	40	40	37	34	41	52	38	32	29	24	16	20	32	46	52	[b]36.8
	Minimum ...	-30	7	-1	14	23	12	13	13	....	16	28	23	....	25	26	26	31	29	24	22	22	25	22	25	15	8	5	-3	14	26	18	[b]16.5
Bismarck	Maximum...	17	33	38	40	33	29	25	32	41	40	42	45	50	45	43	37	42	36	30	33	36	55	34	34	28	42	14	20	30	34	43	35.5
	Minimum ...	-18	6	10	15	15	19	16	18	15	18	29	29	32	29	29	30	33	30	24	24	22	29	25	26	16	12	2	-6	14	28	22	19.1
Bottineau	Maximum...	22	29	38	38	41	30	27	31	38	40	41	44	45	45	40	46	30	31	26	28	25	36	34	32	25	23	12	22	25	30	35	32.5
	Minimum ...	-20	5	10	22	27	22	6	18	19	20	29	24	29	21	22	18	28	26	19	19	14	22	17	21	11	6	-2	15	5	22	20	15.6
Bowbells §§	Maximum...	34	39	35	38	32	26	30	33	30	33	26	31	34	30	35	29	31	25	26	30	40	41	32	36	30	32	36	40	41	42	42	33.5
	Minimum ...	-4	7	16	14	16	12	8	10	8	11	10	9	10	11	10	12	8	13	5	10	15	15	13	10	12	11	14	16	19	20	23	11.7
Bowman	Maximum...	20	30	42	35	30	23	36	32	36	36	40	38	40	44	41	35	40	35	43	36	46	50	39	30	24	40	20	14	30	40	41	35.0
	Minimum ...	-15	8	9	11	11	8	-3	11	9	14	24	16	20	14	21	28	33	25	14	27	22	28	24	22	12	18	2	-7	11	18	26	14.9
Cando	Maximum...	23	36	39	41	38	30	29	....	....	46	44	47	50	48	40	33	33	33	28	27	27	45	40	33	26	24	13	23	31	35	39	[b]34.5
	Minimum ...	-11	7	17	27	27	20	10	....	....	20	29	31	32	26	24	18	29	27	25	19	19	24	22	22	15	4	0	-14	7	24	31	[b]18.3
Carson	Maximum...	18	32	36	42	28	28	25	29	35	35	36	40	40	41	40	38	40	36	40	34	40	52	35	32	32	38	25	15	28	35	38	34.3
	Minimum ...	-16	4	15	16	19	10	10	13	10	20	25	25	25	23	25	28	30	28	22	21	21	22	25	25	10	10	2	-11	10	25	15	16.4
Crosby	Maximum...	12	27	34	35	34	32	30	28	38	40	35	38	43	42	37	35	38	37	35	30	39	37	32	29	23	22	9	15	32	35	43	32.1
	Minimum ...	-15	4	10	18	25	12	14	14	17	18	20	24	29	28	24	24	28	25	23	24	20	29	16	19	11	5	-9	-9	-3	26	16	15.7
Devils Lake	Maximum...	22	34	39	39	30	28	27	36	42	42	43	47	49	40	33	32	34	33	26	27	27	45	34	28	27	18	11	21	30	33	36	32.7
	Minimum ...	-9	9	17	25	25	18	11	20	20	25	29	32	32	27	23	18	29	23	19	19	19	24	23	22	14	6	-2	-6	11	23	31	18.6
Dickinson §§	Maximum...	14	32	38	39	32	22	32	33	40	42	43	41	45	44	43	37	38	34	40	33	44	52	34	31	32	35	17	22	32	40	....	[a]34.2
	Minimum ...	-15	-10	18	12	14	10	10	10	11	13	16	22	24	23	24	28	30	29	23	25	23	24	25	25	13	14	5	-7	0	19	24	15.5
Donnybrook	Maximum...	18	35	34	32	30	34	34	35	42	47	42	45	47	48	44	33	37	36	29	31	35	42	38	30	31	22	16	32	33	42	49	35.6
	Minimum ...	-5	13	27	15	15	15	12	15	22	18	28	30	37	32	22	22	28	28	22	22	20	25	28	10	22	4	-6	-18	-1	28	15	17.6
Dunn Center	Maximum...	17	30	41	42	36	24	30	33	41	38	39	39	44	43	42	36	39	39	38	36	42	52	41	32	30	22	17	22	31	45	51	35.9
	Minimum ...	-23	9	16	13	21	16	12	12	14	14	26	21	26	25	26	27	30	29	23	26	25	36	24	25	21	7	4	4	12	25	23	18.1
Dunseith	Maximum...	23	42	38	40	36	28	27	37	45	45	43	48	48	45	40	32	32	32	27	24	26	43	35	32	23	23	12	20	27	32	38	33.6
	Minimum ...	-13	2	8	22	23	19	3	15	17	21	27	26	25	22	19	15	26	24	12	11	15	19	17	17	10	2	-3	-12	4	20	23	14.1
Edgeley	Maximum...	21	33	42	39	36	31	33	31	38	43	44	42	49	47	42	39	40	35	33	31	34	42	46	32	34	42	37	21	29	36	40	36.8
	Minimum ...	-9	5	11	20	20	22	12	19	13	13	37	31	29	26	23	30	30	29	21	21	20	29	28	27	18	16	8	-5	15	25	30	19.8
Ellendale	Maximum...	16	34	34	38	32	29	29	31	38	41	38	45	52	45	45	40	44	34	29	29	30	46	33	35	34	45	21	23	30	35	39	35.3
	Minimum ...	-17	3	7	18	19	23	14	16	10	22	25	29	28	28	27	32	32	29	23	23	24	27	29	29	23	20	8	0	21	28	32	20.4
Fessenden	Maximum...	19	35	38	40	31	26	26	34	44	40	43	40	50	48	36	31	37	32	30	....	....	48	34	30	28	31	10	21	29	33	42	[b]34.0
	Minimum ...	-14	3	14	21	21	20	8	16	15	20	26	20	28	27	25	27	28	20	19	....	....	17	22	22	13	4	2	-11	7	22	28	[b]16.2
Fullerton	Maximum...	18	32	35	36	32	32	32	31	38	40	40	44	50	44	43	37	42	35	33	29	33	43	36	34	35	43	38	22	30	37	41	36.0
	Minimum ...	-13	0	7	19	20	23	22	19	10	22	24	33	28	28	28	32	32	30	22	33	22	25	28	28	22	20	9	1	18	27	31	20.9
Garrison	Maximum...	18	33	38	40	34	31	32	35	42	41	40	44	47	48	42	35	38	37	31	54	43	50	43	35	27	23	12	20	31	36	47	36.4
	Minimum ...	-17	9	10	19	24	15	16	16	16	19	27	27	29	28	27	24	29	29	21	26	23	27	20	24	12	6	2	-7	10	24	16	17.8
Grafton	Maximum...	25	41	43	45	40	34	37	40	45	47	43	51	54	52	41	41	40	37	29	31	29	37	35	35	29	24	10	20	33	33	40	36.9
	Minimum ...	6	9	17	25	26	20	10	21	22	23	27	32	27	27	23	27	28	26	22	21	16	25	25	23	-9	5	4	-11	4	23	30	18.1
Grand Forks	Maximum...	25	37	39	41	32	28	33	36	41	32	42	45	53	46	35	37	38	33	29	29	30	38	36	30	32	20	16	21	32	31	40	34.5
	Minimum ...	-14	4	14	18	19	18	10	24	22	27	29	32	33	28	24	22	29	25	23	22	19	26	27	25	14	11	-4	-10	7	23	30	18.6
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hansboro	Maximum...	26	44	38	40	33	33	32	36	44	40	44	42	50	43	38	35	43	38	30	24	40	40	38	33	....	....	....	25	30	35	38	[c]36.9
	Minimum ...	-6	4	18	27	20	18	16	18	20	20	28	28	30	27	18	12	25	24	18	18	20	20	18	20	....	....	....	-15	-4	20	26	[c]17.4
Hettinger	Maximum...	16	30	38	41	30	25	26	29	37	36	40	40	44	45	42	39	40	42	37	38	46	60	49	32	31	42	26	18	32	38	42	36.5
	Minimum ...	-15	5	6	7	10	10	8	12	12	6	22	21	21	18	21	28	33	24	29	26	22	22	26	24	15	18	3	-14	12	25	20	15.4
Hillsboro	Maximum...	20	33	34	40	36	30	31	32	40	39	42	43	52	49	43	34	36	35	33	28	27	37	37	33	29	33	19	20	30	34	37	34.4
	Minimum ...	-18	-1	9	15	22	20	12	21	24	25	32	31	30	30	27	24	27	26	22	22	19	25	23	26	24	15	9	6	5	21	29	19.0
Howard	Maximum...	10	21	34	34	38	25	26	25	38	38	35	34	37	36	36	28	35	36	36	32	40	40	39	28	20	10	22	13	28	31	45	30.8
	Minimum ...	-10	0	2	20	20	5	-7	2	18	10	5	5	0	12	16	17	28	24	17	11	2	19	18	0	4	-4	5	-14	-10	10	8	7.2
Jamestown	Maximum...	20	32	42	39	43	43	35	35	44	54	46	....	55	49	39	36	38	35	32	29	30	43	38	32	34	40	20	20	29	35	39	[a]36.9
	Minimum ...	-9	-8	12	21	22	24	26	20	12	38	27	34	28	28	37	29	31	29	21	22	18	25	26	19	17	15	9	1	10	21	30	20.2
Lamoine	Maximum...	12	29	28	38	30	27	32	28	38	38	38	42	43	45	39	34	36	35	38	28	27	45	34	30	29	20	10	18	26	34	39	31.9
	Minimum ...	-18	-1	8	14	13	20	20	14	9	13	28	28	26	28	24	26	29	28	20	21	17	23	22	20	13	3	3	-8	12	23	29	16.4
Langdon	Maximum...	24	37	37	39	26	27	30	39	40	47	46	50	49	46	35	35	22	29	26	29	36	33	32	25	23	16	11	23	29	32	40	35.7
	Minimum ...	-12	-6	10	24	25	15	16	10	20	22	24	31	31	25	11	15	25	18	18	14	18	21	18	19	15	3	-1	-5	-5	12	[illegible]	14.1
Larimore	Maximum...	25	36	39	42	30	28	36	37	44	45	44	47	52	46	37	34	36	35	31	28	30	36	37	33	29	25	10	25	30	32	38	34.7
	Minimum ...	0	11	14	22	19	20	10	21	21	25	25	31	31	29	26	20	20	25	24	22	17	24	25	23	19	7	0	-10	5	19	27	18.5
Linton	Maximum...	18	32	37	40	33	32	26	30	40	41	41	44	50	45	44	41	43	40	34	34	34	54	52	54	41	43	32	23	31	37	43	38.4
	Minimum ...	-8	12	10	10	20	20	15	20	9	15	30	29	30	28	28	32	32	32	25	24	22	30	28	28	17	19	10	-6	19	28	24	20.4
Lisbon §§	Maximum...	26	32	38	41	34	29	36	35	39	45	46	48	52	46	42	39	39	39	32	36	35	45	36	36	32	43	18	25	28	27	39	36.7
	Minimum ...	-16	3	6	16	21	25	15	18	16	23	17	28	26	28	28	22	29	30	26	23	28	25	30	28	26	18	15	0	7	12	16	19.0
McKinney	Maximum...	25	34	41	39	34	30	31	35	42	44	44	45	48	41	39	31	35	35	30	28	31	38	32	30	22	20	15	20	30	49	41	33.9
	Minimum ...	-5	12	20	19	20	20	11	15	15	20	30	28	29	24	25	22	30	29	25	21	15	19	15	22	19	5	-10	-21	15	25	17	17.1
Maddock	Maximum...	22	36	37	40	34	30	29	25	41	42	43	46	48	46	38	32	35	39	31	27	27	46	39	34	26	22	15	21	30	39	39	34.2
	Minimum ...	-11	7	14	26	21	21	7	18	18	28	27	30	31	27	26	20	29	28	19	20	17	24	21	22	13	7	2	-8	9	23	29	18.2
Marmarth	Maximum...	16	32	38	37	29	21	28	26	33	35	34	38	38	38	....	....	....	....	....	....	....	....	56	....	....	....	....	....	....	....	....	[p]33.3
	Minimum ...	-18	2	6	8	7	9	-7	10	7	10	31	15	20	13	....	....	....	....	....	....	....	....	....	....	12	....	....	....	....	....	....	[p]8.5
Melville	Maximum...	12	34	38	38	35	30	28	32	38	42	42	45	47	48	46	35	33	33	31	30	28	36	36	37	28	30	14	15	28	31	31	33.3
	Minimum ...	-10	7	17	23	20	20	11	20	17	27	27	30	30	30	28	23	30	28	20	28	26	24	24	24	15	10	8	-7	6	24	30	19.7
Minot	Maximum...	22	36	42	43	33	23	30	37	42	46	44	47	48	43	38	33	38	37	30	27	33	45	34	32	27	13	13	25	32	38	47	34.8
	Minimum ...	-12	8	15	19	20	11	3	13	16	16	23	21	27	18	15	13	24	22	13	18	10	21	14	16	13	-2	-7	-19	0	19	10	12.2
Mott	Maximum...	19	31	39	37	30	19	24	28	37	40	35	39	43	44	39	45	39	28	41	32	37	56	37	32	26	35	21	15	28	37	35	33.8
	Minimum ...	-18	0	6	12	11	5	4	6	8	11	6	15	21	26	27	32	28	24	22	23	25	23	23	20	5	16	2	-12	11	21	23	13.7
Napoleon §§	Maximum...	13	30	37	40	32	25	24	28	36	42	41	42	46	45	46	36	40	34	28	30	32	46	32	32	26	44	11	21	28	34	43	33.7
	Minimum ...	-22	-15	13	7	10	20	5	6	10	10	19	26	27	24	26	24	28	28	20	20	11	16	24	24	12	11	9	-11	-9	15	18	13.1
New Salem	Maximum...	2	28	32	41	30	21	24	29	34	37	42	46	47	42	41	36	33	42	31	37	37	44	44	30	30	38	28	15	29	34	40	33.7
	Minimum ...	-18	12	12	21	16	12	12	11	20	14	25	21	26	24	24	22	30	30	24	20	21	20	23	24	12	10	4	6	20	24	20	17.1
Pembina §§	Maximum...	30	32	42	35	25	40	45	45	48	50	45	50	53	45	29	30	40	30	29	30	35	38	33	30	25	21	22	30	35	35	45	36.2
	Minimum ...	6	6	10	20	18	8	18	15	20	25	20	28	30	27	25	20	15	15	22	19	14	15	24	20	21	8	5	5	5	5	24	16.2
Steele	Maximum...	10	26	36	36	38	33	32	30	37	40	47	45	47	40	43	47	41	40	31	34	34	36	34	40	30	41	15	23	31	31	41	35.1
	Minimum ...	17	0	9	10	16	16	9	9	7	16	16	29	27	16	29	30	30	31	23	25	22	27	22	19	13	15	4	-8	15	23	21	16.3
Towner	Maximum...	25	34	40	37	33	32	29	38	43	44	43	49	50	45	41	38	36	35	30	27	36	44	35	25	25	20	23	20	25	33	43	34.9
	Minimum ...	1	6	13	25	25	23	10	20	21	20	30	28	31	23	25	21	23	29	23	22	20	24	20	18	14	4	-14	0	10	25	23	18.2
Valley City	Maximum...	18	33	35	40	31	28	35	33	41	46	44	46	51	53	43	35	32	35	26	30	35	43	35	30	37	25	13	28	35	32	34	34.9
	Minimum ...	-14	3	18	20	21	20	8	19	14	20	24	20	28	26	24	24	28	24	18	17	16	19	20	20	18	13	5	-8	20	19	22	17.0
Wahpeton	Maximum...	19	29	39	38	40	36	32	33	40	40	41	46	52	51	45	44	38	35	32	31	32	47	47	37	39	41	40	26	33	34	41	38.0
	Minimum ...	-19	5	6	18	12	23	10	19	19	20	24	25	31	29	28	31	32	31	20	26	24	28	30	31	27	26	17	8	21	26	30	20.9
Walhalla	Maximum...	27	42	44	47	41	30	35	41	45	49	45	51	53	50	43	36	38	37	28	27	28	42	41	34	27	25	12	23	30	35	45	37.1
	Minimum ...	1	17	26	31	27	18	10	22	25	21	29	32	35	28	19	12	27	26	19	20	15	24	23	21	9	5	2	14	8	24	30	18.4
Westhope	Maximum...	10	12	14	14	15	20	26	28	30	38	38	40	48	45	38	35	34	34	34	28	39	38	31	30	24	26	23	25	30	36	43	29.9
	Minimum ...	-10	10	9	10	8	15	15	16	20	20	26	20	30	25	24	20	30	28	24	20	12	22	22	22	10	-3	-11	17	0	23	16	14.7
Williston	Maximum...	15	32	37	39	35	24	29	32	41	43	39	40	42	46	42	36	40	35	40	34	43	43	32	28	24	14	14	20	32	40	51	34.3
	Minimum ...	-17	3	12	16	21	8	5	16	19	20	30	24	29	25	30	28	32	28	23	23	23	28	23	16	5	-1	-1	7	15	23	19	16.7
Moorhead, Minn	Maximum...	16	32	38	40	32	30	30	33	37	36	40	41	53	45	42	34	36	32	28	29	29	42	36	35	35	37	24	19	32	34	39	34.4
	Minimum ...	-16	4	5	16	20	20	12	17	17	22	24	32	30	33	29	27	28	26	24	24	22	27	28	30	25	22	11	0	17	25	31	20.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

51.05
NNT

UNIVERSITY OF ...
JUN 29 1922

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

ol. XXXI. BISMARCK, N. D., APRIL, 1922. No. 4

GENERAL SUMMARY.

Mild and dry weather prevailed at the opening of the month, condition which obtained during the greater part of the first lecade. Light showers, however, were quite general on the 6th nd 9th. The second decade was showery, but not sufficiently o to interfere to any great extent with spring seeding, which nade excellent progress, especially in the central and western ortions. Owing to weakened condition of livestock much yard eeding was required until the end of the second decade. Pasures and ranges improved rapidly during the last decade, alowing ample feed for livestock at the close of the month. Plowng for corn generally made good progress, but was delayed omewhat during the latter part of the second decade and the arly part of the third decade by frozen ground. The last decde was dry, with mild temperature. Highways were generally poor condition until about the middle of the month, when ragging became general, and at the close of the month all ain trails were in good condition.

TEMPERATURE.

The mean temperature for the State was 42.3°, or 0.6° above e normal, and 1.2° higher than the mean for April, 1921. he highest mean reported was 47.0° at Medora, Billings ounty; the lowest was 39.0° at Minot, Ward County. The ighest temperature reported was 89° at Mandan, Morton ounty, on the 23d; the lowest was −2° at Donnybrook and ansboro on the 18th, and at Bowbells on the 19th. The greatt monthly range was 82° at Donnybrook, Ward County; the ast was 50° at Wahpeton, Richland County. The greatest aily range was 51° at Donnybrook, Ward County, on the 18th.

PRECIPITATION.

The average precipitation for the State was 0.92 inch, or 46 inch below the normal, and 0.89 inch less than the avage for April, 1921. The greatest monthly amount rerted was 3.15 inches at Wahpeton, Richland County; the ast was a trace at Pembina, Pembina County. The greatest nount recorded in any 24 consecutive hours was 1.15 inches at orman, Sargent County, on the 6th. The average snowfall as 2.3 inches. The average number of days with 0.01 inch or ore of precipitation was 6.

AURORAS.

Auroras were observed at Steele on the 4th; at Foxholm on e 10th; at Foxholm and Williston on the 14th; at Foxholm d McLeod on the 16th; at Foxholm and Steele on the 20th; Bismarck, Devils Lake, Dickinson, Ellendale, Fessenden, ansboro, McHenry, McLeod, Mandan, Steele, Towner, Willisn and Moorhead on the 21st; at Eckman, Ellendale and rand Forks on the 22d; at Grand Forks on the 23d; at Carn, Eckman and Foxholm on the 24th; at Moorhead on the th; at Steele on the 26th; at New England on the 27th; at midon on the 28th, and at Williston on the 29th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.03	30.46	27	29.44	8	57	7,113	9.9	55	se.	22
Devils Lake	30.02	30.43	28	29.53	8	44	7,558	10.5	36	n.	18
Ellendale	30.03	30.48	28	29.49	9	56	9,808	13.6	48	nw.	19
Grand Forks	29.98	30.44	26	29.59	9	90	....	......	48	sw.	18
Williston	29.98	30.43	25	29.37	8	48	6,096	8.5	40	nw.	18
Moorhead, Minn	30.03	30.48	28	29.54	9	58	6,104	8.5	28	sw.	23
Av'ges and extremes	30.01	30.48	28	29.37	8	....	....	10.2	55	se.	22

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	208.3	408.5	51	−7	86	54	51	24	26*
Devils Lake	223.7	410.5	54	−4	81	60	62	24	27*
Ellendale	245.7	407.2	60	......	88	59	....	26	29
Grand Forks	......	......	......	......	82	.....	62	.....	....
Williston	239.2	410.5	58	−1	82	55	52	20	21
Moorhead, Minn.	......	......	......	......	82	62	64	.....	....
Averages and extremes	229.2	409.2	56	−3	84	58	58	20	21

* And other dates.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922	42.3	+0.6	89	− 2	0.92	−0.46	6	10	9	11	se.

Climatological Data for April, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	42.6	+0.3	77	22	20	19	47	1.77	−0.11	0.71	2.0	8	7	17	6	n.	E. T. Carley.
Amidon	Slope	...	9	42.4	...	70	21†	11	19	45	0.95	...	0.25	...	8	9	10	11	e.	Charles Eastgate.
Arnegard	McKenzie	...	8	42.4	...	80	22	10	19	42	0.76	...	0.26	4.0	10	14	8	8	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	43.6	+1.1	74	23	17	19	33	0.72	−1.25	0.27	2.0	3	14	6	10	ne.	R. C. Miles.
Beach	Golden Valley	2,579	17	41.0	−1.5	76	22	10	19	42	0.35	−1.07	0.15	...	5	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	45.4	+1.7	80	22	13	19	46	0.66	−0.50	0.18	1.6	7	11	10	9	...	C. L. Hall.
Bismarck	Burleigh	1,674	48	44.8	+2.7	75	22	17	19	38	0.68	−1.20	0.54	0.3	6	9	9	12	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	41.4	+2.0	75	22	12	19	46	0.99	+0.12	0.39	...	6	14	11	5	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	39.8	+1.4	78	22	2	19	48	0.51	−0.75	0.22	...	4	17	1	12	...	G. H. Phelps.
Bowman	Bowman	2,961	9	41.5	...	75	22	12	19	45	0.64	...	0.14	...	8	13	7	10	se.	R. Love, Jr.
Cando	Towner	1,488	22	42.6^{a}	+2.0	74^{a}	22	18^{a}	19	40^{a}	1.37	+0.48	0.74	...	8	...	...	...	ne.	A. J. Swanson.
Carson	Grant	2,500	11	43.3	+1.3	70	21	10	19	44	0.20	−1.35	0.10	0.6	6	8	11	11	se.	J. W. Evens.
Cooperstown	Griggs	1,428	17	...	...	...	...	...	...	...	0.75	−0.30	0.75	0	1	16	10	4	nw.	S. Friswold.
Crosby	Divide	1,954	16	40.5	−0.1	72	22	10	19	37	1.22	+0.20	0.87	4.5	5	6	13	11	se.	John Jensen.
Devils Lake	Ramsey	1,478	26	41.8	+3.6	72	22	18	19	34	0.48	−1.55	0.14	0.6	7	11	6	13	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	42.0	−0.9	76	22	13	19	49	1.21	−0.02	0.31	...	9	12	4	14	s.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	43.8	+3.4	80	21†	−2	18	51	1.21	+0.16	0.62	3.5	4	2	19	9	e.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	41.7	−0.9	79	23	11	19	46	1.19	−0.14	0.48	T.	4	3	11	16	se.	W. H. Moede.
Dunseith	Rolette	1,682	27	40.6	+0.2	75	22	9	19	38	0.75	−0.08	0.21	2.0	7	15	12	3	se.	J. G. Lamont.
Eckman	Bottineau	...	18	42.2	+0.6	76	22	0	19	46	0.65	−0.50	0.30	4.0	4	14	6	10	s.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	43.4	+0.2	76	23	18	19	37	0.76	−1.12	0.28	...	4	6	11	13	sw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	43.6	0.0	76	23	21	19	34	1.63	−0.20	0.57	0.4	10	5	9	16	ne.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	11	44.0	...	78	22	15	19	43	0.10	−1.04	0.06	0.4	2	5	21	4	se.	H. S. Solenberger.
Epping	Williams	2,224	15	41.2	...	78	22	8	19	44	0.49	−0.66	0.40	4.0	5	13	9	8	e.	M. E. Uggen.
Fessenden	Wells	1,610	11	40.0	−0.2	72	22†	9	19	40	0.95	−0.59	0.25	2.0	9	9	9	12	se.	T. D. Monsen.
Forman	Sargent	1,249	29	...	...	...	...	...	...	...	2.20	+0.01	1.15	1.0	5	8	9	13	nw.	O. Enger.
Foxholm	Ward	1,657	2	41.3	...	75	22	7	19	33	1.10	...	0.37	8.7	9	5	14	11	ne.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	...	...	...	...	...	...	...	0.82	...	0.25	2.0	9	9	11	10	se.	Verne King.
Fullerton	Dickey	1,439	25	45.0	+2.2	78	23	20	19	37	1.84	−0.16	0.62	1.7	6	7	10	13	nw.	F. O. Alin.
Garrison	McLean	1,901	28	43.0	+0.4	76	22	5	19	42	1.01	−0.19	0.40	6.0	4	10	14	6	ne.	G. L. Robinson.
Grafton	Walsh	827	31	43.6	+3.3	77	23	16	18	45	0.58	−0.90	0.24	...	5	13	8	9	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	32	42.0	0.0	78	23	22	19	37	0.77	−1.16	0.47	0.8	4	13	6	11	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	42.2	−0.3	76	22	5	19	38	0.40	−0.56	0.25	0.6	5	5	8	17	e.	W. A. Christianson.
Hannah	Cavalier	1,568	29	...	...	...	...	...	...	...	0.62	−0.64	0.30	6.0	4	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	15	41.2	+1.3	76	22	−2	18	45	2.00	+0.71	1.00	3.0	2	14	6	10	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	42.5	−2.3	73	22	9	18	45	0.66	−0.50	0.42	...	3	11	6	13	se.	U. J. Downey.
Hillsboro	Traill	901	17	42.4	−1.2	77	23	20	19	38	1.65	−0.36	0.75	...	4	10	10	10	se.	F. E. Mavall.
Howard‡‡	Williams	2,275	16	39.2	−0.6	78	22	17	12	40	1.29	+0.11	0.80	9.5	7	5	12	13	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	43.0	+0.5	77	8†	12	19	43	0.98	−0.76	0.45	...	5	12	3	15	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	42.4	−0.2	73	22	10	19	33	0.81	−0.16	0.70	1.0	3	12	9	9	se.	E. V. Virgin.
Langdon	Cavalier	1,615	27	40.7	+2.6	73	21	15	19	49	0.53	−0.80	0.12	...	6	15	2	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	42.0	+1.6	77	22	18	19	41	0.96	−0.66	0.60	0.3	6	11	1	18	n.	Reuben Gray.
Linton	Emmons	1,711	5	46.4	...	76	22	15	19	37	0.83	...	0.45	T.	9	10	8	12	se.	William Malpass.
Lisbon	Ransom	1,091	19	42.8	+0.1	75	24	20	19	38	2.20	+0.31	0.52	8.0	8	14	9	7	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	...	...	...	...	...	...	...	0.80	...	0.35	4.5	5	...	...	...	...	Edw. Tapley.
McHenry	Foster	1,509	12	41.4^{a}	+0.1	74^{a}	23	17^{a}	18	39^{a}	1.04	−0.51	0.67	3.0	5	12	6	12	nw.	F. D. Cannon.
McKinney‡‡	Renville	1,640	29	41.8	+0.8	81	21	5	18	45	0.55	−0.34	0.30	5.0	2	9	15	6	se.	N. P. Swenson.
McLeod	Ransom	1,075	11	43.6	+0.6	75	23	20	19	38	1.82	−0.57	0.79	0.6	12	14	4	12	se.	J. G. Carlson.
Maddock	Benson	1,604	8	42.0	...	72	22	10	19	38	0.13	...	0.09	0	2	7	11	12	se.	A. T. Felland.
Mandan	Morton	1,644	9	44.4	...	89	23	15	19	38	0.66	...	0.38	...	5	4	15	11	se.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	20	41.5	−0.3	74	22	6	19	38	1.17	−0.10	0.50	3.5	8	6	9	15	ne.	P. B. Anderson.
Marmarth	Slope	2,714	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	S. P. Grane.
Mayville	Traill	975	27	41.8	−1.4	79	23	20	19	41	0.31	−1.44	0.18	0	2	13	6	11	nw.	M. G. Sateren.
Medora	Billings	2,270	23	47.0	+5.0	82	25	25	7†	46	0.66	−0.27	0.26	...	6	...	...	...	...	T. A. Davis.
Melville	Foster	1,590	25	41.1	+1.0	65	24	12	19	27	1.43	+0.32	0.90	5.0	3	10	7	13	ne.	J. P. Kidder.
Minot	Ward	1,557	27	39.0	−2.7	79	22	−1	19	47	0.55	−0.77	0.40	4.0	8	7	11	12	ne.	W. I. Faris.
Minto	Walsh	820	30	43.2	+2.6	78	23	18	19	43	0.51	−1.06	0.23	T.	5	13	5	12	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	40.6	−2.0	64	22	12	19	29	0.81	−0.69	0.60	T.	7	5	7	18	se.	O. H. Opland.
Napoleon	Logan	1,955	31	41.2	−0.3	73	22	13	19	47	0.68	−0.99	0.45	0	4	12	7	11	n.	C. I. Hoof.
New England	Hettinger	2,400	29	41.4	−1.7	72	22	10	19	40	0.51	−0.51	0.25	0.6	3	1	9	20	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	43.4	+0.9	69	21	18	19	40	0.29	−0.94	0.17	2.0	4	11	13	6	se.	J. Christiansen.
Park River	Walsh	998	19	42.8	+1.3	74	22	18	19	44	0.58	−0.73	0.25	...	4	10	6	14	se.	C. B. Wright.
Parshall	Mountrail	...	8	...	...	...	...	...	...	...	0.05	...	0.05	0.5	1	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	49	43.4	+5.5	76	24	18	19	43	T.	−1.41	T.	T.	0	13	4	13	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	41.8^{b}	−0.1	73^{b}	22†	11^{b}	19	41	0.15	−1.25	0.10	0.5	2	...	...	...	se.	S. C. Shanks.
Power	Richland	1,020	29	...	...	...	...	...	...	...	1.65	−1.18	0.60	2.5	4	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	9	...	...	...	...	...	...	...	0.40	−1.16	0.25	3.5	2	4	11	15	se.	C. Frank.
Skaar	McKenzie	...	3	42.1^{i}	...	79^{i}	23	13^{i}	19	42^{i}	1.20	...	0.35	0.2	8	...	...	...	se.	Conrad Brunsvold.
Steele	Kidder	1,857	27	40.7	−3.7	72	23	12	19	43	1.08	0.03	0.45	...	4	11	9	10	ne.	H. S. Wood.
Taylor	Stark	2,493	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. Leutz.
Towner	McHenry	1,482	21	43.5	+2.1	77	22	7	19	41	0.35	−0.75	0.30	3.5	2	18	5	7	sw.	B. Bagley.
Turtle Lake	McLean	1,899	8	42.1	...	76	22	11	19	47	0.70	...	0.34	1.7	8	14	9	7	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	39.2	−4.6	76	23	17	19	40	1.17	−1.42	0.49	2.0	8	15	3	12	se.	C. F. Schroeder.
Wahpeton	Richland	962	29	44.6	+0.3	71	23	21^{a}	19	33^{a}	3.15	+0.92	0.82	4.0	7	12	11	7	se.	State School of Scienc
Walhalla	Pembina	966	19	43.0	+3.1	75	22	17	19	43	0.32	0.99	0.13	T.	6	9	8	13	n.	Ivan Lee.
Westhope	Bottineau	1,508	17	41.2	+1.5	78	22	9	19	43	0.41	−0.65	0.15	...	4	10	12	8	se.	W. A. Meddaugh.
Williston	Williams	1,875	44	42.8	+2.3	79	22	19	19	36	1.37	+0.14	1.00	4.0	12	1	11	18	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	40.2	0.0	74	22	15	19	38	0.59	−0.36	0.28	4.5	7	9	11	10	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	43.1	+1.7	74	23	23	19	33	1.85	−0.48	0.63	2.6	11	4	11	15	n.	U. S. Weather Bureau.
Averages	...	...	...	42.3	+0.6	89	23	−2	18†	51	0.92	−0.46	1.15	2.3	6	10	9	11	se.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for April, 1922.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red		.04				.04	.12							.04		.71		T.	.20				.20	.12								1.77
Amidon	Lit. Missouri					.10	.25			.08			.17	.04				.04		T.			.25				.12						0.96
Arnegard	Missouri		.11			.05	.03			.05	.26		.07	.03	.01	.12		.03													T		0.76
Ashley	Missouri						.25	.27											.20														0.72
Beach	Lit. Missouri												.03	.10		.03	T	T	.04								T.	.15					0.35
Berthold Agency	Missouri		.15			T.	.15				.03					T	.01	.05	.09				.18										0.66
Bismarck ***	Missouri	T.				.02	.52				.03			T.	T.	T.	T.	.05	.03				.03		T.							T.	0.68
Bottineau	Mouse									.15		.12			.39		.10		.16					.07									0.99
Bowbells ‖	Mouse			.07			.12			.22											.10												0.51
Bowman	Grand					.03	.11						.13	.10	.11		T.						.03			T	.07	.03					0.64
Cando	Devils Lake						.15			.74	.13			.01	.15	.03	.12							.04									1.37
Carson	Heart						.10				.02						.01	.01	.02					.04									0.20
Cooperstown	Sheyenne						.75											T															0.75
Crosby	Mouse					T.				.87	*					.01	.12	.07	.15						T.								1.22
Devils Lake ***	Devils Lake					T.	.14				T.			.10	.01	.11	T.		.06	T.	.01			.05	T.								0.48
Dickinson ‖	Heart			T.			.31	.13		.07	.10			.09			.02		.26	.05				.18									1.21
Donnybrook	Mouse		.04		T.						.25					.30		.62															1.21
Dunn Center ‖	Knife						T.	.24			.32						T.		.15	T.				.48									1.19
Dunseith	Mouse			.06						.21	.16				.18		.05		.03					.09									0.75
Eckman	Mouse						T.				.10					.15			.30	T.				.10									0.65
Edgeley	James	T.					.16								.20	.28				.12													0.76
Ellendale***	James	.03	T.			.31	.38	T.		.01				.37	.07	.22	.14		.09		T.		.01	T.	T.								1.63
Energy	Missouri						.05				.05								T.														0.10
Epping	Missouri		T.			.02				.40	.02					.02		T.	.03												T.		0.49
Fessenden	James						T	.03			T.	.25			.06		.16		.15	.17	T.	.04		.08	.01								0.95
Forman	Sheyenne						1.15	.38							.17		.40			.10													2.20
Foxholm	Mouse		.05			T.	.06			.10	.21					.11			.37	.03	.05			.12									1.10
Fryburg	Heart									.08			.11	.10		.03		.04	.10	.04			.25					.17					0.82
Fullerton	James					T.	.62	.37						.08	T.	.52		T.	.17					.08									1.84
Garrison	Missouri		T.	.12			.18				.05								.40	.26													1.01
Grafton	Red						.24	.10						.10	.13	.01		T.						T.									0.58
rand Forks ***	Red	T.	T.	T.			.47			T.				.01	.10	.19	T.	T.	T.	T.	T.			T.									0.77
Granville	Mouse		.02				.04				.04			T.	T.			T.	.05							.25							0.40
Hannah	Pembina					T.	.02				.30					.20	.10										T.						0.62
Hansboro	Devils Lake										1.00					1.00																	2.00
Hettinger	Grand						.42							.17	.07																		0.66
Hillsboro	Red						.75								.32	.53								.05									1.65
Howard	Missouri		.25							*	.80		T.	.01	T.	.01	T.		*	.20											T.		1.29
amestown	James						.03	.08				.30			.12					.45													0.98
amoine	Missouri						.70				.01				T.	T.			.10														0.81
angdon	Pembina						.10	.05				T.			.10	.05	.12	T.						.11									0.53
arimore	Red							.60							.15		.14		.03	.01		.03											0.96
inton	Missouri	.01	T.				.45	.07			.01			.08	.11				.02	.04				.04									0.83
isbon ‖	Sheyenne	T.	.18				.52	.36							.17		.37		.05	.30		T.		T.	.25								2.20
McClusky	Missouri					T.	.35	.10			.15				.05	T.			.15														0.80
McHenry	James						.67				T.			.04					.24					.08							.01		1.04
McKinney	Mouse					T.	T.		T.	T.	.30							.25					T.										0.55
McLeod	Sheyenne	.04	.12				.79	.17		T.				T.	.26		.31				.03			.07									1.82
Maddock	Sheyenne														.09					.04				T.	T.								0.13
Mandan ‖	Missouri	T.	.06			T.	.11	.38			T.	T.							.07	T.				.04									0.66
Manfred	James						.50			T.	.10			T.	.05	T.	.05		.30	.03	.03			.11									1.17
Marmarth	Lit. Missouri																																......
Mayville	Red															.13	.18																0.31
Medora	Lit. Missouri							.11						.26	.03					.08				.08	.10								0.66
Melville	James						.90				.03			T.	T.					.50	T.				T.								1.43
Minot	Mouse						.02	.02			T.	.02					.01		.01	.40				.06	.01								0.55
Minto	Red						.23	.10						.05	.10	.03	T.	T.	T.														0.51
Mott	Cannon Ball					T.	.60			.02	.02			T.	T.			.02	.03	T.	.04			.08									0.81
apoleon ‖‖	Missouri							.45				.03			.17									.03									0.68
ew England	Cannon Ball		T.				.20			T.	T.		T.	T.		T.		T.	.06				.25			T.	T.						0.51
ew Salem	Heart		T.			T.	.17				.03						T.		.06				T.	.03	T.						T.		0.29
ark River	Red						.25	.06						.05	.22	T.																	0.58
arshall	Missouri			T.											T.				.05														0.05
embina ‖‖	Red						T.	T.							T.	T.	T.		T.					T.	T.								T.
ettibone	James		T.				.10							T.		T.			.05														0.15
ower	Sheyenne		.10			T.	.60			T.						.40				.25											.30		1.65
owers Lake	Missouri			T					T.	T.	.25					T.	T.		.15														0.40
kaar	Yellowstone									.35				.10		.10	.10	.10	.05									.25			.15		1.20
eele	Missouri						.45	.20			T.			.25	.18		T.		T.	T.	T.				T.								1.08
aylor	Heart																																......
owner	Mouse					T.	T.				.30			T.				T.	.05					T.									0.35
urtle Lake	Missouri		T	.12		T.	.34	.01			.06			.04		.04			.05					T.		.04							0.70
alley City	Sheyenne	.03	T.			T.	.31	.22						.01	.08	.19			.02		.01				T.								1.17
ahpeton	Red		.36			.03	.82	.55							.12		.75		T.	.52	T.												3.15
alhalla	Pembina			T.		.01	.02				T.			T.	T.	.13		.13	.02		T.			.01									0.52
esthope	Mouse			.07							.07				.15				.12														0.41
illiston ***	Missouri		.01			.05	.04			.96	.04		.03	.01	.01	.11	T	.03	.03	T.			T.	T.							.05		1.37
illow City	Mouse						.09			.04				T.	.28	.05	.02		.02					.09									0.59
oorhead, Minn ***	Red	.09	.03			.35	.32	.05		T.				.03	.05	.53		T.	.16	.02	T.			.22									1.85

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the -hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	39	40	52	60	54	39	59	65	57	45	49	52	40	49	50	49	44	40	40	54	62	77	72	53	55	68	58	68	69	62	....	54.0
	Minimum...	31	32	31	32	54	36	33	34	36	33	27	27	28	32	27	31	29	24	20	21	27	30	33	40	30	26	30	37	31	35	....	31.2
Arnegard	Maximum...	52	47	62	58	44	42	64	65	56	51	42	39	44	52	42	41	46	32	52	62	71	80	53	55	53	56	58	62	65	68	....	53.8
	Minimum...	32	30	30	40	36	33	33	40	38	24	15	30	32	32	31	27	25	15	10	32	32	45	31	37	31	28	39	35	35	36	....	31.1
Ashley	Maximum...	38	37	59	63	53	45	58	68	58	47	48	48	46	52	52	47	45	49	41	62	63	63	74	62	53	54	59	62	63	62	....	54.4
	Minimum...	27	29	32	40	42	36	32	35	38	32	27	28	29	32	30	33	25	23	17	33	30	38	50	40	30	29	34	39	33	38	....	32.7
Beach	Maximum...	50	53	62	52	38	46	61	65	45	68	41	42	40	41	42	43	48	45	53	64	71	76	53	53	49	50	49	60	62	66	....	52.9
	Minimum...	29	29	29	32	32	32	38	26	26	26	32	31	34	32	29	20	16	10	31	32	42	39	31	31	32	34	26	32	36	..	....	29.0
Berthold Agency	Maximum...	50	46	63	62	54	42	66	71	60	54	..	47	..	54	..	47	51	65	51	63	73	80	79	53	56	59	66	65	66	70	....	[c]59.7
	Minimum...	27	28	24	42	39	32	28	38	44	25	21	..	..	..	30	26	21	21	13	33	27	44	43	39	24	24	34	41	36	41	....	[c]31.3
Bismarck	Maximum...	41	43	61	69	51	46	61	69	58	44	46	51	46	55	56	46	49	43	49	64	68	75	65	46	56	57	63	61	65	65	....	55.6
	Minimum...	32	32	30	41	45	35	32	39	43	26	26	28	27	30	35	32	26	24	17	34	30	44	46	40	29	31	35	41	37	46	....	33.9
Bottineau	Maximum...	41	71	55	60	51	40	57	62	55	35	40	49	47	51	45	50	47	35	37	57	66	75	70	55	56	61	67	65	71	71	....	54.7
	Minimum...	27	25	31	32	39	31	25	24	37	25	20	24	27	28	27	29	23	17	12	15	26	29	42	36	31	27	29	32	37	40	....	28.2
Bowbells §§	Maximum...	46	39	61	60	40	45	60	57	45	63	48	48	50	46	43	44	43	33	34	60	68	78	51	62	63	58	64	61	66	65	....	53.5
	Minimum...	25	24	26	29	32	26	25	31	29	15	21	22	26	28	29	30	19	13	−2	12	31	42	42	28	22	25	31	33	35	38	....	26.2
Bowman	Maximum...	45	44	52	63	52	39	60	66	57	29	44	40	45	50	48	45	45	44	56	65	72	75	58	53	46	47	43	57	65	65	....	52.3
	Minimum...	31	29	29	37	39	32	32	35	28	24	26	31	30	27	32	30	22	20	12	20	35	45	41	28	30	36	37	36	34	34	....	30.7
Cando	Maximum...	42	38	57	59	53	47	60	61	60	50	42	46	44	44	44	45	43	42	38	56	60	74	71	53	..	60	66	65	67	64	....	[a]53.5
	Minimum...	30	32	33	32	39	31	31	36	37	26	25	28	29	33	30	30	28	22	18	27	30	34	49	38	..	28	32	35	42	38	....	[a]31.8
Carson	Maximum...	38	40	60	66	56	44	55	66	60	42	66	47	46	56	55	50	50	45	50	65	70	60	65	50	62	55	55	60	65	68	....	55.6
	Minimum...	30	27	30	40	40	32	28	40	40	24	22	27	29	25	30	30	20	19	10	28	30	45	40	33	25	33	40	46	35	38	....	31.0
Crosby	Maximum...	42	40	52	57	52	42	57	55	42	32	36	40	42	45	44	42	41	35	47	53	64	72	65	53	52	57	60	58	64	65	....	50.2
	Minimum...	28	30	28	38	35	32	32	38	26	23	29	26	31	32	32	27	24	22	10	30	32	41	42	30	29	30	34	40	35	39	....	30.8
Devils Lake	Maximum...	40	38	57	56	51	37	58	61	52	40	43	46	41	44	44	44	41	34	36	56	60	72	72	48	52	58	65	64	67	61	....	51.3
	Minimum...	30	32	33	36	37	32	31	38	36	29	26	27	29	33	32	31	28	22	18	26	30	38	47	34	28	32	33	39	45	41	....	32.4
Dickinson §§	Maximum...	47	51	63	62	46	39	63	67	48	34	44	39	48	59	50	47	45	45	51	65	70	76	52	49	46	52	54	62	65	67	....	53.5
	Minimum...	29	30	28	30	39	32	30	36	39	25	22	29	32	29	31	28	22	19	13	16	29	42	44	34	31	31	39	38	35	34	....	30.5
Donnybrook	Maximum...	52	43	59	52	56	53	66	64	55	38	49	43	47	52	48	45	41	49	55	72	70	80	76	53	58	66	69	70	69	72	....	57.4
	Minimum...	26	26	42	37	38	32	29	39	34	24	18	24	22	32	28	26	20	−2	25	36	43	42	42	36	26	22	29	34	35	44	....	30.3
Dunn Center	Maximum...	48	48	62	59	44	41	64	68	52	35	45	41	46	53	51	45	48	34	52	61	71	79	57	50	54	56	56	58	66	68	....	53.8
	Minimum...	27	30	28	32	40	32	31	34	42	25	20	24	30	31	33	27	21	19	11	18	28	34	45	34	36	27	31	32	32	35	....	29.6
Dunseith	Maximum...	44	37	55	60	56	41	60	64	58	49	41	43	43	42	41	43	41	40	34	55	62	75	70	53	54	60	65	64	67	65	....	52.7
	Minimum...	28	28	30	38	35	34	24	40	34	22	21	25	25	28	23	27	24	11	9	21	22	37	46	34	28	25	26	29	42	40	....	28.5
Edgeley	Maximum...	36	39	58	60	55	47	59	68	65	48	47	48	47	53	46	51	48	50	39	60	62	71	76	67	56	55	61	63	64	65	....	55.5
	Minimum...	30	31	31	32	37	34	33	34	35	35	27	25	25	32	26	33	27	24	18	30	25	38	50	38	28	26	30	36	31	34	....	31.2
Ellendale	Maximum...	36	41	61	61	52	41	57	67	52	42	47	49	45	52	46	47	45	51	39	59	62	70	76	50	54	54	59	62	64	64	....	53.5
	Minimum...	32	33	29	35	40	35	34	37	38	33	30	28	30	35	31	32	29	27	21	33	31	36	47	40	32	31	38	40	34	43	....	33.8
Fessenden	Maximum...	36	38	60	60	51	36	60	62	50	33	44	42	42	47	47	44	44	32	35	55	64	72	72	48	54	67	64	62	65	62	....	51.6
	Minimum...	28	30	28	28	36	32	29	33	35	30	24	26	26	27	29	31	23	17	9	10	27	32	44	35	29	24	27	31	36	34	....	28.3
Fullerton	Maximum...	35	41	58	62	53	44	57	68	57	49	46	48	47	51	46	47	52	45	40	60	62	72	78	58	54	61	57	65	65	66	....	54.8
	Minimum...	32	33	35	35	39	36	34	31	48	37	29	28	29	34	32	34	28	25	20	31	30	35	51	46	40	40	35	39	35	49	....	35.1
Garrison	Maximum...	49	43	60	65	59	42	64	69	60	53	46	48	45	51	49	47	48	40	44	57	69	76	68	50	58	59	63	60	64	66	....	55.7
	Minimum...	27	28	30	40	38	30	29	39	43	22	24	27	25	29	32	28	22	18	5	29	27	41	41	35	26	31	30	39	33	41	....	30.3
Grafton	Maximum...	45	43	50	57	55	52	63	60	63	49	45	53	59	45	45	49	43	41	40	53	63	73	77	75	57	64	72	70	73	65	....	56.6
	Minimum...	31	31	32	31	37	32	31	37	33	30	27	25	28	32	26	33	30	16	19	30	24	28	45	39	27	22	29	38	40	35	....	30.6
Grand Forks	Maximum...	40	39	48	56	52	39	53	63	52	44	48	49	42	46	46	48	41	41	40	45	61	71	78	48	50	56	64	62	63	61	....	51.5
	Minimum...	32	34	33	34	38	33	32	39	35	31	28	26	32	33	31	32	30	23	22	30	28	34	48	36	27	26	32	37	43	37	....	32.5
Granville	Maximum...	40	45	62	65	50	40	63	68	60	46	45	44	47	50	44	48	44	42	40	58	68	76	62	55	56	60	65	64	68	65	....	54.7
	Minimum...	20	30	30	43	35	30	33	38	35	27	24	27	25	33	30	28	24	22	5	25	30	40	37	35	26	25	28	32	38	35	....	29.7
Hansboro	Maximum...	42	40	53	60	48	41	55	66	60	50	42	45	45	44	41	45	50	..	43	58	60	76	70	50	54	62	68	71	71	67	....	[a]51.4
	Minimum...	28	30	30	35	34	28	28	45	38	22	21	24	25	21	21	25	..	−2	15	23	28	38	36	35	22	28	34	28	32	40	....	[a]28.0
Hettinger	Maximum...	38	51	63	66	53	43	63	68	60	36	46	42	40	51	50	47	47	42	46	49	72	73	63	53	58	63	49	61	63	56	....	53.8
	Minimum...	30	38	29	42	36	32	33	33	35	25	28	32	27	26	44	31	23	9	26	30	27	42	29	29	34	36	26	35	35	34	....	31.2
Hillsboro	Maximum...	36	37	44	61	54	38	54	60	57	43	46	48	46	44	48	46	43	38	38	49	59	68	77	76	55	59	65	66	63	64	....	52.8
	Minimum...	29	31	32	32	38	30	32	37	35	34	28	28	30	32	29	34	30	25	20	29	29	30	48	40	30	24	29	39	40	35	....	32.0
Howard	Maximum...	46	44	54	54	42	45	60	60	34	32	38	40	37	52	48	44	41	32	50	57	70	78	60	50	50	58	60	60	61	65	....	50.7
	Minimum...	21	22	26	34	32	30	31	32	24	22	20	17	28	28	30	24	21	20	20	31	30	42	38	25	26	25	47	25	25	35	....	27.7
Jamestown	Maximum...	40	61	60	51	38	60	77	51	40	47	50	41	41	52	47	45	35	37	55	62	73	77	57	55	59	65	65	67	65	71	....	51.8
	Minimum...	32	32	32	31	39	35	34	34	36	36	26	29	28	30	32	34	28	24	12	18	30	32	41	42	31	28	32	34	29	35	....	31.3
Lamoine	Maximum...	39	39	54	63	60	48	58	65	64	45	42	48	48	48	50	48	45	40	40	57	64	73	68	48	52	58	63	63	66	64	....	54.0
	Minimum...	30	30	28	28	40	31	35	38	41	28	22	25	28	30	31	32	22	20	10	25	38	40	38	35	28	27	30	38	38	38	....	31.5
Langdon	Maximum...	39	54	57	49	34	59	45	54	35	41	43	41	44	42	44	40	32	38	52	62	73	70	48	51	61	67	66	67	64	67	....	51.3
	Minimum...	39	29	32	32	33	29	30	36	32	26	22	24	27	30	28	30	29	20	15	22	24	35	45	35	25	25	30	33	44	40	....	30.1
Larimore	Maximum...	38	51	58	51	36	60	63	50	48	45	47	41	45	45	47	41	40	40	53	63	69	77	52	55	62	68	67	70	64	65	....	53.7
	Minimum...	29	28	32	30	32	31	31	33	36	30	28	25	27	28	27	34	30	22	18	22	26	33	45	38	27	25	31	40	38	31	....	30.2
Linton	Maximum...	42	42	63	65	63	50	59	70	64	52	47	52	47	55	62	55	49	50	44	61	67	76	71	63	55	56	63	63	65	64	....	57.9
	Minimum...	35	33	28	42	45	36	32	39	41	31	28	31	32	30	37	25	35	24	15	32	30	41	51	39	29	34	38	43	36	44	....	34.9
Lisbon §§	Maximum...	36	39	60	64	52	40	56	69	52	42	47	49	44	50	45	47	47	45	36	42	62	68	75	49	52	58	68	68	69	69	....	53.3
	Minimum...	32	32	31	31	40	37	32	37	37	37	29	29	30	34	28	31	28	25	20	21	27	30	38	40	33	26	30	35	34	42	....	32.2
McKinney	Maximum...	41	41	59	57	52	44	60	65	50	40	44	42	48	50	45	55	35	38	57	58	81	65	61	55	55	60	65	63	67	65	....	53.9
	Minimum...	28	30	30	40	36	31	30	40	31	24	20	27	25	32	27	35	20	5	25	30	36	44	40	35	26	25	25	32	28	40	....	29.6
Maddock	Maximum...	41	40	59	60	57	50	56	63	62	48	42	46	46	50	44	46	43	43	35	58	62	72	71	61	52	58	64	62	66	66	....	51.1
	Minimum...	27	30	29	36	37	30	32	34	31	26	25	28	27	32	29	31	25	19	10	23	27	38	47	36	28	25	26	31	40	34	....	29.8
Marmarth	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Melville	Maximum...	32	36	49	54	53	47	50	59	60	46	45	42	44	44	48	42	42	35	33	50	54	58	63	65	47	54	60	62	63	61	....	49.9
	Minimum...	30	31	31	36	36	32	30	36	35	32	26	28	27	32	31	33	27	22	12	24	29	38	48	38	30	31	33	55	40	37	....	32.3
Minot	Maximum...	49	44	62	64	44	40	64	67	51	40	45	44	46	53	44	47	49	31	43	57	68	79	68	50	57	62	66	62	66	68	....	51.3
	Minimum...	20	21	25	26	32	25	23	27	33	13	17	21	17	21	26	22	19	17	−1	19	21	32	37	32	22	20	26	31	33	35	....	23.7
Mott	Maximum...	37	39	52	63	55	41	48	52	42	35	54	50	53	48	40	53	47	42	40	38	46	64	49	46	51	53	53	47	58	63	....	48.6
	Minimum...	21	26	26	40	38	32	33	35	35	26	30	38	36	37	35	38	18	21	12	27	35	42	38	35	29	42	40	42	31	43	....	32.7
Napoleon §§	Maximum...	37	39	58	63	55	38	58	70	51	40	41	50	46	51	61	47	46	48	43	63	66	73	52	54	58	58	64	65	65	66	....	51.2
	Minimum...	21	29	29	29	39	31	30	31	32	36	24	25	25	28	29	31	22	19	13	16	27	30	42	25	26	30	31	32	31	35	....	28.3
New Salem	Maximum...	40	40	60	68	54	46	60	67	64	40	42	57	54	56	62	54	50	44	49	56	69	68	67	59	52	56	61	62	64	67	....	56.0
	Minimum...	24	28	30	47	30	34	30	40	34	23	22	27	30	28	28	30	28	22	18	24	29	40	39	35	27	28	38	41	37	31	....	30.7
Pembina §§	Maximum...	44	45	53	58	55	52	68	65	66	40	50	52	45	45	44	46	41	33	40	52	63	75	76	54	56	77	71	78	72	70	....	56.9
	Minimum...	28	30	33	32	36	31	29	35	35	30	25	24	29	32	27	32	29	24	18	29	24	29	33	43	35	23	35	35	39	[illegible]	....	[illegible]
Steele	Maximum...	40	41	55	65	52	41	52	62	50	35	40	40	45	44	50	39	40	37	35	55	54	69	72	46	50	48	50	65	62	[illegible]	....	[illegible]
	Minimum...	29	31	30	39	41	32	31	39	35	32	25	27	25	31	31	32	24	22	12	22	29	49	29	35	29	31	36	39	38	38	....	[illegible]
Towner	Maximum...	40	40	52	65	60	42	68	55	61	50	44	46	43	46	55	65	46	46	35	59	67	77	72	54	58	60	65	70	65	66	....	[illegible]
	Minimum...	20	31	22	42	29	32	30	32	40	26	23	29	25	34	42	40	25	23	7	27	26	54	48	20	26	26	28	49	45	39	....	[illegible]
Valley City	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Wahpeton	Maximum...	43	41	58	61	59	46	57	63	61	49	51	53	42	51	55	46	47	44	39	50	59	70	71	52	55	59	64	67	67	65	....	54.5
	Minimum...	32	32	31	36	41	37	33	33	42	38	31	28	32	35	32	..	31	28	21	31	29	37	49	45	36	29	53	36	43	39	....	[a]34.5
Walhalla	Maximum...	43	42	55	58	55	39	62	63	62	48	43	47	49	43	43	46	43	39	40	52	64	75	74	73	53	64	70	69	70	69	....	55.1
	Minimum...	27	25	33	33	38	30	31	34	31	27	25	22	25	32	22	32	30	23	17	28	24	32	45	37	28	23	42	35	45	48	....	30.5
Westhope	Maximum...	36	38	60	58	52	56	62	67	52	39	43	52	48	42	43	45	48	42	36	57	70	78	60	54	56	63	68	52	69	66	....	53.7
	Minimum...	18	28	29	40	38	36	30	41	33	22	22	26	24	29	28	26	23	12	9	25	27	38	42	38	26	25	20	27	38	38	....	28.6
Williston	Maximum...	52	47	62	61	43	45	64	65	43	36	43	40	44	52	40	44	44	35	54	60	72	79	54	52	56	57	56	63	65	66	....	53.0
	Minimum...	31	31	31	42	36	33	32	42	25	25	21	31	33	34	35	28	25	19	19	35	36	48	38	31	27	29	41	40	40	41	....	32.6
Moorhead, Minn	Maximum...	35	38	47	58	48	42	56	63	51	46	48	50	39	46	51	46	40	35	37	48	57	67	74	54	53	57	64	65	67	63	....	51.5
	Minimum...	32	35	33	36	39	35	34	39	38	34	30	29	30	34	33	35	31	27	23	33	31	34	49	43	33	31	36	40	44	40	....	34.7

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§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXI. Bismarck, N. D., May, 1922. No. 5

GENERAL SUMMARY.

The weather during the greater part of the month was favorable for outdoor work, and field work made excellent progress. During the first decade the rainfall was generally sufficient for all needs, and did not interfere with field work to much extent. The second decade was the wettest of the month, and farm work was delayed in some eastern sections by too wet soil. The ast decade was the driest, and during this period excellent progress was made both in growth of vegetation and in field work. Spring wheat, rye, oats, barley, corn, meadows, pasures and ranges were generally in excellent condition at the close of the month. Some replanting of corn was necessary, due to cut worms. Both the temperature and precipitation were in excess of the normal. All stations produced mean emperatures above the normal, and all but eight stations produced monthly precipitation above the normal. Usually the highest temperature occurred on the 25th, 26th or 27th, and the owest occurred more often on the 19th than on any other date. Precipitation occurred in some part of the State on each day of he month, except the 24th and 25th.

TEMPERATURE.

The mean temperature for the State was 56.3°, or 3.7° above he normal, and 2.5° higher than the mean for May, 1921. The highest mean reported was 61.0° at Wahpeton, Richland County; the lowest was 52.0° at Howard, Williams County. The highest temperature reported was 93° at Pembina, Pembina County, on the 24th, and at Wahpeton, Richland County, n the 28th; the lowest was 24° at Arnegard, McKenzie County on the 3d. The greatest monthly range of temperature was 62° at Pembina, Pembina County; the least was 43° at Grand Forks, Grand Forks County, and Melville, Foster County. The greatest daily range was 52° at Hettinger, Adams County, on the 7th.

PRECIPITATION.

The average precipitation for the State was 3.11 inches, or .56 inch above the normal, and 0.65 inch more than the average for May, 1921. The greatest monthly amount reorted was 6.82 inches at Jamestown, Stutsman County; the east was 1.23 inches at Powers Lake, Mountrail County. The reatest amount recorded in any 24 consecutive hours was 2.97 inches at Fullerton, Dickey County, on the 10-11th. The average snowfall was 0.1 inch, but three stations reporting falls. The average number of days with 0.01 inch or more of precipitation was 12.

AURORAS.

Auroras were observed at Fessenden and New England on the th; at Foxholm on the 7th; at Grand Forks on the 9th; at ew England on the 12th and 17th; at Crosby, Foxholm and teele on the 18th; at Ellendale, Grand Forks and Steele on he 20th; at Devils Lake, Foxholm and Steele on the 23d; at rosby on the 24th, 25th and 31st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
						Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.			Average.	Highest.*	Direction	Date.
Bismarck	29.90	30.42	30	29.26	9	57	8,131	10.9	42	nw.	17
Devils Lake	29.87	30.37	29	29.31	9	44	7,233	9.7	36	ne.	10
Ellendale	29.91	30.34	30	29.34	9	56	10,613	14.3	59	se.	11
Grand Forks	29.86	30.33	29	29.34	17	90	....	......	38	se.	11
Williston	29.86	30.43	29	29.24	11	48	9,140	12.3	45	ne.	11
Moorhead, Minn	29.88	30.29	27	29.35	17	58	6,280	8.4	30	nw.	3
Av'ges and extremes	20.88	30.43	29	29.24	11	.....	8,279	11.1	59	se.	11

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	261.0	467.3	56	......	80	54	55	14	2
Devils Lake	252.8	471.0	54	......	81	59	61	24	23
Ellendale	278.5	463.8	60	......	84	58	....	34	11
Grand Forks	....	....	......	......	76	.....	57	.....	....
Williston	270.2	471.0	57	......	80	52	52	23	4
Moorhead, Minn.	....	....	......	......	80	54	58	.....	....
Averages and extremes	265.6	468.3	57	......	80	55	57	14	2

* And other dates.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893...	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894...	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895...	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896...	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897...	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898...	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899...	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900...	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901...	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902...	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903...	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904...	51.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905...	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906...	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907...	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908...	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909...	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910...	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911...	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912...	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913...	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914...	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915...	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916...	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917...	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918...	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919...	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920...	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921...	52.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922...	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.

Climatological Data for May, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	59.0	+4.9	87	10	34	4	41	3.93	+1.09	2.10	0	12	16	10	5	se.	E. T. Carley.
Amidon	Slope	......	9	54.6	......	78	8†	33	13†	38	3.83	......	0.74	0	14	14	11	6	w.	Charles Eastgate.
Arnegard	McKenzie	......	8	54.8	......	82	25†	24	3	37	3.04	......	0.85	0	14	13	10	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	56.0	+3.3	80	21	33	7	35	3.20	+0.74	0.80	0	10	16	10	5	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	52.4	+2.3	81	25	32	12†	42	3.99	+1.18	0.87	0	13	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	57.0	+3.3	84	27	32	19	41	2.22	−0.24	0.64	0	10	14	10	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	57.6	+2.4	83	21	36	19	35	2.65	+0.15	0.59	0	19	8	10	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	55.8	+4.5	86	27	30	7	44	4.21	+2.14	1.46	0	15	11	12	8	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	54.7	+4.1	81	25	35	4	35	2.73	+0.42	0.51	0	11	15	3	13	......	G. H. Phelps.
Bowman	Bowman	2,961	9	54.0	......	81	28	28	1	39	4.56	......	1.60	0	15	11	18	2	nw.	R. Love, Jr.
Cando	Towner	1,488	22	58.0	+6.5	82	21	33	19	35	2.56	+0.16	0.74	0	14	4	12	15	se.	A. J. Swanson.
Carson	Grant	2,500	11	56.4	+2.1	80	25†	33	12	40	1.55	−1.09	0.32	0	10	8	16	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	......	......	......	......	......	......	......	4.35	+2.14	1.20	0	8	11	17	3	nw.	S. Friswold.
Crosby	Divide	1,954	16	55.2	+4.8	83	25†	34	4	36	4.11	+2.09	0.89	0	11	10	7	14	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	56.8	+4.1	82	21	35	19	31	2.71	+0.51	0.98	0	17	8	7	16	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	54.1	+1.9	80	25	32	19†	38	1.97	0.46	0.71	0	14	8	5	18	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	56.8	+5.7	84	26†	29	19	42	3.39	+1.15	0.75	0	11	5	16	10	e.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	54.8	+1.5	82	25	34	4†	38	2.74	+0.20	1.15	0	11	13	4	14	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	54.9	+3.0	80	25	30	19	35	2.49	+0.79	0.63	0	14	13	16	2	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	18	55.6^{a}	+5.0	82^{b}	25†	31^{a}	19	43^{a}	2.44	+0.26	0.38	0	13	......	......	......	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	57.4	+3.9	80	21†	35	1	37	4.02	+1.35	2.15	0	7	3	15	13	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	57.3	+1.8	80	21	36	4	35	3.69	+0.68	1.66	0	14	2	13	16	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	57.0	......	82	25	33	19	36	1.71	−0.49	0.55	0	9	8	20	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	54.1	......	82	25†	32	3†	40	2.12	−0.19	0.50	0	11	11	11	9	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	54.6	+4.1	83	21	32	4†	38	3.54	+1.26	0.41	0	18	5	10	16	se.	T. D. Monsen.
Forman	Sargent	1,249	29	......	......	......	......	......	......	......	5.69	+2.71	2.25	0	6	12	10	9	sw.	O. Enger.
Foxholm	Ward	1,657	2	54.8	......	79	27	35	7	32	1.68	......	0.58	0	9	9	13	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	......	......	......	......	......	......	......	4.27	......	1.26	3.0	14	7	16	8	nw.	Verne King.
Fullerton	Dickey	1,439	25	58.8	+5.5	82	21†	37	7†	35	6.72	+3.48	2.97	0	9	12	12	7	s.	F. O. Alin.
Garrison	McLean	1,901	28	56.0	+2.4	80	25†	34	7†	37	2.72	+0.55	0.60	0	12	10	16	5	nw.	G. L. Robinson.
Grafton	Walsh	827	31	60.0	+6.1	84	21†	35	5	38	4.17	+2.06	1.31	0	15	11	8	12	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	58.1	+4.7	83	27	40	4†	30	4.18	+1.74	2.48	0	16	15	9	7	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	56.3	+4.9	82	25	34	4	38	2.38	+0.54	0.41	0	14	8	7	16	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	......	......	......	......	......	......	......	2.96	+0.86	0.90	0	5	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	15	56.4	+6.1	81	25†	30	19	40	3.50	+1.42	0.87	0	11	6	14	11	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	54.5	+1.7	79	7†	27	7	52	3.56	+1.44	1.98	0	10	17	6	8	nw.	C. J. Downey.
Hillsboro	Traill	901	17	58.4	+5.2	80	21	37	31	36	4.69	+1.17	2.70	0	12	8	20	3	se.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	52.0	+2.6	81	26	32	12†	39	3.60	+1.42	0.81	2.0	12	7	10	14	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	57.0	+3.5	80	25†	36	7	37	6.82	+4.13	1.64	0	15	12	0	19	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	54.8	+4.1	78	21†	27	5	40	2.53	+0.17	0.73	0	10	7	19	5	se.	E. V. Virgin.
Langdon	Cavalier	1,615	27	56.4	+5.6	81	26	35	7†	43	5.01	+2.76	0.90	0	11	15	2	14	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	58.2	+6.0	84	26	33	1	46	5.24	+2.77	2.00	0	15	12	3	16	w.	Reuben Gray.
Linton	Emmons	1,711	5	57.6	......	80	21	29	4	45	3.50	......	0.79	0	15	5	21	5	nw.	William Malpass.
Lisbon	Ransom	1,091	19	59.6	+6.7	85	21†	34	31	39	3.95	+0.76	2.47	0	9	16	6	9	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	......	......	......	......	......	......	......	3.48	......	1.05	0	16	......	......	......	......	Edw. Tapley.
McHenry	Foster	1,509	12	56.3^{a}	+4.0	79^{a}	21†	31	20	39^{a}	4.32	+1.83	1.43	0	14	......	......	......	se.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	55.0	+3.0	82	25	30	19	40	2.86	+0.90	0.76	0	8	10	13	8	w.	N. P. Swenson.
McLeod	Ransom	1,075	11	59.9	+5.8	85	26	38	5	36	4.41	+0.63	2.62	0	12	10	8	13	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	56.4	......	80	21	31	19	41	4.23	......	1.71	0	13	3	12	16	nw.	A. T. Felland.
Mandan	Morton	1,644	9	57.8	......	81	21†	36	19	37	2.05	......	0.38	0	17	8	9	14	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	56.2	+4.6	81	27	34	4	37	3.27	+0.91	0.63	0	18	10	13	8	se.	P. B. Anderson.
Marmarth	Slope	2,714	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	S. P. Grane.
Mayville	Traill	975	27	56.6	+2.1	83	27	35	5	37	4.60	+1.63	2.17	0	9	13	7	11	nw.	M. G. Sateren.
Medora	Billings	2,270	23	......	......	......	......	......	......	......	2.85	+0.19	0.60	0	10	......	......	......	......	T. A. Davis.
Melville	Foster	1,590	25	55.8	+3.3	78	27†	35	19	30	4.95	+2.28	1.00	0	12	7	13	11	se.	J. P. Kidder.
Minot	Ward	1,557	27	53.4	+1.1	85	26	26	7	43	2.46	+0.49	0.67	0	16	13	9	9	e.	W. I. Faris.
Minto	Walsh	820	30	60.0	+6.6	84	27	36	5†	38	3.57	+1.23	1.11	0	13	9	15	7	se.	C. M. Evans.
Mott	Hettinger	2,424	16	55.8	+4.2	80	26	33	13†	45	1.44	−0.92	0.35	0	11	9	11	11	w.	O. H. Opland.
Napoleon	Logan	1,955	31	54.4	+2.0	83	21	29	19	43	2.39	−0.01	0.56	0	17	......	......	......	se.	C. J. Hoof.
New England	Hettinger	2,400	29	54.0	+2.4	78	21†	32	3	34	2.62	+0.47	0.59	0	11	5	3	23	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	56.6	+5.3	80	27	33	18	40	2.04	−0.33	0.56	0	13	10	18	3	se.	J. Christiansen.
Park River	Walsh	998	19	59.1	+6.9	82	27	37	7	35	5.25	+3.02	2.26	0	12	11	8	12	se.	C. B. Wright.
Parshall	Mountrail	......	8	......	......	......	......	......	......	......	2.83	......	1.24	0	7	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	49	59.6	+7.1	93	24	31	30	48	2.70	+0.48	1.20	0	4	18	10	3	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	54.8	+4.3	81	21	27	4	43	3.45	+0.60	0.60	0	14	13	9	9	se.	S. C. Shanks.
Power	Richland	1,020	29	......	......	......	......	......	......	......	4.07	+1.18	1.45	0	6	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	9	......	......	......	......	......	......	......	1.23	......	0.40	0	4	7	12	12	se.	C. Frank.
Skaar	McKenzie	......	3	53.8^{l}	......	84^{d}	26	31^{l}	3†	44^{l}	5.10	......	1.55	0	14	......	......	......	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	54.0	+0.2	78	27	31	4	34	2.88	+0.39	0.35	0	14	7	16	8	se.	H. S. Wood.
Taylor	Stark	2,493	7	54.4^{j}	......	79^{j}	25	30^{j}	14	38^{j}	......	......	......	......	......	......	......	......	......	H. Leutz.
Towner	McHenry	1,482	21	57.2	+4.9	81	25†	32	19	35	2.55	+0.23	0.52	0	13	14	9	8	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	55.6	......	80	26†	34	19	36	1.98	......	0.45	0	15	8	11	12	se.	A. T. Anderson.
Valley City	Barnes	1,245	18	56.3	+3.7	84	24	35	6†	40	4.21	+1.08	1.73	0	13	14	8	9	se.	C. F. Schroeder.
Wahpeton	Richland	962	29	61.0	+5.7	93	28	38	4†	44^{a}	1.74	−1.07	0.65	0	8	7	19	5	se.	State School of Science
Walhalla	Pembina	966	19	59.1^{a}	+8.0	83^{a}	27†	32^{a}	30	39	5.63	+2.98	0.89	0	15	......	......	......	w.	Ivan Lee.
Westhope	Bottineau	1,508	17	55.6	+4.2	83	25	31	19†	38	2.38	+0.34	0.53	0	13	12	7	12	se.	W. A. Meddaugh.
Williston	Williams	1,875	44	55.4	+1.1	82	25	33	12	34	2.64	+0.38	1.11	1.5	15	7	8	16	se.	U. S. Weather Bureau
Willow City	Bottineau	1,471	31	54.2	+2.7	79	25†	30	7	38	2.01	+0.09	0.40	0	14	9	7	15	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	59.5	+4.7	81	27	40	4	30	3.94	+0.99	1.71	0	13	4	13	14	s.	U. S. Weather Bureau.
Averages				56.3	+3.7	93	24†	24	3	52	3.11	+0.56	2.97	0.1	12	10	11	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are us[illegible] determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for May, 1922.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
menia |||	Red		.06	T			.10		.05	.38	.30	2.10	.04			.12		.12	.22	T				.12						.32			3.93
midon	Lit. Missouri			.05	.03	.25			.48			.74	.69		.42	.12		.46			.14		.12							.20	.10	.03	3.83
rnegard	Missouri	T.		T.		.08	.04			T		.30	.85	.24	.30	.19	.10	T.			T	.08	.07						.16	.43	.20		3.04
shley	Missouri					T			.30	.67	.80	.30			T.	.15		.16					.50				.10	.08		.14			3.20
each	Lit. Missouri					.14				.06	.03	.82	.87	.12	.26	.02	T.	.26				.08	.42						.80	.11			3.99
erthold Agency	Missouri					.32	T.		.10	T		.16	.64	.10	.07	T.	T.	.11					.16						T.	.16	.10		2.22
ismarck ***	Missouri	T.		.02		.32	.19	.01	.09	.37	.01	.13	T	.22	.13	.05	.04	.20			.10		.59					.02	.05	.01	.10	T	2.65
ottineau	Mouse		.73	.02			.37	.10		.41	.07	.08	1.46	.30	.07	.04		.04	.35					.03								.14	4.21
owbells ||	Mouse						.22	.16		.42	.10	.33	.51	.15	.31				.12					.23					.18				2.73
owman	Grand			.03		.12				.12	.20	1.60	.15	.02	.20	.25	.02	T.			.25	.02	T.						1.22	.26	.08		4.56
ando	Devils Lake	.05	.01			.09			.31		.40	.20			.18	.03		.22	.04				.15						.74	.13	.01		2.56
arson	Heart			.01		.02			.05		.06	.30	.25		.23	.28								.03					.32				1.55
ooperstown	Sheyenne					.25			.65	1.20				.20			.10	.60					.75						.60				4.35
rosby	Mouse	.47		.03		.35	.38		T.	.32		.89	.64	.56	.38	.02		T.					.07						T				4.11
evils Lake ***	Devils Lake	.28		.17		.20	T.		.64	.34	.30	.28	T.	.03	.01	.01	.06	.21				.01	.06					.02	.01	.08			2.71
ickinson ||	Heart	T.	T.			.04	.16		T.			.21	.71	.02	.22	.09		.09	.01			.15		.03						.15	.04	.05	1.97
onnybrook	Mouse						.40		.07	.37		.70	.30	.05	.15			.15	T.				.40					.75	T	.05			3.39
unn Center |||	Knife					.10	.21			.06		.20	1.15	T.	.33		.24	.08	T.			.05		.12						.20			2.74
unseith	Mouse	.63	.03			.24	.02		.27	.10	.15	.38	.15	.09	.09	.06							.19					.09					2.49
ekman	Mouse	.38				.33	.08	.01	.30	.15		.44		.16	.06		T.	.12					.08					.11			.22		2.44
dgeley	James					.06			.26		1.05			.10				.13						.27					2.15				4.02
llendale***	James	.04		T.		.03	T.	T.	.36	.52	1.34	.32	T.	.07	T.	.02	.01	.03					.60				T.	.05	.29	T.	T.	.01	3.69
nergy	Missouri	T.		.03	T.	.55	.10		T.	.11	T.	T.	.26	.04	T.	T.	T.	.05												.33	.24		1.71
pping	Missouri	.02		T.		.04				.06		.50	.46	.08	.32		.01												.42	.02	.16		2.12
essenden	James		.30		.17		.21	.11	.20	.32	.26	.41	.02	.02	.24	.13	.17	.23	.31			T.	.07	.09						.28			3.54
orman	Sheyenne		.25						.59		1.52	2.25											.66						.42				5.69
oxholm	Mouse	.18				.28	.21		.03	.21		.58	.11	T.	T.		T.	.04				.04	T.					T.	T.		T.		1.68
ryburg	Heart	T.	T.		T.	.20	.06			T.	T.	.75	1.26	.22	.02	.26	T.	.28			.15	T.	.05					.08	.82	.05	.07		4.27
ullerton	James	.18				T.			.48	.07	.35	2.62		.06	T.			.12					2.28						.56				6.72
arrison	Missouri	.27				.50	.37			.48	T.	.05	.60	.02	.10		T.	T.						.07				.05	T.	.10	.11		2.72
rafton	Red	.04	.20			.04			.44	.07	.27	1.31		.12	.02	.04		.38					.41	.37					.41	.05			4.17
rand Forks ***	Red	.11	T.	.07		.02	.10		.34	T.	.06	2.48	T.	.17	.03	.01	.03	.24	.01			T.	.02	.09					.40		T.		4.18
ranville	Mouse	.11				.41	.12		.29	.12	.05	.31	.11	.15	.02	T.		.14					T.					.29	T.	.14	.12		2.38
annah	Pembina	.90				.06					.74	.36											.90										2.96
ansboro	Devils Lake		.10			.14			.40	.13	.33	.87	.10			.10		.65					.46								.22		3.50
ettinger	Grand									.15	.03	.43	.15		.23	.13		.30			T.		T.						1.90	.08	.16		3.56
illsboro	Red	.02		.05	T.	.06			.53		.24	2.70		.01	T.	.45	.13	.19						.17					.14				4.69
oward	Missouri	.02	T.	.01	.01	.01	T.		T.	.33			*	*	*	2.82		T.	T.			T.	.02					T.	.02	.01	.29		3.60
amestown	James	1.40				.16			.12	.32	1.64	1.20			.14	.45	.21	.75	.06			.04	.08	.05					.20				6.82
amoine	Missouri			T.			.36		.08		.26	.53		.09	.06	.73		.09					.33						T.		T.		2.53
angdon	Pembina		.90				T.			1.02	.25	.44	.30		.10		.20		.28			T	.12	.40						1.00			5.01
arimore	Red		.25		.15		.22		.04	.52		2.00	.06	.02	.06	.40		.05	.05	.02				.75						.65			5.24
inton	Missouri	T.		T.	T.	.47	.01	.01	.08	.01	.37	.40	.01	.09		.11		.32					.47					T.	.29	.79		.07	3.50
isbon |||	Sheyenne	T.	.08				T.		.17	.18	.38	2.47	.03					.15	T.					.25							.24		3.95
cClusky	Missouri			.10		.45	.08		.05	.51	.25	.20	.08	*	.13	.15	.03	.02	T.				.17						1.05	.21			3.48
cHenry	James	.16				.32	.19		.72	.38	1.43	.08		.08	.07	.09	.10	.19					.48						.03				4.32
cKinney	Mouse	T.				.25	.30		.15	.38			.60		.76	T.	T	.15					T.					.27	T.	T.			2.86
cLeod	Sheyenne		.23	T.		T.	T.		.51		.37	2.62	T.	T.		T.	.05	.11	.24				.02	.06					.14	.06		T.	4.41
addock	Sheyenne	.19		.11		.33			.45	1.71	.20	.07				.20		.24	.03				.24						.37	.09			4.23
andan ||	Missouri			.04		.12	.38	T.	.03	.06	.34	.11	.03		.24	.03	.04	.33	.01			T.	.04					.03		.08		.14	2.05
anfred	James			.14		.28	.20	.03	.35	.63	.23	.07		.13	.15	.22	.13	.33				.02	.11					.06	.10	.09			3.27
armarth	Lit. Missouri																																
ayville	Red		.30							.38		2.17		.24	.30			.21				.12		.38					.50				4.60
edora	Lit. Missouri										.35	.25	.20	.40	.60	.35	.15				.20								.20		.15		2.85
elville	James	.33		T.		.20	.50		.60	.16	1.00	.45		.10	T.	.80	T.	.20				T.	.40						.21				4.95
inot	Mouse		.11				.67	.04	.01	.20		.25	.45	.01	.14	.01		.01	.10			.02		.21						.18		.05	2.46
into	Red	.07	.01	.15					.40	.01	.34	1.11		.08				.22	.01				.64	.15					.38				3.57
ott	Cannon Ball			.03		.03						.34	.05	.18	.06	.02		.28					.06						.04		.35		1.44
apoleon |||	Missouri					.30			.06	.15	.56	.45	.01	.04	.05	.04	.07	.05	.08				.03	.22					.17	.09		.02	2.39
ew England	Cannon Ball					.20			.10		T.	.40	.22	.05	.27			.20			.50		T.						.59	.01	.08		2.62
ew Salem	Heart	T.		.03		.24	.03			.06	.06	.04	.56	.01	.25	.19		.19				.01									.37		2.04
rk River	Red	.06	.05			T.			.40	.75	2.26	1.18		.09	.06	.07	.04	.18	T.				.11										5.25
rshall	Missouri	T.			.26	1.24	T.		T.		T.	.20	.25	.06															.77		.05		2.83
mbina ||	Red		T.				T.			1.00			1.20			T.			.30	T.			T.	.20					T.				2.70
ttibone	James					.28	.05		.48	.35	.34	.60		.18	.10	.08		.20				.07	.20						.40	.12			3.45
wer	Sheyenne								.30		*	2.10				T.	.18	T.	.04										1.45	T.			4.07
owers Lake	Missouri		T.			T.		T.	T.	.20	T.	.28	.35	.40	T.		T.			T.	T.		T.							T.	T.		1.23
aar	Yellowstone	.10				.20	.10		T.		.20	1.55	.75	.25	.45	.15						.10	.10					T.	.60	.30	.25		5.10
eele	Missouri			.10	T.	.30	T.	T.	.35	.27	.24	.32	T	.18	.18	.22	T.	.10	T.				T.	.24				.12	.23	T.	T.	.03	2.88
ylor	Heart	—	—	—	—	—	—	—	—	—	—	.26	.53	.07	.22	.26	T.	.06					T.					T.		T.	.05		—
owner	Mouse	T.				.30	.32		.46	.08		.52	.01	.12	.04	.04	.03	.40					.12					T.		.11	T.		2.55
rtle Lake	Missouri	.04			.05	.45	.16		.05	.29	.06	.03	.20	.15	.11	.03	T.	.07					.07							.22	T.		1.98
alley City	Sheyenne			.01				.30	.35	T.	.19	1.73		.06	.74	T.	.12	.07	.02			.11	.24						.27				4.21
ahpeton	Red		.05	T.		T.	T.		.28	.02		.35		T.				.19	.10				T.	.65					.10				1.74
alhalla	Pembina		.19	.12		T.	T.		.40	.62	.52	.60	T.	.02	.06	.05	T.	.14	.07				.89	.02				.74				.09	5.63
esthope	Mouse	.53				.36	.18		.23	.16		.17	.15	.06	.01		.02		.09									.30			.12		2.38
illiston ***	Missouri	.02	T.	.01	T.	.07	T.		T.			1.10	.48	.08	.28	.06	.01	.02			.05		.06					.01	.22		.17		2.64
illow City	Mouse	.13	.04			.39	T.	T.	.18	.03		.40	.14	.08	.22	.04	.02	.26	T				.07					T.			.01		2.01
oorhead, Minn ***	Red	T.	.06	T.	T.	.11	.03	T.	.33	.08	1.31	.44		.07	.01	T.	.06	.29	T.				.63						.52	T.		T.	3.94

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch

Daily Temperatures for May, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	68	78	71	75	63	70	70	61	80	87	78	74	74	68	67	66	64	53	58	80	82	81	75	82	83	81	85	78	66	66	64	72.5
	Minimum...	45	45	41	34	38	40	35	52	52	69	57	45	42	42	47	46	40	40	42	41	41	46	53	47	51	51	50	53	45	44	37	45.5
Arnegard	Maximum...	67	72	59	74	66	62	73	64	62	64	53	44	55	57	63	71	64	63	71	73	75	69	72	80	82	82	75	62	57	68	56	66.3
	Minimum...	37	41	24	37	44	42	34	50	48	43	42	32	35	42	42	43	46	39	36	16	53	49	40	47	56	59	60	50	45	38	41	43.3
Ashley	Maximum...	72	72	69	70	65	58	65	60	74	71	67	58	47	53	62	67	60	61	64	70	80	68	70	76	77	78	78	76	67	62	65	67.2
	Minimum...	47	43	42	35	37	42	33	50	52	52	53	35	38	35	45	41	50	42	36	39	51	55	48	41	49	51	58	58	46	43	40	44.8
Beach	Maximum...	61	74	58	69	73	62	75	68	78	60	47	42	40	50	66	66	60	60	71	72	73	68	71	70	81	83	72	70	56	54	62	64.9
	Minimum...	36	38	38	36	41	39	33	46	41	45	34	32	32	36	38	38	42	36	32	40	50	48	38	48	40	42	40	48	53	41	34	39.8
Berthold Agency	Maximum...	71	77	64	75	67	61	72	65	67	67	73	56	51	59	63	70	64	65	70	76	79	72	74	79	82	81	84	77	61	61	67	69.4
	Minimum...	44	46	49	34	37	45	34	54	47	43	48	37	38	42	39	37	50	42	32	45	53	53	37	47	55	57	61	53	45	39	35	41.5
Bismarck	Maximum...	70	77	62	73	61	60	70	63	71	69	70	51	49	56	63	68	61	61	68	74	83	72	72	76	79	78	75	76	60	64	68	67.8
	Minimum...	48	45	43	38	43	47	42	54	53	50	47	41	40	44	45	45	50	44	36	45	54	54	47	19	56	56	62	58	48	46	41	47.4
Bottineau	Maximum...	65	75	60	72	57	56	69	55	64	71	66	59	61	65	69	65	61	60	67	69	79	61	84	55	85	86	80	71	65	66	71	68.4
	Minimum...	46	41	41	31	35	45	30	42	50	47	47	45	40	41	47	40	46	42	34	39	45	53	39	40	52	53	57	54	45	33	36	43.1
Bowbells §§	Maximum...	66	73	56	70	55	59	67	58	59	58	58	55	55	56	66	72	61	61	66	70	76	71	74	77	81	80	79	69	73	66	77	66.6
	Minimum...	44	40	39	35	41	43	39	49	50	38	42	42	36	37	37	43	48	38	36	41	41	48	39	44	52	56	55	52	45	41	35	42.8
Bowman	Maximum...	67	70	60	70	68	63	76	79	68	66	60	48	40	51	60	63	62	60	70	74	76	69	72	76	79	80	74	81	60	55	62	66.4
	Minimum...	28	39	42	33	41	38	39	51	41	43	35	33	33	36	43	36	45	36	37	44	40	51	38	60	53	55	52	54	43	42	33	41.7
Cando	Maximum...	69	75	74	68	68	63	69	61	71	74	75	71	56	61	71	67	63	58	58	69	82	77	75	77	80	79	81	78	63	65	69	69.9
	Minimum...	49	42	44	36	49	45	34	53	52	48	58	47	41	49	46	44	49	45	33	36	55	59	46	44	49	50	53	52	46	37	41	46.2
Carson	Maximum...	70	75	62	75	70	62	75	76	70	74	68	52	45	52	58	66	60	66	68	75	75	70	75	75	80	78	78	80	68	60	68	68.
	Minimum...	40	40	42	35	44	42	40	56	46	54	48	33	35	40	38	40	45	38	35	44	45	55	38	45	55	55	60	58	45	42	34	44.
Crosby	Maximum...	65	68	57	69	66	56	70	60	59	62	51	47	57	62	58	62	62	62	68	74	76	70	73	79	83	83	78	68	65	61	74	66.
	Minimum...	43	40	38	34	42	42	36	45	46	42	42	38	44	42	48	44	46	39	44	46	47	52	40	48	56	60	56	54	48	40	38	44.
Devils Lake	Maximum...	66	76	58	66	59	62	68	57	74	69	75	57	55	62	70	68	58	53	55	70	82	69	73	75	79	79	81	64	60	65	67	66.
	Minimum...	50	46	45	40	42	45	38	53	53	50	54	43	42	44	46	46	49	40	35	39	56	58	49	46	52	54	56	52	45	41	45	46.
Dickinson §§	Maximum...	66	74	59	72	65	63	72	68	62	68	68	47	44	55	61	67	61	63	67	76	75	71	72	78	80	79	75	71	60	58	60	66.
	Minimum...	35	39	46	34	40	43	37	37	35	43	47	33	35	38	42	40	46	33	32	40	48	49	38	48	56	57	59	49	43	42	32	41.
Donnybrook	Maximum...	72	76	66	73	68	60	72	65	61	63	66	58	55	65	66	69	61	64	72	76	78	75	79	82	83	84	84	78	68	68	73	70.
	Minimum...	44	44	42	45	36	44	30	45	48	38	46	44	37	44	44	45	47	40	29	37	45	48	44	46	50	52	54	54	44	35	42	43.
Dunn Center	Maximum...	67	74	57	71	65	62	72	62	61	68	64	44	49	56	61	65	63	63	70	76	76	70	72	79	82	81	64	59	81	59	67	66.
	Minimum...	37	39	48	34	39	45	34	50	46	45	47	36	38	38	43	39	46	41	33	44	50	52	39	46	51	57	60	44	39	44	34	43.
Dunseith	Maximum...	65	74	70	69	65	56	67	60	69	69	66	60	53	61	62	65	60	56	62	69	77	74	72	74	80	79	79	73	61	63	68	67.
	Minimum...	47	39	44	31	37	43	32	43	49	47	47	44	37	43	44	37	44	42	30	36	52	53	41	39	51	54	55	51	44	33	37	42.
Edgeley	Maximum...	71	78	75	71	68	66	68	65	79	75	70	62	50	56	69	69	69	60	61	72	70	73	72	76	77	79	80	78	69	66	67	69.
	Minimum...	35	41	42	39	40	42	36	50	53	51	48	41	38	43	42	42	49	45	36	45	48	53	49	43	47	52	55	57	48	43	41	45.
Ellendale	Maximum...	69	74	61	70	65	65	68	61	76	75	70	55	50	57	68	67	64	58	59	72	80	74	71	75	76	77	79	74	63	61	66	67.
	Minimum...	52	39	44	36	45	42	38	51	53	54	47	42	39	43	46	46	50	43	38	40	56	55	53	47	52	55	58	55	48	45	42	46.
Fessenden	Maximum...	74	70	59	70	57	60	65	58	72	71	73	55	55	62	68	57	57	58	58	71	83	65	75	70	79	78	79	64	62	63	72	66.
	Minimum...	41	38	38	32	35	42	33	48	50	47	50	43	37	38	48	40	48	40	32	35	48	53	44	40	48	47	52	52	41	39	38	42.
Fullerton	Maximum...	72	76	62	70	64	67	69	60	78	77	72	58	49	59	69	71	63	58	60	74	82	82	72	77	77	77	79	78	62	63	68	69.
	Minimum...	49	57	53	38	41	43	37	52	53	62	52	44	38	45	46	45	52	47	37	39	50	50	52	47	51	55	60	59	55	45	42	48.
Garrison	Maximum...	64	75	64	73	62	64	64	62	61	66	73	58	53	57	65	65	63	63	67	76	79	73	73	76	80	80	80	68	60	67	69	67.
	Minimum...	44	43	47	36	37	47	34	50	46	44	45	40	36	42	41	41	48	40	34	41	52	55	40	45	52	53	58	54	47	40	37	44.
Grafton	Maximum...	68	79	76	74	69	71	73	69	80	76	77	73	56	68	74	74	66	54	68	75	84	81	76	78	81	81	84	81	66	67	72	73.
	Minimum...	52	46	51	38	35	47	35	52	53	58	58	46	45	45	48	42	50	40	41	37	51	55	53	44	45	50	52	55	46	36	39	46.
Grand Forks	Maximum...	61	71	55	66	62	64	62	57	75	79	80	54	54	68	72	72	58	52	57	73	79	78	76	73	77	81	83	65	63	63	70	67.
	Minimum...	52	51	41	40	40	48	40	55	55	61	55	46	44	46	46	46	49	44	42	49	55	60	50	49	52	55	53	50	49	41	41	48.
Granville	Maximum...	63	77	60	72	57	58	68	65	65	70	72	65	56	62	68	77	60	64	64	72	78	65	75	77	82	80	77	72	64	64	70	68.
	Minimum...	43	43	38	34	35	48	45	40	48	48	50	40	40	44	42	42	48	40	34	40	52	50	40	53	53	50	55	52	45	38	40	44.
Hansboro	Maximum...	70	76	65	71	63	65	72	63	73	73	70	68	57	65	70	70	65	64	61	70	80	78	76	77	81	80	81	72	62	62	74	70.
	Minimum...	46	38	45	37	35	40	32	38	50	48	48	45	40	40	44	48	45	42	30	45	50	55	45	40	45	47	50	52	35	33	34	42.
Hettinger	Maximum...	68	75	70	73	61	65	79	79	72	71	59	52	58	62	61	64	62	63	69	77	74	71	72	71	77	78	79	79	61	58	64	68.
	Minimum...	38	41	41	31	31	39	27	53	43	43	34	34	38	29	34	42	50	36	32	44	45	45	33	49	48	53	55	42	45	42	37	40.
Hillsboro	Maximum...	64	76	72	69	65	70	67	60	76	79	75	72	53	65	70	70	68	55	56	73	80	75	73	76	79	79	80	80	65	64	68	70.
	Minimum...	40	40	40	38	40	46	39	53	54	61	58	45	40	42	45	45	52	44	41	42	51	56	55	45	50	53	52	55	47	42	37	46.
Howard	Maximum...	65	70	59	65	68	70	70	58	59	60	50	40	50	42	61	69	60	60	69	71	72	69	68	78	78	81	78	68	60	56	66	64.
	Minimum...	35	33	38	37	36	35	45	48	44	39	40	32	38	38	40	42	46	35	35	48	48	32	32	38	39	45	52	52	44	38	34	39.
Jamestown	Maximum...	76	61	69	60	63	66	58	79	67	73	54	50	60	65	69	62	55	58	74	78	76	72	76	79	81	80	74	64	65	69	76	68.
	Minimum...	43	44	45	38	41	44	36	45	48	51	54	43	41	42	45	47	51	41	37	41	47	48	61	46	50	51	55	56	45	44	45	46.
Lamoine	Maximum...	63	60	60	71	67	58	65	62	68	68	70	60	50	58	63	67	63	59	66	70	78	67	70	75	78	77	78	70	58	65	65	65
	Minimum...	40	37	42	34	27	41	35	50	52	47	57	43	38	42	44	43	47	42	39	39	50	54	42	42	53	52	52	56	42	40	40	43
Langdon	Maximum...	72	58	67	64	65	69	65	75	69	74	53	56	63	68	67	56	49	57	78	72	76	73	76	80	79	81	66	65	65	68	68	67
	Minimum...	55	43	40	38	37	44	35	51	50	50	51	45	40	44	46	43	50	41	35	40	48	54	47	45	52	53	53	50	45	36	39	45
Larimore	Maximum...	79	66	70	65	71	67	64	80	72	78	58	55	65	72	72	62	53	69	80	82	77	75	79	81	81	84	64	64	66	70	78	70
	Minimum...	33	45	41	38	40	45	35	38	52	60	58	44	42	45	45	45	52	42	41	38	50	56	52	45	49	59	51	54	46	39	40	45
Linton	Maximum...	70	78	72	74	72	62	71	68	72	72	68	60	56	46	56	64	68	64	67	79	80	63	72	77	78	79	78	79	68	65	67	69
	Minimum...	47	43	36	29	35	44	33	52	52	50	53	40	30	44	44	42	51	46	34	45	53	58	45	45	56	56	60	60	48	45	47	45
Lisbon §§	Maximum...	70	72	66	72	61	69	71	72	83	82	75	55	63	65	72	73	65	55	57	72	85	81	73	81	71	83	85	82	82	65	70	72
	Minimum...	54	48	45	39	40	39	39	50	51	60	53	44	47	42	45	42	50	48	41	37	46	51	52	43	64	52	52	58	45	45	34	47
McKinney	Maximum...	65	78	60	72	65	60	58	58	60	66	60	53	55	63	70	68	61	65	66	70	79	72	75	78	82	80	80	68	64	66	72	67
	Minimum...	42	42	43	48	32	45	32	43	50	43	45	42	40	44	40	45	46	40	30	47	45	45	40	52	48	50	50	50	44	33	32	42
Maddock	Maximum...	71	75	74	70	71	61	67	61	68	70	74	70	56	60	68	65	63	59	57	67	80	79	71	74	77	76	78	76	61	65	65	68
	Minimum...	44	43	39	35	32	43	36	51	52	48	52	46	40	43	48	41	46	44	31	34	53	57	44	42	47	46	53	54	45	40	42	4
Mandan	Maximum...	72	78	63	74	65	60	74	65	72	70	74	53	50	57	67	69	63	65	68	75	81	74	73	77	81	81	79	78	63	66	69	69
	Minimum...	46	44	45	37	42	45	38	50	51	49	52	37	39	41	44	44	51	43	36	42	53	57	44	43	53	55	60	59	46	54	38	46
Melville	Maximum...	65	68	68	62	65	57	62	62	70	70	60	58	57	58	56	67	60	54	55	70	68	68	69	70	71	73	78	78	58	55	66	61
	Minimum...	46	41	43	37	40	43	39	54	54	50	58	42	38	44	45	45	46	42	35	40	56	58	49	47	60	57	57	54	55	42	47	47
Minot	Maximum...	66	76	58	73	60	60	69	56	63	68	73	52	55	61	71	67	66	64	67	73	80	71	75	81	83	85	83	68	63	64	71	6
	Minimum...	38	40	42	31	29	40	26	37	46	40	41	40	33	35	35	36	42	36	28	34	42	48	37	42	43	45	51	49	41	30	32	3
Mott	Maximum...	56	68	55	66	58	68	70	75	58	69	54	60	48	58	63	72	67	54	63	75	64	76	75	72	78	80	79	77	78	77	79	67
	Minimum...	41	44	42	40	38	43	45	48	40	47	40	42	33	38	46	50	48	36	33	43	43	48	48	50	51	53	54	50	54	48	34	4
Napoleon §§	Maximum...	75	77	62	72	62	62	70	63	74	67	69	52	46	54	65	67	61	63	65	72	83	63	71	76	77	78	80	76	61	62	66	67
	Minimum...	43	41	34	35	34	42	31	39	48	46	47	37	36	36	40	36	40	39	29	35	49	54	45	45	50	49	53	56	45	40	39	4
New Salem	Maximum...	69	74	62	62	72	65	71	68	68	70	71	67	51	52	63	67	62	59	67	73	73	71	71	71	79	79	80	78	74	67	76	68
	Minimum...	38	34	48	42	41	42	35	52	47	45	52	44	36	41	40	41	40	33	36	42	51	53	45	42	51	54	58	54	48	42	45	4
Pembina §§	Maximum...	69	80	69	70	71	72	74	64	82	74	76	58	62	72	75	72	59	50	64	78	84	74	85	93	84	85	86	70	70	69	80	7
	Minimum...	47	48	40	40	34	48	36	50	51	51	59	49	45	41	50	43	52	32	39	38	51	62	52	56	49	50	49	60	42	31	32	4
Steele	Maximum...	62	75	53	52	57	55	60	58	72	64	65	55	46	54	62	66	56	56	61	65	72	69	70	72	74	76	78	74	60	66	64	6
	Minimum...	38	34	39	31	38	42	38	51	57	49	56	39	38	40	43	41	50	41	34	41	50	49	48	42	53	52	54	58	45	43	44	4
Towner	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Valley City	Maximum...	64	78	68	72	74	65	70	62	79	62	78	62	58	62	64	62	56	68	64	76	81	82	78	84	81	82	80	64	61	64	68	7
	Minimum...	46	43	41	36	40	35	38	35	45	42	52	44	36	41	48	46	42	43	39	44	40	39	42	44	48	50	52	48	42	42	39	4
Wahpeton	Maximum...	69	77	75	72	68	71	72	61	78	84	80	73	58	64	71	73	70	60	57	76	82	81	76	79	79	80	82	93	68	69	72	7
	Minimum...	54	51	47	38	43	43	39	54	60	63	61	45	42	42	43	46	53	..	44	40	53	59	56	50	49	55	54	49	48	38	42	[a]4
Walhalla	Maximum...	68	78	76	72	69	69	72	62	79	76	74	74	56	67	74	75	68	55	65	74	..	81	76	78	81	82	83	83	64	69	71	[a]7
	Minimum...	52	48	47	45	35	47	38	54	52	52	52	45	45	42	50	46	52	45	39	36	..	46	53	40	42	50	52	53	45	32	40	[a]4
Westhope	Maximum...	63	75	66	72	55	58	70	66	63	68	65	58	57	64	63	64	58	60	69	62	79	70	75	79	83	80	79	69	66	62	72	6
	Minimum...	45	44	42	38	35	45	32	49	50	44	47	44	43	45	44	43	43	45	31	31	52	39	46	51	49	52	51	59	46	36	37	4
Williston	Maximum...	64	71	60	71	63	61	73	62	61	64	48	42	48	58	61	67	62	63	70	74	75	69	72	80	82	81	75	63	58	57	70	6
	Minimum...	44	43	41	41	46	41	39	51	45	45	41	33	37	42	43	46	43	38	38	49	55	47	44	54	61	62	59	53	46	41	39	4
Moorhead, Minn	Maximum...	67	75	70	70	63	68	67	59	77	81	79	56	50	64	69	70	63	52	56	74	81	79	73	77	79	80	81	80	65	63	68	6
	Minimum...	54	50	46	40	41	45	44	53	58	60	54	46	40	43	48	50	51	44	42	45	57	58	57	53	56	56	55	54	47	45	41	4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, e

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

OL. XXXI. BISMARCK, N. D., JUNE, 1922. No. 6

GENERAL SUMMARY.

With the exception of a very few places, soil and weather con- tions at the opening of the month were favorable. There was actically no rain in the State during the first five days, but om the 6th to the 10th, inclusive, showers were general, being ccessive in places. Scattered showers continued throughout th the second and third decades, and at the close of the onth the soil was in excellent condition. The heavy rains ring the second decade interfered considerably with railway d highway traffic, especially in the central part of the State. ops of all kinds made rapid growth, and all were in excel- nt condition at the close of the month.

TEMPERATURE.

The mean temperature for the State was 63.5°, or 0.7° above e normal, and 4.7° lower than the mean for June, 1921. e highest mean reported was 71.5° at Mott, Hettinger unty; the lowest was 60.2° at Bottineau, Bottineau County. e highest temperature reported was 108° at Hettinger, Ad- ns County, on the 23d; the lowest was 30° at Skaar, Mc- enzie County on the 1st. The greatest monthly range of tem- rature was 65° at Hettinger, Adams County; the least was 43° Melville, Foster County. The greatest daily range was 54° Donnybrook, Ward County, on the 23d.

PRECIPITATION.

The average precipitation for the State was 3.78 inches, or 28 inch above the normal, and 0.27 inch more than the av- ge for June, 1921. The greatest monthly amount re- rted was 7.54 inches at Taylor, Stark County; the least s 0.64 inch at Howard, Divide County. The greatest amount corded in any 24 consecutive hours was 4.45 inches at Steele, dder County, on the 15th. The average number of days th 0.01 inch or more of precipitation was 9. From the 6th the 30th the precipitation was quite evenly distributed, but ring the first five days there was practically no precipitation the State.

AURORAS.

Auroras were observed at Crosby and Moorhead on the 2d; at and Forks on the 11th; at Washburn on the 12th; at New gland on the 15th; at Foxholm on the 17th; at Grand Forks the 18th; at Bismarck on the 24th, and at McKinney on the h.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.94	30.35	25	29.47	23	57	5,736	8.0	38	w.	23
Devils Lake	29.90	30.37	25	29.43	23	44	6,585	9.1	36	n.	16
Ellendale	29.94	30.36	25	29.56	23	56	8,409	11.7	51	w.	15
Grand Forks	29.89	30.34	25	29.55	23	90	....	......	40	w.	23
Williston	29.89	30.32	24	29.44	22	48	5,546	7.7	56	w.	22
Moorhead, Minn	29.91	30.34	25	29.53	23	58	5,496	7.6	27	nw.	23
Av'ges and extremes	29.91	30.37	25	29.43	23	.....	....	8.8	56	w.	22

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	328.2	475.1	69	+ 7	82	58	60	23	4
Devils Lake	300.2	478.7	63	+ 4	80	56	59	18	5
Ellendale	341.9	470.9	73	......	83	59	....	31	1
Grand Forks	......	......	......	......	77	.....	60	.....	....
Williston	332.8	478.7	70	+13	81	51	48	18	5
Moorhead, Minn	......	......	......	......	79	55	59	29	12
Averages and extremes	325.8	475.8	69	+ 8	80	56	57	18	5

* And other dates.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893...	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894...	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895...	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896...	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897...	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898...	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899...	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900...	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901...	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902...	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903...	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904...	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905...	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906...	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907...	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908...	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909...	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910...	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911...	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912...	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913...	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914...	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915...	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916...	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917...	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918...	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919...	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920...	62.2	0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921...	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.
1922...	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.

Climatological Data for June, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	65.4	+1.9	94	5	45	2	44	3.77	−0.10	2.10	0	6	20	9	1	n.	E. T. Carley.
Amidon	Slope		9	65.0		90	5	34	2	41	7.43		3.53	0	11	17	11	2	nw.	Charles Eastgate.
Arnegard	McKenzie		8	64.2		89	5	39	2	41	3.78		1.76	0	11	19	8	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	63.6^{e}	+1.6	89^{e}	22	44^{e}	1†	32^{e}	2.35	−1.14	0.75	0	10				nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	63.0	+1.9	88	5†	40	1	34	4.16	+0.68	1.68	0	9					J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	30	65.4	+2.8	94	4	41	1	46^{a}	4.50	+0.62	2.44	0	13	9	6	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	66.2	+2.0	95	5	44	1	37	3.24	−0.30	1.02	0	12	15	9	6	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	60.2	−0.8	94	5†	35	1	47	3.20	+0.06	1.30	0	10	14	9	7	ne.	N. A. Eckberg.
Bowbells	Burke	1,958	11	63.9	+3.7	95	18†	39	10	11	3.67	+0.58	1.55	0	9	20	1	9		G. H. Phelps.
Bowman	Bowman	2,961	9	63.6		90	22	37	1	49	4.89		2.37	0	13	18	9	3	ne.	R. Love, Jr.
Cando	Towner	1,488	22	64.2	+3.0	98	22	42	1†	42	3.45	−0.43	1.23	0	11	10	13	7	ne.	A. J Swanson.
Carson	Grant	2,500	11	64.9	+1.9	94	5	40	1	40	5.16	+1.29	1.72	0	13	16	8	6	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17								2.06	+1.58	0.93	0	6	16	10	4	nw.	S. Friswold.
Crosby	Divide	1,954	16	61.2	+3.6	99	22	39	10	40	1.93	−1.03	0.74	0	5	12	11	7	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	63.8	+1.2	94	5	43	9	34	2.52	−1.01	1.02	0	9	12	10	8	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	63.3	+2.0	92	5	40	1	45	6.57	+3.53	3.00	0	14	11	6	13	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	65.5	+5.0	95	22	38	23	54	5.17	+2.31	1.25	0	12	8	15	7	sw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	63.8	+1.9	92	5†	33	1	43	5.30	+1.00	2.08	0	12	19	6	5	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	62.2	+1.0	92	5†	36	1	47	2.78	−0.18	0.66	0	11	20	5	5	w.	J. G. Lamont.
Eckman	Bottineau	1,500	18	63.9^{b}	+2.6	97^{a}	5	41^{b}	29	42	3.96	+1.20	1.71	0	8	19	6	5	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	65.5	+2.7	90	5†	45	1	37	2.44	−0.92	0.74	0	7	12	11	7	sw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	64.2	−1.8	90	22	44	1	37	2.17	0.83	0.89	0	10	7	11	12	sw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	64.8		96	5	40	9	46	3.69	+0.08	1.70	0	9	12	13	5	se.	H. S. Solenberger.
Epping	Williams	2,224	15	63.0		90	4†	33	15	42	4.35	+1.01	2.22	0	7	11	13	6	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	64.2^{c}	+3.1	98	5	39	1	44	4.43	+0.38	1.41	0	9				sw.	T. D. Monsen.
Forman	Sargent	1,249	29								2.97	−0.64	0.95	0	7					O. Enger.
Foxholm	Ward	1,657	2	62.5		93	5	41	9	37	4.86		1.25	0	9	11	11	8	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								5.27		2.51	0	10	20	5	5	sw.	Verne King.
Fullerton	Dickey	1,439	25	66.8	+4.1	94	22	44	1	34	4.27	+0.99	2.03	0	9	15	11	4	ne.	F. O. Alin.
Garrison	McLean	1,901	28	64.1	+1.9	94	5	42	1†	38	4.75	+1.43	2.05	0	10	15	11	4	nw.	G. L. Robinson.
Grafton	Walsh	827	31	65.0	+2.5	94	5†	40	25	44	3.17	−0.06	1.12	0	6	20	5	5	ne.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	64.4	+1.5	92	5	45	25	35	1.81	−1.58	0.63	0	11	13	10	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	64.0	+0.9	94	5†	43	1	38	3.32	+0.57	0.81	0	12	7	18	5	w.	W. A. Christianson.
Hannah	Cavalier	1,568	29								1.62	1.82	1.08	0	3					J. Moffatt.
Hansboro	Towner	1,597	15	63.4	+3.0	98	5	40	12†	44	2.59	−0.10	0.60	0	10	15	11	4	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	66.0	+3.9	108	23	43	2	47	3.90	+0.66	1.04	0	10	22	5	3	nw.	P. J. Downey.
Hillsboro	Traill	901	17	65.5^{c}	+1.1	92^{b}	22†	45^{d}	1	35^{d}	1.22	−2.13	0.78	0	8				s.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16			95	20	44	2	43	0.64	−1.95	0.18	0	4	17	12	1	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	65.4	+2.3	95	5	46	1	45	7.34	+3.56	2.30	0	10	14	4	12	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	62.4^{a}	+1.9	97		39	1	35^{c}	3.51	+0.19	1.70	0	6				se.	E. V. Virgin.
Langdon	Cavalier	1,615	27	61.6	+1.9	92	5	41	9	37	4.12	+0.62	1.24	0	8	17	4	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	63.6	+1.5	96	4†	36	10	53	2.91	−0.59	0.78	0	10	17	3	10	w.	Reuben Gray.
Linton	Emmons	1,711	5	67.2		94	22	38	1	40	1.89		0.37	0	12	14	8	8	nw.	William Malpass.
Lisbon	Ransom	1,091	19	65.6	+2.5	96	23	39	1	36	5.25	+0.96	2.04	0	7	18	7	5	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5								2.37		0.65	0	9					Edw Tapley.
McHenry	Foster	1,509	12																	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	65.2	+4.5	95	22	40	9†	45	3.12	−0.10	1.35	0	6	18	5	7	ne.	N. P. Swenson.
McLeod	Ransom	1,075	11	66.2	+1.2	93	22	43	1	36	4.50	+0.30	1.63	0	9	14	6	10	sw.	J. G. Carlson.
Maddock	Benson	1,604	8																	A. T. Felland.
Mandan	Morton	1,644	9	66.0		96	5	44	1	40	3.43		1.54	0	11	9	13	8	se.	No. Gt. Plains Field St
Manfred	Wells	1,605	20	64.6	+3.1	95	5	45	9†	42	5.13	+1.55	2.06	0	11	11	12	7	sw.	P. B. Anderson.
Marmarth	Slope	2,714	14																	S. P. Grane.
Mayville	Traill	975	27	63.0^{b}	+1.5	95	5	43	12	41	1.60	−1.91	0.52	0	6				sw.	M. G. Sateren.
Medora	Billings	2,270	23																	T. A. Davis.
Melville	Foster	1,590	25	64.0^{c}	+1.1	88^{c}	5	45^{c}	1	33^{c}	2.81	−0.70	0.85	0	8				sw.	J. P. Kidder.
Minot	Ward	1,557	27	61.4	−1.1	95	4†	35	1	52	3.60	+0.34	1.83	0	10	22	3	5	e.	W. I. Faris.
Minto	Walsh	820	30	65.3	+1.4	95	5	41	12†	41	4.30	+1.00	2.00	0	9	17	7	6	n.	C. M. Evans.
Mott	Hettinger	2,424	16	71.5	+8.5	93	5	48	11	30	5.23	+1.83	2.89	0	10	13	9	8	e.	O. H. Opland.
Napoleon	Logan	1,955	31	63.2	+1.0	93	22	40	1	39	2.66	0.96	1.02	0	11	18	2	10	sw.	C. J. Hoof.
New England	Hettinger	2,400	29	68.2	+6.2	91	21	40	1	40	6.06	+3.37	2.50	0	10	4	11	15	se.	W. C. McKenzie.
New Salem	Morton	2,163	19	66.6	+3.8	95	5	46	2	35	4.48	+0.77	1.32	0	8	15	12	3	sw.	J. Christiansen.
Park River	Walsh	998	19	64.8	+1.6	95	5	41	12	40	4.66	+1.33	2.61	0	7	12	5	13	nw.	C. B. Wright.
Parshall	Mountrail		8								4.20		1.75	0	9					J. A. Johnson.
Pembina	Pembina	789	49	65.6	+3.0	97	5	37	25	48	3.60	+0.32	1.00	0	5	16	6	8	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	63.2	+3.0	92	5	36	1	43	4.26	+1.04	1.70	0	10	17	7	6	sw.	S. C. Shanks.
Power	Richland	1,020	29								3.10	−0.86	1.05	0	8					J. A. Power.
Powers Lake	Burke	2,205	9								3.70	+0.84	1.54	0	7	16	7	7	sw.	C. Frank.
Skaar	McKenzie		3	63.2^{i}		90^{i}	22	30^{i}	1	40^{i}	4.48		1.90	0	7				sw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	64.7	+2.3	93	5	42	1	40^{a}	6.24	+2.91	4.45	0	7	10	13	7	ne.	H. S. Wood.
Taylor	Stark	2,493	7	64.8		93	5	41	1	36	7.54		3.57	0	14	18	7	5	nw.	H. Leutz.
Towner	McHenry	1,482	21	65.1	+2.9	96	5	40	2†	43	3.04	−0.04	1.32	0	7	18	4	8	sw.	B. Bagley.
Turtle Lake	McLean	1,899	8	64.4		95	5	43	1	41	2.69		0.87	0	9	12	9	9	ne.	A. T. Anderson.
Valley City	Barnes	1,245	18	64.8	+1.6	91	6	41	1	35	2.61	−0.70	1.79	0	6	24	1	5	nw.	C. F. Schroeder.
Wahpeton	Richland	962	29	67.0	+2.2	96	22	43	1	38	5.64	+1.69	3.15	0	10	15	5	10	ne.	State School of Scienc
Walhalla	Pembina	966	19	65.6	+3.7	96	5	38	25	45	4.01	+1.14	1.34	0	10	10	11	9	n.	Ivan Lee.
Westhope	Bottineau	1,508	17	63.6	+2.0	95	22	42	9†	45	2.45	+0.49	0.60	0	11	19	5	6	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	64.7	+2.0	91	4	45	9	38	4.28	+0.71	1.86	0	11	9	11	10	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	61.2	+0.2	94	4†	35	1	50	2.71	−0.37	0.67	0	10	10	12	8	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	65.6	+1.3	94	22	46	1	35	2.93	−1.20	1.08	0	8	7	8	15	n.	U. S. Weather Bureau.
Averages				63.5	+0.7	108	23	30	1	54	3.78	+0.28	4.45	0	9	15	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for June, 1922.

Stations.	Drainage Basin.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
menia ||	Red								T.		.25			.30		2.10	.70										.10				.32		3.77
milton	Lit. Missouri						.29	.25	.83	.84			.10			3.53		.06			.01	T.	T.			.06		.10		1.36			7.43
rnegard	Missouri							.15	.02	.15	T.		.12			.07					.60	.68		1.76		.12				.06	.05		3.78
shley	Missouri							.21	.28	.14	.15	.02	.36		.32	.75													.06	.06			2.35
each	Lit. Missouri						.07	.32	.18	.53	.03				.15	1.68							.60							.30			4.16
erthold Agency	Missouri						.02	.20	.13	.39	.06		T		T.	2.30	.14		T.		.34	.50		.07			.28	T		.06	.01		4.50
ismarck ***	Missouri						.22	.24	.21	.60	.09		T.		.44	.58	T.	.04		.35	.06	T.		T.		.39	.02			T	T.		3.24
ottineau	Mouse								.05	.07	.03			.03			.27						.27	1.30	.14		.03				1.01		3.20
owbells ||	Mouse								.26	.27	.08						.24						.05	1.55	.48		.06				.68		3.67
owman	Grand					.04		.31	.39	.51	.34		.55		.04	2.37		.05		.01						.04		.15		.06			4.89
ando	Devils Lake							1.23		T.	.02		.09			.26	.20				.21	.28				.25	.18			.34	.39		3.45
arson	Heart							.70	.05	.40	.15		.14		.02	1.72	.05	.20		.48	.70			.15				.40					5.16
ooperstown	Sheyenne							.40		.12			.25		.93				.20							.16							2.06
rosby	Mouse							.22	.29												.20			.74		T.		T.		.18			1.63
evils Lake ***	Devils Lake							1.02	.02	.05			T.			.27	.24					.23				T.	.03			.60	.06		2.52
ickinson|| ||	Heart						.07	.32	.30	.78	.67		T.	.01		.94	3.00		.02	.31	T.	.01		T.	T.		.10		.02		.02		6.57
onnybrook	Mouse						.02	.05	.27	.37	.05		.05			.90	.06			T.	T.	1.25	T.	1.00						1.00	.15		5.17
unn Center ||	Knife						.07	.32	.23	.30	.15					.70	2.08				.37	.29		.15			.60				.04		5.30
unseith	Mouse							.04	.09	.02	.03					.43	.04					.20		.57			.10			.66	.60		2.78
ckman	Mouse							T.	.05	.13						.84	.87							.50		.09				1.39	.09		3.96
dgeley	James							.15		.28			.33	.11		.71	.12										.74						2.44
llendale***	James							.02	.25	.13	.44		.14		.10	.81	T.									.17	.04		T.	.07	T.		2.17
nergy	Missouri						T.	.50	.04	.56	.02		T.		T.	1.70					.16	.17					.50			.04	T		3.69
pping	Missouri							.12	.07	.09			T.			T.			T.		1.14	.25		2.22						.46			4.35
essenden	James								.38	.03		.01		.52		.36	1.10						.30				1.41				.32		4.43
orman	Sheyenne								.14	.10	.54		.33			.95	.61										.30						2.97
oxholm	Mouse							T	.03	.26	T.					1.12	.21					.62		1.25		T.	.13			1.12	.12		4.86
ryburg	Heart						.37	.44	.33	1.15	.02				T.	2.51	.14	T.		.10		T.			.13			T.		.08	T.		5.27
ullerton	James							T.	.23	.22	.08		2.03		.21	.84	.12			.10							.44			T.			4.27
arrison	Missouri							.67	.27	.28			T.		T.	2.05	.05				.10	.38				T.	.50	.23		.22	T.		4.75
rafton	Red							.72	.02							.40	1.12													.41	.50		3.17
rand Forks ***	Red							.32	.03	.01	.13		.19			.63	.13	T.				.14		T.			.07			.14	.02		1.81
ranville	Mouse	T.					T.	.09	.05				.17			.81	.26				T.	.59		.10	.05	.56	.03			.52	.09		3.32
annah	Pembina							.28								.26														1.08			1.62
ansboro	Devils Lake							.08	.10				.18			.60	.03					.10		.20			.10			.60	.60		2.59
ettinger	Grand							.38	.31	1.01	.05				.05	1.04	.22	.01								.13				.70			3.90
illsboro	Red							.09		.05	.13		.02		.07	.78				.07							.06						1.22
oward	Missouri					T.												T.	T.		.15	.17							.18	.14			0.64
amestown	James							1.08	.06		.38	.26				2.30	1.10	.27		.06							1.70				.13		7.34
amoine	Missouri							1.70			.30		T.			1.00										.25	.16			.10			3.51
angdon	Pembina							.46	.36							.08	1.24			.56			.12	.10							1.20		4.12
arimore	Red			.02				.60	.50		.20			.40		.78	.10			.07			.14								.10		2.91
inton	Missouri							.30	.05	.15	.18		.06		.37	.24				.12	.06						.23	.05		.08			1.89
isbon ||	Sheyenne							T.	.08	T.	.46			.80		1.03	2.04				T.						.80				.04		5.25
cClusky	Missouri						.60		.20	.22						.65	.25					.07		.03		.10				.25			2.37
cHenry	James																																......
cKinney	Mouse							.15	.25	.20						.37								1.35						.80			3.12
cLeod	Sheyenne							T.	.11	.57	.06		.76			.49	1.63			.31							.49			.05			4.50
addock	Sheyenne																																......
andan ||	Missouri							.18	.25	.53	.11	T.				1.54	.36			.30	.11		.01	.01			.03				T.		3.43
anfred	James						2.06	.10	.22	.02		.15				.35	.75					.50				.43				.87	.18		5.13
armarth	Lit. Missouri																																......
ayville	Red							.22	.20		.13					.03											.50				.52		1.60
edora	Lit. Missouri																																......
elville	James							.60		.13	.10				.16	.85										.85				.12			2.81
inot	Mouse							.05	.04	.02	.07						1.83					.12	.23	.60			.12				.52		3.60
into	Red							.62	.03		.03			.09		.53	2.00					T.					.14			.22	.64		4.30
ott	Cannon Ball						.03	.82	.35	.51	.31					2.87		.06		.20					.06	T.	T.		.02				5.23
apoleon |||	Missouri							.35	.03	.10	.22	.15		.65		1.02	.02			.01	.05						.06						2.66
ew England	Cannon Ball						.20	.85	.58	1.00	.10				T.	2.50		T.		.50							.15	.03	T.	.15			6.06
ew Salem	Heart							1.28	.18	.62					.06	1.32				.58						.14	.30	T.					4.48
ark River	Red			T.				.80								.25	2.61					.04					.02			.44	.50		4.66
arshall	Missouri							.08	.07	.10						1.75	.10			.18		1.51		.11			.30	T.					4.20
embina || ||	Red							.20	.70	T.				.90			1.00						T.					T.			.80		3.60
ettibone	James							.61		.25	.15		T.		.15	1.70	.15			.07						.88	.20			.10	T.		4.26
ower	Sheyenne									.35	T.		.36		.70		1.05			.10					.04	.34			.16				3.10
owers Lake	Missouri							.10	.35	.10										T.	T.	1.10	T.	1.54	T.	T.			T.	.46	.05		3.70
kaar	Yellowstone							.30	.15	.40						.10						1.45		1.90		.18							4.48
eele	Missouri							.42	T.	.32	T.		T.	T.	.56	4.45	.04			T.			T.			T.	.40				.05		6.24
aylor	Heart						.05	.35	.23	1.44	.01		T		T.	3.57	.05			.46	.20	T.		.02			.20	.64		.17	.15		7.54
owner	Mouse								.10	T.			T.			.80	.25					.48				.09				.80	.52		3.04
urtle Lake	Missouri						T.	.64	.09	.47	T.				T.	.87						.17		.02		.08	.03			.32			2.69
alley City	Sheyenne							.25		.13				.03	.18	1.79		T.								.23				T.			2.61
ahpeton	Red								.11	.02	.78	.03	.40			3.15	.15			.08							.76				.16		5.64
alhalla	Pembina			.23				.68	T.		.04		T.			.21	1.34			.29		.04		T.	.02		.12				1.04		4.01
esthope	Mouse							.07	.19	.01			.13			.41	.12					.07		.56			.18			.60	.11		2.45
illiston ***	Missouri						T.	.19	.05	.16	T.		.03			T.			T.	.21	1.22	.11	1.53	.33		.11		T.		.34	T.		4.28
illow City	Mouse							T.	.04	T.	.04		.09			.37	.01					.23		.56			.03			.67	.67		2.71
oorhead, Minn ***	Red		T.					T.	T.	.22			.01		.17	.90	1.00			T.							.08		T.	.54	.01		2.93

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum...	79	80	83	89	94	86	68	65	70	73	72	69	84	78	80	67	79	82	74	82	76	93	85	78	77	79	81	83	77	72	....	78.
	Minimum ...	46	45	50	51	50	56	61	49	48	48	52	47	54	51	56	61	50	54	61	46	54	56	64	50	52	50	49	51	50	55	....	52.
Arnegard	Maximum...	72	80	81	88	89	81	69	68	51	66	78	82	81	80	68	65	83	83	86	78	84	88	79	69	80	69	74	75	76	71	....	76.
	Minimum ...	43	39	47	55	56	58	52	47	44	48	50	50	48	51	53	52	53	55	54	57	59	67	54	51	56	54	50	55	50	50	....	51.
Ashley	Maximum...	70	70	76	82	88	88	68	58	65	68	76	80	80	70	78	64	78	..	..	82	84	89	..	..	..	80	75	78	71	67	....	e75.
	Minimum ...	44	44	49	53	59	56	58	50	50	49	49	56	50	53	59	54	48	..	..	50	57	65	..	..	..	49	45	47	51	47	....	e51.
Beach	Maximum...	62	72	80	86	88	81	68	68	60	56	75	79	80	74	60	75	77	82	80	76	79	88	76	72	78	74	72	73	79	73	....	74.
	Minimum ...	40	42	46	53	60	58	52	48	53	47	48	53	49	59	54	53	54	50	52	56	54	58	49	51	50	50	49	50	53	49	....	51.
Berthold Agency	Maximum...	70	79	85	94	93	85	70	60	61	67	78	86	87	80	67	79	80	90	76	77	84	89	88	70	79	75	76	76	72	72	....	78.
	Minimum ...	41	..	46	56	47	62	55	50	45	50	50	53	42	61	55	56	57	58	54	58	58	57	53	59	54	54	50	50	48	52	....	a52.
Bismarck	Maximum...	74	75	81	93	95	89	72	60	59	68	77	86	82	70	72	75	80	89	72	77	86	92	78	72	79	74	73	77	75	65	....	77.
	Minimum ...	44	47	53	56	59	58	56	52	52	50	52	58	50	57	61	59	57	62	58	58	62	64	59	51	54	56	50	53	52	56	....	55.
Bottineau §§	Maximum...	79	87	85	89	94	77	55	50	49	65	66	94	80	76	61	76	79	80	70	71	71	90	62	51	65	67	69	62	61	60	....	71.
	Minimum ...	35	40	45	47	47	55	55	43	41	44	46	47	50	49	55	57	51	57	50	51	57	55	56	47	50	49	50	51	41	49	....	49.
Bowbells §§	Maximum...	77	83	80	88	95	93	83	58	51	51	63	79	86	88	86	71	82	85	95	85	80	81	95	89	89	72	75	77	70	61	....	78.
	Minimum ...	43	44	51	55	58	55	51	43	40	39	42	52	45	61	49	51	49	54	42	55	45	57	57	54	51	45	51	50	41	48	....	49.
Bowman	Maximum...	69	73	81	88	80	87	73	70	76	65	76	78	78	74	66	73	80	82	76	77	86	90	87	72	79	72	70	77	82	76	....	77.
	Minimum ...	37	40	43	50	40	38	58	59	52	50	44	40	51	50	55	55	53	52	52	57	53	58	45	45	57	54	52	51	57	51	....	50.
Cando	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Carson	Maximum...	70	73	80	90	94	90	75	70	60	70	77	80	90	72	68	75	80	85	85	76	85	90	80	70	77	75	66	77	72	65	....	77.
	Minimum ...	40	43	48	50	65	62	55	50	52	50	50	50	50	55	54	55	52	55	55	50	58	66	54	50	50	55	53	50	50	50	....	52.
Crosby	Maximum...	75	79	87	91	91	78	56	52	56	70	76	83	87	83	81	83	83	85	81	83	86	99	92	78	76	73	78	69	65	76	....	78.
	Minimum ...	43	44	48	54	62	56	48	44	42	39	48	51	47	59	52	53	53	52	48	48	52	62	52	52	48	52	53	51	41	44	....	49.
Devils Lake	Maximum...	76	76	82	92	94	80	62	58	58	68	71	81	82	75	67	70	79	85	74	79	71	90	74	60	71	72	76	75	74	65	....	74.
	Minimum ...	48	51	55	58	60	54	49	46	43	49	52	51	50	58	60	57	54	60	53	58	56	57	54	49	52	54	47	54	45	52	....	52.
Dickinson §§	Maximum...	71	79	81	91	92	84	59	63	55	65	76	81	80	75	60	75	79	84	71	77	85	88	73	70	78	73	70	75	76	68	....	75.
	Minimum ...	40	41	41	48	47	60	56	52	48	49	48	52	[illegible]	58	55	56	54	51	53	58	59	58	59	50	49	57	49	51	52	51	....	51.
Dounybrook	Maximum...	78	79	85	92	94	86	69	56	51	72	79	85	91	85	78	83	85	85	80	85	84	95	92	65	80	76	81	70	67	66	....	79.
	Minimum ...	47	47	58	61	63	58	52	40	42	47	51	50	47	59	54	51	60	61	48	56	57	63	58	55	49	50	48	53	40	48	....	51.
Dunn Center §§	Maximum...	73	76	83	92	92	84	59	59	54	65	78	84	84	78	61	77	81	85	74	77	85	88	71	70	78	74	72	78	76	67	....	75.
	Minimum ...	33	40	45	52	49	60	55	52	45	45	47	50	45	59	55	56	54	54	50	57	58	57	61	51	61	51	49	53	57	51	....	51.
Dunseith	Maximum...	78	77	82	91	92	84	77	57	57	69	70	84	84	83	72	75	81	83	76	76	75	92	87	63	70	70	74	72	68	64	....	76.
	Minimum ...	36	43	46	44	48	50	51	40	40	42	47	47	47	55	53	56	48	58	46	49	51	55	55	47	50	50	50	50	43	49	....	48.
Edgeley	Maximum...	73	72	78	85	90	88	86	63	69	70	75	74	80	78	79	72	79	83	82	75	85	90	90	74	73	74	75	78	76	67	....	77.
	Minimum ...	45	48	50	53	57	59	49	50	49	51	51	50	51	56	60	58	48	58	58	46	54	60	67	51	46	56	47	64	50	55	....	53.
Ellendale	Maximum...	70	70	75	84	87	89	77	63	63	68	71	76	79	70	77	66	76	80	70	74	86	90	80	74	72	73	74	79	70	65	....	75.
	Minimum ...	44	48	48	47	55	56	57	50	52	51	51	52	53	54	58	55	50	60	56	51	56	68	58	50	51	55	50	54	53	57	....	53.
Fessenden §§	Maximum...	80	80	87	92	98	..	61	60	..	71	78	83	85	72	70	75	99	..	84	87	87	90	73	85	75	74	76	75	72	65	....	c78.
	Minimum ...	39	44	47	53	54	54	..	43	45	..	44	49	45	50	58	56	50	51	..	50	52	55	60	50	50	50	46	52	45	50	....	c49.
Fullerton	Maximum...	73	80	85	89	90	77	64	64	69	76	77	82	72	80	66	79	84	73	77	85	94	82	75	75	73	76	80	73	68	70	....	76.
	Minimum ...	44	47	46	58	68	65	59	50	56	51	50	48	56	62	62	57	50	65	62	63	64	65	59	55	53	57	62	63	52	56	....	56.
Garrison	Maximum...	76	78	83	92	94	89	76	57	58	68	75	84	84	74	65	74	79	86	75	79	81	90	76	68	74	73	75	73	72	65	....	76.
	Minimum ...	42	46	47	56	56	61	52	48	42	48	49	51	52	54	54	56	55	57	53	54	55	59	62	51	52	52	46	53	46	45	....	51.
Grafton	Maximum...	80	82	86	93	94	89	71	63	63	72	72	83	83	78	77	72	80	86	76	79	74	94	89	76	73	74	81	80	79	73	....	79.1
	Minimum ...	46	45	55	54	52	51	53	47	42	49	43	42	49	51	60	57	54	60	53	51	54	50	66	59	40	54	48	52	47	53	....	50.
Grand Forks	Maximum...	77	79	83	90	92	76	59	55	61	68	70	81	82	78	80	66	78	81	72	79	74	90	80	64	72	76	79	79	77	70	....	75.
	Minimum ...	46	52	59	56	58	56	52	49	48	48	54	46	57	52	62	55	52	59	53	49	56	62	57	50	45	53	49	54	49	56	....	53.
Granville	Maximum...	77	78	83	93	94	85	65	60	68	72	77	89	82	78	62	75	80	86	74	78	80	94	65	65	72	65	75	70	67	62	....	75.
	Minimum ...	43	44	48	55	57	58	54	45	58	56	48	53	47	54	50	57	55	58	50	58	55	60	55	52	57	53	50	48	44	50	....	52.
Hansboro	Maximum...	84	84	90	92	98	76	70	70	62	73	73	71	88	80	71	74	80	91	80	80	85	93	83	70	68	76	82	80	70	70	....	78.
	Minimum ...	44	47	50	48	55	52	50	42	45	42	47	40	50	57	48	51	50	50	47	45	50	50	56	40	40	50	55	50	40	50	....	48.
Hettinger	Maximum...	68	71	73	87	90	85	75	73	60	70	82	82	80	78	66	75	81	86	82	78	88	90	108	70	72	78	81	73	72	80	....	78.
	Minimum ...	48	43	48	47	49	62	56	53	44	46	56	52	49	60	56	56	55	53	55	56	61	61	61	49	53	56	60	50	56	52	....	53.
Hillsboro	Maximum...	76	77	82	87	90	90	74	57	65	69	70	80	81	70	79	..	77	81	76	78	77	92	92	75	..	75	78	80	76	73	....	b77.
	Minimum ...	45	49	55	52	55	58	56	47	48	49	53	46	55	51	61	..	..	57	60	47	54	64	63	51	..	..	50	52	49	55	....	d53.
Howard	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	48	44	48	57	55	52	54	55	56	56	57	55	56	56	55	56	57	58	57	56	57	56	50	51	48	46	47	50	47	49	....	53.
Jamestown §§	Maximum...	79	82	89	95	82	64	69	63	70	73	79	86	70	78	67	80	85	71	76	80	90	81	70	80	72	76	80	75	65	71	....	76.
	Minimum ...	46	50	52	50	55	57	60	50	47	48	51	52	52	51	57	59	50	59	60	52	57	62	69	56	53	55	52	56	52	55	....	54.
Lamoine	Maximum...	74	74	..	..	97	85	72	78	60	67	71	81	80	72	70	71	79	84	72	72	80	87	79	67	74	73	72	73	74	73	....	b75.
	Minimum ...	39	41	44	..	45	53	55	47	45	45	45	51	45	52	53	58	51	58	55	51	52	53	56	50	51	47	52	46	46	44	....	a49.
Langdon§§	Maximum...	76	75	80	88	92	78	62	58	58	76	67	82	81	75	68	68	78	83	70	69	70	86	71	68	70	70	76	73	73	65	....	73.
	Minimum ...	42	45	50	52	55	51	52	44	41	45	49	45	51	55	55	43	51	60	50	53	56	55	58	49	46	43	44	52	45	50	....	49.
Larimore §§	Maximum...	80	84	92	96	77	60	56	60	70	72	81	96	78	80	70	80	85	75	81	75	93	76	71	74	76	81	80	80	68	68	....	77.
	Minimum ...	45	52	55	56	46	54	46	44	36	50	43	55	55	59	58	50	57	55	50	53	59	67	52	45	54	50	54	47	52	..	....	50.
Linton	Maximum...	73	71	79	88	93	92	90	66	67	70	79	84	83	80	78	74	81	87	86	79	88	94	83	74	80	74	74	81	77	71	....	73.
	Minimum ...	38	46	47	51	53	64	66	53	54	51	47	58	46	55	56	57	50	57	58	54	61	69	65	50	68	55	45	50	55	56	....	54.
Lisbon §§	Maximum...	75	75	81	88	94	93	74	66	65	65	75	73	82	75	82	67	81	84	70	89	79	97	85	73	76	74	78	81	74	68	....	77.
	Minimum ...	39	48	49	47	52	62	61	50	50	50	52	49	52	47	62	59	50	54	57	46	53	63	72	52	53	56	50	51	53	59	....	53.
McKinney	Maximum...	80	80	85	92	94	84	75	65	53	70	75	87	88	82	72	79	85	82	78	80	82	95	90	65	87	75	78	72	65	65	....	78.
	Minimum ...	42	45	53	62	60	60	60	45	40	42	60	45	45	55	60	52	55	58	40	52	57	50	58	50	52	50	45	56	50	50	....	51.6
Maddock	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Marmarth	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Melville	Maximum...	72	74	80	80	88	82	72	58	56	64	82	..	78	80	72	72	72	87	84	74	75	85	85	75	..	68	70	..	70	68	....	c75.
	Minimum ...	45	49	52	59	58	52	55	47	46	46	54	..	54	50	57	55	50	60	55	52	50	52	65	60	..	53	55	..	56	52	....	c53.1
Minot §§	Maximum...	80	79	85	95	95	87	65	56	52	70	78	87	89	82	62	79	84	87	78	80	84	91	70	65	78	75	78	77	61	64	....	77.1
	Minimum ...	35	38	41	52	53	52	49	40	36	36	44	47	37	49	47	50	51	54	46	47	51	52	53	47	46	47	41	48	37	44	....	45.7
Mott	Maximum...	83	82	89	92	93	83	80	78	77	74	78	83	85	80	72	73	77	84	82	78	88	90	89	91	87	85	88	90	86	80	....	83.
	Minimum ...	53	63	66	70	65	54	55	50	54	55	48	54	..	..	56	50	54	65	61	59	66	63	67	62	66	68	72	73	63	55	....	b60.
Napoleon §§	Maximum...	72	72	78	88	92	91	65	62	63	73	75	80	80	68	76	71	79	85	70	76	84	93	75	73	77	73	76	78	73	63	....	76.
	Minimum ...	40	42	44	49	58	56	60	50	47	47	48	52	46	50	50	54	47	54	57	47	53	54	71	50	47	50	42	47	49	54	....	50.5
New Salem	Maximum...	74	72	82	93	95	87	72	70	72	79	80	83	82	72	65	75	78	76	78	75	85	89	72	72	77	72	70	74	75	66	....	77.1
	Minimum ...	47	46	47	62	67	62	50	52	60	62	65	69	70	57	59	59	56	60	54	53	54	69	50	52	54	52	48	49	52	52	....	56.
Pembina §§	Maximum...	86	90	90	94	97	80	62	64	63	82	71	86	89	87	69	73	82	85	76	93	75	93	78	77	81	81	93	78	76	80	....	81.1
	Minimum ...	49	44	55	53	56	49	49	45	42	44	50	42	55	60	55	56	52	46	44	53	52	57	64	45	37	52	45	52	49	51	....	50.1
Steele	Maximum...	69	67	69	87	93	86	64	64	65	65	73	71	87	64	75	69	70	80	70	72	72	82	90	70	69	76	70	76	77	71	....	76.
	Minimum ...	42	44	44	52	53	57	59	49	46	49	52	56	45	51	51	64	52	59	55	52	62	68	69	52	50	55	49	51	51	54	....	53.1
Towner	Maximum...	81	80	85	95	96	93	84	62	65	73	77	78	89	86	66	70	78	88	83	86	78	91	88	68	73	75	74	76	70	64	....	79.1
	Minimum ...	42	40	65	58	60	58	55	45	43	49	40	50	46	43	50	52	51	60	56	56	51	50	60	48	54	57	50	48	44	51	....	51.1
Valley City	Maximum...	68	74	82	86	83	91	86	80	67	71	72	82	81	74	71	82	76	82	84	78	80	90	88	71	74	76	71	87	78	74	....	78.
	Minimum ...	41	44	49	59	58	62	56	48	44	42	47	48	47	54	50	62	60	47	50	49	51	61	57	48	55	53	50	46	49	47	....	51.1
Wahpeton	Maximum...	76	77	81	89	92	94	84	65	67	72	75	73	81	71	80	72	76	81	75	77	75	96	91	73	76	77	79	82	79	71	....	78.
	Minimum ...	43	44	48	51	57	60	60	51	53	55	52	50	56	52	61	62	58	70	49	49	58	61	69	53	52	59	51	59	51	63	....	55.
Walhalla	Maximum...	80	79	83	92	96	94	71	64	64	72	73	82	88	86	74	74	81	85	75	80	77	91	90	70	72	72	79	79	75	73	....	79.
	Minimum ...	52	48	54	60	76	49	52	45	42	44	52	40	59	63	53	56	52	62	50	54	49	56	66	47	58	56	42	58	47	52	....	52.
Westhope	Maximum...	78	79	85	93	93	85	63	58	58	71	74	84	86	84	65	79	83	84	85	82	81	95	68	62	76	74	77	73	68	65	....	76.
	Minimum ...	54	56	49	49	48	54	51	44	42	44	48	49	44	53	51	55	55	43	45	57	56	58	58	50	54	52	48	52	42	49	....	50.
Williston	Maximum...	72	77	84	91	90	80	58	62	51	69	77	83	86	81	73	80	84	77	77	79	84	90	69	66	77	73	74	70	72	68	....	75.
	Minimum ...	46	49	49	58	60	57	50	47	45	48	54	54	48	60	55	54	60	55	53	57	59	63	55	53	53	55	55	54	52	51	....	53.
Moorhead, Minn	Maximum...	74	75	81	86	90	89	69	64	65	68	70	75	82	76	78	67	75	78	72	77	75	94	85	68	72	74	70	80	75	68	....	75.
	Minimum ...	46	50	52	51	57	61	56	52	52	52	55	50	58	53	62	60	53	58	59	53	57	67	60	55	52	58	52	56	53	61	....	55.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc.

NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

UNIVERSITY OF [illegible]
SEP 1

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

L. XXXI. Bismarck, N. D., July, 1922. No. 7

GENERAL SUMMARY.

Weather favorable for crops and outdoor work prevailed over
e State at the opening of the month. The first decade was
ther cool, frosts injurious to corn and garden truck occurring
the 7th. This cool period was followed by general showers
om the 8th to the 11th, inclusive, which were very beneficial.
e second decade was much warmer, high temperatures being
neral over the State on the 14th, on which day the maximum
r the month usually occurred. Only light scattered showers
curred during this decade. The third decade was the most
vorable, and crops and farm work made rapid advancement.
me reports of black rust were received, but owing to the ripe-
ss of spring wheat the damage was greatly lessened. Damag-
g hailstorms were reported, especially during the second dec-
e. At the close of the month rye harvest was completed,
d some threshing done. Spring wheat, oats, barley and
eltz harvest was well advanced. Corn was generally in the
r stage, and an unusually good crop in central and western
rts of the State. Pastures and ranges were good, but gener-
y needed rain.

TEMPERATURE.

The mean temperature for the State was 65.6°, or 1.9° below
e normal, and 5.8° lower than the mean for July, 1921.
e highest mean reported was 70.1° at Walhalla, Pembina
unty; the lowest was 61.0° at Bottineau, Bottineau County.
e highest temperature reported was 100° at Napoleon, Lo-
n County, on the 14th; the lowest was 30° at Minot, Ward
unty, and at Napoleon, Logan County, on the 7th. The great-
monthly range of temperature was 70° at Napoleon, Logan
unty; the least was 46° at Park River, Walsh County. The
eatest daily range was 52° at Edgeley, LaMoure County, on
e 31st.

PRECIPITATION.

The average precipitation for the State was 2.43 inches, or
18 inch below the normal, and 0.64 inch less than the av-
ge for July, 1921. The greatest monthly amount re-
rted was 6.15 inches at Larimore, Grand Forks County; the
st was 0.60 inch at Walhalla, Pembina County. The greatest
ount recorded in any 24 consecutive hours was 3.60 inches
Larimore, Grand Forks County, on the 26th. The average
mber of days with 0.01 inch or more of precipitation was 8.

AURORAS.

Auroras were observed at Crosby and Foxholm on the 6th; at
osby on the 7th; at New England on the 11th; at Crosby and
lendale on the 13th and 14th; at Howard on the 16th; at
xholm on the 17th; at Crosby on the 19th; at Howard on
e 23d; at Crosby, Grand Forks, McHenry and Moorhead on
e 26th; at Crosby and New England on the 27th, and at
osby and Devils Lake on the 28th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	29.99	30.27	27	29.42	9	57	5,084	6.8	38	se.	14
Devils Lake	29.95	30.22	27	29.34	9	44	5,765	7.7	33	n.	25
Ellendale	30.00	30.27	3	29.42	9	56	7,456	10.0	50	nw.	29
Grand Forks	29.93	30.20	3	29.37	9	90	....	......	38	w.	15
Williston	29.94	30.24	27	29.46	8	48	4,301	5.8	28	se.	8
Moorhead, Minn	29.96	30.26	3	29.38	9	58	4,782	6.4	24	nw.	17
Av'ges and extremes	29.95	30.27	27	29.34	9	.....	....	7.3	50	nw.	29

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	358.8	479.2	75	+4	83	54	51	28	14
Devils Lake	334.0	483.1	69	+1	84	50	56	32	15
Ellendale	367.6	475.2	77	......	86	51	....	36	31
Grand Forks	......	......	......	......	81	.....	60	.....	....
Williston	350.9	483.1	73	+1	84	51	49	36	13
Moorhead, Minn.	......	......	72	......	81	53	54	33	15
Averages and extremes	......	......	......	......	......	......	......	......	....

* And other dates.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw
1908	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.

Climatological Data for July, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	66.2	−2.5	93	19	40	8	43	1.19	−1.82	0.90	0	6	23	8	0	s.	E. T. Carley.
Amidon	Slope	......	9	66.0	......	91	19	43	11	36	4.93	......	1.66	0	10	16	13	2	w.	Charles Eastgate.
Arnegard	McKenzie	......	8	65.6	......	94	14†	42	18	40	1.86	......	0.52	0	11	19	9	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	66.4^{a}	−2.0	94^{a}	14	38^{a}	7	39^{a}	2.23	−0.43	1.14	0	7	......	......	......	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	67.3	0.0	92	19†	42	11†	38	2.60	+0.80	0.62	0	11	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	65.5^{l}	−3.4	91^{b}	13†	39^{l}	7	36^{e}	3.05	+1.08	2.02	0	10	24	5	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	67.9	−2.3	95	14	40	7	35	2.77	+0.63	1.40	0	10	12	16	3	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	61.0	−4.8	89	20†	37	7	36	1.23	−1.05	0.60	0	7	22	3	6	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	63.3	−2.5	90	14	40	7	37	2.73	+0.59	0.94	0	10	21	4	6	......	G. H. Phelps.
Bowman	Bowman	2,961	9	64.4	......	92	14†	39	11	42	2.81	......	0.55	0	10	21	7	3	ne.	R. Love, Jr.
Cando	Towner	1,488	22	67.2^{a}	+1.1	99^{a}	31	39^{a}	8	36	1.52	−1.01	0.62	0	6	......	......	......	nw.	A. J. Swanson.
Carson	Grant	2,500	11	65.8	−2.3	93	14	40	7†	45	1.56	−0.38	0.75	0	7	13	18	0	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	......	......	......	......	......	......	......	1.35	−1.38	1.07	0	2	22	7	2	nw.	S. Friswold.
Crosby	Divide	1,954	16	65.3	−0.6	93	31	41	7	41	3.24	+1.26	1.84	0	8	14	13	4	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	65.7	−2.4	93	14	42	8	35	0.87	−2.91	0.41	0	9	17	8	6	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	64.4	−3.6	91	14	40	17	42	1.92	−0.40	0.43	0	14	16	8	7	......	Leroy Moomaw.
Donnybrook	Ward	1,760	24	66.8	+1.0	96	21	36	7	45	2.63	0.00	1.50	0	5	6	24	1	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	65.0	−3.0	96	14	39	12	45	1.54	−0.51	0.65	0	7	16	10	5	se.	W. H. Moede.
Dunseith	Rolette	1,682	27	63.4	−1.0	89	14†	37	7	37	0.84	−1.50	0.60	0	5	23	7	1	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	18	63.6	−2.2	93	20	35	7	46	3.56	+1.12	1.48	0	8	20	8	3	n.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	66.2	−2.3	95	13	36	31	52	1.34	−1.46	1.07	0	2	5	22	4	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	66.4	−4.3	91	14	42	7	36	1.54	−1.36	0.71	0	7	11	15	5	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	11	66.6	......	90	14†	35	7	40	2.16	−0.02	0.80	0	10	14	17	0	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	65.8	......	94	20	40	10	45	2.33	+0.41	1.31	0	8	17	12	2	nw.	M. E. Uggen.
Fessenden	Wells	1,610	11	65.1	−2.0	93	14	37	7	49	1.64	−0.83	0.85	0	10	13	12	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	29	......	......	......	......	......	......	......	2.72	−0.31	1.95	0	4	......	......	......	......	O. Enger.
Foxholm	Ward	1,657	2	63.6	......	90	20	38	7	35	3.95	......	1.68	0	6	13	15	3	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	......	......	......	......	......	......	......	4.43	......	1.40	0	10	15	16	0	se.	Verne King.
Fullerton	Dickey	1,439	25	66.6	−1.8	93	14	40	7	38	1.92	−1.40	0.72	0	6	13	14	4	nw.	F. O. Alin.
Garrison	McLean	1,901	28	64.8	−3.3	89	14†	34	7	42	3.32	+1.22	0.78	0	7	14	17	0	nw.	G. L. Robinson.
Grafton	Walsh	827	31	66.4	−1.1	94	14	42	12	38	3.41	+0.93	0.35	0	10	18	7	6	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	32	66.1	−1.3	92	14	44	7	35	3.50	+0.75	1.23	0	13	11	13	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	65.5	−1.6	91	20	38	6	42	4.02	+1.95	1.32	0	9	15	13	3	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	......	......	......	......	......	......	......	1.18	−1.28	0.61	0	3	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	15	64.0	−1.4	95	30	36	8	41	2.21	+0.23	1.60	0	6	20	6	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. J. Downey.
Hillsboro	Traill	901	17	66.8	−2.7	90	14	42	8	35	2.12	−0.51	0.60	0	6	8	15	8	nw.	F. E. Mayall.
Howard‡‡	Williams	2,275	16	62.4	−3.1	90	20	40	5	40	2.39	+0.79	1.57	0	4	13	16	2	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	67.4	−1.1	91	13	43	7	39	1.31	−1.44	0.56	0	7	19	1	11	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	64.5	−1.4	91	20	33	7	43	2.20	−0.35	1.07	0	4	18	10	3	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	63.3	−1.2	92	14	40	8	36	2.96	+0.40	0.97	0	7	20	7	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	66.2	−0.5	95	13	40	8†	45	6.15	+3.16	3.60	0	8	14	7	10	s.	Reuben Gray.
Linton	Emmons	1,711	5	69.6	......	99	14†	33	7	47	1.52	......	0.50	0	9	13	12	6	nw.	William Malpass.
Lisbon	Ransom	1,091	19	66.8	−1.4	93	20†	43	12	42	2.11	−1.42	1.08	0	4	19	10	2	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	......	......	......	......	......	......	......	3.31	......	1.85	0	8	......	......	......	......	Edw. Tapley.
McHenry	Foster	1,509	12	67.4^{f}	−0.2	92^{f}	14	42^{f}	11	36^{f}	2.86	−0.33	1.35	0	7	......	......	......	nw.	F. D. Cannon.
McKinney‡‡	Renville	1,640	29	63.5	−2.5	92	14	35	7	38	3.35	+1.29	1.80	0	5	19	8	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	68.0	−2.2	91	20	43	8	37	1.79	−1.64	0.56	0	8	17	8	6	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	65.0	......	92	14	35	7	39	1.44	......	0.65	0	7	12	13	6	nw.	A. T. Felland.
Mandan	Morton	1,644	9	66.6	......	96	14	38	7	37	3.17	......	0.61	0	10	15	7	9	se.	No. Gt. Plains Field St
Manfred	Wells	1,605	20	65.2	−1.7	90	14†	40	7	40	1.73	−0.57	0.59	0	7	20	8	3	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	S. P. Grane.
Mayville	Traill	975	27	65.8	−3.6	91	20	40	8	36	3.98	+1.01	0.60	0	10	16	9	6	nw.	M. G. Sateren.
Medora	Billings	2,270	23	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	T. A. Davis.
Melville	Foster	1,590	25	64.0^{d}	−3.9	88^{d}	13†	38^{d}	7	37^{d}	1.42	−1.32	0.56	0	3	......	......	......	nw.	J. P. Kidder.
Minot	Ward	1,557	27	62.6	−5.5	96	20	30	7	48	2.79	+0.94	0.90	0	10	15	14	2	e.	W. I. Faris.
Minto	Walsh	820	30	66.6	−0.5	94	14	43	7	38	2.55	−0.21	1.04	0	11	13	14	4	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	68.4	−0.7	95	19	40	10	44	3.06	+0.69	0.92	0	10	11	13	7	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	65.2	−3.1	100	14	30	7	45	1.75	−0.73	0.43	0	9	17	11	3	s.	C. J. Hoof.
New England	Hettinger	2,400	29	66.6	−1.9	93	14	40	10†	43	2.54	+0.53	0.71	0	8	......	......	......	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. Christiansen.
Park River	Walsh	998	19	65.8	−2.0	90	14	44	8	34	3.76	+1.38	1.58	0	8	11	10	10	nw.	C. B. Wright.
Parshall	Mountrail	......	8	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	49	66.6	−1.1	99	28	41	7	50	0.90	−1.48	0.50	0	4	16	7	8	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	S. C. Shanks.
Power	Richland	1,020	29	......	......	......	......	......	......	......	4.05	+0.67	1.40	0	8	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	9	......	......	......	......	......	......	......	2.61	+0.83	0.70	0	8	19	9	3	nw.	C. Frank.
Skaar	McKenzie	......	3	62.6^{k}	......	96^{k}	......	36^{k}	......	......	1.80	......	0.75	0	6	......	......	......	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	64.7	−4.7	91	14	34	7	34	3.89	+1.01	2.45	0	7	8	20	3	se.	H. S. Wood.
Taylor	Stark	2,493	7	65.0^{h}	......	91^{h}	20	41^{h}	10†	40^{i}	1.52	......	0.45	0	9	......	......	......	w.	H. Leutz.
Towner	McHenry	1,482	21	65.2	−1.9	96	20	33	7	43	3.92	+1.69	1.75	0	7	17	10	4	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	65.5	......	93	20	35	7	39	2.04	......	0.64	0	6	19	6	6	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. F. Schroeder.
Wahpeton	Richland	962	29	68.2	−1.1	97	14	45	8	37	1.23	−2.57	0.38	0	9	15	7	9	nw.	State School of Scienc
Walhalla	Pembina	966	19	70.1^{m}	+3.4	94^{m}	21	45^{m}	2†	39	0.60	−2.34	0.30	0	5	......	......	......	......	Ivan Lee.
Westhope	Bottineau	1,508	17	64.4	−1.7	93	14†	42	6†	41	2.10	+0.15	0.92	0	8	18	8	5	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	66.4	−2.5	95	14	47	10	38	3.18	+1.15	1.13	0	12	9	15	7	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	62.4^{a}	−3.0	94^{a}	20	33^{a}	7	42^{a}	1.01	−1.08	0.55	0	8	......	......	......	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	67.3	−1.4	92	14	45	7	32	1.65	−2.09	1.65	0	8	3	18	10	nw.	U. S. Weather Bureau.
Averages	......	......	......	65.6	−1.9	100	14	30	7	52	2.43	−0.18	3.60	0	8	16	11	4	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for July, 1922.

Stations.	Drainage Basin.	Day of Month.																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red					.05				.90	T		.06			.02							.12								.04		1.19
Amidon	Lit. Missouri	.02			.60			.01	.74		.22						.13				.60					.91	.01	1.66					4.93
Arnegard	Missouri		.07		.10	T.		T.	.52	.27	.15	.01					.02					.03				.48	T	.02	T			.19	1.86
Ashley	Missouri								.08	.04	.01						T									1.14	.13		.06	.72			2.23
Beach	Lit. Missouri	.02				.62		T	.51	.16	.46	.03					T	.01				.01			.50		.20		.08				2.60
Berthold Agency	Missouri				.03			.01	.39	1.63	.12	.18			.45		.11				.06			T		.07							3.05
Bismarck ***	Missouri				T				.25	.05	T.	.16			.16		T					T		.23		.43	.08	.01	.81	.59		T	2.77
Bottineau	Mouse				.02					.60	.05	.04											.08		.24					.20			1.23
Bowbells ‖	Mouse		.10		.05				.40	.94	.36	.07	.15									.20				.26				.20			2.73
Bowman	Grand	.02				.38			.13	.13	.34	T.				T	.34					.15	T	T			.31		[illegible]			[illegible]	2.81
Cando	Devils Lake				T				.03	.62	T.	.08			.14											.46	.19						1.52
Carson	Heart		.22			.20				.30							.03					.02		.04			.75						1.56
Cooperstown	Sheyenne								1.07																				.28				1.35
Crosby	Mouse		.34		.03				.82	1.84	.10	T.		.02								.05					.04	T			T		3.24
Devils Lake ***	Devils Lake		T.		.03	T	T.		.03	.41	.01	.03				.10					T	.03				.19	.04						0.87
Dickinson ‖	Heart		.15			.07			.28	.32	.01	.31	.01			T.	.03	.01				.14		.01			.43	.12	.03				1.92
Dunnbrook	Mouse								.65	1.50	.05	.33									.10								T				2.63
Dunn Center ‖	Knife				T	T.			.10	.26		.12				.03					.30						.65	.08					1.54
Dunseith	Mouse								.02	.07	.01															.60			.11				0.84
Eckman	Mouse				.06				.10	.96	.08					T.								.49	.07	1.48			.32				3.56
Edgeley	James														1.07															.27			1.34
Ellendale ***	James				T.				.71		T	T.				.53	.03				.02	T.		.09	.01	T.	T.		T	.15			1.54
Energy	Missouri				T.	.14			.80	.35	.02	.03					.12					.23		.22		.16			.08				2.16
Epping	Missouri	.05			.11			T.	1.31	.42	.04											.12							.11	.11			2.33
Fessenden	James					.10				.85	.04	.20	.14				.03	.01					.04				.03			.20			1.64
Forman	Sheyenne								.32	1.95		.18										.27											2.72
Foxholm	Mouse				.02		T.		.37	1.13	.17	T.				T.						T.		T.		.58			1.68				3.95
Fryburg	Heart	.03	.04			.58	T.	T.	T.	.25	.27	.18						T.			.21	T.	T.	T.			1.40	1.31	.10				4.43
Fullerton	James	.06							.20	.72	T.					.65					T.	T.			.13	T.	T.			.16			1.92
Garrison	Missouri				T.				T.	.78		.64				.57	T.					.03		.21			.38		.71				3.32
Grafton	Red				T.	.15			.08	.23	.03	.09										.35	.08			.20	2.10					.10	3.41
Grand Forks ***	Red		T.		.10	1.23	T.		.36	.17	.01	.07				.03		.01				.07	.08			.55	.81				.01		3.50
Granville	Mouse				.09	T.			T.	1.32	.08	T.				.02						.16			.36	.37	.40		1.30				4.02
Hannah	Pembina						T.							.61						.04						.52							1.18
Hansboro	Devils Lake				.05				.02	1.60	.12											.17				.25							2.21
Hettinger	Grand																																
Hillsboro	Red				T	.08			.49	.52						.23		T.									.20			T.	.60		2.12
Howard	Missouri		.52		T.			.22	1.57	T	.08	T.			T.						T.	T.			T.	T.	T.					T.	2.39
Jamestown	James					.56				.27		.08	.20			.08											.07			.05			1.31
Lamoine	Missouri									1.07		.33												T.		.26				.54			2.20
Langdon	Pembina		.02			.05				.97	.08		.10										.84				.90						2.96
Larimore	Red					.40				.30									.07				.20			.80	3.60			.10	.70		6.15
Linton	Missouri		.10		T					.23		.02					T.	.08						.16	.24	.01	.18			.50			1.52
Lisbon ‖	Sheyenne			T.		1.08				.68	T.	.10	T.			T.							.25										2.11
McClusky	Missouri					.02				.80		.12				.13						.07			.10		.22		1.85				3.31
McHenry	James					.08				.45					.08							.50				.20			1.35	.20			2.86
McKinney	Mouse				T.					1.80	.20	T.										.15				.70			.50				3.35
McLeod	Sheyenne					.20			.30	.56	.33					.02	T.	.06				.02							.30				1.79
Maddock	Sheyenne					.06				.23	.03					.23						.07					.65			.17			1.44
Mandan ‖	Missouri					T.			.13	.58	.02	T	.27			.34									.32		.61	.03		.47	.41		3.17
Manfred	James				T.	.08			T.	.59	.03	.52				.09					.15					T.			.27				1.73
Marmarth	Lit. Missouri																																
Mayville	Red																																
Medora	Lit. Missouri					.55			.37	.45		.10	.30			.35		.60				.60							.28	.38			3.98
Melville	James																																
Minot	Mouse					T.			T.	.56	.38	T										T.			.48	T.			T.	T.			1.42
Minto	Red	.01							.03	.70	.70	.01	.07									.01			.15		.21			.90			2.79
Mott	Cannon Ball				.09				.26	.16		.06				.06						.06			.01	.75	1.04		.01		.05		2.55
Napoleon ‖	Missouri	.04			.43			.51	.41		.03	T.					.12				.04		.92				.42	.14					3.06
New England	Cannon Ball								.03	.10	.04												.41		.32		.43	.02		.35	.05		1.75
New Salem	Heart	T.				.50			T.	.35	.10	T.					.12					.71					.35	.37	.04				2.54
Park River	Red																																
Parshall	Missouri								.09	.34	.03		.20									.78			.26	.48	1.58						3.76
Pembina ‖	Red																																
Pettibone	James					.10	T.	T.		.50		T.						T.					.20				.10						0.90
Power	Sheyenne				*	.52			*	.65	.24				.02	T.						1.40								1.22			4.05
Powers Lake	Missouri	T.	.15		.16				.70	.68	.08	.03									.34				T.		T.	.47					2.61
Skaar	Yellowstone					.25		.10	.15	.30																	.75	.25					1.80
Steele	Missouri				T.			.03	T.	.40	T.	T.			T.	2.45						.10		T.	.21		.10	T.	T.	.60	T.		3.89
Taylor	Heart	T.			.16			.18		.45	.12	.05					.01					.22		.12			.21		T.				1.52
Towner	Mouse				.01					.75	.01											1.01			.04		1.75		.35				3.92
Turtle Lake	Missouri									.64	T.	.60										.16		.19			.28		.17				2.04
Valley City	Sheyenne																																
Wahpeton	Red					.26			.08	.10	.03					.02	.23	.05				.38			.08								1.23
Walhalla	Pembina	.01																					.30		.01	.05	.23						0.60
Westhope	Mouse				.02					.92	.20											.11		.15	.02	.45			.23				2.10
Williston ***	Missouri	.08	.04		.05			.45	.69	.15	.10	T.					T				.69	T.	T.			.08	.06		.78	T.		.01	3.18
Willow City	Mouse				T.				.03	.55	.01	.02					T				.10		T.	.03	.08				.19				1.01
Moorhead, Minn ***	Red		T.		.91	T.			.25	.30	.06	.02				.04		.04				.03				T.				T.			1.68

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T Trace, or less than 0.01 inch.

Daily Temperatures for July, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	76	72	79	83	83	68	60	70	73	77	78	81	85	82	84	78	75	87	93	79	78	81	87	87	83	83	84	85	88	87	89	80.5
	Minimum ...	55	45	46	54	59	52	42	40	41	46	45	44	51	56	62	53	49	44	57	62	50	57	50	61	58	57	52	51	58	55	52	51.9
Arnegard	Maximum...	66	74	82	82	77	68	75	77	65	65	72	79	88	94	76	68	75	82	94	93	79	84	77	79	89	78	80	79	88	85	82	79.1
	Minimum ...	49	44	47	59	57	57	46	56	50	47	44	45	57	55	52	52	45	42	55	59	64	45	47	52	50	60	54	59	54	54	55	52.0
Ashley	Maximum...	71	73	78	85	78	74	74	75	69	71	71	..	84	94	84	74	73	78	85	90	83	81	85	82	79	78	82	75	85	78	84	[a]79.1
	Minimum ...	52	48	48	58	62	53	38	49	56	45	44	..	45	63	57	52	48	41	54	64	65	51	49	58	59	58	56	58	58	58	67	[a]53.8
Beach	Maximum...	72	73	85	86	73	69	76	75	69	60	69	74	86	96	79	65	76	82	92	92	80	88	79	79	86	78	79	84	86	86	87	79.2
	Minimum ...	51	44	47	53	48	48	47	47	49	46	42	47	50	53	50	49	42	47	58	70	67	69	69	52	50	67	70	74	75	61	73	55.4
Berthold Agency	Maximum...	68	74	83	85	78	67	75	77	62	75	71	78	91	91	88	70	73	..	88	86	78	81	..	82	86	82	83	83	88	85	83	[b]79.7
	Minimum ...	48	46	47	61	61	52	39	54	53	41	41	43	56	56	55	49	45	..	47	59	56	46	..	49	53	58	53	59	55	49	56	[b]51.6
Bismarck	Maximum...	70	74	84	92	80	68	75	74	62	67	72	80	91	97	81	72	74	82	90	92	83	85	87	83	84	79	80	81	88	85	77	80.2
	Minimum ...	50	46	53	64	61	49	40	55	52	46	46	48	59	62	60	54	51	47	59	68	63	50	61	56	61	62	57	62	62	60	59	55.6
Bottineau §§	Maximum...	62	66	70	83	69	56	62	56	50	59	61	71	79	80	70	66	69	78	86	89	75	84	89	82	85	80	80	77	85	86	88	72.2
	Minimum ...	47	46	47	54	55	47	37	41	47	43	40	41	51	58	49	47	45	46	51	57	68	48	52	56	53	55	47	50	55	55	53	49.7
Bowbells §§	Maximum...	69	73	81	77	75	69	76	63	65	67	70	78	86	90	79	71	74	80	87	89	77	79	77	81	72	78	84	80	80	84	89	77.4
	Minimum ...	41	44	48	51	58	49	40	41	50	43	42	47	55	54	50	48	45	46	51	58	58	45	52	51	48	53	48	52	51	53	52	49.2
Bowman	Maximum...	70	72	84	86	76	68	76	75	64	60	68	76	87	92	82	72	72	80	92	90	80	82	76	78	80	76	78	82	85	86	82	78.3
	Minimum ...	51	51	50	56	46	50	42	48	40	41	39	46	53	50	55	51	44	47	55	69	51	48	52	54	52	52	55	58	43	52	58	50.3
Cando	Maximum...	70	73	79	79	77	76	69	68	62	66	70	..	87	91	86	75	71	78	88	91	85	81	83	81	83	78	80	80	82	88	99	[a]79.2
	Minimum ...	49	48	48	54	56	48	43	39	55	44	43	..	43	58	57	50	51	43	52	56	67	54	52	59	56	58	49	78	78	81	87	[a]55.2
Carson	Maximum...	70	75	80	85	78	70	80	70	60	62	70	80	90	93	82	75	80	80	80	90	80	85	85	85	85	85	80	80	90	90	90	80.2
	Minimum ...	45	49	45	60	58	48	40	50	50	40	40	45	55	60	65	50	60	48	45	55	45	40	55	48	55	50	55	62	60	55	60	51.4
Crosby	Maximum...	69	74	80	81	75	72	76	72	67	66	71	76	89	90	83	76	75	80	88	92	79	80	72	82	80	78	85	82	84	84	93	79.1
	Minimum ...	46	46	50	60	52	48	41	54	48	51	47	47	53	58	53	56	47	46	56	56	59	44	51	54	56	52	46	56	54	53	52	51.5
Devils Lake	Maximum...	69	71	79	82	78	59	67	65	64	70	68	78	87	93	80	71	70	77	86	90	81	81	82	83	85	78	81	82	88	86	88	78.0
	Minimum ...	53	48	52	58	57	48	44	42	52	46	45	47	61	58	58	51	51	43	55	58	64	55	55	60	56	57	48	55	61	58	58	53.4
Dickinson §§	Maximum...	69	71	81	85	71	69	76	74	62	62	68	76	86	91	79	66	76	81	90	90	80	83	79	77	88	75	78	81	82	87	87	78.1
	Minimum ...	48	52	48	49	59	55	42	51	52	43	43	41	49	50	53	48	40	44	56	60	64	41	48	49	52	58	56	60	54	52	53	50.6
Donnybrook	Maximum...	70	78	85	82	77	68	78	70	64	66	72	82	90	93	84	72	75	88	94	95	96	90	88	84	84	89	85	82	85	85	91	82.0
	Minimum ...	47	48	50	58	59	51	36	60	52	44	45	47	58	53	52	50	45	43	50	61	53	48	55	53	49	54	50	53	56	58	57	51.5
Dunn Center §§	Maximum...	61	74	83	84	78	69	76	77	62	60	72	80	88	96	80	70	77	83	88	92	79	85	81	79	86	78	80	85	87	85	76	79.1
	Minimum ...	50	49	45	54	62	53	42	52	62	41	40	39	52	51	50	47	44	42	53	65	58	43	50	49	51	59	53	59	54	53	53	50.8
Dunseith	Maximum...	67	71	77	73	75	70	68	66	62	64	69	76	85	89	85	70	68	77	85	89	85	76	85	80	82	74	78	80	83	82	85	76.6
	Minimum ...	48	45	41	50	52	45	37	42	52	44	43	40	54	58	53	51	54	40	52	62	66	51	51	55	55	54	48	49	57	59	52	50.3
Edgeley	Maximum...	73	74	78	84	82	76	68	70	69	73	73	80	95	91	90	77	74	76	83	81	86	83	75	84	81	80	84	82	90	88	88	80.7
	Minimum ...	53	45	47	55	62	51	38	44	57	47	43	42	49	59	54	52	49	42	50	67	52	54	50	61	57	60	51	55	60	60	36	51.7
Ellendale	Maximum...	73	72	76	83	81	67	69	72	70	71	71	77	85	91	81	72	72	74	84	88	86	83	82	83	81	78	82	76	87	87	87	78.7
	Minimum ...	55	47	48	53	61	52	42	48	52	49	46	47	49	60	60	56	51	47	53	65	65	56	51	62	62	58	51	55	56	56	59	54.0
Fessenden §§	Maximum...	70	75	80	87	80	61	69	66	61	75	75	80	88	93	82	75	75	89	85	91	89	87	87	86	85	83	87	80	91	87	89	80.9
	Minimum ...	50	45	47	38	54	50	37	45	48	40	40	39	49	57	55	47	45	40	50	56	60	48	49	56	57	57	51	53	58	56	52	49.3
Fullerton	Maximum...	74	72	80	85	81	66	69	72	70	73	74	82	86	93	83	72	73	77	84	88	85	83	85	84	82	80	82	81	89	87	88	80.0
	Minimum ...	55	47	47	55	62	52	40	48	58	47	44	41	48	59	54	52	50	44	54	64	65	54	53	62	62	61	52	56	51	56	56	53.3
Garrison	Maximum...	69	71	80	84	77	68	76	66	66	65	68	77	87	89	78	70	72	81	88	89	81	83	85	70	84	76	80	81	78	86	82	77.6
	Minimum ...	49	49	46	60	59	52	34	51	54	43	43	43	67	59	53	49	41	43	52	59	67	45	53	50	56	58	59	57	54	54	51	52.0
Grafton	Maximum...	72	71	80	78	78	71	58	68	69	76	76	78	88	94	82	80	74	80	87	92	86	80	79	83	84	79	81	86	87	85	87	79.6
	Minimum ...	57	46	45	56	59	51	45	45	55	47	45	42	52	58	62	51	52	46	48	54	66	60	58	58	59	59	50	50	61	58	54	53.2
Grand Forks	Maximum...	72	70	80	77	80	61	58	70	72	70	74	79	86	92	82	74	72	72	83	89	82	79	79	83	83	79	80	86	87	83	86	78.1
	Minimum ...	50	46	45	56	59	46	44	48	57	52	48	48	54	59	60	54	52	46	48	59	65	61	58	60	59	57	53	56	61	58	58	51.1
Granville	Maximum...	68	72	78	80	64	70	70	65	58	65	70	82	87	89	77	70	70	75	80	94	89	85	84	80	82	78	80	78	83	82	88	77.2
	Minimum ...	58	50	48	60	50	38	48	50	52	44	45	50	55	57	53	53	48	45	45	52	48	52	58	61	54	51	53	56	55	54	55	50.6
Hansboro	Maximum...	71	74	80	74	80	61	70	65	62	72	73	78	88	91	80	72	70	73	84	90	75	82	87	84	84	84	84	87	90	95	94	79.2
	Minimum ...	46	46	44	50	54	44	39	36	54	44	43	45	56	56	50	50	40	50	51	56	60	54	48	44	50	44	44	50	54	54	54	48.7
Hettinger	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hillsboro	Maximum...	75	75	79	80	88	79	59	63	72	74	74	79	85	90	88	80	70	75	84	89	86	78	81	83	82	80	82	84	87	85	86	79.6
	Minimum ...	58	46	48	55	62	52	43	42	60	48	48	48	56	59	65	53	50	47	49	57	57	59	56	58	56	57	56	52	62	58	57	54.0
Howard	Maximum...	72	70	76	80	76	66	75	70	68	64	68	80	85	85	72	67	70	75	89	90	82	82	78	80	80	76	80	84	85	84	85	77.2
	Minimum ...	44	44	47	48	40	46	49	45	45	45	42	45	45	46	48	47	42	46	54	58	58	46	44	45	52	52	44	52	52	50	55	47.6
Jamestown §§	Maximum...	72	78	85	79	63	66	65	68	73	73	82	86	91	82	74	74	80	86	90	84	83	85	86	82	80	84	81	86	80	87	90	79.8
	Minimum ...	55	50	50	56	61	55	43	44	53	48	48	45	52	58	61	61	55	47	55	62	66	57	55	60	59	61	57	56	59	55	60	55.0
Lamoine	Maximum...	70	65	80	88	78	69	68	70	68	68	70	77	85	87	83	69	70	78	85	91	78	80	85	83	86	88	84	80	89	83	86	78.7
	Minimum ...	46	47	47	60	57	50	33	36	35	43	43	45	53	57	57	48	43	43	42	61	60	46	51	55	56	57	57	57	58	57	56	50.3
Langdon§§	Maximum...	66	68	77	71	76	57	61	66	58	70	70	76	83	92	78	69	68	70	83	87	74	75	78	80	81	75	78	81	85	82	85	74.8
	Minimum ...	51	47	45	55	56	46	48	40	51	44	43	44	55	58	55	51	51	42	51	60	65	55	52	60	55	58	50	50	58	55	56	51.8
Larimore §§	Maximum...	73	78	76	82	62	60	72	70	75	75	80	88	95	83	80	75	81	86	92	82	80	81	86	83	80	81	85	80	86	87	85	80.0
	Minimum ...	53	46	45	43	60	52	42	40	56	40	47	45	52	58	60	54	50	45	47	55	58	56	58	59	58	58	50	55	60	58	60	52.3
Linton	Maximum...	75	75	81	93	88	80	80	79	75	71	75	82	90	99	96	82	78	85	93	99	89	88	91	86	85	84	87	84	80	88	88	84.7
	Minimum ...	47	54	50	60	63	51	33	55	55	40	38	40	55	58	58	54	47	42	61	70	69	45	56	60	66	68	58	64	68	56	51	54.5
Lisbon §§	Maximum...	76	75	79	85	81	67	65	70	70	74	76	82	86	90	80	75	74	80	82	93	83	82	83	86	85	82	84	85	93	89	92	80.8
	Minimum ...	59	45	44	54	62	59	46	44	54	44	44	43	51	49	56	49	51	43	56	59	60	53	64	64	66	58	51	53	51	53	55	52.7
McKinney	Maximum...	69	76	80	78	75	68	70	65	68	65	70	78	87	92	78	72	75	80	83	90	81	81	85	80	80	78	80	81	86	82	85	78.0
	Minimum ...	46	45	45	65	59	45	35	50	52	44	45	45	55	54	50	50	45	40	45	56	64	45	50	48	46	46	45	50	50	55	50	49.0
Maddock	Maximum...	68	72	80	83	78	71	68	67	62	68	71	78	86	92	89	73	72	78	85	90	86	85	82	86	84	80	80	80	86	85	87	79.1
	Minimum ...	50	43	43	51	57	48	35	36	54	53	42	39	56	55	56	50	46	39	48	55	65	54	46	52	67	63	57	54	49	47	64	50.8
Marmarth	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Melville	Maximum...	64	..	78	..	73	72	57	62	60	58	64	82	88	80	78	..	68	73	77	88	82	74	76	76	73	78	83	75	83	..	80	[d]74.1
	Minimum ...	52	..	46	..	60	52	38	46	56	45	44	45	64	68	52	..	48	48	53	59	56	52	67	58	58	56	57	58	62	..	55	[d]53.9
Minot §§	Maximum...	70	74	82	84	77	70	74	72	60	65	72	80	88	94	79	71	74	84	91	96	80	86	88	81	85	79	85	80	81	83	89	79.8
	Minimum ...	44	43	43	51	53	46	30	40	45	38	39	40	51	48	47	44	39	36	48	51	53	42	46	46	47	51	47	48	50	52	47	45.3
Mott	Maximum...	88	88	83	89	78	78	81	80	78	74	76	83	90	93	83	75	82	88	95	92	85	80	77	87	91	87	85	86	85	91	90	84.5
	Minimum ...	63	69	68	68	60	51	50	52	44	40	42	50	55	54	51	48	48	56	66	54	41	49	44	50	53	46	47	47	50	52	53	52.3
Napoleon §§	Maximum...	72	73	80	90	83	65	73	74	63	72	75	82	91	100	84	75	76	84	90	95	83	81	88	85	81	77	81	78	86	84	83	80.8
	Minimum ...	48	41	41	55	60	48	30	48	50	41	40	40	50	57	55	47	43	37	50	60	65	47	48	56	55	57	51	53	58	54	53	49.6
New Salem	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Pembina §§	Maximum...	79	74	86	75	89	61	65	70	63	80	82	92	94	95	86	79	71	85	90	94	84	82	78	84	96	81	91	99	86	87	90	82.8
	Minimum ...	55	45	46	51	58	49	41	45	45	49	45	48	45	58	59	52	53	43	52	54	53	52	54	46	52	57	48	49	48	54	53	50.3
Steele	Maximum...	69	70	71	89	75	69	62	63	64	61	66	76	81	91	79	72	73	78	88	87	85	80	86	81	80	77	79	72	80	82	82	76.4
	Minimum ...	49	48	48	60	61	52	34	41	51	42	40	46	55	61	56	50	45	44	58	61	64	49	56	58	59	60	55	69	59	58	54	53.0
Towner	Maximum...	72	70	80	80	77	74	71	70	60	74	73	76	89	94	88	70	73	83	89	95	81	80	81	80	78	76	84	82	84	83	84	79.1
	Minimum ...	50	49	46	60	58	50	33	46	55	51	53	52	57	60	54	51	48	40	52	60	65	49	52	52	50	57	60	44	44	45	50	51.4
Valley City	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Wahpeton	Maximum...	79	74	81	84	85	73	65	70	75	76	76	80	87	97	86	79	74	76	88	94	90	82	85	80	84	84	84	87	89	88	90	82.0
	Minimum ...	58	46	46	56	62	53	48	45	50	47	49	46	53	62	69	59	53	47	51	60	66	60	54	61	58	54	53	52	53	56	56	54.3
Walhalla	Maximum...	73	80	88	..	..	..	..	..	..	..	..	..	..	..	..	..	68	80	84	92	94	88	86	82	86	80	84	87	88	86	92	[m]84.0
	Minimum ...	56	45	51	..	..	..	..	..	..	..	..	..	..	..	..	..	64	45	45	55	84	64	60	51	48	59	48	50	66	54	72	[m]56.2
Westhope	Maximum...	70	72	79	75	78	70	72	67	58	64	70	72	87	93	75	70	72	82	89	93	79	79	88	80	78	76	79	83	83	84	90	77.6
	Minimum ...	48	50	48	56	48	42	46	47	54	44	42	54	56	56	50	50	49	42	51	59	64	58	47	56	50	51	49	52	52	56	56	51.1
Williston	Maximum...	69	73	82	81	76	68	75	75	67	65	72	80	88	95	75	70	74	82	90	91	78	81	74	78	87	76	81	77	86	84	84	78.5
	Minimum ...	50	49	53	62	58	52	52	55	50	47	49	51	60	57	53	52	47	54	61	57	56	49	58	52	61	56	52	60	56	56	57	54.3
Moorhead, Minn	Maximum...	75	70	77	81	81	67	59	70	71	74	72	78	85	92	83	76	72	74	84	89	76	79	81	83	79	80	80	84	85	84	85	78.3
	Minimum ...	59	51	50	56	63	52	45	45	57	50	51	51	53	60	68	58	52	50	53	62	68	61	58	62	60	58	55	55	63	59	60	56.3

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

UNIVERSITY OF ILLINOIS LIB
SEP 3 1922

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXI. BISMARCK, N. D., AUGUST, 1922. No. 8

GENERAL SUMMARY.

The month opened with weather favorable for development of crops, for harvesting of small grains and for haying. Threshing of winter rye was begun during the first decade. Flax was in the bloom stage, and corn was rapidly maturing also during the first decade. There were light scattered showers over the State during this period, not sufficient to aid pastures to any appreciable extent. The second decade was mostly hot and dry, the weather being very favorable for harvesting and threshing, but damaging to corn and late small grains and potatoes. Early corn hardened during this decade, and much was out of danger from frosts by the 20th. Showery weather prevailed at the opening of the third decade, but farm work was not materially delayed, and small grain harvest was practically completed, and considerable threshing was done. Corn was mostly out of danger from frosts. Pastures and ranges generally needed rain badly at the close of the month.

TEMPERATURE.

The mean temperature for the State was 69.8°, or 4.4° above the normal, and 2.6° higher than the mean for August, 1921. The highest mean reported was 75.2° at Linton, Emmons County; the lowest was 66.1° at McKinney, Renville County, and at Minot, Ward County. The highest temperature reported was 115° at Cando, Towner County, on the 2d; the lowest was 33° at Lisbon, Ransom County, on the 29th. The greatest monthly range of temperature was 73° at Cando, Towner County; the least was 49° at Ashley, McIntosh County. The greatest daily range was 55° at Cando, Towner County, on the 2d, and at Hettinger, Adams County, on the 27th.

PRECIPITATION.

The average precipitation for the State was 1.36 inches, or .92 inch below the normal, and 0.63 inch less than the average for August, 1921. The greatest monthly amount reported was 4.70 inches at Melville, Foster County; the least was 0.14 inch at Bowman, Bowman County. The greatest amount recorded in any 24 consecutive hours was 2.89 inches at Melville, Foster County, on the 20th. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS.

Auroras were observed at Williston on the 11th; at Foxholm and Williston on the 13th; at Foxholm on the 20th; at Grand Forks on the 21st; at Foxholm and Williston on the 22d; at McLeod and Williston on the 23d; at Crosby, Foxholm and McLeod on the 24th; at Grand Forks on the 25th; at Foxholm, McLeod and Williston on the 26th; at Bowman on the 27th, and at Grand Forks and New England on the 28th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	29.93	30.21	1	29.63	31	57	6,216	8.4	42	nw.	6
Devils Lake	29.92	30.17	1	29.61	23	44	6,247	8.4	40	nw.	24
Ellendale	29.97	30.18	1	29.67	23	56	8,547	11.5	56	n.	24
Grand Forks	......	......	....	......	....	90	....	......	32	se.	13
Williston	29.88	30.21	28	29.56	31	48	5,456	7.3	44	nw.	15
Moorhead, Minn	29.92	30.17	29	29.59	23	58	5,011	6.7	27	n.	24
Av'ges and extremes	......	......	....	......	....	....	....	......	....	......	....

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	373.5	439.4	85	+18	77	45	43	19	27
Devils Lake	312.3	442.0	71	+ 6	83	44	50	27	11*
Ellendale	373.3	437.4	85	......	82	40	....	25	12
Grand Forks	......	......	......	......	....	......	....	......	....
Williston	344.0	442.0	78	+ 9	78	44	39	22	20
Moorhead, Minn	......	......	77	+15	80	45	45	31	19
Averages and extremes	......	......	......	......	....	......	....	......	....

* And other dates.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918...	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919...	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920...	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921...	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922...	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.

Climatological Data for August, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	70.6	+4.3	100	23	37	29	45	0.55	−2.17	0.25	0	4	18	12	1	sw.	E. T. Carley.
Amidon	Slope	......	9	70.6	......	97	11†	42	7	46	0.29	......	0.10	0	5	22	9	0	nw.	Charles Eastgate.
Arnegard	McKenzie	......	8	69.4	......	102	12	40	7	43	0.73	......	0.42	0	3	22	8	1	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	70.6	+4.7	95	14	46	25	40	1.14	−1.06	0.67	0	3	28	3	0	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	69.8	+4.8	100	12	40	7	46	0.89	−1.16	0.32	0	4	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	70.3	+2.6	100^{a}	12	40	25	53^{a}	0.46	−1.31	0.18	0	6	24	6	1	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	72.6	+5.1	100	13	47	25	41	0.22	−1.76	0.13	0	5	16	13	2	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	67.8	+4.2	94	5†	40	25	42	1.83	−0.38	0.54	0	11	18	9	4	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	68.1	+4.2	98	12	40	25	51	1.29	−0.91	0.60	0	8	23	1	7	......	G. H. Phelps.
Bowman	Bowman	2,961	9	69.2	......	96	12	42	7†	53	0.14	......	0.05	0	3	24	7	0	se.	R. Love, Jr.
Cando	Towner	1,488	22	70.6^{b}	+6.7	115^{b}	2	42^{b}	29	55^{b}	2.19	−0.02	0.64	0	8	......	......	......	se.	A. J. Swanson.
Carson	Grant	2,500	11	71.8	+4.2	98	13†	40	25	40	0.42	−0.98	0.17	0	5	22	7	2	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	......	......	......	......	......	......	......	2.60	−0.06	1.75	0	5	25	5	1	se.	S. Friswold.
Crosby	Divide	1,954	16	67.7	+4.0	97	11	39	7	50	1.42	−0.79	0.64	0	5	19	7	5	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	70.0	+4.9	98	13	46	25	40	1.72	−1.04	0.78	0	9	16	10	5	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	69.2	+3.1	97	12	38	25	52	0.69	−1.26	0.33	0	6	16	10	5	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	70.3	+7.0	98	9†	42	7	47	2.13	−0.01	0.83	0	7	4	27	0	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	68.8	+2.2	97	12	39	27	54	1.60	+0.03	0.70	0	6	23	5	3	se.	W. H. Moede.
Dunseith	Rolette	1,682	27	69.5^{e}	+5.9	94^{j}	13	38	25	41^{j}	2.17	−0.24	0.38	0	14	13	8	10	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	18	69.2^{e}	+5.9	94^{e}	12	43^{e}	25	48^{e}	1.97	−0.35	0.89	0	5	18	7	6	s.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	71.8	+5.4	102	23	40	29	47	0.43	−1.71	0.26	0	3	22	9	0	se.	O. A. Thompson.
Ellendale	Dickey	1,449	24	71.4	+2.6	100	23	42	29	44	0.16	−2.10	0.12	0	5	17	11	3	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	70.2	......	98	12	39	25	45	1.02	−0.93	0.54	0	5	19	12	0	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	68.9	......	99	12	38	25	42	1.35	−0.80	0.50	0	7	11	16	1	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	69.5	+4.5	101	13	44	25	50	3.28	+0.90	1.53	0	9	12	15	4	se.	T. D. Monsen.
Forman	Sargent	1,249	29	......	......	......	......	......	......	......	0.85	−1.86	0.55	0	3	23	8	0	sw.	O. Enger.
Foxholm	Ward	1,657	2	67.4	......	95	12	44	7	37	2.75	......	0.63	0	10	15	13	3	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	......	......	......	......	......	......	......	0.54	......	0.21	0	4	23	8	0	nw.	Verne King.
Fullerton	Dickey	1,439	25	71.8	+5.5	103	23	41	29	44	0.55	−1.98	0.26	0	4	24	7	0	s.	F. O. Alin.
Garrison	McLean	1,901	28	69.2	+3.5	97	12	42	25	48	1.69	−0.31	0.84	0	5	19	10	2	se.	G. L. Robinson.
Grafton	Walsh	827	31	70.4^{b}	+5.9	97^{b}	24	38^{b}	28	44^{b}	1.83	−0.76	0.85	0	7	......	......	......	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	69.9	+5.0	96	13	40	29	42	2.41	−0.05	0.89	0	11	16	11	4	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	69.0	+5.1	97	12	45	25†	42	1.43	−0.66	0.57	0	7	9	20	2	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	......	......	......	......	......	......	......	0.42	−1.43	0.18	0	4	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	15	67.1	+4.3	100	13	36	27	52	1.25	−0.97	0.35	0	6	18	12	1	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	72.5	+5.5	101	31	42	26†	55	0.75	−0.50	0.51	0	4	22	5	4	nw.	C. J. Downey.
Hillsboro	Traill	901	17	71.0^{a}	+4.1	99^{a}	14	40^{a}	29	41^{a}	1.62	−1.32	0.86	0	9	......	......	......	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	68.4	+4.9	101	12	39	25†	46	0.89	−1.00	0.76	0	5	16	12	3	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	71.1	+4.9	100	14	40	29	48	1.61	−1.13	0.86	0	7	19	2	10	s.	S. Calvelage.
Lamoine	Kidder	1,936	18	69.4	+5.5	103	13	40	25	46	1.55	−0.43	1.33	0	2	23	6	2	se.	E. V. Virgin.
Langdon	Cavalier	1,615	27	68.0	+6.3	97	13	44	25	40	1.47	−1.18	0.34	0	10	25	2	4	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	68.6	+4.3	95	12†	39	29	44	2.77	+0.17	1.12	0	9	13	9	9	s.	Reuben Gray.
Linton	Emmons	1,711	5	75.2	......	106	13	41	25	50	0.30	......	0.22	0	3	11	14	6	se.	William Malpass.
Lisbon	Ransom	1,091	19	71.8	+5.3	102	24	33	29	48	0.80	-1.46	0.23	0	6	20	7	4	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	......	......	......	......	......	......	......	1.15	......	0.95	0	4	......	......	......	......	Edw. Tapley.
McHenry	Foster	1,509	12	69.8	+5.1	94	13†	44	29	39	1.98	−1.21	1.09	0	6	23	5	3	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	66.1^{f}	+2.6	94^{f}	11	40^{f}	5†	45^{f}	2.02	+0.23	0.50	0	6	......	......	......	se.	N. P. Swenson.
McLeod	Ransom	1,075	11	71.9	+4.3	98	23	38	29	42	0.62	−1.73	0.22	0	7	20	5	6	se.	J. G. Carlson.
Maddock	Benson	1,604	8	71.8	......	99	13	40	29	44	2.34	......	0.74	0	7	12	16	3	nw.	A. T. Felland.
Mandan	Morton	1,644	9	72.4	......	101	13	45	25	45	0.31	......	0.15	0	5	22	4	5	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	69.8	+5.5	100	13	40	29	41	2.71	+0.25	0.94	0	8	18	11	2	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	S. P. Grane.
Mayville	Traill	975	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	M. G. Sateren.
Medora	Billings	2,270	23	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	T. A. Davis.
Melville	Foster	1,590	25	69.0	+2.7	95	13	45	25†	37	4.70	+2.71	2.89	0	5	24	4	3	se.	J. P. Kidder.
Minot	Ward	1,557	27	66.1	+1.0	99	12	38	25	50	1.75	−0.45	0.80	0	8	12	18	1	e.	W. I. Faris.
Minto	Walsh	820	30	70.0	+5.4	96	13†	37	29	45	2.04	−0.37	1.05	0	8	15	11	5	se.	C. M. Evans.
Mott	Hettinger	2,424	16	69.0	+3.1	95	1†	40	7†	45	0.65	−0.99	0.40	0	4	17	10	4	se.	O. H. Opland.
Napoleon	Logan	1,955	31	70.8	+4.8	102	15	39	25	47	0.37	−2.02	0.15	0	5	25	4	2	s.	C. J. Hoof.
New England	Hettinger	2,400	29	69.4	+2.7	97	2	40	25†	44	0.22	−1.55	0.15	0	2	5	24	2	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	71.6	+5.2	99	13	44	29	47	0.79	−0.88	0.59	0	3	22	8	1	nw.	J. Christiansen.
Park River	Walsh	998	19	69.2	+3.7	95	23	41	30	44	1.49	−0.74	0.62	0	7	19	6	6	se.	C. B. Wright.
Parshall	Mountrail	......	8	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	49	68.7	+4.6	99	12	45	7†	47	0.30	-1.83	0.20	0	2	20	7	4	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	S. C. Shanks.
Power	Richland	1,020	29	......	......	......	......	......	......	......	1.39	−1.08	0.92	0	3	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	9	......	......	......	......	......	......	......	1.69	+0.10	0.90	0	6	16	10	5	sw.	C. Frank.
Skaar	McKenzie	......	3	68.8^{m}	......	102^{m}	...	37^{m}	25	47^{m}	1.82	......	0.60	0	9	......	......	......	......	Conrad Brunsvold.
Steele	Kidder	1,857	27	72.2	+5.4	101	13	42	25	42	1.00	−1.34	0.90	0	2	23	6	2	se.	H. S. Wood.
Taylor	Stark	2,493	7	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. Leutz.
Towner	McHenry	1,482	21	68.4	+4.0	95	13	43	25	46	0.89	1.20	0.38	0	5	25	2	4	sw.	B. Bagley.
Turtle Lake	McLean	1,899	8	70.6	......	100	13	46	29	43	1.59	......	0.92	0	4	15	12	4	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. F. Schroeder.
Wahpeton	Richland	962	29	72.5	+5.6	103	16	40	29†	42	0.61	−2.21	0.38	0	4	25	2	4	se.	State School of Science.
Walhalla	Pembina	966	19	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Ivan Lee.
Westhope	Bottineau	1,508	17	68.0	+3.9	92	3†	44	7	43	2.14	−0.09	1.10	0	8	22	7	2	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	69.6	+1.7	98	12	41	7	40	1.86	+0.55	0.92	0	11	15	10	6	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	68.4^{j}	+4.9	98^{j}	13	44^{j}	18	47^{j}	2.46	+0.38	0.58	0	9	......	......	......	......	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	71.4	+5.5	97	14	44	29	40	0.74	−2.36	0.42	0	7	11	15	5	s.	U. S. Weather Bureau.
Averages	......	......	......	69.8	+4.4	115	2	33	29	55	1.36	−0.92	2.89	0	6	18	9	4	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for August, 1922.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red							T.		.04						.10						.25				.16							0.55
Amidon	Lit. Missouri	.01		T		.10		.09			T.							T.			.04	T			.05								0.29
Arnegard	Missouri																.42				.23	.08							T.				0.73
Ashley	Missouri					.32					T.	.15												.67									1.14
Beach	Lit. Missouri	.32			.26						.17			T.						.14	T								T		T		0.89
Berthold Agency	Missouri	T.			.02		T.				.06						.07				.18				.10							.03	0.46
Bismarck ***	Missouri		.13				T	T			.01				.02						T.		T.		.04				T.		.02		0.22
Bottineau	Mouse		.04				.54	.02				.11		.03			.18				.29	.02		.15		.16						.29	1.83
Bowbells ‖	Mouse						.15	.04				.07				.04	.60				.24		.02									.13	1.29
Bowman	Grand		.05			.04																T.			.05								0.14
Cando	Devils Lake						T.			.06	T.					.73					.44		.05		.20	.03	.04					.64	2.19
Carson	Heart		.17								.08					.03									.12				.02				0.42
Cooperstown	Sheyenne					T		.20							.30						1.75				.20						.15		2.60
Crosby	Mouse						.12	.04			.13						.64								T.							.49	1.42
Devils Lake ***	Devils Lake		.01			.03	.32		.21		.03		T.		T.						.78				.08		.03					.23	1.72
Dickinson ‖	Heart	T.	.33			.18			.05			.06			T.						.05				T.	T.				.02			0.69
Donnybrook	Mouse		.27				.10	.10		T.	.13						.50				.83											.20	2.13
Dunn Center ‖	Knife	.06	.70			.10						.11					.21				.42									T			1.60
Dunseith	Mouse		.08			.36	.08		.30		.09		.06	.19			.25				.19		.01		.10	.06	.02					.38	2.17
Eckman	Mouse						.60				.10										.89		T.		.25							.13	1.97
Edgeley	James																			.26					.12		.05						0.43
Ellendale***	James					.01	T.		T.		.10	.02									T.		.02		.01						T.	T	0.16
Energy	Missouri						T.				.07				.20						.13				.08							.54	1.02
Epping	Missouri						.04				.15			T	.02		.50				.41				.18							.05	1.35
Fessenden	James		.52				.53	.20	.02	T.		.03									1.53			.13		.07						.25	3.28
Forman	Sheyenne															.55				.10					.20								0.85
Foxholm	Mouse		.16			T.	.25	T.			.13		.58				.56				.63		.02		.21	T.	.03					.18	2.75
Fryburg	Heart					.21	T.				.18			T.							.10	.05			T.				T.		T.	T.	0.54
Fullerton	James					T.		.03	T.	.26		.20			T.					T.	T.		T.	T.	T.		.06						0.55
Garrison	Missouri						T.	T.	T.		.18				T.		.10				.84				.10							.47	1.69
Grafton	Red	.19						.31						.07								.85	.05			.27						.09	1.83
Grand Forks ***	Red					.06	.03	T.				.07	T.		T.	.01	.13				.88	.01	T.	.14	.12		.07					.89	2.41
Granville	Mouse	T.				T.	.28				.10						.18				.57	T.	.02		.16	T.						.12	1.43
Hannah	Pembina		T.				.01				.14			.18						.09						T.							0.42
Hansboro	Devils Lake						.20		.25		.15						.25				.35				.05								1.25
Hettinger	Grand		.51						.21		.02				T.							.01											0.75
Hillsboro	Red						.10	.04		.05		T.			.03	.02					.86				.20	.22						.10	1.62
Howard	Missouri					T.	T.				T.				T.		.76				.01	T.			.01				.01		T.	.10	0.89
Jamestown	James						.04	.30		.11		.06										.86				.20						.04	1.61
Lamoine	Missouri					T.	T.														.22											1.33	1.55
Langdon	Pembina							.17		.05		.08				.34	.19					.22	.03			.30	.06					.03	1.47
Larimore	Red	.08					.45	.10		.10						.45	.05					1.12				.22						.20	2.77
Linton	Missouri		.04			T.						T.			T.		T.	T.			.22				.04								0.30
Lisbon ‖	Sheyenne						.07			T.		.10				.18						.13			.09	.23	T.						0.80
McClusky	Missouri						.07																		.08		.05		T.			.95	1.15
McHenry	James					.28			.29		.04										1.09				.12							.16	1.98
McKinney	Mouse						.50			.20				.20		.30				.50												.32	2.02
McLeod	Sheyenne					.06				.05		.03				.15					.07			.04	.22								0.62
Maddock	Sheyenne		.38			.56	.11		.20												.74				.04							.31	2.34
Mandan ‖	Missouri		.15									.01				.07					.03					.05						T.	0.31
Manfred	James		.77			.62	.05	.16			.03									.94					.07		T.					.07	2.71
Marmarth	Lit. Missouri																																
Mayville	Red																																
Medora	Lit. Missouri																																
Melville	James		T.				.26		.43		T.										2.89		.27		T.							.85	4.70
Minot	Mouse		.05				.05	.20				.15					.20				.80					.18						.12	1.75
Minto	Red	.28					.27	.05				.03					.08				1.05				.09							.19	2.04
Mott	Cannon Ball		.21	T.					T.		.02												.02				.40		T.				0.65
Napoleon ‖	Missouri		.07									.05												.05	.15	.05							0.37
New England	Cannon Ball			T.					.07						T.										.15				T.			T.	0.22
New Salem	Heart										.17				.59										.03			T.	T.				0.79
Park River	Red						.25	.03				.24	T.								.62				.16		.05					.14	1.49
Parshall	Missouri																																
Pembina ‖	Red							.20				T.				T.	T.					.10	T.			T.							0.30
Pettibone	James																																
Power	Sheyenne					T.			.03		T.				.92						T.			T.	.44								1.39
Powers Lake	Missouri	T.			.22			T.	T.		.05				T.	.90					.35				.11							.06	1.69
Skaar *	Yellowstone				.02						.10			T.	.05		.60				.25	.25		.05	.15							.35	1.82
Steele	Missouri	T.		T.			T.	T.		T.											.90			T.	.10		T.					T.	1.00
Taylor	Heart																																
Towner	Mouse					.07					.16										.38						.13					.15	0.89
Turtle Lake	Missouri						T.				.06		T.								.92				.08							.53	1.59
Valley City	Sheyenne																																
Wahpeton	Red															.20					.08				.38							.03	0.69
Walhalla	Pembina										.82																						
Westhope	Mouse					1.10	.14				.08				.05		.13				.29				.17						.18		2.14
Williston ***	Missouri				T.			.02			.10		T.	T.	.01	.41	.01			.08	.12	T.		T.	.07	.01	T.		T.		.11	.92	1.86
Willow City	Mouse		.43			.58	.05				.10						.20				.36	.02			.17							.55	2.46
Moorhead, Minn ***	Red				T.		.02		T.	.03		T.			.01	.41	.02				.08				.17		T.					T.	0.74

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	89	91	97	96	94	76	77	85	87	86	96	98	96	99	98	99	84	90	88	76	86	89	100	78	74	72	87	72	79	86	85	87.4
	Minimum...	54	51	55	58	59	62	54	45	49	51	55	57	59	68	62	64	57	55	48	53	59	55	57	54	46	48	42	54	37	46	55	53.8
Arnegard	Maximum...	93	89	90	85	83	72	79	81	32	85	93	102	82	84	91	83	79	89	86	87	87	81	87	76	79	75	93	72	85	88	95	84.9
	Minimum...	56	64	67	62	61	56	40	47	46	59	59	59	54	53	56	59	53	52	51	57	50	61	57	54	43	43	44	50	43	54	65	54.0
Ashley	Maximum...	87	85	85	84	85	75	75	82	82	82	82	92	93	95	94	92	82	88	87	87	89	88	90	80	75	76	90	80	74	83	82	84.5
	Minimum...	56	64	57	56	60	61	52	48	54	52	60	57	65	67	64	68	56	48	57	60	55	55	62	58	46	49	50	54	51	55	65	56.8
Beach	Maximum...	94	93	88	83	73	78	83	82	85	87	99	100	85	85	94	85	81	88	85	90	88	88	88	72	89	75	94	73	84	91	86	86.3
	Minimum...	54	64	62	53	53	46	40	51	47	59	56	65	60	60	59	51	51	50	58	50	51	53	54	52	43	50	47	48	53	49	59	53.2
Berthold Agency	Maximum...	93	88	89	85	86	74	78	83	82	82	....	100	93	85	94	91	80	93	87	86	87	94	89	83	77	76	97	80	84	82	93	[a]86.3
	Minimum...	50	67	68	64	63	55	43	51	48	67	51	58	66	71	54	54	51	46	49	56	48	64	51	54	40	44	46	51	46	49	61	54.3
Bismarck	Maximum...	89	87	88	85	87	73	76	86	82	79	93	97	100	91	98	91	82	91	86	89	90	95	93	73	76	76	93	72	77	83	93	86.2
	Minimum...	55	65	64	64	66	57	52	55	54	58	58	64	73	68	64	64	57	50	60	63	58	65	59	56	47	52	52	54	52	58	67	59.1
Bottineau §§	Maximum...	91	85	93	94	83	71	80	81	81	80	87	90	84	82	87	84	79	89	82	72	84	87	86	70	71	71	83	70	76	81	85	82.2
	Minimum...	51	55	58	57	64	59	48	51	53	56	56	57	68	61	57	58	52	47	54	55	54	56	55	50	40	41	47	47	45	50	52	53.4
Bowbells §§	Maximum...	89	90	92	90	84	64	74	76	80	73	89	98	85	85	86	80	79	88	81	82	82	88	84	72	75	74	96	76	82	87	91	83.0
	Minimum...	57	61	61	61	59	55	42	43	44	52	55	60	65	55	55	54	55	54	50	58	50	51	59	52	40	45	45	51	45	52	62	53.2
Bowman	Maximum...	90	86	82	80	80	72	80	86	86	88	92	96	86	86	92	76	82	89	91	84	89	92	86	73	80	74	95	78	78	84	93	84.7
	Minimum...	51	61	60	64	60	56	42	55	50	60	57	56	60	60	58	48	55	52	55	50	51	62	55	45	44	46	42	51	47	52	58	53.6
Cando	Maximum...	91	115	93	92	84	77	76	....	81	82	88	89	99	90	85	85	83	86	84	76	84	88	89	83	73	72	....	86	76	85	85	[b]85.4
	Minimum...	75	60	65	54	59	60	51	....	46	51	56	58	68	63	56	63	56	47	51	55	57	62	57	54	44	53	....	46	42	45	66	[b]55.9
Carson	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Crosby	Maximum...	92	89	89	83	78	73	74	84	72	89	97	82	84	88	78	76	82	86	86	86	89	83	74	74	76	90	85	84	88	93	75	83.2
	Minimum...	52	64	62	60	58	48	39	48	47	54	59	58	61	52	56	54	47	52	55	54	52	47	57	53	43	47	48	46	43	43	58	52.2
Devils Lake	Maximum...	88	91	93	93	84	71	76	82	80	81	90	91	98	88	90	83	77	89	82	67	84	87	92	70	70	71	87	71	76	86	85	83.2
	Minimum...	54	65	59	60	60	56	52	49	53	54	64	61	69	65	60	65	56	49	53	55	58	63	62	52	46	53	51	52	46	49	66	56.7
Dickinson §§	Maximum...	93	86	86	80	81	74	78	84	81	83	92	97	89	85	94	86	82	91	88	89	88	91	89	79	88	71	94	70	81	86	96	85.5
	Minimum...	54	62	61	64	62	58	38	54	46	53	55	61	64	62	57	53	49	47	51	59	44	53	51	54	38	44	42	51	48	52	55	53.0
Donnybrook	Maximum...	92	94	92	92	94	73	75	78	98	84	90	98	90	81	86	82	79	82	90	92	91	90	85	73	75	77	93	78	86	89	93	86.2
	Minimum...	54	61	64	56	60	52	42	58	61	50	52	56	61	55	51	57	57	60	58	47	52	62	57	55	44	50	46	50	45	52	62	54.4
Dunn Center §§	Maximum...	93	85	86	82	83	70	76	81	81	79	91	97	88	84	93	85	80	90	87	85	86	91	90	73	76	75	93	71	80	82	93	84.1
	Minimum...	51	62	63	62	62	65	48	47	43	55	57	60	67	64	57	57	52	47	49	56	49	56	53	55	40	47	39	51	44	48	52	53.5
Dunseith	Maximum...	....	....	....	....	....	....	....	....	....	....	87	88	94	90	88	88	83	87	85	78	81	89	92	83	75	70	86	88	79	86	85	[j]84.9
	Minimum...	51	58	53	56	61	53	46	54	52	53	55	62	64	61	56	56	54	54	54	53	53	59	53	50	38	49	54	47	54	49	62	54.1
Edgeley	Maximum...	89	89	91	89	87	86	78	85	84	85	95	97	99	98	99	96	91	91	89	86	90	91	102	91	77	78	91	89	79	87	88	89.3
	Minimum...	55	61	52	57	56	62	54	43	52	46	60	55	60	65	65	66	56	44	57	56	60	54	65	54	45	45	45	44	40	50	62	54.4
Ellendale	Maximum...	87	87	88	88	84	77	76	83	81	88	95	95	96	95	97	97	85	88	85	84	89	89	100	82	76	76	89	72	76	86	83	86.3
	Minimum...	57	62	55	58	58	60	52	46	55	51	62	58	64	69	75	70	59	48	61	58	60	54	63	53	48	48	45	48	42	53	63	56.6
Fessenden §§	Maximum...	91	89	92	94	87	67	77	82	82	82	92	95	101	90	91	93	81	95	85	80	87	90	93	75	75	76	92	75	78	85	92	85.9
	Minimum...	53	56	50	55	56	58	49	49	47	50	54	55	64	61	58	65	53	45	50	55	56	61	56	53	44	51	47	51	49	45	49	53.1
Foxholm	Maximum...	88	86	87	84	84	73	70	78	75	75	86	95	85	73	83	79	74	85	79	74	80	86	82	71	71	70	86	73	78	83	89	80.1
	Minimum...	60	62	64	62	63	53	44	49	52	51	62	61	61	58	52	53	56	54	50	57	53	62	60	55	45	52	51	49	47	50	52	54.8
Fullerton	Maximum...	89	90	91	90	87	78	77	84	82	86	94	96	98	97	97	98	84	88	87	84	88	88	103	84	75	77	88	73	78	87	86	87.2
	Minimum...	56	62	55	58	57	62	54	47	53	53	61	57	65	68	69	69	55	48	59	58	58	54	64	56	47	48	44	55	41	51	62	56.3
Garrison	Maximum...	90	87	91	86	87	82	77	83	82	76	91	97	95	83	83	87	79	91	86	85	86	94	88	80	76	74	93	74	81	84	92	85.2
	Minimum...	52	55	57	58	53	57	47	49	50	54	55	55	70	62	58	59	54	46	49	57	53	63	59	53	42	49	45	50	44	47	47	53.2
Grafton	Maximum...	87	91	93	90	....	85	82	75	79	82	83	93	92	96	92	91	93	82	88	82	74	87	84	97	82	72	85	77	85	....	80	[b]85.4
	Minimum...	55	60	58	57	....	60	61	53	46	58	50	64	57	63	70	60	63	55	44	56	51	60	59	55	53	51	44	38	45	....	62	[b]55.4
Grand Forks	Maximum...	84	90	93	93	86	79	74	79	82	84	94	90	96	93	92	92	78	88	80	66	83	86	95	68	70	70	85	70	75	84	78	83.1
	Minimum...	56	59	59	60	61	60	54	51	58	55	67	59	66	72	63	63	52	46	56	52	62	62	64	55	48	52	45	48	40	48	66	56.7
Granville	Maximum...	88	89	90	89	90	75	80	80	72	80	89	97	96	80	87	84	76	89	83	75	82	92	85	72	72	72	89	70	80	85	92	83.2
	Minimum...	57	59	58	56	58	55	54	47	50	54	57	58	69	60	57	55	55	52	48	68	52	65	57	50	45	55	47	50	45	48	55	54.7
Hansboro	Maximum...	91	94	98	98	85	76	76	80	82	80	87	90	100	91	88	85	91	85	80	67	90	95	91	85	76	90	87	85	85	84	86	86.3
	Minimum...	50	54	60	55	60	52	41	43	50	48	48	50	52	53	52	49	55	50	47	44	41	48	47	45	43	38	36	40	43	40	44	47.9
Hettinger	Maximum...	92	85	84	89	85	78	79	86	85	82	95	97	91	87	95	91	90	94	95	91	93	89	93	85	91	85	97	85	91	91	101	89.4
	Minimum...	58	63	64	58	64	58	45	59	50	62	55	61	58	64	59	62	60	58	51	48	49	48	53	60	58	42	42	55	56	52	52	55.6
Hillsboro	Maximum...	85	....	93	93	84	77	73	80	82	82	93	91	95	99	90	95	91	87	85	78	82	86	96	90	70	69	83	81	75	82	80	[a]85.1
	Minimum...	58	....	56	58	61	63	54	50	57	54	67	59	64	70	62	70	61	46	57	52	61	58	60	54	48	53	45	54	40	48	66	[a]56.9
Howard	Maximum...	92	92	91	87	82	74	72	74	83	78	90	101	92	88	87	80	79	83	81	82	86	92	82	77	75	88	83	80	82	88	92	84.3
	Minimum...	54	60	63	58	62	59	49	54	45	54	69	55	55	44	54	55	50	55	51	50	52	55	58	64	39	42	42	39	41	52	52	52.4
Jamestown §§	Maximum...	91	93	96	74	88	76	82	86	84	91	94	96	100	98	97	91	87	85	82	85	93	97	73	78	73	92	71	75	88	84	74	86.1
	Minimum...	59	61	53	61	62	54	63	50	51	65	58	64	61	64	66	67	60	56	52	58	58	57	56	56	43	48	46	52	40	45	52	56.1
Lamoine	Maximum...	87	87	89	89	86	78	74	84	81	82	89	94	103	93	97	91	79	91	83	85	85	91	93	74	74	73	90	70	70	80	89	84.9
	Minimum...	53	74	56	57	61	55	50	52	47	55	54	54	68	63	62	65	53	45	52	57	51	55	58	53	40	51	45	44	45	45	44	53.8
Langdon §§	Maximum...	85	92	94	95	82	77	71	80	79	78	91	90	97	86	83	88	73	85	78	61	81	87	94	76	67	84	85	68	80	85	78	82.3
	Minimum...	50	53	58	60	60	61	50	49	54	55	60	57	65	65	56	60	55	45	52	52	52	60	55	51	44	54	46	50	46	45	52	53.7
Larimore §§	Maximum...	90	93	91	83	74	74	80	81	82	92	91	95	91	90	93	78	88	82	74	85	87	95	70	71	71	84	70	77	83	80	70	82.7
	Minimum...	54	58	60	61	59	64	54	48	50	51	62	56	65	68	57	56	55	44	55	55	50	62	61	55	44	51	45	48	39	45	56	54.5
Linton	Maximum...	94	90	88	90	92	86	80	88	88	84	100	103	106	102	102	98	88	96	92	96	[illegible]	99	100	78	84	81	98	75	83	93	93	91.7
	Minimum...	56	65	69	68	64	64	55	56	59	50	58	58	72	68	68	70	50	46	58	63	54	63	60	59	41	49	49	56	48	60	67	58.8
Lisbon §§	Maximum...	91	94	96	98	82	76	80	87	87	87	97	98	100	101	98	98	85	92	87	81	90	96	102	77	76	77	90	74	85	85	90	88.9
	Minimum...	67	66	53	57	60	60	53	42	49	49	60	56	66	71	69	67	54	52	57	57	64	48	60	56	45	45	42	47	33	40	47	54.6
McKinney	Maximum...	87	88	90	86	70	72	79	78	75	88	94	86	75	85	82	85	88	82	78	82	....	....	....	....	....	....	90	84	82	85	90	[f]83.0
	Minimum...	50	50	55	50	40	50	45	50	50	60	55	55	55	55	55	55	50	45	43	50	....	....	....	....	....	....	50	41	40	40	45	[f]49.2
Maddock	Maximum...	88	89	91	92	87	73	73	80	79	80	87	92	99	90	85	88	86	89	86	80	86	90	90	77	73	74	89	86	77	85	87	84.9
	Minimum...	52	52	60	58	55	56	58	52	61	61	64	63	68	64	67	68	61	67	63	60	73	74	67	55	43	52	45	50	40	43	65	58.6
Melville	Maximum...	81	88	85	88	88	78	70	68	75	73	87	94	95	94	90	91	82	85	82	78	78	87	82	82	67	67	68	75	78	76	77	81.2
	Minimum...	56	62	64	58	57	57	52	49	48	57	61	57	65	68	61	67	55	48	56	53	55	60	65	52	45	52	55	65	45	50	63	56.7
Minot §§	Maximum...	90	93	92	91	88	68	71	82	82	79	90	99	94	80	91	85	78	92	86	80	88	92	81	78	73	75	93	74	82	87	91	84.8
	Minimum...	48	57	56	50	54	51	39	41	47	45	50	51	58	53	47	51	47	43	42	46	48	50	50	53	38	40	43	45	40	42	44	47.4
Mott	Maximum...	95	93	84	82	86	80	81	78	84	79	95	94	92	88	93	86	85	94	92	89	92	90	91	88	90	73	93	80	78	89	93	87.4
	Minimum...	55	58	52	48	46	45	40	45	48	54	56	62	60	53	48	49	47	62	54	52	50	51	48	50	51	40	49	43	45	51	56	50.6
Napoleon §§	Maximum...	90	89	89	89	90	75	77	89	84	85	95	98	101	101	102	95	85	94	89	91	92	96	100	74	78	78	95	83	80	90	93	89.3
	Minimum...	50	51	55	53	55	60	57	45	48	48	55	55	56	65	63	64	50	43	55	58	51	55	56	53	39	40	48	51	41	46	56	52.3
New Salem	Maximum...	91	85	86	82	88	73	74	87	81	72	92	98	99	92	97	90	81	92	88	88	90	93	95	84	78	84	92	74	79	82	96	86.5
	Minimum...	62	55	62	64	65	56	58	45	51	51	59	60	68	62	67	62	56	53	57	65	58	60	58	53	47	52	45	48	44	50	61	56.6
Pembina §§	Maximum...	96	96	97	89	86	78	81	78	85	82	95	99	98	89	89	98	74	88	82	62	84	84	98	72	73	76	68	68	69	81	86	83.9
	Minimum...	50	55	60	58	58	61	45	51	52	45	59	52	66	68	54	60	54	51	45	45	45	58	52	52	46	46	56	52	51	51	61	53.5
Steele	Maximum...	88	87	88	89	86	71	76	78	78	90	96	91	101	93	99	91	81	88	85	80	88	90	92	70	72	72	88	76	82	84	89	85.2
	Minimum...	56	62	72	60	62	61	52	57	54	55	59	70	70	75	61	70	56	46	64	71	55	61	62	53	42	52	49	46	55	53	70	59.1
Towner	Maximum...	86	88	91	86	86	73	73	86	84	80	88	91	95	81	87	85	84	80	82	78	78	76	75	73	70	75	90	86	85	86	93	82.9
	Minimum...	55	56	58	55	53	51	48	51	53	58	57	60	69	56	55	55	51	52	56	60	50	56	55	56	43	55	45	50	53	47	47	53.9
Valley City	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Wahpeton	Maximum...	87	90	95	98	88	83	88	85	85	86	93	93	95	99	98	103	87	87	88	82	87	90	101	83	75	76	87	75	80	82	82	88.0
	Minimum...	59	59	55	60	62	61	55	45	50	58	67	62	72	70	69	69	58	45	63	66	56	52	66	55	47	45	46	50	40	40	65	57.0
Walhalla	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Westhope	Maximum...	91	91	92	92	84	68	72	79	80	77	85	89	89	72	87	83	78	87	83	75	85	90	85	83	73	75	79	82	87	92	88	83.0
	Minimum...	54	62	57	55	54	53	44	49	50	55	58	60	58	56	50	57	48	57	45	45	55	55	50	55	54	52	52	50	46	64	45	53.1
Williston	Maximum...	91	88	87	85	82	67	74	76	79	80	92	98	83	80	89	83	78	87	84	87	84	90	85	74	77	72	91	70	83	81	94	82.9
	Minimum...	51	68	69	65	65	49	41	51	48	63	60	61	61	58	60	58	55	57	52	59	50	65	61	50	45	51	51	51	48	54	61	56.3
Moorhead, Minn	Maximum...	84	88	93	93	85	77	74	81	82	82	94	91	93	97	95	94	81	83	83	72	82	87	97	76	71	68	84	70	77	81	82	83.8
	Minimum...	60	58	58	62	65	64	56	51	58	58	67	62	69	72	70	70	61	52	60	56	63	57	65	54	49	52	44	50	44	54	66	58.9

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXI. BISMARCK, N. D., SEPTEMBER, 1922. No. 9

GENERAL SUMMARY.

The month opened with light to heavy showers, which interfered somewhat with threshing, although beneficial for fall plowing and for the seeding of winter rye. Flax harvest was well advanced during the first decade, and some early flax threshed with good results. Corn deteriorated somewhat in many sections, due to drought; and ranges, pastures and meadows were in need of moisture. Light to heavy frosts were reported on the 10th. Cloudy, foggy and showery weather generally prevailed during the opening of the second decade, greatly interfering with threshing, completely stopping operations in some sections. The precipitation was beneficial for fall plowing, but generally insufficient. The third decade was dry, and farm work of all kinds made rapid progress. Corn was mostly matured and beyond danger from frosts. Not as much fall plowing or seeding of winter rye was accomplished as usual, due to dry soil. Livestock was in good condition at the close of the month.

TEMPERATURE.

The mean temperature for the State was 59.8°, or 3.4° above the normal, and 2.8° higher than the mean for September, 1921. The highest mean reported was 64.4° at Wahpeton, Richland County; the lowest was 54.6° at Bottineau, Bottineau County. The highest temperature reported was 104° at Linton, Emmons County, and Lisbon, Ransom County, on the 4th; the lowest was 23° at Minot, Ward County, on the 24th. The greatest monthly range of temperature was 74° at Linton, Emmons County, and at Lisbon, Ransom County; the least was 58° at Bottineau, Bottineau County. The greatest daily range was 67° at Lisbon, Ransom County, on the 4th.

PRECIPITATION.

The average precipitation for the State was 2.16 inches, or 0.52 inch above the normal, and 1.14 inches less than the average for September, 1921. The greatest monthly amount reported was 6.94 inches at Larimore, Grand Forks County; the least was 0.15 inch at New England, Hettinger County. The greatest amount recorded in any 24 consecutive hours was 4.20 inches at Larimore, Grand Forks County, on the 1st. There was no snowfall reported. There was an average of 6 days with 0.01 inch or more of precipitation.

AURORAS.

Auroras were observed at Grand Forks on the 7th; at Grand Forks and Park River on the 10th; at Amidon, Berthold Agency, Howard and Williston on the 14th; at Foxholm, Howard and Williston on the 15th; at Howard on the 18th; at Foxholm on the 19th; at Foxholm, Howard, McLeod and Williston on the 20th; at Crosby on the 21st and 22d; at Devils, Lake, Grand Forks, Howard and McLeod on the 23d; at Foxholm, Grand Forks and McLeod on the 24th; at Park River on the 25th; at Foxholm on the 26th; at Bismarck, Foxholm and Howard on the 27th; at Bowman, Eckman, Grand Forks and McLeod on the 28th, and at Eckman on the 29th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.02	30.54	15	29.63	7	57	5,336	7.4	46	nw.	2
Devils Lake	29.99	30.53	16	29.54	7	44	5,904	8.2	36	w.	1
Ellendale	30.03	30.51	16	29.51	5	56	8,583	11.9	46	sw.	5
Grand Forks	29.98	30.60	16	29.52	22	90	......	......	32	sw.	8
Williston	29.96	30.52	15	29.46	20	48	4,846	6.7	29	se.	5
Moorhead, Minn	30.00	30.61	16	29.56	22	58	5,102	7.1	27	nw.	8
Av'ges and extremes	30.00	30.61	16	29.46	20	.....	5,954	8.3	46	nw.	2

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	278.8	376.6	77	+15	79	51	56	17	24
Devils Lake	231.4	377.2	61	+ 3	84	52	67	16	29
Ellendale	253.0	376.0	67	......	84	48	....	18	23
Grand Forks	......	......	......	......	87	.....	65	.....	....
Williston	288.4	377.2	76	+16	84	52	54	32	3
Moorhead, Minn	243.1	376.6	65	+ 5	83	50	49	20	23†
Averages and extremes	258.9	376.7	69	+10	84	51	58	16	29

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw.
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw
1903...	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919...	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920...	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921...	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.
1922...	9.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw.

Climatological Data for September, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	60.4	+3.1	100	4	32	10†	59	0.20	−1.77	0.10	0	4	20	8	2	sw.	E. T. Carley.
Amidon	Slope	...	9	61.3	...	97	4	32	15	44	0.99	...	0.45	0	3	17	13	0	s.	Charles Eastgate.
Arnegard	McKenzie	...	8	59.8	...	95	4	32	15	45	4.42	...	0.94	0	8	20	8	2	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	57.1	−0.2	97	4	31	10	43	1.31	+0.29	0.59	0	5	19	7	4	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	61.0	+4.7	96	4†	31	15	49	1.10	−0.17	0.78	0	3	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	60.2	+3.2	97	4	32	15	48	3.31	+1.87	1.07	0	9	18	10	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	61.4	+3.3	98	4	35	19	38	1.93	+0.74	0.81	0	7	19	5	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	54.6	−0.9	81	4	26	10	42	2.00	+0.43	0.98	0	8	17	4	9	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	59.2^{a}	+6.4	92^{a}	4	30^{a}	10	44^{a}	1.98	+0.36	0.94	0	4	...	...	...	...	G. H. Phelps.
Bowman	Bowman	2,961	9	60.4	...	97	4	34	10	55	0.67	...	0.46	0	3	24	6	0	nw.	R. Love, Jr.
Cando	Towner	1,488	22	59.4	+3.8	91	4	31	10	45	2.03	+0.60	0.71	0	7	9	12	9	e.	A. J. Swanson.
Carson	Grant	2,500	11	62.6	+6.2	95	5†	32	15†	48	0.90	−0.83	0.53	0	4	21	7	2	se.	J. W. Evens.
Cooperstown	Griggs	1,428	17	...	...	...	...	...	...	...	1.50	−0.16	0.50	0	4	18	10	2	nw.	S. Friswold.
Crosby	Divide	1,954	16	59.4	+5.7	94	4	31	15	46	2.08	+0.84	0.77	0	6	15	9	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	59.5	+3.9	95	4	33	10	46	3.30	+1.91	1.42	0	8	15	7	8	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	58.7	+2.2	98	4	32	15†	54	1.28	+0.21	0.48	0	7	17	7	6	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	59.6	+5.6	94	4	28	10†	54	2.07	+0.41	1.10	0	6	10	15	5	sw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	59.3	+2.2	97	4	33	15	50	3.06	+1.94	1.40	0	6	20	3	7	se.	W. H. Moede.
Dunseith	Rolette	1,682	27	57.0	+2.2	89	4	29	10	46	3.15	+1.58	1.54	0	9	14	3	13	...	J. G. Lamont.
Eckman	Bottineau	1,500	18	59.4^{a}	+3.9	92^{a}	4	28^{a}	10	54^{a}	2.09	+0.96	0.94	0	7	15	8	7	e.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	62.0	+4.5	99	4	29^{a}	10	53^{a}	1.05	−0.61	0.75	0	3	16	8	6	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	61.4	+3.0	99	4	35	10	54	1.21	−0.14	0.66	0	9	17	4	9	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	11	57.9	...	95	4	34	15	40	3.23	+1.69	0.76	0	9	13	15	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	57.8	...	91	4	29	15	45	2.51	+1.05	0.85	0	7	13	12	5	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	60.0	+4.9	97	4†	27	10	57	2.01	+0.29	1.28	0	10	13	10	7	nw.	T. D. Monsen.
Forman	Sargent	1,249	29	...	...	...	...	...	...	...	1.30	−0.52	0.58	0	6	19	7	4	s.	O. Enger.
Foxholm	Ward	1,657	2	58.2	...	91	4	32	10†	44	1.76	...	0.87	0	5	12	13	5	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	...	...	...	...	...	...	...	1.26	...	0.67	0	4	24	4	2	nw.	Verne King.
Fullerton	Dickey	1,439	25	61.0	+4.3	100	4	31	10	47	2.04	−0.03	1.12	0	6	17	6	7	s.	F. O. Alin.
Garrison	McLean	1,901	28	59.9	+3.1	90	21	32	15	44	2.45	+1.09	1.26	0	9	18	9	3	se.	G. L. Robinson.
Grafton	Walsh	827	31	59.6	+3.7	92	4	32	16†	47	4.86	+3.04	2.75	0	8	18	5	7	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	32	60.2	+4.0	96	22	33	25	50	2.11	+0.25	1.32	0	8	13	7	10	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. A. Christianson.
Hannah	Cavalier	1,568	29	...	...	...	...	...	...	...	5.39	+3.25	1.56	0	6	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	15	56.6^{m}	+2.5	90^{m}	21	28^{m}	16†	57^{m}	2.71	+0.81	1.13	0	6	16	13	1	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	61.1	+3.1	98	21	29	20	64	0.47	−0.83	0.47	0	1	25	2	3	nw.	U. J. Downey.
Hillsboro	Traill	901	17	60.8	+1.8	96	4	33	25	46	1.21	−1.28	0.43	0	8	13	12	5	se.	F. E. Mayall.
Howard‡‡	Williams	2,275	16	59.6	+5.8	91	5	28	15	44	2.99	+1.62	1.02	0	7	18	10	2	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	60.8	+4.1	99	3	33	10	60	1.62	+0.09	0.58	0	6	20	1	9	s.	S. Calvelage.
Lamoine	Kidder	1,936	18	58.6	+2.0	95	4	32	10	48	2.13	+0.85	1.10	0	6	21	6	3	se.	E. V. Virgin.
Langdon	Cavalier	1,615	27	58.5	+5.0	94	3	32	10†	46	5.22	+3.23	1.80	0	8	19	0	11	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	58.8	+3.6	95	3	32	25	53	6.94	+5.05	4.20	0	9	16	2	12	s.	Reuben Gray.
Linton	Emmons	1,711	5	63.6	...	104	4	30	10	53	1.52	...	0.47	0	11	11	12	7	se.	William Malpass.
Lisbon	Ransom	1,091	19	61.3	+3.6	104	4	30	10	67	0.78	−1.37	0.29	0	5	18	7	5	...	W. S. Adams.
McClusky	Sheridan	1,943	5	60.2	...	91	4	29	10	50	0.82	...	0.28	0	7	...	...	...	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	58.4	+4.0	96	4	29	10	48	1.52	−0.13	0.70	0	8	14	9	7	nw.	F. D. Cannon.
McKinney‡‡	Renville	1,640	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	N. P. Swenson.
McLeod	Ransom	1,075	11	61.8	+4.9	100	4	31	10†	47	0.70	−1.84	0.22	0	6	18	4	8	sw.	J. G. Carlson.
Maddock	Benson	1,604	8	60.4	...	94	4	30	10	47	3.61	...	2.06	0	5	9	15	6	nw.	A. T. Felland.
Mandan	Morton	1,644	9	61.8	...	98	4	33	19	47	2.32	...	0.92	0	8	20	6	4	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	59.4	+3.5	92	4	29	10	51	1.84	+0.49	0.54	0	7	16	8	6	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	S. P. Grane.
Mayville	Traill	975	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	M. G. Sateren.
Medora	Billings	2,270	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	T. A. Davis.
Melville	Foster	1,590	25	59.5^{b}	+3.1	95^{b}	22	32^{b}	10	40^{b}	1.93	+0.55	0.85	0	4	...	...	...	nw.	J. P. Kidder.
Minot	Ward	1,557	27	55.6	−1.1	95	4	23	24	60	1.12	−0.46	0.85	0	5	14	16	0	w.	W. I. Faris.
Minto	Walsh	820	30	59.6	+3.2	95	4	30	16†	50	2.88	+0.88	1.16	0	9	18	8	4	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	62.2	+5.9	98	4	30	14	48	0.19	−1.38	0.16	0	2	16	5	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	60.6	+3.7	101	4	28	10	51	2.13	+0.89	0.96	0	9	17	5	8	s.	C. J. Hoof.
New England	Hettinger	2,400	29	58.6	+2.8	91	21	33	15	52	0.15	−0.97	0.12	0	2	9	14	7	se.	W. C. McKenzie.
New Salem	Morton	2,163	19	61.5	+4.3	99	4	35	10	52	1.68	+0.33	0.87	0	4	17	11	2	nw.	J. Christiansen.
Park River	Walsh	998	19	58.8^{c}	+1.9	92^{c}	4	31	16	48	3.48	+1.89	2.43	0	7	...	...	...	se.	C. B. Wright.
Parshall	Mountrail	...	8	...	...	...	...	...	...	...	2.68	...	1.25	0	5	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	49	57.8	+4.0	94	4	29	13	44	5.35	+3.66	1.50	0	7	16	0	14	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	60.0	+6.3	95	4†	27	10	47	2.32	+0.93	0.80	0	7	18	7	5	se.	S. C. Shanks.
Power	Richland	1,020	29	...	...	...	...	...	...	...	0.35	−1.71	0.12	0	4	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	9	...	...	...	...	...	...	...	1.50	+0.41	0.45	0	7	13	4	13	sw.	C. Frank.
Richardton	Stark	2,467	7	61.8	...	96	4	33	15	46	2.23	...	0.54	0	9	18	7	5	nw.	...
Skaar	McKenzie	...	3	57.4^{d}	...	94^{d}	5	28^{d}	29	50^{d}	3.30	...	1.30	0	6	...	...	...	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	59.8	+2.0	98	4	32	10	46	1.91	+0.67	0.55	0	5	15	12	3	nw.	H. S. Wood.
Taylor	Stark	2,493	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. Leutz.
Towner	McHenry	1,482	21	59.6	+3.8	93	4	28	10	52	2.56	+0.91	1.85	0	3	19	9	2	sw.	B. Bagley.
Turtle Lake	McLean	1,899	8	59.6	...	95	4	32	10†	46	1.77	...	0.46	0	9	11	9	10	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. F. Schroeder.
Wahpeton	Richland	962	29	64.4	+5.8	99	4	32	10†	47	0.36	−1.86	0.15	0	5	19	1	10	se.	State School of Science.
Walhalla	Pembina	966	19	59.1^{d}	+3.2	94^{d}	5	28^{d}	16	44^{d}	4.69	+2.87	1.39	0	8	...	...	...	sw.	Ivan Lee.
Westhope	Bottineau	1,508	17	59.1	+4.3	92	4	29	10	47	2.36	+1.17	1.07	0	7	20	8	2	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	60.1	+0.6	91	4	34	15	41	1.91	+1.00	0.58	0	10	13	12	5	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	56.8	+2.5	92	4	26	10	51	2.18	+0.63	0.99	0	6	17	5	8	sw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	61.4	+4.8	97	4	36	10	42	0.66	−1.64	0.29	0	8	13	7	10	s.	U. S. Weather Bureau.
Averages	...	...	...	59.8	+3.4	104	4	23	24	67	2.16	+0.52	4.20	0	6	16	8	6	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for September, 1922.

Stations.	Drainage Basin.	Day of Month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
menia ‖	Red		.10			.03		T					.05						.02														0.20
midon	Lit. Missouri	.42		T.			.45								.12																		0.99
negard	Missouri	.65	.47			.89		.94	.67	T		T	.74	.02	.04																		4.42
shley	Missouri				.59			.04				T.	.22		.35		.11	T.															1.31
ach	Lit. Missouri	.11					.78	.18					T																T				1.10
rthold Agency	Missouri	.27	.09		T.	1.07	T	.99	.13	.04		.03	.54	.15																			3.31
smarck ***	Missouri	.11	.10			T	.07	.72		T.		.08	.79	.06	T				T										T				1.93
ttineau	Mouse	.16	.23	.10			.06	.98	.31				.11					.05															2.00
owbells ‖	Mouse	.28					.02	.94	.74																								1.98
owman	Grand	.46					T.	.16		T.								.05															0.67
ando	Devils Lake.	.71		.10		.44	.14	.49	.13			.02																					2.03
arson	Heart	.06						.53						.25	.06																		0.90
operstown	Sheyenne	.50	.40		.40									.20																			1.50
osby	Mouse	.46			.10			.77	.66		.05			.04																			2.08
vils Lake ***	Devils Lake.	.33	.12			.98		1.12	.27	.04		.11						.03	T.											T.			3.30
ckinson ‖	Heart	.05	.03	.22				.42						.45	.08	.03																	1.28
unnybrook	Mouse	.15	.35			.10		1.10	.07			.30																					2.07
unn Center ‖	Knife	.35		.10				1.40	.15	T.	T.		.07	.99																			3.06
unseith	Mouse	.48	.08				.03	1.54	.39	.02		.08	.01					.52															3.15
kman	Mouse	.28	.09			.06	.10	.94	.44			.18																					2.09
dgeley	James			.27										.75					.03														1.05
lendale***	James	T.				.17	T.	.10		.01		T.	.55	.16	.05		.14	.02	T											.01			1.21
nergy	Missouri	.54	.17			.76	.60	.41	T.	.04		.11	.35	.25																			3.23
pping	Missouri	.85				T.		.64	.78	.02		.07	.12	.03																			2.51
ssenden	James	.01	.15	.23		.10	.01	1.28	.01		.05	.12	.05																	T.			2.01
orman	Sheyenne			.08		.42			.04			.15		.58			.03																1.30
xholm	Mouse	.09	.19				T.	.87	.53			.08		T.																			1.76
yburg	Heart		.25					.67	T.		T.	T.	.08	.26	T.														T.				1.26
ullerton	James					.44		.10		T.			T.	1.12	.08		.18	.12	T.														2.04
arrison	Missouri	.64	T	.23			.03	1.26	.08	.02		.04	.07	.08																T			2.45
afton	Red	.35		.07		2.75		.27	.08			.21			.05			1.08															4.86
and Forks ***	Red	.42		.13		1.32	T.	.01	T.	T.		.01	.02		T			.19	.01											T.			2.11
anville	Mouse																																......
annah	Pembina	1.06		1.56			.04	1.42				.25							1.06														5.39
ansboro	Devils Lake	.25			.25		1.13	.30				.23						.55															2.71
ettinger	Grand	T.													T.			T		.47													0.47
illsboro	Red	.08		.43		.19		.02				.20	.06					.15	.08														1.21
oward	Missouri	.42					.49	1.02	.15	.07	T.	.26	.18		T.														T.				2.99
mestown	James	.03		.38		.41		.58			.12			.10																			1.62
amoine	Missouri	.40		.17			.07	1.10				.27		.12					T.											T.			2.13
angdon	Pembina		.11	.07		1.80	.34	1.32	.05	T.			.28					T.	1.25														5.22
rimore	Red	4.20	.60	.15		.70	.55	.10	.15				.45																	.04			6.94
nton	Missouri	.09	.19			.15	T.	.47		.03		.01	.25	.25	.06		.01	T.		T.										.01			1.52
sbon ‖	Sheyenne			.14		.03		.05				.27	T.	.29					T.														0.78
Clusky	Missouri	.12		.28			.10	.05	T.			.18	.04	.05																			0.82
Henry	James	.19	.10			.70		.34	.06	.05		.03																	.05				1.52
Kinney	Mouse																																......
Leod	Sheyenne			.22	T.	.14				.03		.05		.17					.09										T.				0.70
ddock	Sheyenne	.46		.17		2.06		.67	.25																								3.61
andan ‖	Missouri	.01	.01	.45			.03	.79		T.			.03	.92	.08		T.													T.			2.32
anfred	James	.31		.25		.51		.49	.07	.05		.16							T.											T.			1.84
rmarth	Lit. Missouri																																......
yville	Red																																......
dora	Lit. Missouri																																......
lville	James			.25		.85	.50	.33		T.		T.	T.		T.																		1.93
not	Mouse	.12		.02				.85	.10			.03																					1.12
nto	Red	.38		.06		1.16	.14	.10	.22			.11						.68												.03			2.88
tt	Cannon Ball									.03						.16																	0.19
poleon ‖‖	Missouri	.20	.03	.23				.38			.07		.05	.96	.08			.13															2.13
w England	Cannon Ball	.03									T.		T.	.12																			0.15
w Salem	Heart	.07	.63									T.	.87	.11	T.															T.			1.68
rk River	Red			.08		2.43		.36	.08			.16	.06					.31															3.48
rshall	Missouri							1.25		.96		.25	.16	.06	T.		T.																2.68
mbina ‖‖	Red		1.00			1.00	1.50	.25	T.			T.	.20					.80	.60														5.35
ttibone	James	.44		.10		.77	.05	.80		T.		T.	.07	.09																T.			2.32
wer	Sheyenne		.10			.12				.07		T.	.06		T.															T.			0.35
wers Lake	Missouri	.05	.45			.15	.10	.25	.45			T.		.05																			1.50
hardton	Heart	.07	.01		.12	.14	.38	.48					.54	.41	.07																		2.22
aar	Yellowstone	.25	.40					1.30	.70	T.			.40	.25																			3.30
ele	Missouri	.22	.34			T.		.55		T.		T.	.35	.45	T.	T.	T.												T.				1.91
ylor	Heart																																......
wner	Mouse	.56						1.85	.15																								2.56
rtle Lake	Missouri	.41	T.	.28			.06	.46	.08	.10		.19	.12	.07																			1.77
lley City	Sheyenne																																......
hpeton	Red			.02				.15			.05	.05							.09														0.36
lhalla	Pembina				.68	1.26	T.	1.07	.01	T.		.21			.02	T.		1.39	.05														4.69
sthope	Mouse	.32	.12				.18	1.07	.53		.10				.04																		2.36
lliston ***	Missouri	.11	T.			.26	.55	.52	.02	.03	.03	.01	.34	.04	T.														T.				1.91
llow City	Mouse	.42	T.				.39	.99	.27			.09			T.			.02	T.														2.11
orhead, Minn ***	Red	T.		.04		.08	T.	.29		.08		.05			.01			.10	.01											T.			0.66

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of ervation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the our period, midnight to midnight * Precipitation included in the next following measurement T. Trace, or less than 0.01 inch

Daily Temperatures for September, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	73	82	89	100	96	81	79	74	62	57	63	63	63	64	58	65	64	57	74	83	98	95	80	77	77	87	86	87	80	87	....	76.
	Minimum...	60	52	53	49	59	61	62	52	39	32	37	43	39	35	39	33	34	48	35	34	39	46	46	34	33	35	47	50	55	41	....	44.
Arnegard	Maximum...	72	72	90	95	86	78	76	66	68	69	65	54	55	62	56	63	62	70	79	90	89	82	75	76	74	86	90	71	69	76	....	73.
	Minimum...	58	53	53	55	59	48	47	47	40	33	47	44	46	47	32	42	46	40	46	50	50	53	43	39	43	41	47	41	40	40	....	45.
Ashley	Maximum...	76	86	82	97	80	77	72	65	58	68	55	55	50	55	58	50	60	58	58	85	68	69	76	61	62	84	70	70	63	62	....	67.
	Minimum...	63	46	51	55	60	62	55	53	40	31	40	41	42	40	35	35	48	45	45	42	42	50	48	39	38	48	48	56	50	48	....	46.
Beach	Maximum...	78	86	91	96	93	82	80	62	57	69	67	61	68	59	63	71	65	69	82	91	96	84	81	71	79	88	93	68	81	76	....	76.
	Minimum...	57	47	45	48	54	44	44	46	39	37	49	41	45	43	31	43	57	46	43	42	52	54	51	38	41	44	48	51	35	38	....	45.2
Berthold Agency	Maximum...	80	84	86	97	87	79	77	70	57	67	70	58	57	63	54	68	68	69	78	93	92	85	74	75	75	85	88	75	71	75	....	75.2
	Minimum...	62	46	45	56	62	51	55	50	43	35	43	40	48	42	32	40	43	49	43	48	46	47	40	33	40	37	51	53	38	34	....	45.1
Bismarck	Maximum...	75	86	85	98	92	82	75	67	58	67	70	52	52	63	56	60	70	58	76	89	93	89	75	74	75	85	84	72	76	77	....	74.4
	Minimum...	56	48	52	64	66	58	57	49	43	38	44	43	47	45	36	39	52	43	35	49	49	57	46	42	45	41	59	56	51	43	....	48.5
Bottineau §§	Maximum...	70	73	76	84	70	75	68	57	50	56	59	51	53	57	48	47	60	61	69	79	81	76	65	66	65	77	79	69	64	69	....	65.8
	Minimum...	60	45	45	54	55	54	53	51	38	26	31	40	38	39	39	36	36	46	47	37	45	45	41	37	39	41	43	54	47	36	....	43.3
Bowbells §§	Maximum...	....	86	88	92	83	80	76	64	63	62	63	58	52	61	55	51	65	74	85	91	88	82	74	71	80	86	85	72	72	75	....	a73.8
	Minimum...	61	....	45	48	52	56	50	48	40	30	41	40	36	44	47	37	35	35	44	52	52	47	48	35	39	42	53	52	44	38	....	a44.5
Bowman	Maximum...	74	85	88	97	87	87	78	71	58	69	68	72	70	61	63	76	70	69	77	92	96	86	72	80	80	86	88	76	78	75	....	77.7
	Minimum...	54	46	44	54	51	47	42	42	37	34	38	40	39	42	38	44	52	45	38	37	48	51	38	42	40	40	51	46	35	37	....	43.1
Cando	Maximum...	83	79	80	91	82	81	77	69	62	61	65	58	61	64	61	56	62	63	74	81	88	88	71	70	68	82	83	77	72	74	....	73.0
	Minimum...	64	50	51	54	62	56	55	53	41	31	49	42	35	44	39	36	49	46	38	41	46	44	41	31	35	37	49	58	52	38	....	45.8
Carson	Maximum...	80	88	90	90	95	90	85	77	70	70	75	60	70	60	60	60	78	70	75	92	95	90	76	75	85	85	96	80	75	77	....	78.8
	Minimum...	55	49	60	65	62	50	45	45	37	35	45	39	45	40	32	32	47	45	35	45	55	60	60	32	52	37	55	50	40	42	....	46.4
Crosby	Maximum...	75	76	86	94	86	76	84	82	55	68	64	53	53	56	53	64	64	73	78	91	88	82	73	76	76	88	78	73	78	83	....	74.2
	Minimum...	60	57	40	53	52	47	58	52	41	32	53	41	38	41	31	39	38	35	35	48	48	48	38	31	38	43	47	56	48	43	....	44.5
Devils Lake	Maximum...	72	83	80	95	73	79	72	65	57	62	64	57	59	62	50	55	62	58	74	83	89	92	71	66	68	84	82	80	74	74	....	71.4
	Minimum...	58	53	55	60	59	58	55	50	38	33	50	43	36	44	38	36	49	46	43	41	51	52	41	31	39	38	54	70	50	45	....	47.6
Dickinson §§	Maximum...	....	....	..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Donnybrook	Maximum...	77	74	85	91	83	83	82	65	62	66	67	52	55	62	60	62	65	75	72	92	90	84	74	78	78	88	84	74	69	77	....	74.3
	Minimum...	62	47	54	58	58	52	51	44	40	28	36	50	47	45	45	29	39	47	45	51	51	46	41	28	32	34	46	54	44	40	....	44.9
Dunn Center §§	Maximum...	75	83	89	97	90	80	76	65	53	68	67	56	51	61	55	69	69	67	77	90	91	83	72	75	75	83	88	75	71	75	....	74.0
	Minimum...	63	45	41	55	58	50	50	58	48	35	47	42	46	47	33	37	43	43	40	43	48	48	41	34	38	35	38	55	38	38	....	44.6
Dunseith	Maximum...	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Edgeley	Maximum...	81	89	86	99	94	88	79	74	64	67	75	61	56	61	60	59	61	71	73	83	91	97	98	84	84	85	82	84	77	83	....	78.3
	Minimum...	62	51	51	51	62	62	59	55	42	29	40	41	45	45	37	32	46	44	35	40	49	....	48	33	31	39	47	58	49	46	....	a45.8
Ellendale	Maximum...	79	86	88	99	92	84	79	70	61	68	74	59	56	60	58	57	73	54	70	81	93	98	76	70	76	84	83	85	76	82	....	75.7
	Minimum...	53	52	52	55	63	63	60	44	39	35	46	40	45	46	39	36	46	50	42	37	46	44	47	38	38	49	55	60	52	41	....	47.1
Fessenden §§	Maximum...	71	82	85	97	85	84	77	69	60	68	67	61	60	66	55	56	76	66	76	86	94	97	78	79	72	88	85	82	80	80	....	76.1
	Minimum...	63	46	49	55	61	57	55	52	40	27	45	40	39	40	35	31	36	48	36	43	51	51	40	31	32	32	41	55	50	40	....	44.0
Foxholm	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Fullerton	Maximum...	77	85	82	100	92	83	78	70	61	66	73	65	56	62	59	60	71	55	69	79	88	93	75	69	74	82	81	83	76	81	....	74.8
	Minimum...	57	50	58	55	63	62	65	47	40	31	43	41	41	46	40	35	48	49	39	37	48	46	51	36	36	46	51	59	51	41	....	47.1
Garrison	Maximum...	82	85	81	85	84	78	75	66	59	66	66	56	51	64	55	60	68	65	75	88	90	86	74	75	75	84	76	75	75	76	....	73.2
	Minimum...	62	48	45	55	64	55	52	48	42	33	45	40	46	45	32	35	46	47	40	45	46	49	41	46	39	64	52	50	45	41	....	46.6
Grafton	Maximum...	73	82	83	92	86	83	75	69	65	63	59	62	62	62	59	62	58	62	74	78	90	88	73	64	67	82	83	83	77	79	....	73.2
	Minimum...	62	55	55	56	62	57	58	51	43	36	41	40	31	37	42	32	45	48	38	41	49	50	50	37	32	35	47	57	54	38	....	46.1
Grand Forks	Maximum...	69	90	85	95	80	79	74	68	58	62	58	64	62	66	59	61	53	57	75	79	91	96	73	62	67	90	90	90	80	86	....	74.0
	Minimum...	60	56	59	57	63	62	59	46	39	36	41	42	34	35	37	34	50	41	39	44	50	46	44	36	33	42	52	60	52	40	....	46.3
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hansboro	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	80	60	62	54	65	75	86	90	98	78	70	70	85	86	84	89	75	....	m75.8
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	42	36	28	45	45	42	40	42	42	36	29	33	28	40	38	36	36	....	m37.5
Hettinger	Maximum...	78	90	92	96	92	89	85	86	78	58	65	65	70	68	76	78	77	71	79	93	98	92	79	81	87	76	80	76	74	83	....	80.4
	Minimum...	56	41	54	45	48	47	46	46	34	32	36	37	42	41	31	36	54	34	43	29	42	53	38	36	32	34	53	56	38	42	....	41.8
Hillsboro	Maximum...	78	80	83	96	90	89	76	72	68	62	60	63	60	62	61	61	58	55	69	78	95	90	90	70	69	84	82	84	82	80	....	74.9
	Minimum...	61	55	59	52	62	62	62	49	41	34	40	43	36	35	41	31	50	48	35	41	49	46	48	37	33	43	50	58	55	46	....	46.8
Howard	Maximum...	88	85	90	90	91	90	82	75	77	76	78	62	62	60	56	66	66	72	74	90	86	81	75	79	80	80	85	71	71	70	....	76.9
	Minimum...	56	52	52	48	48	40	49	44	38	34	40	40	41	38	28	38	41	44	45	50	49	50	36	30	40	41	41	38	36	38	....	42.4
Jamestown §§	Maximum...	87	83	99	92	81	76	71	58	65	73	62	58	65	56	62	73	56	75	84	96	97	75	73	72	86	85	87	78	86	89	....	76.5
	Minimum...	51	50	52	53	58	60	62	57	38	33	36	44	44	42	40	36	39	50	34	36	45	48	49	37	35	36	40	53	55	42	....	45.2
Lamoine	Maximum...	81	83	82	95	87	78	75	66	55	64	66	59	53	63	54	55	70	62	68	83	91	90	74	70	70	83	84	75	73	84	....	73.1
	Minimum...	46	45	51	55	55	60	54	50	42	32	34	44	44	43	35	34	35	35	35	35	50	54	40	38	40	40	52	58	49	38	....	44.1
Langdon§§	Maximum...	81	83	94	76	79	67	64	59	62	61	59	60	60	49	59	56	61	74	78	87	87	69	64	68	84	80	79	74	74	88	....	71.2
	Minimum...	64	49	54	55	60	53	54	52	40	32	45	47	34	42	41	35	32	38	39	42	49	47	59	33	40	42	53	58	51	42	....	45.8
Larimore §§	Maximum...	83	83	95	77	75	73	67	62	63	58	60	60	65	54	60	54	58	74	89	91	90	74	72	69	65	83	83	73	81	89	....	72.4
	Minimum...	60	54	55	55	65	57	60	53	39	34	40	43	34	40	40	34	40	47	36	38	37	43	50	35	32	36	50	57	50	38	....	45.1
Linton	Maximum...	76	94	92	104	98	92	83	75	65	70	74	55	54	58	60	67	78	68	76	85	99	97	83	79	78	86	87	82	80	80	....	79.4
	Minimum...	66	42	52	61	64	58	57	52	42	30	44	40	48	43	36	40	53	49	31	45	46	48	43	40	50	47	56	60	48	44	....	47.8
Lisbon §§	Maximum...	82	82	88	104	101	82	81	73	62	68	67	63	66	65	62	68	64	55	75	85	95	95	80	87	79	85	85	91	80	80	....	78.3
	Minimum...	51	39	50	37	49	60	63	55	36	30	35	39	44	38	39	37	41	48	36	42	46	53	45	41	32	39	50	56	55	43	....	44.3
McKinney	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Maddock	Maximum...	84	84	85	94	91	78	78	73	64	65	63	61	59	65	63	54	70	63	74	85	89	90	81	76	70	84	84	83	75	75	....	75.3
	Minimum...	62	49	52	52	62	58	55	53	41	30	49	43	37	44	38	33	48	48	38	40	49	43	43	34	33	36	46	56	52	39	....	45.4
Melville	Maximum...	78	82	....	82	75	73	75	70	58	58	58	55	52	67	58	52	54	56	60	83	80	95	75	....	60	78	85	74	78	68	....	b69.2
	Minimum...	62	50	....	50	65	58	68	54	42	32	52	45	45	45	38	35	48	46	40	43	58	55	47	....	35	60	48	62	60	50	....	b49.8
Minot §§	Maximum...	77	77	85	95	80	84	79	65	51	62	65	53	57	63	56	55	68	70	78	91	90	85	72	71	75	88	88	74	71	77	....	73.4
	Minimum...	58	41	40	41	51	51	47	46	38	24	40	33	33	33	31	27	30	42	37	37	46	43	37	23	30	28	30	49	41	31	....	37.9
Mott	Maximum...	91	83	90	98	94	93	88	82	70	78	75	70	73	65	65	75	73	74	86	85	96	91	84	88	89	80	76	75	81	80	....	81.6
	Minimum...	50	42	49	56	52	55	51	43	30	35	38	37	39	30	32	38	41	40	41	46	48	49	42	46	46	40	40	43	44	42	....	42.9
Napoleon §§	Maximum...	75	90	86	101	96	86	78	71	60	68	75	56	52	61	56	60	78	61	74	86	97	95	83	83	75	85	85	81	77	79	....	77.0
	Minimum...	63	45	45	50	60	61	55	50	43	28	34	40	43	39	31	32	41	46	34	38	46	53	41	36	33	40	53	55	45	43	....	44.1
New Salem	Maximum...	82	88	90	99	92	81	78	67	59	67	61	52	54	72	57	54	71	61	76	92	95	85	79	76	76	85	86	74	76	78	....	75.4
	Minimum...	54	57	49	47	62	52	52	47	45	35	39	45	47	40	38	40	38	47	51	47	65	62	57	47	37	36	54	46	46	46	....	47.6
Pembina §§	Maximum...	72	81	82	94	67	81	66	72	61	65	58	73	73	58	53	59	54	66	75	76	85	63	70	74	76	79	84	83	77	83	....	72.0
	Minimum...	47	56	57	56	56	57	55	51	43	35	42	41	29	35	41	30	42	40	38	40	48	48	42	31	33	35	40	50	49	39	....	43.5
Steele	Maximum...	71	89	82	98	89	82	74	69	55	62	65	55	57	55	53	57	70	60	61	79	89	87	73	71	71	81	85	77	73	76	....	71.9
	Minimum...	63	50	60	52	60	63	56	50	42	32	47	40	50	45	35	37	43	50	34	46	50	55	43	40	40	39	55	60	51	44	....	47.7
Towner	Maximum...	88	79	83	93	85	82	80	69	63	64	60	65	62	64	60	54	63	70	77	89	90	85	75	72	72	86	87	75	71	76	....	74.6
	Minimum...	59	49	47	53	57	56	55	43	41	28	41	45	44	43	38	36	49	46	47	46	45	46	41	32	35	34	52	59	41	34	....	44.7
Valley City	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Wahpeton	Maximum...	89	87	90	99	97	90	87	78	68	67	60	66	66	69	62	65	66	64	71	79	95	97	92	72	78	87	85	87	81	87	....	79.4
	Minimum...	64	51	62	52	70	64	68	55	37	32	32	46	48	36	40	37	53	53	47	40	49	50	51	46	32	52	53	58	52	50	....	49.3
Walhalla	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum...	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Westhope	Maximum...	76	80	83	92	86	80	76	64	58	67	60	56	59	65	59	57	65	72	72	90	89	90	78	74	73	85	85	75	76	77	....	74.0
	Minimum...	57	47	50	52	55	58	54	52	41	29	48	42	34	43	38	36	48	48	42	43	43	44	42	31	38	38	38	38	42	55	....	44.2
Williston	Maximum...	76	74	89	91	84	77	75	64	56	70	65	52	54	62	55	69	65	70	79	90	88	82	72	75	75	86	88	70	68	77	....	73.3
	Minimum...	57	54	52	52	55	50	50	49	43	37	46	46	48	40	34	43	44	42	48	53	52	51	44	37	47	45	49	54	43	41	....	46.9
Moorhead, Minn	Maximum...	80	83	86	97	93	78	77	69	57	62	57	61	61	61	56	61	64	56	68	77	92	94	74	65	73	84	83	84	76	82	....	73.7
	Minimum...	61	56	61	55	69	63	58	51	42	36	39	45	43	41	43	38	52	51	39	42	50	53	52	40	38	51	52	59	51	46	....	49.2

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing, b 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

UNIVERSITY
NOV 28

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXI. BISMARCK, N. D., OCTOBER, 1922. No. 10

GENERAL SUMMARY.

Weather conditions during the month were generally favorable for outdoor work, but the soil was too dry in most localities for fall plowing and the seeding of winter rye. The temperature was considerably above normal during the first and fourth weeks, and slightly below normal during the second and third weeks. Practically no rain fell during the first twelve days, and fall plowing was delayed, but the weather was very favorable for threshing, which was somewhat backward, due to lack of machines. Corn husking and potato harvest were well advanced by the middle of the month, but potatoes were frozen in some localities by low temperatures on the 17-18th, and some of the poorer potatoes were not dug at all, due to low prices. By the end of the month fall plowing and the seeding of winter rye were improved somewhat by local showers, but the soil was mostly too dry for best results. The greatest precipitation deficiencies occurred in the Red River Valley. Pastures and ranges were somewhat dry, but livestock was generally in good condition at the close of the month.

TEMPERATURE.

The mean temperature for the State was 45.7°, or 1.9° above he normal, and 1.6° lower than the mean for October, 1921. The highest mean reported was 50.6° at Wahpeton, Richland County; the lowest was 40.2° at Bottineau, Bottineau County. The highest temperature reported was 98° at Carson, Grant County, on the 3d; the lowest was 8° at Bowman, Bowman County, and Pettibone, Kidder County, on the 17th. The greatest monthly range of temperature was 85° at Hettinger, Adams County; the least was 55° at Melville, Foster County. The greatest daily range was 58° at Dunn Center, Dunn County, Minot, Ward County, and Willow City, Bottineau County.

PRECIPITATION.

The average precipitation for the State was 0.57 inch, or .43 inch below the normal, and 0.16 inch less than the av-rage for October, 1921. The greatest monthly amount re-orted was 1.70 inches at Donnybrook, Ward County, and at teele, Kidder County; there was none at Larimore, Grand Forks County, and at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 1.70 inches at Donnybrook, Ward County, on the 30th. The aver-ge number of days with 0.01 inch or more of precipitation was 3. The greatest depth of snowfall reported was 9.2 inches t Garrison, McLean County. The average snowfall was 2.3 inches.

AURORAS.

Auroras were observed at Foxholm on the 11th and 12th; at rnegard and Foxholm on the 17th; at Foxholm on the 18th; Foxholm and Williston on the 19th; at Foxholm on the 21st, and at Pettibone on the 31st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
								Average.	Highest.*	Direction.	Date.
Bismarck	30.00	30.45	11	29.47	28	57	5,943	8.0	36	nw.	24
Devils Lake	29.96	30.37	11	29.44	24	44	7,388	9.9	42	nw.	24
Ellendale	29.98	30.34	12	29.46	28	56	10,112	13.6	48	nw.	24
Grand Forks	29.95	30.31	19	29.43	24	90	......	......	56	nw.	24
Williston	29.96	30.47	11	29.38	27	48	5,121	6.9	29	w.	24
Moorhead, Minn	29.95	30.33	19	29.45	24	58	6,229	8.4	36	nw.	24
Av'ges and extremes	29.97	30.47	11	29.38	27	.....	6,959	9.4	56	nw.	24

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent.			Lowest observed.	Date.
					7 a. m.	Mean noon.	7 p. m.		
Bismarck	219.1	336.9	65	+ 5	76	46	55	16	1
Devils Lake	193.7	335.6	58	+10	80	51	60	17	1
Ellendale	242.5	338.3	72	......	86	48	.....	22	26
Grand Forks	......	......	......	......	84	.....	66	.....	....
Williston	216.0	335.6	64	+11	77	52	54	26	27
Moorhead, Minn	......	......	......	......	78	50	50	21	3
Averages and extremes	217.8	336.6	65	+ 9	80	49	57	16	1

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.

Climatological Data for October, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	46.4	+2.1	94	3	10	18	55	T.	−1.29	T.	T.	0	19	8	4	n.	E. T. Carley.
Amidon	Slope	...	9	48.0	...	90	3	16	12	52	0.70	...	...	4.0	3	19	6	6	nw.	Charles Eastgate.
Arnegard	McKenzie	...	8	46.6	...	90	3	16	16†	44	0.91	...	0.40	7.0	4	19	4	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	...	...	...	...	15	17	...	0.93	−0.13	0.38	3.0	3	21	6	4	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	46.4	+2.4	92	3	12	16	51	1.22	+0.23	0.94	3.0	2	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	47.3	+2.6	90	3	10	17	57	0.43	0.43	0.43	4.0	1	26	3	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	47.6	+2.7	91	1	20	17	43	0.63	−0.40	0.43	2.5	4	13	10	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	40.2	−1.4	81	1	12	17	48	0.42	−0.57	0.16	1.2	5	17	7	7	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	45.0	+4.7	82	3	21	11†	45	0.67	−0.08	0.55	...	3	16	2	13	...	G. H. Phelps.
Bowman	Bowman	2,961	9	45.8	...	92	3	8	17	56	0.49	...	0.22	3.5	4	10	15	6	nw.	R. Love, Jr.
Cando	Towner	1,488	22	45.8	+2.1	88	1	19	12	44	0.39	−0.33	0.36	0	2	10	7	14	nw.	A. J. Swanson.
Carson	Grant	2,500	11	48.0	+4.5	98	3	15	17	53	0.33	−0.55	0.20	2.5	4	22	2	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	...	...	...	...	...	...	...	0.36	−0.51	0.18	T.	2	17	8	6	nw.	S. Friswold.
Crosby	Divide	1,954	16	44.6	+3.1	82	3	15	17	46	0.39	−0.37	0.25	2.7	4	15	7	9	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	44.7	+4.2	88	1	19	17	44	0.52	−0.71	0.31	0.3	6	13	4	14	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	45.4	+1.5	93	3	13	17	56	0.58	−0.20	0.30	...	4	18	6	7	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	46.5	+4.4	86	3	14	16	56	1.70	+0.72	1.70	3.5	1	7	17	7	w.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	46.8	+1.2	91	3	16	12	58	0.95	+0.32	0.55	3.0	2	19	3	9	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	43.6	+2.5	87	1	11	16	53	0.25	−0.50	0.08	0	5	14	4	13	w.	J. G. Lamont.
Eckman	Bottineau	1,500	18	46.2^{c}	+3.5	90^{c}	1	11^{c}	13	53^{c}	0.45	−0.40	0.17	1.0	6	20	2	9	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	48.4	+2.5	94	3	16	17	49	0.65	−0.27	0.60	0.5	2	8	11	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	47.4	+1.8	93	3	18	12	53	0.45	−0.59	0.21	1.2	4	10	8	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	43.5	...	72	5	11	17	52	0.50	−0.20	0.30	5.0	2	17	10	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	44.5	...	83	3	12	17	48	0.60	−0.29	0.33	6.0	3	17	9	5	nw.	M. E. Uggen.
Fessenden	Wells	1,610	11	44.6	+2.6	91	1	13	17	54	0.67	−0.11	0.20	1.0	5	17	6	8	nw.	T. D. Monsen.
Forman	Sargent	1,249	29	...	...	...	...	...	...	...	0.70	−0.64	0.50	5.0	2	20	6	5	n.	O. Enger.
Foxholm	Ward	1,657	2	44.8	...	81	1	19	17	44	0.60	...	0.46	5.0	5	16	5	10	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	...	...	...	...	...	...	...	0.99	...	0.50	7.0	4	20	6	5	nw.	Verne King.
Fullerton	Dickey	1,439	25	47.7	+3.4	91	3	17	12	46	0.57	−0.72	0.25	1.8	3	15	9	7	nw.	F. O. Alin.
Garrison	McLean	1,901	28	46.4	+2.6	85	1	13	17	43	1.43	+0.53	0.82	9.2	4	13	12	6	nw.	G. L. Robinson.
Grafton	Walsh	827	31	45.5	+2.8	88	1	11	24	54	0.21	−0.68	0.10	0	3	14	5	12	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	46.4	+2.9	95	3	14	18	54	0.20	−0.96	0.10	0.8	4	16	3	12	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	45.8	+1.7	89	1	18	17	52	0.50	−0.38	0.32	T.	2	17	3	11	se.	W. A. Christianson.
Hannah	Cavalier	1,568	29	...	...	...	...	...	...	...	0.41	−0.55	0.36	0	2	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	15	43.3	+2.0	90	1	16	18	47	0.35	−0.56	0.35	0	1	19	4	8	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	48.0	+1.6	95	3	10	17	54	0.55	−0.09	0.52	0	3	18	6	7	nw.	U. J. Downey.
Hillsboro	Traill	901	17	47.6	+1.6	92	3	12	18	50	T.	−1.02	T.	T.	0	17	7	7	n.	F. E. Mayall.
Howard ‡‡ ††	Williams	2,275	16	44.0	+3.0	81	1†	15	16	43	0.80	−0.01	0.50	7.8	3	16	5	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	45.4	+0.6	76	1	17	12	47	1.78	+0.81	1.45	3.0	4	14	7	10	n.	S. Calvelage.
Lamoine	Kidder	1,936	18	45.4^{c}	+2.3	88^{c}	1	13^{c}	17	46^{c}	0.25	−0.33	0.20	2.5	2	...	...	...	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	43.7	+3.3	88	1	16	18	45	0.20	−0.74	0.05	0	4	20	1	10	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	44.8	+1.5	89	3	12	18	52	0.00	−1.23	0.00	0	0	14	5	12	n.	Reuben Gray.
Linton	Emmons	1,711	5	48.0	...	93	3	9	17	57	0.49	...	0.39	1.0	2	12	11	8	nw.	William Malpass.
Lisbon	Ransom	1,091	19	45.9	+0.6	94	3	13	12	54	0.33	−0.69	0.20	2.0	3	16	7	8	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	46.6	...	85	1	14	17	52	0.70	...	0.47	1.5	4	13	10	8	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	41.2^{d}	−1.1	89^{d}	1	18^{d}	11†	49^{d}	0.79	−0.12	0.30	2.5	3	...	...	...	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	42.4^{k}	+0.7	78^{k}	13	17^{k}	...	48^{k}	0.50	−0.34	0.25	2.5	3	...	...	...	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	49.0	+3.5	92	3	17	12	49	0.36	−0.70	0.18	1.8	4	16	5	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	46.8	...	88	1	18	12†	49	0.42	...	0.42	T.	1	11	8	12	nw.	A. T. Felland.
Mandan	Morton	1,644	9	47.3	...	90	1†	18	17	47	0.64	...	0.24	3.0	3	18	5	8	n.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	20	44.8	+1.5	88	1	13	16	49	0.68	−0.13	0.34	1.5	5	16	4	11	ne.	P. B. Anderson.
Marmarth	Slope	2,714	14	...	...	...	...	10^{o}	17	...	0.65	−0.14	...	4.5	2	...	...	...	...	S. P. Grane.
Mayville	Traill	975	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	M. G. Sateren.
Medora	Billings	2,270	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	T. A. Davis.
Melville	Foster	1,590	25	44.1^{f}	+0.5	75^{f}	4	20^{f}	17	36^{f}	1.35	+0.48	0.85	1.0	3	...	...	...	nw.	J. P. Kidder.
Minot	Ward	1,557	27	41.8	−1.8	83	3	11	21	58	0.36	−0.58	0.30	3.0	4	16	6	9	w.	W. I. Faris.
Minto	Walsh	820	30	45.6	+2.4	89	1	14	18	52	0.12	−0.98	0.07	0.9	4	12	10	9	se.	C. M. Evans.
Mott	Hettinger	2,424	16	47.2	+4.2	93	3	17	23	57	0.64	−0.45	0.34	3.0	5	12	9	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	47.2	+5.3	91	3	13	15	54	0.70	−0.24	0.25	3.0	4	23	0	8	nw.	C. J. Hoof.
New England	Hettinger	2,400	29	43.9	+0.2	88	3	10	17	50	0.60	−0.05	0.25	3.5	3	15	6	10	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	48.2	+3.9	92	3	17	17	45	0.59	−0.36	0.30	...	2	23	1	4	nw.	J. Christiansen.
Park River	Walsh	998	19	45.6^{a}	+1.3	86^{a}	3	18^{a}	18†	47^{a}	0.26	−0.75	0.26	0	1	10^{a}	5^{a}	15^{a}	nw.	C. B. Wright.
Parshall	Mountrail	...	8	...	...	...	...	...	...	...	0.70	...	0.60	7.0	2	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	49	43.0	+2.1	86	3	17	18	48	0.00	−1.34	0.00	0	0	11	3	17	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	45.4	+4.2	88	1	8	17	57	0.67	+0.02	0.32	2.5	3	17	6	8	nw.	S. C. Shanks.
Power	Richland	1,020	29	...	...	...	...	...	...	...	0.30	−1.17	0.15	2.0	3	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	9	...	...	...	...	...	...	...	0.90	+0.08	0.50	7.5	3	10	13	8	sw.	C. Frank.
Richardton	Stark	2,467	7	47.6	...	88	3	16	17	43	0.36	...	0.30	3.0	3	16	7	8	n.	...
Skaar	McKenzie	...	3	...	...	...	...	...	...	...	0.70	...	0.40	6.0	4	...	...	...	...	Conrad Brunsvold.
Steele	Kidder	1,857	27	45.2	+1.2	86	1	13	17	43	1.70	+0.82	1.25	3.8	3	12	9	10	se.	H. S. Wood.
Taylor	Stark	2,493	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. Leutz.
Towner	McHenry	1,482	21	45.3	+2.9	90	1	14	17	45	0.15	−0.75	0.15	T.	1	17	11	3	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	45.5	...	87	1	13	17	48	0.33	...	0.15	2.5	4	4	12	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. F. Schroeder.
Wahpeton	Richland	962	29	50.6	+4.7	94	3	19	12†	48	0.20	−1.31	0.20	0	1	19	1	11	ne.	State School of Science
Walhalla	Pembina	966	19	46.2	+3.2	90	1	18	18	52	0.44	−0.59	0.23	0	6	17	4	10	n	Ivan Lee.
Westhope	Bottineau	1,508	17	42.0	+0.6	87	5	14	12	51	0.45	−0.22	0.45	...	1	8	20	3	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	46.5	+3.6	86	3	20	16	44	1.06	+0.29	0.41	8.2	5	11	9	11	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	42.8^{c}	+1.1	83^{c}	1	12^{c}	12†	58^{c}	0.33	−0.37	0.22	T.	4	...	...	...	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	47.8	+5.0	93	3	17	18	43	0.16	−1.91	0.10	0.3	4	11	6	14	n.	U. S. Weather Bureau.
Averages	...	...	...	45.7	+1.9	98	3	8	17	58	0.57	−0.43	1.70	2.3	3	15	7	9	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for October, 1922.

Stations.	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Amenia ‖	Red																T							T.							T	T	T.
Amidon	Lit. Missouri													T.								.15									*	.55	0.70
Arnegard	Missouri													.09		T.	.30					.12				T.					.40		0.91
Ashley	Missouri															.30							.25								.38		0.93
Beach	Lit. Missouri																					.28								T.	.94		1.22
Berthold Agency	Missouri													T.			T.					T.									.43		0.43
Bismarck ***	Missouri						T.							T.		T.	.10					.10								.08	.35		0.63
Bottineau	Mouse														.06	.07	.05														.08	.16	0.42
Bowbells ‖	Mouse														.05	.07																.55	0.67
Bowman	Grand						T.									T.	T.					.22	.02							.03	.22		0.49
Cando	Devils Lake													.03																	.36		0.39
Carson	Heart																.05						.06							.02	.20		0.33
Cooperstown	Sheyenne																T.					.18									.18		0.36
Crosby	Mouse					.06								.06	T.	.02															.25		0.39
Devils Lake ***	Devils Lake													.07	T.	T.	.02					.11	.01							.02	.29		0.52
Dickinson ‖	Heart															T.	.02						.14							.12	.30		0.58
Donnybrook	Mouse													T.																T.	1.70	T.	1.70
Dunn Center ‖	Knife																					.40	T.							T.	.55		0.95
Dunseith	Mouse						.01							.08	.06	.02															.08		0.25
Eckman	Mouse						T.							.07	.03	.02	.01					T.									.15	.17	0.45
Edgeley	James															.05															.60		0.65
Ellendale***	James						T.										.18						.06							.07	.14		0.45
Energy	Missouri													T.	T.		.20					T.									.30		0.50
Epping	Missouri					T.								.05	T.	T.	.22					T.									.33		0.60
Fessenden	James														T.	.03	.12						.15								.17	.20	0.67
Forman	Sheyenne																.50						.20										0.70
Foxholm	Mouse													.06	.04	T.	.03					T.	.01							T.	.46		0.60
Fryburg	Heart					T.							T.	T.	.02	.05						.42									.50		0.99
Fullerton	James						T.										.18						.14								.25		0.57
Garrison	Missouri														.02	T.	.33					.26									.82		1.43
Grafton	Red														.10	.04							.07										0.21
Grand Forks ***	Red						T.	T.						T.	.01	.05	.04						.10	T.							T.		0.20
Granville	Mouse													.18	T.	T.	T.				T.										.32		0.50
Hannah	Pembina													.05		T.								.36									0.41
Hansboro	Devils Lake																														.35		0.35
Hettinger	Grand																					.01								.02	.52		0.55
Hillsboro	Red																T.						T.								T.		T.
Howard	Missouri				T.	T.								.10	T.	.20						T.							T.		.50		0.80
amestown	James																.30						.03							*	1.45		1.78
Lamoine	Missouri									.20					T.		T.														.05		0.25
Langdon	Pembina							.05						T.		T.	.05						.05								.05		0.20
Larimore	Red																																0.00
Linton	Missouri																T						.10							T.	.39		0.49
Lisbon ‖	Sheyenne							T.									.20	T.					.05									.08	0.33
McClusky	Missouri													T.	T.	T.	.10					.03	.10								.47		0.70
McHenry	James													T.			.30					.21									.28		0.79
McKinney	Mouse													T.	.25	T.	.05														.20		0.50
McLeod	Sheyenne						T.	T.								.02	.18						.04								.12		0.36
Maddock	Sheyenne																T.														.42		0.42
Mandan ‖	Missouri																.20						T.								.20	.24	0.64
Manfred	James												T.	.03		.15					.06	.10									.34		0.68
Marmarth	Lit. Missouri														T.	T.							T.								*	.65	0.65
Mayville	Red																																......
Medora	Lit. Missouri																																......
Melville	James																.10					.40									.85		1.35
Minot	Mouse													.02			.02					.02									.30		0.36
Minto	Red						T.	T.						.02	.01		.02						.07							T.			0.12
Mott	Cannon Ball															.08	.02					.04		T.						.16	.34		0.64
Napoleon ‖	Missouri														.20						.25										.10	.15	0.70
New England	Cannon Ball													T.	T.	T.	T.												.20		.15	.25	0.60
New Salem	Heart													T.		T.	.29														.30		0.59
ark River	Red													T.																	.26	T.	0.26
Parshall	Missouri																					.10									.60		0.70
embina ‖	Red																																0.00
ettibone	James														T.	T.	.25					T.	.10								.32		0.67
ower	Sheyenne															.05	.15													.10			0.30
owers Lake	Missouri					.15										T.	.25					T.									.50	T.	0.90
ichardton	Heart																.03													.03	.30		0.36
kaar	Yellowstone					.10										.05	.15														.40		0.70
teele	Missouri														T.	*	1.25						T.							T.	.45	T.	1.70
aylor	Heart																																......
owner	Mouse														T.	T.															.15		0.15
urtle Lake	Missouri												T.	.10		.04						T.	.04								.15		0.33
alley City	Sheyenne																																......
Wahpeton	Red																							.20									0.20
Walhalla	Pembina												T.	.03	.03		.07	T.				T.	.07	T.							.23	.01	0.44
Westhope	Mouse														T.																.45		0.45
Williston ***	Missouri				.03									T.	.02	.28	T.					.32								T.	.41	T.	1.06
illow City	Mouse				.03									.08	.01	T.	T.														.22	.02	0.33
oorhead, Minn ***	Red						T.	.01									.04						.10	T.							T.	.01	0.16

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the -hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for October, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	91	75	94	78	70	60	66	67	72	75	51	56	58	47	47	42	46	65	54	65	58	44	53	71	58	78	76	74	60	48	48	62.8
	Minimum	40	39	42	45	41	33	35	36	30	33	36	18	19	32	33	24	20	10	13	15	19	34	31	33	31	33	30	32	32	35	30	30.1
Arnegard	Maximum	83	67	90	74	73	59	59	67	70	67	50	64	48	52	52	41	47	61	57	60	65	48	66	68	72	72	65	50	39	37	49	60.4
	Minimum	49	37	48	49	48	36	33	29	37	35	26	20	33	24	26	16	16	28	32	34	28	33	33	36	38	41	37	36	36	27	19	32.9
Ashley	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	45	50	36	50	41	41	32	26	35	30	32	18	22	30	25	28	15	34	29	25	27	35	25	42	40	41	36	25	35	33	26	32.5
Beach	Maximum	82	72	92	87	72	62	60	80	70	62	51	62	43	55	53	49	52	58	60	70	48	50	65	60	73	66	76	52	41	36	41	61.3
	Minimum	45	36	47	44	36	38	29	29	33	36	26	22	32	17	18	12	17	28	30	32	35	32	30	42	40	38	36	32	32	28	24	31.5
Berthold Agency	Maximum	87	66	90	70	71	62	57	80	69	70	52	64	54	54	52	58	60	71	73	77	47	48	67	60	72	78	69	57	45	38	44	63.3
	Minimum	48	33	43	45	33	35	35	23	35	26	25	17	34	36	38	20	10	26	25	28	29	38	30	40	38	32	30	25	37	30	25	31.3
Bismarck	Maximum	91	68	87	73	73	68	53	75	69	71	49	59	48	53	50	35	46	68	56	66	45	47	68	63	72	75	76	61	43	36	50	61.1
	Minimum	50	49	45	49	39	40	33	27	39	30	27	23	36	26	32	20	20	25	30	29	32	31	30	45	43	38	36	32	36	33	29	34.0
Bottineau §§	Maximum	81	61	69	56	58	52	49	70	62	61	40	52	40	35	35	31	37	55	42	58	35	38	50	52	60	65	61	40	35	30	45	50.2
	Minimum	39	45	44	44	36	36	39	22	34	30	29	16	20	29	28	24	12	15	20	24	27	33	25	31	35	35	34	36	35	29	28	30.1
Bowbells §§	Maximum	81	75	82	57	68	54	60	76	72	68	54	62	41	40	42	34	46	66	50	63	50	41	62	61	65	76	62	49	44	31	41	57.2
	Minimum	49	45	48	49	30	31	34	39	32	31	21	22	33	34	32	24	21	21	25	25	30	31	35	45	40	39	37	30	32	30	22	32.8
Bowman	Maximum	81	69	92	88	73	63	56	78	72	70	56	61	51	54	50	42	52	68	68	70	50	50	66	60	72	78	64	54	45	36	40	62.2
	Minimum	40	37	40	42	33	46	23	22	36	32	22	21	34	16	20	18	8	20	30	24	38	30	28	38	32	34	37	31	30	27	20	29.3
Cando	Maximum	88	70	81	70	65	66	53	72	67	68	57	55	51	39	41	40	44	63	50	64	58	43	53	60	67	76	72	61	48	40	49	59.1
	Minimum	44	42	39	39	33	36	40	25	34	32	29	19	32	30	34	29	28	27	21	21	29	34	28	37	35	36	35	37	38	32	29	32.4
Carson	Maximum	70	95	98	88	78	70	55	70	70	75	60	61	50	50	50	40	50	75	60	68	60	52	70	63	70	78	75	66	50	35	46	61.5
	Minimum	36	42	45	40	35	45	27	28	35	35	25	24	30	16	28	20	15	25	30	28	34	25	25	36	40	40	46	45	32	25	22	31.6
Crosby	Maximum	79	67	82	61	64	51	62	75	73	63	49	65	43	43	42	32	49	69	58	69	43	48	47	59	69	75	61	59	45	42	42	57.6
	Minimum	44	31	45	41	34	32	32	29	34	38	25	20	31	29	32	26	15	26	25	28	30	32	32	45	39	38	36	30	24	35	24	31.7
Devils Lake	Maximum	88	66	85	54	66	65	51	70	68	69	45	56	47	39	40	35	42	65	45	63	40	42	52	60	58	76	71	52	43	36	48	56.4
	Minimum	50	43	42	42	35	37	35	31	36	40	29	27	30	30	33	26	19	21	20	22	28	30	30	39	37	43	38	37	33	32	28	33.0
Dickinson §§	Maximum	83	69	93	72	71	63	64	79	70	70	51	62	42	55	52	32	50	68	62	69	52	50	67	60	72	76	67	57	42	35	44	61.3
	Minimum	42	38	43	48	38	39	31	23	30	28	24	20	33	16	18	25	13	20	25	28	32	32	28	34	35	35	35	25	23	30	22	29.0
Donnybrook	Maximum	82	80	86	70	58	80	69	68	58	57	62	64	65	58	40	36	68	62	52	67	47	47	63	65	71	78	69	65	46	47	44	62.1
	Minimum	36	38	30	28	40	26	36	32	31	40	24	17	55	28	28	14	18	45	25	24	27	30	33	32	40	41	30	36	25	28	21	30.9
Dunn Center §§	Maximum	84	67	91	76	71	61	57	80	69	69	58	63	55	56	49	43	48	70	55	64	57	58	66	58	72	76	66	54	48	38	43	62.0
	Minimum	46	37	41	46	37	49	32	22	35	28	23	16	34	24	32	27	24	20	26	24	33	32	29	47	34	36	31	24	36	29	24	31.5
Dunseith	Maximum	87	78	77	68	66	63	52	74	66	66	53	53	51	36	40	42	36	62	51	63	51	42	54	60	63	75	70	64	44	48	49	58.2
	Minimum	38	42	42	40	33	34	37	21	38	29	28	12	26	21	30	11	22	12	21	22	30	31	26	31	32	35	39	35	32	27	23	29.0
Edgeley	Maximum	88	82	91	85	74	65	55	69	72	75	70	64	62	59	51	44	44	67	65	53	57	49	65	69	65	81	75	65	53	43	51	64.9
	Minimum	49	45	35	46	42	31	33	23	36	33	31	32	30	29	29	24	16	23	25	26	28	36	26	48	38	35	35	27	22	33	24	32.0
Ellendale	Maximum	88	73	93	78	72	61	50	66	71	72	48	55	56	53	49	34	46	67	54	66	58	49	66	70	65	83	78	67	47	43	50	62.2
	Minimum	42	47	40	52	46	36	35	30	27	35	29	18	36	28	28	25	19	21	29	22	31	31	29	46	41	31	37	31	35	32	26	32.7
Fessenden §§	Maximum	91	70	89	70	72	70	51	75	71	72	46	59	50	45	42	34	45	71	51	66	41	44	64	62	68	82	71	56	41	36	53	59.9
	Minimum	46	38	35	44	32	35	35	21	34	29	26	18	20	29	30	27	13	17	20	18	21	31	28	36	32	39	32	34	36	29	26	29.4
Foxholm	Maximum	81	73	79	64	67	59	54	73	65	63	51	58	54	39	42	36	43	65	52	56	41	44	63	58	68	71	71	62	43	36	40	57.1
	Minimum	53	34	35	42	31	36	40	31	37	40	24	24	34	29	33	22	19	24	23	22	27	34	33	49	35	44	35	32	34	29	20	32.4
Fullerton	Maximum	85	73	91	78	71	62	49	64	70	60	59	54	56	53	49	50	53	59	56	63	58	49	66	69	60	81	76	65	50	43	50	62.0
	Minimum	42	46	37	50	41	38	34	26	31	35	34	17	40	30	32	28	20	22	23	28	29	38	27	45	40	35	36	35	33	35	27	33.4
Garrison	Maximum	85	71	83	75	75	64	54	77	72	68	57	60	52	44	47	42	44	68	59	65	54	46	61	60	68	75	74	66	55	45	40	61.6
	Minimum	45	40	42	41	32	40	36	25	36	28	24	18	32	28	34	24	13	25	26	27	26	33	30	42	41	35	35	28	30	33	22	31.3
Grafton	Maximum	88	74	87	75	62	57	56	68	71	71	61	57	54	44	43	43	42	65	55	63	54	44	47	65	54	70	69	64	51	47	52	59.8
	Minimum	44	49	38	44	41	29	31	25	40	31	33	21	35	30	32	32	23	13	21	19	32	31	29	11	25	39	30	37	38	35	30	31.2
Grand Forks	Maximum	94	71	95	76	65	62	53	71	79	72	44	58	42	42	44	38	41	68	48	63	55	42	50	72	56	80	78	59	46	54	50	60.4
	Minimum	41	50	41	47	38	30	34	29	33	33	34	24	33	32	32	28	15	14	21	22	21	33	31	34	27	40	33	40	41	40	33	32.4
Granville	Maximum	89	78	84	65	70	62	55	78	70	68	50	60	48	40	42	35	45	68	50	66	41	65	62	65	60	80	75	55	46	35	50	59.8
	Minimum	48	34	37	40	32	38	33	26	35	35	25	20	35	30	32	24	18	22	23	22	24	35	36	45	38	38	30	35	35	32	33	31.9
Hansboro	Maximum	90	78	81	65	60	64	52	70	75	70	61	60	60	46	40	40	42	63	40	65	48	44	52	63	58	77	60	55	45	42	55	58.7
	Minimum	46	36	34	38	32	30	25	30	32	25	24	24	20	22	30	20	20	16	25	22	22	28	24	32	30	40	30	28	26	30	24	27.9
Hettinger	Maximum	87	75	95	90	88	73	57	78	73	76	59	62	52	52	50	54	56	71	64	72	57	52	70	62	74	79	70	67	49	35	42	65.8
	Minimum	37	43	46	42	40	32	33	24	35	26	27	20	38	17	21	24	10	17	25	28	35	31	26	43	32	35	35	27	34	30	22	30.3
Hillsboro	Maximum	88	89	92	86	68	62	58	63	69	72	65	53	54	47	43	43	39	62	59	60	54	47	52	68	54	76	73	63	48	50	48	61.5
	Minimum	38	43	46	46	42	33	44	29	51	36	34	20	41	32	34	28	23	12	22	17	27	33	32	34	29	38	33	38	36	40	32	33.6
Howard	Maximum	81	76	81	66	66	58	60	74	68	66	62	60	45	50	40	30	48	56	65	65	56	50	70	72	74	74	68	52	44	32	32	59.4
	Minimum	46	33	38	40	35	34	36	32	32	28	22	20	20	22	18	15	24	26	27	26	26	26	36	35	35	34	34	26	28	28	28	29.4
Jamestown §§	Maximum	76	73	72	71	65	50	71	70	72	58	57	54	49	45	31	31	43	65	50	64	53	45	62	66	67	80	75	58	44	51	52	58.8
	Minimum	35	38	37	36	41	39	38	33	25	33	34	17	18	34	30	22	22	21	25	24	30	40	36	36	40	38	38	40	34	34	27	32.1
Lamoine	Maximum	88	70	84	..	..	71	..	71	66	69	63	57	48	46	46	38	42	64	63	64	38	44	61	60	66	77	73	60	62	38	50	[c]60.0
	Minimum	42	43	41	..	..	34	..	25	35	35	27	19	38	28	35	23	13	20	20	25	31	31	25	32	36	39	36	35	35	29	25	[c]30.7
Langdon §§	Maximum	88	74	83	68	66	68	52	70	68	67	48	56	45	40	45	37	40	45	55	63	44	40	52	59	53	65	77	63	47	36	45	56.7
	Minimum	45	42	41	42	31	33	33	25	35	33	30	19	32	28	33	29	19	16	21	22	32	30	21	29	28	35	35	35	35	30	29	30.7
Larimore §§	Maximum	84	87	89	64	60	57	63	70	72	45	57	52	40	43	43	42	65	45	62	51	44	51	65	52	80	70	55	40	45	54	55	58.1
	Minimum	43	35	38	45	38	30	38	26	40	39	32	19	34	30	33	27	18	12	22	18	29	32	35	35	28	35	35	35	37	32	28	31.5
Linton	Maximum	90	82	93	83	77	70	62	72	72	74	63	58	53	53	52	45	50	72	59	69	56	46	67	66	71	77	76	67	52	39	51	65.2
	Minimum	40	46	43	50	36	46	32	20	29	24	32	14	40	20	32	26	9	15	33	30	24	32	20	34	36	34	34	28	36	32	27	30.8
Lisbon §§	Maximum	87	74	94	76	73	56	48	70	72	75	47	55	47	46	42	37	47	46	50	52	42	40	68	70	74	72	80	46	44	42	50	58.8
	Minimum	44	46	40	43	42	40	30	25	33	30	35	13	30	38	29	26	17	18	27	32	38	36	33	38	40	32	34	38	35	34	26	33.0
McKinney	Maximum	..	..	..	..	..	..	..	..	..	..	..	70	78	50	43	38	45	63	55	60	45	45	64	60	70	75	68	60	60	51	41	[k]57.0
	Minimum	..	..	..	..	..	..	..	..	..	..	..	17	30	30	32	26	19	34	19	19	19	25	30	45	38	28	26	28	31	32	29	[k]27.8
Maddock	Maximum	88	80	83	81	67	66	61	74	70	71	65	57	56	42	45	40	44	66	65	64	61	44	59	60	66	74	73	69	51	44	50	62.5
	Minimum	40	37	37	44	31	35	36	25	33	29	26	18	32	31	34	28	19	18	20	19	25	35	30	43	32	40	33	37	39	31	27	31.1
Melville	Maximum	..	..	74	75	60	60	56	..	57	56	55	..	40	44	45	45	35	57	58	48	48	..	51	51	60	68	68	64	..	48	48	[f]54.8
	Minimum	..	..	39	45	35	35	35	..	39	38	28	..	24	31	35	30	20	23	22	22	38	..	28	48	39	45	35	35	..	36	26	[f]33.4
Minot §§	Maximum	79	78	83	70	61	57	80	70	70	50	63	57	41	47	37	41	68	51	65	42	47	66	62	71	78	73	61	40	38	47	50	59.5
	Minimum	35	30	31	32	24	30	22	18	33	23	19	12	31	23	28	18	16	14	20	19	11	23	26	37	32	35	25	20	29	18	14	24.1
Mott	Maximum	80	90	93	88	83	79	68	80	78	71	83	70	63	68	63	51	56	65	68	76	52	48	45	55	57	53	50	46	41	35	38	64.1
	Minimum	48	45	47	46	44	41	37	23	33	22	38	31	23	35	30	26	18	22	32	30	23	20	17	26	23	25	26	26	33	26	25	30.4
Napoleon §§	Maximum	89	70	91	75	73	68	71	75	73	50	58	55	40	33	59	68	70	71	68	60	63	61	63	64	78	68	69	67	50	37	52	64.2
	Minimum	42	43	37	43	34	40	28	29	35	28	23	31	22	25	13	18	26	24	25	31	23	32	40	38	40	34	21	30	32	29	23	30.3
New Salem	Maximum	88	78	92	64	74	69	77	73	69	68	62	69	47	46	38	36	47	70	58	66	51	58	69	61	73	74	73	68	60	34	44	63.1
	Minimum	51	39	52	46	38	47	37	35	39	35	28	24	29	35	30	20	17	25	28	26	29	32	27	42	41	43	36	28	26	27	22	33.4
Pembina §§	Maximum	80	75	86	65	63	65	64	65	54	48	62	58	45	44	58	39	40	65	62	68	48	45	45	60	50	53	52	58	48	45	50	56.8
	Minimum	42	56	48	40	42	34	33	22	29	24	23	36	24	22	26	28	25	17	15	25	32	25	29	25	26	24	26	23	34	22	24	29.1
Steele	Maximum	86	64	85	71	71	65	50	67	62	71	46	57	51	52	45	36	40	64	65	45	44	44	60	67	61	76	74	44	48	36	50	58.0
	Minimum	46	46	43	42	32	41	32	21	36	31	30	19	41	22	34	25	13	21	27	29	33	34	29	41	42	39	36	34	36	31	21	32.5
Towner	Maximum	90	75	80	67	69	68	72	65	69	65	69	60	55	40	42	40	41	51	50	64	53	44	64	65	68	77	64	52	45	44	40	59.7
	Minimum	47	40	38	40	30	32	36	21	34	31	24	18	33	30	34	24	14	18	21	20	22	31	41	40	35	37	30	31	39	35	31	30.9
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Wahpeton	Maximum	91	85	94	85	78	58	55	65	72	76	68	55	62	68	50	49	48	63	52	62	61	58	55	78	62	85	77	67	50	55	50	65.6
	Minimum	47	50	50	50	46	35	38	36	33	31	40	19	40	33	35	39	23	19	21	27	27	36	31	30	38	39	35	45	37	36	35	35.5
Walhalla	Maximum	90	80	85	73	59	64	55	70	69	69	56	58	57	43	42	40	40	63	51	66	60	42	46	70	57	75	65	60	52	41	49	59.6
	Minimum	53	43	33	42	39	30	40	30	40	40	32	29	37	29	34	28	23	18	20	21	31	32	28	37	26	42	30	33	37	31	30	32.8
Westhope	Maximum	80	82	86	78	87	81	67	73	82	80	74	46	46	48	46	50	47	40	42	44	46	42	40	46	47	42	46	44	47	50	46	57.3
	Minimum	40	38	42	40	36	34	34	24	31	32	34	14	20	22	26	26	18	20	19	20	24	20	20	21	24	20	26	24	26	28	24	26.7
Williston	Maximum	83	67	86	65	68	53	60	77	70	66	50	65	44	53	46	31	47	66	54	64	45	49	67	59	70	74	68	49	39	36	41	58.5
	Minimum	44	38	50	44	39	55	38	33	36	34	26	28	33	29	29	20	20	30	36	30	38	34	36	47	41	40	36	32	36	30	28	34.5
Moorhead, Minn	Maximum	87	74	93	81	66	57	52	62	69	73	45	54	55	46	45	38	43	60	49	61	56	45	53	70	57	77	74	56	48	51	47	59.5
	Minimum	45	53	56	51	44	37	39	33	31	37	31	21	37	34	31	31	24	17	27	28	30	35	35	41	36	40	40	40	36	41	35	36.0

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXI. Bismarck, N. D., November, 1922. No. 11

GENERAL SUMMARY.

The weather during November was unusual, in that the temperature was, with but four exceptions, the highest of record in the climatological history of the State, and the precipitation was the heaviest ever recorded. Light to heavy general showers interfered somewhat with farm work during the first decade. Rapid progress was made during the second decade in farm work, especially fall plowing and the seeding of winter rye. A general rain covered the State on the 18th. The third decade was similar to the second, except that snow and low temperature prevailed at the close.

TEMPERATURE.

The mean temperature for the State was 31.8°, or 5.2° above he normal, and 10.8° higher than the mean for November, 1921. The highest mean reported was 36.8° at Wahpeton, Richland ounty; the lowest was 28.6° at Howard, Williams County. The highest temperature reported was 65° at Granville, Mc-enry County, on the 16th; the lowest was -8° at Howard, Williams County, on the 30th. The greatest monthly range f temperature was 65° at Granville, McHenry County; the east was 35° at McHenry, Foster County. The greatest daily ange was 38° at three stations.

PRECIPITATION.

The average precipitation for the State was 2.33 inches, or .75 inches above the normal, and 1.65 inches more than the verage for November, 1921. The greatest monthly amount reorted was 5.33 inches at Pembina, Pembina County; the least as 0.40 inch at Lamoine, Kidder County. The greatest mount recorded in any 24 consecutive hours was 2.50 inches t Pembina, Pembina County, on the 7th. The average snowll was 6.3 inches. The average number of days with 0.01 ich or more of precipitation was 6.

AURORAS.

Auroras were observed at Pettibone on the 1st, and at Park iver on the 16th and 23d.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.10	30.75	12	29.39	5	57	6,713	9.3	42	nw.	18
Devils Lake	30.04	30.72	12	29.22	5	44	6,963	9.7	30	e.	5
Ellendale	30.05	30.62	12	29.24	30	56	10,429	14.5	48	nw.	18†
Grand Forks	30.02	30.66	12	29.23	5	90	....	......	34	nw.	29†
Williston	30.08	30.79	12	29.48	10	48	5,667	7.9	26	nw.	18
Moorhead, Minn	30.02	30.64	12	29.14	30	58	6,046	8.4	30	se.	5
Av'ges and extremes	30.05	30.79	12	29.14	30	.....	....	9.9	48	nw.	18

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	85.3	281.1	30	−23	88	75	81	51	16†
Devils Lake	79.9	278.3	29	−19	89	80	86	56	23†
Ellendale	109.9	284.1	39	......	93	80	....	49	22
Grand Forks	......	......	......	......	94	.....	92	....	....
Williston	112.5	278.2	40	− 6	84	68	75	29	22
Moorhead, Minn	......	......	......	......	90	81	87	55	23
Averages and extremes	85.5	280.5	30	−20	90	77	84	29	22

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891...	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892...	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893...	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894...	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895...	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896...	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897...	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898...	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899...	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900...	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901...	26.8	+.02	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902...	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903...	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904...	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905...	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906...	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907...	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908...	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909...	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910...	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911...	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912...	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913...	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914...	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915...	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916...	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917...	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918...	28.9	+2.3	71	−18	1.04	+0.46	4	13	6	11	nw.
1919...	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920...	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921...	21.0	−5.6	69	30	0.68	+0.10	5	7	8	15	nw.
1922...	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.

Climatological Data for November, 1922.

Stations.	Counties.			Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.					
		Elevation, feet.	Length of record, years.	Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.	Prevailing direction of wind.	Observers.
Amenia	Cass	954	27	32.0	+4.7	53	5	12	24	32	2.45	+1.91	0.80	4.0	7	8	10	12	ne.	E. T. Carley.
Amidon	Slope		9	32.6		56	16	12	19	21	0.48		0.25	4.0	4	10	6	14	w.	Charles Eastgate.
Arnegard	McKenzie		8	31.7		53	17	0	30	26	1.35		0.60	13.0	4	11	4	15	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	32.0	+4.3	50	17	10	24	23	3.87	+3.33	1.15	18.0	6	16	3	11	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	32.0	+0.6	57	27	2	30	27	0.70	+0.16	0.64		3					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	32.4	+3.6	55	16	9	30	30	1.95	+1.47	1.80		3	20	0	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	33.2	+4.7	52	5	12	30	28	1.51	+0.83	0.86	5.7	8	5	6	19	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	27.9	+4.3	45	1	6	21	28	1.39	+0.85	0.76		7	8	11	11	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	30.0	+5.2	49	1	5	30	31	1.54	+1.03	0.59		3	13	0	17		G. H. Phelps.
Bowman	Bowman	2,961	9	30.2		53	26	8	14	28	0.77		0.28		6	11	14	15	nw.	R. Love, Jr.
Cando	Towner	1,488	22	32.1[a]	+5.6	50[a]	1	8[a]	30	29[a]	2.22	+1.71	1.05		5	7	3	20	ne.	A. J. Swanson.
Carson	Grant	2,500	11	30.3	−0.4	50	1	10	19	25	2.64	+2.08	1.95	16.0	6	3	11	16	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17								2.45	+1.91	0.68	8.0	6	8	8	14	nw.	S. Friswold.
Crosby	Divide	1,954	16	30.6	+2.8	50	26	3	30	29	0.50	−0.26	0.35	4.5	4	4	9	17	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	31.6	+9.0	52	16	4	30	27	2.38	+1.67	1.03	3.5	11	3	4	23	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	31.8	+3.2	55	16	12	24	28	1.72	+1.24	1.09		8	7	7	16	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	31.6	+2.8	49	3	2	30	32	1.31	+0.72	0.60	2.0	5	5	11	14	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	32.4	+4.0	56	22	12	30	30	2.67	+2.05	1.80	5.0	4	8	1	21	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	30.4	+4.2	56	1	4	30	33	1.82	+1.39	1.04	2.5	9	10	4	16	ne.	J. G. Lamont.
Eckman	Bottineau	1,500	18	30.0[a]	+3.7	52[a]	1	−4	30	32[a]	2.92	+2.38	1.30	3.0	7	4	12	14	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	33.8	+3.4	55	2	12	25†	30	2.73	+2.39	1.00	5.0	5	0	11	19	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	32.8	+6.7	59	2	11	30	29	2.73	+1.95	0.89	12.4	11	3	8	19	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	33.3		49	16†	10	19	25	1.81	+1.55	0.84	2.0	4	6	11	13	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	30.0		49	16†	3	30	30	1.40	+0.98	0.95	9.0	4	14	11	5	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	30.9	+3.9	56	16	9	24	34	2.45	+1.81	0.90	1.1	8	3	9	18	nw.	T. D. Monsen.
Forman	Sargent	1,249	29								2.62	+2.06	0.63	7.6	9	10	3	17	n.	O. Enger.
Foxholm	Ward	1,657	2	30.8		48	1†	5	30	28	2.53		1.51	6.5	5	5	9	16	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								1.82		1.04	6.0	4	9	5	16	nw.	Verne King.
Fullerton	Dickey	1,439	25	33.5	+3.8	53	2†	14	30	30	3.17	+2.44	0.87	15.0	8	7	3	20	nw.	F. O. Alin.
Garrison	McLean	1,901	28	32.7	+5.7	57	16	10	24	34	1.84	+1.26	0.96	6.2	5	6	7	17	nw.	G. L. Robinson.
Grafton	Walsh	827	31	34.0	+10.0	64	1	10	29†	31	2.40	+1.74	1.10	10.2	9	2	8	20	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	33.1	+7.0	56	1	4	30	31	3.30	+2.60	1.10	7.1	10	7	6	17	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	32.9	+6.8	65	16	0	30	34	2.51	+1.90	2.07	T.	3	11	6	13	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29								4.65	+3.97	2.40	5.0	7					J. Moffatt.
Hansboro	Towner	1,597	15			58	1	−6	30		3.40	+2.94	1.40	6.0	5	6	11	13	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	32.0	−1.4	60	5	13	19†	28	3.17	+2.85	1.10	11.0	9	12	2	16	nw.	U. J. Downey.
Hillsboro	Traill	901	17	33.3[c]	+4.5	51[c]	17	12[c]	30	29[c]	2.60	+1.79	0.87	5.0	5				n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	28.6	+0.9	56	17	−8	30	30	1.47	+0.96	0.70	8.2	4	12	3	15	nw.	C. P. Amsbaugh.
Jamestown ††	Stutsman	1,390	31	32.7	+5.1	54	6	14	14†	34	1.00	+0.27	0.50	7.5	4	8	2	20	n.	S. Calvelage.
Lamoine	Kidder	1,936	18	30.8	+3.8	50	1	9	24†	29	0.40	−0.14	0.20	2.0	2	12	1	17	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	29.6	+3.9	50	2	5	30	26	1.88	+1.18	0.45	6.8	6	10	4	16	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	31.7	+5.9	55	1	10	29	33	4.64	+3.96	1.20	10.5	9	2	7	21	n.	Reuben Gray.
Linton	Emmons	1,711	5	32.4		51	1	9	24†	34	2.69		1.02	13.8	7	10	3	17	se.	William Malpass.
Lisbon	Ransom	1,091	19	33.5	+3.3	55	5	12	20	30	3.53	+2.91	1.06	8.0	8	6	6	18	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	33.1		53	15	9	30	27	1.40		0.77	1.8	7	6	8	16	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	29.5[d]	+3.0	45[e]	2†	10[d]	24†	23[e]	2.42	+1.93	1.10	9.0	5				nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	30.5	+5.9	50	16†	2	30	30	2.63	+2.04	1.50	9.5	4	3	11	16	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	34.8	+5.1	56	5	13	24	25	2.73	+2.14	0.70	6.0	8	8	4	18	w.	J. G. Carlson.
Maddock	Benson	1,604	8	33.2		54	16	10	30	30	2.11		0.84	0.3	6	5	8	17	nw.	A. T. Felland.
Mandan	Morton	1,644	9	32.5		51	1†	13	24	32	1.60		0.98	6.0	6	5	7	18	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	32.3	+3.3	51	5	8	30	28	2.06	+1.32	0.92	2.0	8	7	5	18	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	35.8	+1.4	60	28	8	31	28	0.57	+0.24	0.10	4.0	6					S. P. Grane.
Mayville	Traill	975	27	33.8	+4.5	52	5†	2	30	27	4.66	+3.99	0.90		9	6	7	17	nw.	M. G. Sateren.
Medora	Billings	2,270	23																	T. A. Davis.
Melville	Foster	1,590	25	31.6[b]	+2.6	48[b]	2†	10[b]	30	25[b]	2.02	+1.49	1.25	5.2	5	4	8	18	nw.	J. P. Kidder.
Minot	Ward	1,557	27	28.8	−0.9	52	16	−2	30	38	3.33	+2.65	2.20	2.0	5	9	6	15	nw.	W. I. Faris.
Minto	Walsh	820	30	33.0	+8.5	57	1	10	29†	38	2.66	+2.01	0.90	4.5	8	2	11	17	n.	C. M. Evans.
Mott	Hettinger	2,424	16	28.6	−2.6	48	1	6	30	20	2.30	+1.84	1.76	5.8	7	5	8	17	w.	O. H. Opland.
Napoleon	Logan	1,955	31	30.4	+3.8	57	2	9	19†	33	2.52	+1.93	0.60	13.0	7	8	2	20	sw.	C. J. Hoof.
New England	Hettinger	2,400	29	29.8	−0.4	52	26	0	30	26	2.40	+1.91	1.10	8.2	7	5	8	17	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	31.4	+0.7	49	1	10	24	30	3.73	+3.38	1.73		13	10	4	16	nw.	J. Christiansen.
Park River	Walsh	998	19	33.0	+5.0	53	1	8	29†	30	2.75	+1.99	1.24	3.5	7	7	4	19	nw.	C. B. Wright.
Parshall	Mountrail		8								0.97		0.87	1.0	2					J. A. Johnson.
Pembina	Pembina	789	49	31.2	+8.5	58	2	10	25†	32	5.33	+4.65	2.50	4.0	7	7	7	16	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	31.4	+4.5	60	1	5	30	37	1.88	+1.33	0.85	10.0	3	8	6	16	nw.	S. C. Shanks.
Power	Richland	1,020	29								4.34	+3.72		5.0	14					J. A. Power.
Powers Lake	Burke	2,205	9								0.75	+0.19	0.30	3.0	3	5	7	18	ne.	C. Frank.
Richardton	Stark	2,467	7	31.5		51	16	12	19†	24	2.39		0.88	10.7	8	7	4	19	nw.	Geo. Keim.
Skaar	McKenzie		3																	Conrad Brunsvold.
Steele	Kidder	1,857	27	28.8	+0.4	53	17	7	29†	32	1.59	+1.00	0.56	8.0	6	5	10	15	nw.	H. S. Wood.
Taylor	Stark	2,493	7																	H. Leutz.
Towner	McHenry	1,482	21	32.8	+7.8	64	1	8	30	36	3.00	+2.52	1.75	3.0	5	15	4	11	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	32.0		54	16	10	24†	28	1.55		0.87	3.0	6	5	8	17	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18																	C. F. Schroeder.
Wahpeton	Richland	962	29	36.8	+8.5	56	4†	14	25	22	2.31	+1.62	0.62		12	9	2	19	ne.	State School of Science.
Walhalla	Pembina	966	19	34.0	+6.9	56	6	8	29†	38	3.16	+2.49	1.11	7.2	7	8	7	15	ne.	Ivan Lee.
Westhope	Bottineau	1,508	17	31.0	+4.2	48	4†	7	22	32	2.39	+1.81	1.15		5	3	17	10	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	31.9	+6.7	53	16	1	30	32	1.37	+0.77	0.95	8.0	8	5	5	20	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	30.4	+8.3	51	16	6	30	34	2.39	+1.88	1.12	3.0	6	7	7	16	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	34.2	+9.8	53	4	9	30	24	2.83	+1.85	0.61	3.9	14	2	3	25	n.	U. S. Weather Bureau.
Averages				31.8	+5.2	65	16	−8	30	38	2.33	+1.75	2.50	6.3	6	7	7	16	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for November, 1922.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
menia	Red		.10		.25	.50		.50			T.				.20				.80	T.								T.			.10		2.45
milton	Lit. Missouri		.05		.03	.25			T.									.15	T.												T.		0.48
engard	Missouri				T.	.60	.50	T.											.05	T.											.20		1.35
shley	Missouri				.68	1.15	.15				T	.09	1.00																		.50		3.57
each	Lit. Missouri				T	.64	T.	T.	T.	T		T.						T.	.04										T.	T	.02		0.70
rthold Agency	Missouri					1.80	.10												.05	T.											T.		1.95
ismarck ***	Missouri		.01	T.	.23	.66	.10	T.			.16	T.	T.	.30				.01	.04	T.						T.	T.			T.	T.		1.51
ottineau	Mouse				.03	.76	.25	.03											.20	.05											.07		1.39
owbells ‖	Mouse					.59	.40	.55																									1.54
owman	Grand		.11	.16		.28								.10					.09														0.77
ando	Devils Lake			.02		1.05	.61	.04		T.								.50															2.22
arson	Heart				.10	.95	.30					.40		.85					.04														2.64
ooperstown	Sheyenne		.10			.68	.47							.30					.40												.50		2.45
rosby	Mouse					.35	.05																							.05	.05		0.50
vils Lake ***	Devils Lake			T.	.01	.83	.52	.03	T.	.01	T.	T		.09	.03			.02	.60	.06											.18		2.38
ickinson ‖	Heart			.09	.03	1.09	.26	T.	T.	T.	T.	T.	T.		.03				.16	.01											.05		1.72
onnybrook	Mouse				.05	.29	.60	.03	T.	T.	T.	T.	T.															T.			.34		1.31
unn Center ‖	Knife				.08	1.80	.62												.17														2.67
unseith	Mouse			.10	.09	1.04	.06	.02		.07									.27	.02											.15		1.82
ekman	Mouse		T.	.05	.15	1.30	.56		T.	.03	T.								.53												.30		2.92
geley	James			T.	.52	1.00	.28	T.		T.	T.		.63																		.30		2.73
lendale***	James		.01	.03	.19	.89	.23	.04		T.	T.	.02	T.	.67				T.	.11	.02											.52		2.73
nergy	Missouri			T.	T.	.84	.25	T.		T.	T.		T.	.22					.50												T.		1.81
pping	Missouri					.95	.22												.15											T.	.08		1.40
essenden	James				.04	.55	.90	.40					.02		.06				.32	.16													2.45
orman	Sheyenne	.63			.35	.10	.62					.06		.34					.10	.16											.26		2.62
oxholm	Mouse		.07			1.51	.26	T.					T.						.44	T.											.25		2.53
yburg	Heart			.25	T.	1.04		T.	T.	T.	T.	T.	T.						.33											.20	T.		1.82
llerton	James			T.	.46	.53	.40	.01	T.		.08	T.	T.	.87	T.	T.			.20	T.											.62		3.17
arrison	Missouri				.02	.96	.42						T.						.42											T.	.02		1.84
afton	Red		.45		.03	1.10	.32	.13	T.					.27					.45	.15											.50		2.40
and Forks ***	Red	.20	.46		T.	1.10	.26	.07	T.		T.	T.		.11	T.			T.	.37	.22	T.							.03		T.	.48		3.30
anville	Mouse		T.	T.	T.	2.07	.09			T.	T.	T.	T.						.35	T.											T.		2.51
annah	Pembina				T.	*	2.40													*	1.75	.20									.30		4.65
ansboro	Devils Lake					1.40	.75				.10								.65												.50		3.40
ttinger	Grand		.02	.39	.50	1.10						.30	.03	.81				.01	.01														3.17
llsboro	Red			.87		.23	.87	.13	T.			T.		T.														T.			.50		2.60
oward	Missouri		.47																.70											.10	.20		1.47
mestown	James						.25					.50							.15												.10		1.00
moine	Missouri			T.													*	.20		T.											.20		0.40
ngdon	Pembina					.25	.45	.25	T.						T.				.35	.38											.30		1.88
rimore	Red		.85		.20	1.20	.30	.30							.10				.90	.04											.75		4.64
nton	Missouri			T.	.02	1.02	.25	T.			T.	.04	.04	1.02					T.	T.										T.	.30		2.69
sbon ‖	Sheyenne		.90	.06	.30	.26	1.06								.40				.15												.40		3.53
Clusky	Missouri			.04	.04	.77	.10	T.	T.	.03	.02	T.							.50	T.											T.		1.40
Henry	James					1.10	.40							.16					.40												.36		2.42
Kinney	Mouse					1.50	.50	T.	T.	T.									.33												.30		2.63
Leod	Sheyenne		.70		.27	.53	.32					.04	.31							.35											.21		2.73
ddock	Sheyenne				.03	.83	.84	.03			.01								.37												T.		2.11
ndan ‖	Missouri			.01	T.	.98	.06					.18	T.	.24					.13												T		1.60
nfred	James			.02	T.	.60	.92	.10	T.	T.		T.			.01				.33	.03											.02		2.06
rmarth	Lit. Missouri									.10	.10	.10	.10																.10		.09		0.57
yville	Red	.70		.20		.85	.30	.11							.90				.40	.90								.30					4.66
dora	Lit. Missouri																																......
lville	James					1.25				.25				T.				.02		.20											.30		2.02
not	Mouse					2.20	.40			.05									.48												.20		3.33
nto	Red		.48			.90	.28							.10	.07				.37	.15								T.			.31		2.66
tt	Cannon Ball			.11	.02	1.16	.05		.03					.32				T.	.01														2.30
poleon ‖	Missouri					.60	.47	.18				.05			.50				.12											T.	.60		2.52
w England	Cannon Ball		.02	.63	1.10	.25	T.	T.	T.	T.	T.	T.	T.	.25	.10			.05	T.											T.	T.		2.40
w Salem	Heart			.07	.40	1.73	.25					.10	.08	.30	.30			.15	.20	.02										.02	.11		3.73
rk River	Red		.46			1.24	.28	.05							T.				.55	.06											.11		2.75
rshall	Missouri																									.87					.10		0.97
mbina ‖	Red		T.			2.00		2.50	T.										.33	.10	.10	.10	.10						T.				5.33
ttibone	James			T.	T.	.85	T.	.20	T.	T.	T.	.10		.30					.03	.10											.30		1.88
wer	Sheyenne								3.10		.11	.22	T.	*	.29				.30										T.		.32		4.34
wers Lake	Missouri			T.	.25	.30	T.					T.					.20		T.														0.75
hardton	Heart			.11	.09	.88	.80						T.	.20					.24	.05											.02		2.39
aar	Yellowstone																																......
ele	Missouri	T.	T.	T.	T.	.56	.32	.11	T.	T.	T.	T.	T.	.30	.10			T.	T.	T.					T.					T.	.20		1.59
wner	Mouse				T.	1.75	.90	T.	T.	T.	T.	T.							*	.25								T.			.10		3.00
rtle Lake	Missouri			.06	.09	.87	.20	T.		T.	T.	T.	.04						.29	T.										T.			1.55
lley City	Sheyenne																																......
hpeton	Red		.62		.37	.35	.10	.08			.02	.03		.15					.29	.10								.10			.10		2.31
lhalla	Pembina	T.	.19	T.		1.11	.30	.21	T.	T.	T.	T.							.65	.10											.60		3.16
sthope	Mouse				1.15	.39	.35											.42													.08		2.39
lliston ***	Missouri				.07	.91	.06	.01	T.	T.	T.	T.						.13	.05											.06	.08		1.37
llow City	Mouse				.02	1.12	.81	T.		T.	T.	T.							.22	.02						T.					.20		2.39
orhead, Minn ***	Red	.33	.29	.05	.28	.46	.19	.02	T.	T.	.03	T.	T.	.28	.02				.36	.07	T.							.02		T.	.43		2.83

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of ervation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch

Daily Temperatures for November, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	48	54	47	47	53	40	38	38	40	40	45	37	34	34	36	41	52	40	35	40	42	52	29	33	36	42	36	32	30	14	....	39.4
	Minimum ...	22	25	25	40	40	37	37	31	30	33	30	31	28	17	22	19	20	20	19	19	20	22	19	12	14	22	31	21	17	12	....	24.5
Arnegard	Maximum...	51	42	37	45	40	35	32	31	33	31	29	29	29	36	42	44	53	38	27	33	50	46	40	37	45	50	47	42	33	17	....	38.1
	Minimum ...	32	34	32	33	30	29	29	27	30	28	20	20	21	15	24	32	35	15	12	19	33	30	29	17	19	32	31	33	17	0	....	25.3
Ashley	Maximum...	42	40	40	46	46	42	32	32	38	41	41	32	35	32	36	44	50	41	35	27	35	42	35	30	32	42	41	48	38	21	....	37.9
	Minimum ...	24	28	38	38	40	32	32	32	30	35	28	29	25	25	20	21	28	28	18	18	17	22	25	10	13	28	35	30	21	12	....	26.1
Beach	Maximum...	45	46	51	52	41	32	31	30	30	30	29	28	25	36	47	51	54	42	27	33	41	46	37	46	53	53	57	46	31	27	....	39.9
	Minimum ...	24	31	29	33	26	24	27	26	28	21	18	22	18	15	27	33	34	15	10	18	24	30	23	20	31	32	30	31	25	2	....	21.2
Berthold Agency	Maximum...	45	43	40	40	40	32	32	32	35	34	32	30	30	37	48	55	50	40	37	35	45	48	45	35	45	49	48	48	36	18	....	39.5
	Minimum ...	25	38	33	36	32	32	32	30	32	30	23	27	22	19	23	25	30	30	10	15	20	24	23	13	16	30	28	32	18	9	....	25.2
Bismarck	Maximum...	51	46	42	45	52	36	35	34	40	40	33	34	29	37	39	49	44	44	23	34	46	50	36	30	44	49	43	48	35	21	....	39.6
	Minimum ...	26	35	35	40	34	34	33	31	33	34	26	28	26	26	26	23	30	20	18	17	24	26	21	14	16	31	32	32	21	11	....	26.8
Bottineau §§	Maximum...	45	42	35	38	40	36	29	28	29	31	30	29	28	34	38	43	40	41	29	20	34	35	34	24	30	38	32	39	30	24	....	33.5
	Minimum ...	25	24	32	33	39	29	28	27	28	30	27	26	17	18	16	24	25	20	13	12	6	19	20	7	14	28	30	30	10	11	....	22.3
Bowbells §§	Maximum...	49	42	41	42	39	32	30	33	33	32	33	34	32	36	42	43	42	32	25	34	41	36	34	41	45	48	44	45	25	32	....	37.6
	Minimum ...	23	32	31	29	34	30	29	24	29	29	22	25	11	12	25	26	30	33	10	15	18	17	15	10	25	28	26	15	10	5	....	22.3
Bowman	Maximum...	40	48	36	39	40	30	32	30	33	30	30	26	28	33	42	51	47	38	26	32	12	46	40	37	46	53	52	48	39	32	....	38.2
	Minimum ...	30	26	30	33	30	20	23	26	26	22	16	16	18	15	24	27	30	16	8	12	16	24	22	19	18	33	28	26	26	10	....	22.3
Cando	Maximum...	50	47	41	44	49	49	39	33	35	41	39	34	34	40	44	44	42	..	35	26	37	44	38	25	32	39	40	41	39	14	....	[a]38.4
	Minimum ...	26	34	35	36	42	33	30	30	31	34	31	29	21	27	21	30	33	..	18	18	11	28	22	10	16	25	31	29	10	8	....	[a]25.8
Carson	Maximum...	50	48	45	42	45	33	33	32	34	36	33	33	30	32	40	46	45	40	25	32	40	45	35	30	40	45	45	45	35	25	....	38.0
	Minimum ...	25	28	33	30	30	28	27	29	28	29	20	22	20	15	20	26	30	20	10	10	16	23	16	10	15	29	30	30	20	10	....	22.6
Crosby	Maximum...	48	35	38	42	40	32	32	32	33	32	29	32	29	39	40	46	46	35	24	36	43	48	34	43	46	50	40	48	40	16	....	37.6
	Minimum ...	31	30	26	32	30	29	28	26	29	26	21	24	8	18	26	38	32	11	10	24	28	30	17	16	17	30	29	32	16	3	....	23.7
Devils Lake	Maximum...	51	40	40	43	49	46	33	33	37	42	35	32	33	39	45	52	45	39	32	27	39	45	33	22	34	40	39	43	32	16	....	37.9
	Minimum ...	30	31	34	37	43	33	31	30	30	35	31	25	24	27	23	25	30	32	17	18	14	29	13	10	16	22	28	30	10	4	....	25.4
Dickinson §§	Maximum...	51	45	40	40	35	33	32	33	33	31	26	30	26	35	41	55	52	40	25	24	44	47	34	40	46	52	50	48	30	20	....	38.4
	Minimum ...	28	29	32	30	31	29	30	28	28	29	25	20	25	14	23	29	32	32	15	15	20	28	24	12	19	29	30	28	29	17	....	25.3
Donnybrook	Maximum...	48	44	49	40	40	38	39	34	35	33	34	33	33	36	48	44	44	40	38	33	40	47	43	30	45	48	46	48	39	30	....	40.0
	Minimum ...	31	35	32	34	30	20	30	28	28	28	28	21	15	16	26	27	33	22	12	18	20	17	21	8	13	30	18	28	26	2	....	23.3
Dunn Center §§	Maximum...	48	45	40	41	40	32	32	32	33	32	31	31	29	34	44	49	51	41	26	35	43	56	42	36	45	50	51	47	32	22	....	39.0
	Minimum ...	26	32	32	34	32	30	30	28	30	30	22	23	22	17	28	31	33	26	14	16	23	30	28	14	15	33	29	32	21	12	....	25.8
Dunseith	Maximum...	56	46	40	42	45	42	33	31	33	37	34	35	42	40	43	48	48	39	35	21	38	45	38	24	38	44	40	47	38	10	....	38.4
	Minimum ...	23	34	31	32	38	30	28	25	27	31	27	25	13	15	17	22	25	27	13	14	14	21	18	13	12	26	31	27	6	4	....	22.3
Edgeley	Maximum...	52	55	44	48	52	46	35	34	39	43	41	32	30	31	40	47	52	40	39	30	39	52	48	32	33	45	41	45	37	23	....	40.8
	Minimum ...	22	31	38	38	42	33	31	30	31	37	31	30	26	26	20	26	32	29	21	20	14	25	26	13	12	26	31	29	20	12	....	26.7
Ellendale	Maximum...	51	59	44	53	53	39	35	33	41	43	40	33	30	32	34	34	44	41	28	29	42	50	36	27	36	46	40	44	35	25	....	39.2
	Minimum ...	22	33	39	39	35	34	33	31	33	40	32	30	29	25	19	14	21	28	22	21	16	26	20	15	14	32	30	31	20	11	....	26.5
Fessenden §§	Maximum...	51	41	42	48	42	34	33	34	37	41	32	31	32	40	50	56	49	41	23	35	45	47	32	28	38	44	40	48	18	16	....	38.3
	Minimum ...	23	25	31	33	37	31	29	26	29	32	29	27	25	24	22	26	26	29	16	16	11	15	23	9	10	16	31	29	15	11	....	23.5
Foxholm	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Fullerton	Maximum...	51	53	44	52	53	47	36	34	40	43	42	33	32	32	34	34	42	39	38	29	40	48	39	26	31	43	41	43	39	25	....	39.4
	Minimum ...	21	33	41	40	44	35	33	32	32	39	32	31	28	26	21	16	24	30	23	21	17	26	28	15	16	27	33	28	21	14	....	27.6
Garrison	Maximum...	47	48	42	42	41	38	32	38	34	34	32	32	31	42	47	57	52	44	37	37	46	48	41	33	45	41	44	49	37	19	....	40.3
	Minimum ...	31	38	34	33	32	30	29	28	30	31	24	25	23	20	20	27	30	33	14	17	17	28	22	10	11	29	30	29	17	11	....	25.1
Grafton	Maximum...	54	51	43	46	53	53	45	37	40	44	43	37	36	41	39	43	48	41	40	26	33	43	37	24	32	39	37	43	40	21	....	40.3
	Minimum ...	23	38	38	38	43	40	34	30	31	36	33	28	21	28	37	22	30	36	21	16	21	25	20	13	16	22	25	24	10	10	....	27.0
Grand Forks	Maximum...	56	47	47	50	55	47	38	37	41	43	40	40	37	36	38	46	48	43	33	26	33	48	27	20	34	38	34	34	36	25	....	39.2
	Minimum ...	25	40	31	41	42	38	34	32	32	38	35	28	27	30	27	24	31	33	19	19	24	22	16	14	17	23	25	24	14	4	....	27.1
Granville	Maximum...	50	42	45	43	47	35	33	33	35	35	33	35	35	39	45	65	55	53	25	30	45	45	49	30	43	49	40	50	35	15	....	40.5
	Minimum ...	25	33	34	34	33	33	30	30	29	31	32	28	20	28	23	38	30	38	15	15	13	24	15	9	15	29	30	30	15	0	....	25.3
Hansboro	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Hettinger	Maximum...	49	49	40	40	60	40	33	34	40	33	32	28	27	32	44	51	45	40	22	35	39	42	39	34	42	47	50	46	38	35	....	39.5
	Minimum ...	28	33	33	35	37	25	17	27	29	25	20	20	23	20	18	28	29	19	13	13	19	24	25	14	14	32	32	30	27	28	....	24.6
Hillsboro	Maximum...	49	47	43	47	50	45	41	33	37	41	41	34	33	31	34	44	51	..	..	..	30	..	..	22	29	37	35	39	36	28	....	[e]38.3
	Minimum ...	20	41	38	39	45	36	32	30	31	35	33	32	28	29	26	30	32	..	..	..	21	..	..	13	15	23	25	24	15	12	....	[e]28.3
Howard	Maximum...	32	32	33	33	33	32	33	34	34	33	31	32	32	40	44	51	56	37	20	38	45	50	33	45	42	45	44	35	25	12	....	36.3
	Minimum ...	28	27	26	27	28	29	28	29	28	28	8	10	12	28	28	30	31	20	10	10	21	28	19	15	21	25	24	15	2	−8	....	20.9
Jamestown §§	Maximum...	51	44	51	50	54	48	34	40	43	33	32	34	35	40	47	53	40	36	32	43	50	33	29	35	45	41	41	31	28	20	....	39.9
	Minimum ...	24	24	33	38	30	32	33	31	30	31	29	28	29	28	26	24	24	32	24	15	17	16	29	14	14	15	33	28	29	14	....	25.5
Lamoine	Maximum...	50	43	38	38	40	42	40	32	34	38	38	30	32	36	39	49	47	42	38	32	42	48	36	27	38	44	40	46	20	16	....	37.8
	Minimum ...	22	30	32	34	36	30	32	27	28	34	25	24	22	24	19	25	28	30	15	16	13	27	20	9	13	30	28	20	16	9	....	23.9
Langdon§§	Maximum...	54	50	45	47	48	42	30	32	36	35	33	32	36	39	40	38	53	49	28	24	33	40	18	21	33	36	32	32	26	14	....	35.9
	Minimum ...	29	31	32	35	35	37	30	28	30	33	30	28	18	26	20	21	27	30	11	12	14	15	17	8	16	19	30	24	6	5	....	23.2
Larimore §§	Maximum...	55	45	45	46	50	46	42	36	38	42	34	32	30	39	38	40	45	35	25	25	35	45	28	23	35	40	39	42	25	21	....	37.4
	Minimum ...	22	40	33	35	45	36	32	30	33	35	27	25	24	29	25	20	29	25	29	17	20	25	20	11	20	25	30	25	10	11	....	26.0
Linton	Maximum...	51	49	44	50	48	40	36	34	42	42	41	31	30	35	42	46	50	43	35	33	42	45	35	27	42	43	41	47	38	25	....	40.2
	Minimum ...	25	27	38	39	40	18	32	30	33	33	26	27	27	22	14	12	21	32	11	15	12	26	25	9	9	28	33	30	25	15	....	21.5
Lisbon §§	Maximum...	46	44	49	45	55	44	42	39	50	46	42	44	38	39	44	42	53	49	28	42	38	42	32	38	42	38	39	36	34	24	....	41.2
	Minimum ...	23	39	38	39	39	35	34	32	32	29	26	30	29	32	17	23	26	33	16	12	16	26	29	13	21	18	13	16	21	18	....	25.8
McKinney	Maximum...	49	45	40	40	35	35	34	33	33	35	30	35	34	35	40	50	50	39	28	28	40	45	39	30	42	45	42	43	35	18	....	37.5
	Minimum ...	26	32	32	32	33	32	30	28	30	30	28	26	16	18	25	20	26	25	13	16	16	27	22	8	12	28	30	28	15	2	....	23.5
Maddock	Maximum...	51	49	41	43	50	48	33	33	35	41	41	34	36	41	47	54	48	44	38	30	41	39	38	30	36	41	40	45	41	15	....	40.1
	Minimum ...	25	30	34	35	42	32	31	29	30	34	30	29	25	29	23	24	30	36	18	18	12	29	22	12	17	26	32	31	14	10	....	26.3
Melville	Maximum...	44	48	40	45	..	48	34	34	35	45	45	..	30	35	35	44	48	42	38	28	36	35	35	25	30	38	32	38	40	15	....	[b]37.2
	Minimum ...	27	28	35	35	..	32	31	28	31	35	30	..	25	25	25	28	32	36	18	18	12	29	24	12	15	28	30	31	15	10	....	[b]25.9
Minot §§	Maximum...	50	45	39	41	40	37	33	34	35	34	33	32	33	38	45	52	33	42	23	30	45	56	37	33	45	50	45	50	33	23	....	38.7
	Minimum ...	21	30	27	29	28	25	25	23	25	24	25	24	15	14	17	17	21	20	9	10	7	22	15	2	8	25	26	23	13	−2	....	18.9
Mott	Maximum...	48	45	35	36	37	30	31	34	34	36	27	28	27	28	35	36	33	39	22	33	36	38	36	36	40	45	40	38	26	23	....	34.4
	Minimum ...	30	28	33	33	30	28	27	31	29	29	24	25	20	16	22	24	17	22	8	13	21	23	20	18	22	25	23	20	17	6	....	22.8
Napoleon §§	Maximum...	55	57	44	50	50	35	33	31	37	38	31	30	24	33	40	43	54	42	27	31	38	48	32	30	37	45	38	45	27	18	....	38.2
	Minimum ...	22	24	30	35	37	30	28	25	26	30	28	24	24	20	12	22	25	27	9	9	15	19	22	8	12	15	33	28	24	15	....	22.6
New Salem	Maximum...	49	47	38	42	44	32	34	36	35	34	32	32	28	35	39	45	38	35	29	34	49	48	38	31	44	48	48	47	33	23	....	38.2
	Minimum ...	23	25	31	36	30	30	28	29	30	29	21	23	22	20	22	32	30	28	13	24	21	22	22	10	14	31	29	28	21	11	....	24.5
Pembina §§	Maximum...	56	58	56	51	52	53	48	36	40	40	38	36	39	38	42	48	56	40	26	22	30	42	25	20	34	36	32	40	20	15	....	39.0
	Minimum ...	24	30	26	32	36	40	36	27	29	30	32	29	12	13	29	24	21	30	24	16	17	19	21	15	10	11	20	22	12	10	....	23.3
Steele	Maximum...	51	45	47	44	49	32	31	35	37	40	29	26	25	35	36	46	53	39	24	20	29	47	30	26	24	40	37	34	20	15	....	34.9
	Minimum ...	29	31	30	37	41	30	29	27	29	31	16	21	21	20	13	18	21	24	14	12	18	29	24	8	8	29	26	22	7	7	....	22.8
Towner	Maximum...	64	40	40	45	45	42	33	32	34	37	34	42	45	48	45	54	49	39	29	36	33	34	32	36	40	43	36	45	36	17	....	39.5
	Minimum ...	28	30	27	32	40	31	31	30	30	33	29	29	36	32	31	24	29	29	15	15	20	20	12	27	18	25	30	30	13	8	....	26.2
Valley City	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Wahpeton	Maximum...	49	50	50	56	55	46	38	40	42	45	42	38	37	35	35	46	53	56	42	38	37	47	40	34	34	41	37	45	44	35	....	42.9
	Minimum ...	41	45	42	42	45	32	35	32	35	40	36	34	32	30	27	26	31	42	26	22	20	26	28	15	14	22	27	25	23	22	....	30.6
Walhalla	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Westhope	Maximum...	46	42	46	48	48	44	42	40	41	42	36	37	37	42	44	48	46	44	42	42	42	33	32	40	38	46	43	36	36	36	....	41.3
	Minimum ...	26	24	28	28	26	24	20	20	22	25	30	30	17	17	20	22	27	18	17	11	10	7	12	14	14	34	30	18	11	18	....	20.7
Williston	Maximum...	45	37	38	43	40	34	33	33	34	32	30	32	32	41	47	53	52	39	24	38	45	51	37	37	51	52	48	44	28	17	....	38.9
	Minimum ...	32	33	27	37	31	31	30	29	31	27	23	22	15	20	27	33	34	14	14	20	22	29	19	18	19	32	31	28	17	1	....	24.9
Moorhead, Minn	Maximum...	49	48	45	53	53	42	38	36	40	44	42	37	35	34	35	43	50	42	34	27	33	46	36	22	31	40	36	44	36	33	....	39.5
	Minimum ...	38	43	40	41	42	36	34	32	33	39	35	31	31	30	27	26	32	33	21	20	25	27	16	13	18	26	26	25	19	9	....	28.9

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXI. BISMARCK, N. D., DECEMBER, 1922. No. 12

GENERAL SUMMARY.

The month opened with moderate temperature, but this condition was followed by decidedly colder weather on the 4th, and continued until the 19th. Snow was general from the 4th to the 7th, inclusive, and scattered snows continued until the 11th. Snow was also general on the 19th. From the 20th to the 30th mild temperature prevailed, with general snows on the 29th and 30th. There was a drop in temperature on the 31st. Livestock ranged on harvested fields and on ranges, except from the 4th to the 19th, when much yard feeding was necessitated. During this period both rail and auto traffic was greatly delayed. Only the main auto trails were open after the 7th. Marketing of grain by sleds, and caring for livestock, constituted the main portion of outdoor work. The snow covering at the close of the month was generally ample for winter rye, which was in good condition.

TEMPERATURE.

The mean temperature for the State was 8.5°, or 4.5° below the normal, and 8.0° lower than the mean for December, 1921. The highest mean reported was 15.8° at Amidon, Slope County; the lowest was 0.8° at Bottineau, Bottineau County. The highest temperature reported was 55° at Energy, McLean County, on the 27th; the lowest was -34° at Bottineau, Bottineau County, on the 9th, and at Howard, Williams County, on the 11th. The greatest monthly range of temperature was 81° at Energy, McLean County; the least was 56° at Melville, Foster County. The greatest daily range was 58° at Dickinson, Stark County, on the 18th.

PRECIPITATION.

The average precipitation for the State was 0.67 inch, or 0.13 inch above the normal, and 0.26 inch more than the average for December, 1921. The greatest monthly amount reported was 2.43 inches at Walhalla, Pembina County; there was none at Wahpeton, Richland County, and only a trace at Napoleon, Logan County, and at Westhope, Bottineau County. The greatest amount recorded in any 24 consecutive hours was .00 inch at Bowbells, Burke County, on the 20th. The average number of days with 0.01 inch or more of precipitation was 5. The average depth of snowfall was 7.4 inches. Twenty-nine inches of snow fell at Walhalla, Pembina County.

AURORAS.

Auroras were observed at Pettibone on the 10th; at Grand Forks on the 19th, and at Williston on the 25th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.12	30.61	5	29.58	29	57	6,006	8.1	35	nw.	11
Devils Lake	30.05	30.58	6	29.34	25	44	7,777	10.5	36	nw.	25
Ellendale	30.07	30.60	17	29.40	30	56	10,318	13.9	53	nw.	11
Grand Forks	30.05	30.55	5†	29.33	25	90	....	......	40	nw.	25†
Williston	30.07	30.59	11	29.45	24	48	5,842	7.9	32	w.	25
Moorhead, Minn	30.07	30.62	17	29.39	30	58	6,247	8.4	32	nw.	4
Av'ges and extremes	......	......	....	......	....	.....	....	......	....	......	....

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	147.6	265.8	55	+ 6	87	71	84	44	2
Devils Lake	98.4	262.1	38	− 7	89	87	90	66	2†
Ellendale	155.5	269.6	58	......	88	84	....	59	2
Grand Forks	......	......	......	......	89	......	90	......	....
Williston	157.3	262.1	60	+17	89	78	83	62	26
Moorhead, Minn	......	......	......	......	90	81	87	....	....
Averages and extremes	......	......	......	......	....	......	...	......	...

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	uw.
1899	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921	16.5	+3.5	59	33	0.41	−0.13	4	14	7	10	nw.
1922	8.5	−4.5	55	−34	0.67	+0.13	5	11	8	12	nw.

Climatological Data for December, 1922.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	7.5	−5.2	38	24†	−23	17	54	1.08	+0.57	0.30	14.0	5	12	13	6	n.	E. T. Carley.
Amidon	Slope		9	15.8		47	24	−23	12	36	0.08		0.05	0.3	2	18	7	6	w.	Charles Eastgate.
Arnegard	McKenzie		8	10.0		41	24†	−23	17	39	0.45		0.20	4.5	5	14	6	11	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	10.6	−2.9	40	27	−21	9†	32	0.10	−0.41	0.10	1.0	1	18	6	7	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	9.2	−7.3	43	23†	−23	12	31	0.55	+0.04	0.19		4					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	10.7	−5.0	48	25	−27	9	42	0.70	+0.30	0.70	7.0	1	21	4	6	w.	C. L. Hall.
Bismarck	Burleigh	1,674	48	13.0	−1.7	45	24	−21	9	41	0.94	+0.32	0.67	12.9	6	6	17	8	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	0.8	−5.9	30	25	−34	9	31	0.58	+0.09	0.30		5	15	2	14	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	4.0	−6.7	44	24	−26	17	48	1.00	+0.56	1.00		1	18	0	13		G. H. Phelps.
Bowman	Bowman	2,961	9	10.6		48	28	−26	17	36	0.09		0.05	1.0	3	10	9	12	nw.	R. Love, Jr.
Cando	Towner	1,488	22	5.0^{a}	−2.2	39^{a}	25	−25^{a}	12†	29^{a}	0.79	+0.43	0.23		5	13	1	17	w.	A. J. Swanson.
Carson	Grant	2,500	11	12.2	−3.8	45	24†	−23	17	42	0.84	+0.30	0.64	10.5	5	13	14	4	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17								0.20	−0.37	0.10	2.0	2	9	9	13	nw.	S. Friswold.
Crosby	Divide	1,954	16	4.4	−7.9	42	25	−30	17	39	0.42	−0.09	0.15	3.8	6	11	12	8	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	6.0	−2.0	41	25	−24	17	42	0.87	+0.48	0.25	13.4	10	8	6	17	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	10.8	−6.5	44	19†	−26	17	58	0.58	+0.16	0.26		7	16	7	8	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	7.2	−5.0	45	25	−23	17	43	0.90	+0.42	0.36	5.0	4	9	12	10	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	10.2^{a}	−10.3	43^{a}	28	−30^{a}	9	39^{a}	0.74	+0.18	0.31	9.0	4	14	5	12	w.	W. H. Moede.
Dunseith	Rolette	1,682	27								0.96	+0.55	0.24	9.5	8	10	6	15	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	18	5.2	−4.4	45	25	−31	17†	45	0.80	+0.18	0.40	8.0	4	15	7	9	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	11.6	−4.9	41	23†	−17	12†	44	0.15	−0.24	0.09		2	4	14	13	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	12.2	−4.6	43	25	−20	18	39	0.34	+0.01	0.19	3.5	4	8	6	17	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	10.2		55	27	−29	9	49	1.44	+1.09	0.65	13.5	5	14	12	5	w.	H. S. Solenberger.
Epping	Williams	2,224	15	5.6		41	25†	−30	9†	40	0.49	+0.06	0.23	5.0	4	16	7	8	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	7.7	−4.5	42	2	−25	5†	43	1.37	+0.64	0.60	12.2	8	11	5	15	nw.	T. D. Monsen.
Forman	Sargent	1,249	29								0.54	0.00	0.27	6.0	3	9	9	13	sw.	O. Enger.
Foxholm	Ward	1,657	2	8.2		40	25	−22	12†	31	0.79		0.23	7.0	7	10	9	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								0.36		0.16	4.0	3	18	7	6	nw.	Verne King.
Fullerton	Dickey	1,439	25	12.6	−1.1	41	25	−18	18	42	1.03	+0.19	0.40	10.3	5	8	9	14	nw.	F. O. Alin.
Garrison	McLean	1,901	28	9.4	−4.2	42	25	−28	9	45	0.59	+0.02	0.38	7.0	3	11	10	10	nw.	G. L. Robinson.
Grafton	Walsh	827	31	4.8	−2.9	41	25	−24	18	30	1.14	+0.60	0.35		8	11	2	18	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	6.2	−4.4	39	25	−22	9†	31	1.01	+0.38	0.42	10.1	8	10	6	15	w.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	8.2	−4.2	43	28	−25	12†	38	0.46	−0.09	0.09	1.1	11	12	4	15	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29								2.00	+1.37	0.54	20.0	6					J. Moffatt.
Hansboro	Towner	1,597	15																	C. E. Blackorby.
Hettinger	Adams	2,675	16	15.4^{a}	−0.4	49^{a}	28	−25^{a}	17	42^{a}	0.69	+0.35	0.22	6.5	4				nw.	U. J. Downey.
Hillsboro	Traill	901	17	6.3^{c}	−6.3	38^{c}	25	−24^{c}	17	31^{c}	0.55	−0.35	0.20	5.5	4				sw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	4.2	−7.6	40	24†	−34	11	40	0.48	−0.35	0.20	5.6	3	14	8	9	sw.	C. P. Amsbaugh.
Jamestown ††	Stutsman	1,390	31	10.6	−3.0	42	24	−19	18	47	0.32	−0.43	0.14	4.2	4	17	5	9	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	8.1	−3.1	41	2	25	17	43	0.55	+0.05	0.18	6.0	5	18	3	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	2.0	−5.3	32	21	−28	17	37	0.53	−0.20	0.20	8.0	6	12	12	7	sw.	R. T. Burke.
Larimore ††	Grand Forks	1,134	29	6.0	−4.8	40	24	−24	17	33	0.73	+0.19	0.30	9.5	6	8	4	19	w.	Reuben Gray.
Linton	Emmons	1,711	5	12.0		45	21†	−27	17	53	0.34		0.18	4.0	3	17	5	9	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	11.9	−2.2	45	24	−20	16†	50	0.32	−0.09	0.16	4.0	3	13	5	13	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	8.2		41	2	−26	17	41	0.85		0.30	12.5	5	8	10	13	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	7.5^{d}	−2.2	40^{h}	23	−24	17	41^{h}	0.53	−0.39	0.19	8.5	4	16	0	15	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	5.4	−5.3	45	24	−24	14†	43	0.60	+0.16	0.24	7.5	4	9	14	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	10.8	−3.5	40	24	−21	17	26	0.70	+0.25	0.26	2.5	5	15	3	13	w.	J. G. Carlson.
Maddock	Benson	1,604	8	6.8		40	25	−27	9	43	0.34		0.17		4	8	10	13	nw.	A. T. Felland.
Mandan	Morton	1,644	9	10.8		44	25	−22	9	57	0.82		0.50	17.0	8	16	4	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	9.5	−1.8	40	2	−25	9†	44	0.80	+0.04	0.30	7.0	7	9	6	16	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	16.6	−1.1	53	28	−35	17	52	0.20	−0.14								E. C. Nicoum.
Mayville	Traill	975	27	7.2	−5.9	40	25	−20	12†	32	0.92	+0.34	0.32	6.0	4	13	5	13	nw.	M. G. Sateren.
Melville	Foster	1,590	25	8.4	−3.4	35	2†	−21	17	28	0.30	−0.16	0.30	3.0	1	12	4	15	nw.	J. P. Kidder.
Minot	Ward	1,557	27	4.8	−7.6	44	25†	−32	9	47	1.33	+0.82	0.30	13.0	7	8	8	15	e.	W. I. Faris.
Minto	Walsh	820	30	4.9	−6.0	40	25	−25	17	30	1.18	+0.70	0.43		8	8	19	13	nw.	C. M. Evans.
Mott	Hettinger	2,424	16	9.8	−4.3	43	28	−26	17	33	0.22	−0.36	0.09	2.3	5	11	10	10	w.	O. H. Opland.
Napoleon	Logan	1,955	31	7.0	−5.4	40	24†	−30	17	43	T.	−0.48	T.	T.	0	16	2	13	sw.	C. J. Hoof.
New England	Hettinger	2,400	29	11.6	−0.8	46	29	−25	17	35	0.68	+0.27	0.20	5.7	7	8	11	12	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	12.4	−2.5	45	26	−20	17	45	1.14	+0.61	0.70	10.0	7	14	11	6	nw.	J. Christiansen.
Park River	Walsh	998	19	4.7^{a}	−6.4	40^{a}	26	−24^{a}	17	32^{a}	0.31	−0.22	0.13	7.0	4	6	6	19	nw.	C. B. Wright.
Parshall	Mountrail		8								0.80		0.48	10.0	2					J. A. Johnson.
Pembina	Pembina	789	49	4.0	−2.0	38	24	−28	18†	52	1.28	+0.52	0.32	16.0	7	9	7	15	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	8.2	−2.2	40	2	−30	17	32	0.85	+0.17	0.30	10.5	8	10	8	13	nw.	S. C. Shanks.
Power	Richland	1,020	29																	J. A. Power.
Powers Lake	Burke	2,205	9								0.70	+0.07	0.25	7.0	4	1	12	18	nw.	C. Frank.
Richardton	Stark	2,467	7	10.8		41	24†	−22	12	30	0.77		0.30	7.7	6	15	9	7	sw.	Geo. Keim.
Skaar	McKenzie		3								0.25		0.25	3.0	1					Conrad Brunsvold.
Steele	Kidder	1,857	27	5.0	−8.6	41	28	−32	17	49	0.44	−0.09	0.30	5.8	3	5	18	8	nw.	H. S. Wood.
Towner	McHenry	1,482	21	4.9	−5.1	42	22	−28	9†	33	0.40	−0.01	0.20	4.0	2	9	10	12	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	8.4		41	25	−28	9	47	0.96		0.43	11.5	5	4	15	12	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	8.4	−5.3	36	25	−24	17	37	0.15	−0.40	0.08	1.8	3	8	12	11	nw.	H. Twito.
Wahpeton	Richland	962	29	14.2	−0.5	40	25	−17	17	36	0.00	−0.45	0.00	0.0	0	11	0	20	nw.	C. G. Luick.
Walhalla	Pembina	966	19	6.8	−2.7	45	25	−23	17	31	2.43	+1.37		29.0	7	10	2	19	nw.	Wm. Campbell.
Westhope	Bottineau	1,508	17	6.9	−2.1	40	25	−28	18	46	T.	−0.37	T.	T.	0	3	16	12	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	8.0	−5.6	43	28	−26	17	35	0.74	+0.08	0.20	10.3	11	10	4	17	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	5.0	−3.5	53	27	−33	9	40	0.86	+0.32	0.25	12.0	5	8	9	14	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	9.4	−1.3	41	25	−18	18	37	0.60	−0.14	0.23	6.5	9	4	9	18	s.	U. S. Weather Bureau.
Averages				8.5	−4.5	55	27	−34	11	58	0.67	+0.13	1.00	7.4	5	11	8	12	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for December, 1922.

Stations.	Drainage Basin.	Day of Month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ||	Red	.30			T.	.24	.08	.16				T.			T.		T.					T.										.30	1.08
Amidon	Lit. Missouri			T.			.03																							.05	T.		0.08
Arnegard	Missouri				.20		.05	.05																						.10		.05	0.45
Ashley	Missouri																													.10			0.10
Beach	Lit. Missouri		T.	T.	T.	.10	.18																						.19	.08			0.55
Berthold Agency	Missouri																													.70			0.70
Bismarck ***	Missouri				.08		.03	.08		T.		T.			T.					.08				T.						.18	.49		0.94
Bottineau	Mouse							.06				.07								.08						.07					.30		0.58
Bowbells ||	Mouse																				1.00												1.00
Bowman	Grand					.01									.05															.03			0.09
Cando	Devils Lake	.11			.23			.13				.13								.19													0.79
Carson	Heart				.08		.05	.08							.02																.61		0.84
Cooperstown	Sheyenne				T.		.10	.10			T.									T.	T.												0.20
Crosby	Mouse		.05	.10			.15			T.	T.									.05				.05	T.					.02			0.42
Devils Lake ***	Devils Lake			T.	.20		.16	.14			.01	.02								.10	.02		T.			T.	T.			.03	.18	.01	0.87
Dickinson ||	Heart	T.			.12		.02	.07	.03						T.					.05										.03	.26		0.58
Donnybrook	Mouse			T.			.15	.36												.21										.18		T.	0.90
Dunn Center ||	Knife				T.		.31	.17												.06									.20				0.74
Dunseith	Mouse							.04			.08	.06								.20	.06			.20							.24	.08	0.96
Eckman	Mouse											.20								.10					T.	T.				.10	.40		0.80
Edgeley	James							.09																							.06		0.15
Ellendale***	James				T.		.03	.07		T.		T.			.05					T.											.19	T.	0.34
Energy	Missouri				.15		.32	.08			T.	T.								.21											.68		1.44
Epping	Missouri			T.	.06		T.	.12												.23					T.					T.	.08		0.49
Fessenden	James	.07			.11		.04	.14	.05			T.								T.	.15				T.						.60	.21	1.37
Forman	Sheyenne						.18	.27																							.09		0.54
Foxholm	Mouse				.09		.08	.23		T.	T.	T.								.10					.13	T.				.09	.07		0.79
Fryburg	Heart					.10	.16																								.10		0.36
Fullerton	James			T.	T.		T.	.18				.40			.08					.07											.30	T.	1.03
Garrison	Missouri							.38												.18										.03			0.59
Grafton	Red				.35			.15	.04		.03	.14								.12											.20	.11	1.14
Grand Forks ***	Red				.29		.08	.02		T.	.01	.03								.13	.03		T.		T.	T.	T.				.42	T.	1.01
Granville	Mouse				.01			.01		T.		.01								.01			.04	.06	.07	.08	.06			.09	.02		0.46
Hannah	Pembina	.40						.24									.32								.34		.16				.54		2.00
Hansboro	Devils Lake																																......
Hettinger	Grand					.22	.05	.22							.20																		0.69
Hillsboro	Red				.20			.10																							.20	.05	0.55
Howard	Missouri				.18			.20		T.	T.	T.								.10			T.	T.						T.			0.48
Jamestown	James	.14						.10																		.03					.05		0.32
Lamoine	Missouri				T.		*	.18												.18				.01	T.	T.					.18		0.55
Langdon	Pembina	.20						T.			.14	.07									.07			.02			T.					.03	0.53
Larimore	Red																																......
Linton	Missouri						T.	.08		T.		T.			.08																.18		0.34
Lisbon ||	Sheyenne				T.	T.		.16	T.			.08	T.						T.												.08		0.32
McClusky	Missouri				.15		.20	.15												.05					T.							.30	0.85
McHenry	James						.15	T.				.19								.18					.01							T.	0.53
McKinney	Mouse				.24		T.	.08			T.									.08											.20		0.60
McLeod	Sheyenne				.19			.26					.13		.08																.04		0.70
Maddock	Sheyenne				.05			.11		T.	.01																				.17		0.34
Mandan ||	Missouri				.07		.02	.08	.04						.04					.04											.50	.03	0.82
Manfred	James				.10		.10	.10		T.						T.				.05					.10					T.	.30	.05	0.80
Marmarth	Lit. Missouri																											*	*	*	*	*	0.20
Mayville	Red					.20		.32													.20										.20		0.92
Medora	Lit. Missouri																																......
Melville	James						.30																			T.							0.30
Minot	Mouse				.20		.30	.20												.20			.03							.10	.30		1.33
Minto	Red				.43		.02	.13			.01	.18								.12	.04				T.						.25		1.18
Mott	Cannon Ball				.02		.03	.05							.03		T.														.09		0.22
Napoleon ||	Missouri																															T.	T.
New England	Cannon Ball				.18	.02	.08			T.	T.	T.			.08															.20	*	.12	0.68
New Salem	Heart					.02	.10	.15		T.					.04					.03										.10	.70		1.14
Park River	Red				.04			.13												.06						.08							0.31
Parshall	Missouri																			.32										.48			0.80
Pembina ||	Red				.16	.24			.16			.32	.16						.08		.16												1.28
Pettibone	James	.20	.08		.30		T.	.05							.05					.05					.04						.08		0.85
Power	Sheyenne																																......
Powers Lake	Missouri	T.	.25	.10	.10	T.			T.	T.						T.			T.						T.	T.					.25	T.	0.70
Richardton	Heart				.20		.10	.10							.04					.03											.30		0.77
Skaar	Yellowstone																			T.				T.						T.	.25		0.25
Steele	Missouri			T.	T.		T.	.12	T.	T.		T.			.02					T.	T.		T.		T.					T.	.30	T.	0.44
Towner	Mouse					.20		.20																		T.							0.40
Turtle Lake	Missouri	.06			.10		.43	.07	T.	T.	T.	T.								T.				T.		T.					.30	T.	0.96
Valley City	Sheyenne				T.		T.	.08				T.								.03											.04	T.	0.15
Wahpeton	Red																																0.00
Walhalla	Pembina			*	1.00			.08			T.	.50								.30	T.				.04	.01					.50		2.43
Westhope	Mouse			T.				T.																									T.
Williston ***	Missouri			.16	.04	.01	.07	.09		T.	.06	.02				T.			.06	.09				T.	T.					.07	.07		0.74
Willow City	Mouse				.20		T.	.20				.14								.07											.25		0.86
Moorhead, Minn ***	Red			T.	.16		.05	.06				.05			.03					.01	.01		T.	T.	T.		T.				.21	.02	0.60

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1922.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum...	33	22	32	20	22	12	5	7	10	6	-3	-4	1	14	15	0	-4	-2	0	34	36	30	36	38	37	36	30	38	29	24	25	18.
	Minimum ...	1	-1	9	13	-12	-10	-16	-19	-20	-19	-14	-19	-18	-12	-13	-18	-23	-20	-17	-20	2	12	13	18	28	12	17	20	13	7	-8	-3.
Arnegard	Maximum...	28	33	24	10	-1	0	0	16	-1	-4	-4	-5	-10	-4	7	-2	-15	6	34	36	36	40	37	41	41	38	40	43	33	32	27	17.
	Minimum ...	5	18	10	-8	-10	-5	-14	-1	-20	-16	-18	-22	-20	-16	-8	-19	-23	-6	-5	5	25	26	24	24	28	30	24	25	17	16	0	2.
Ashley	Maximum...	20	31	25	21	5	8	1	0	9	24	11	-3	0	2	11	10	0	2	30	20	38	38	38	35	38	30	40	33	32	30	28	19.
	Minimum ...	-4	10	3	-1	-12	1	-5	-17	-21	-5	-12	-19	-15	-17	-12	-10	-21	-16	-2	-5	18	28	23	28	26	23	20	23	25	15	0	1.
Beach	Maximum...	32	31	33	24	12	3	0	0	15	11	-1	-3	-4	-1	8	5	2	15	37	36	40	38	43	43	39	40	40	42	38	36	20	21.
	Minimum ...	24	14	12	-3	-9	-4	-18	-20	-15	-3	-22	-23	-18	-10	-8	-17	-17	-11	6	10	20	27	26	25	22	21	29	29	19	15	5	-3.
Berthold Agency	Maximum...	18	40	28	33	9	6	2	2	4	5	3	-3	-4	3	10	0	-4	0	35	38	40	38	40	47	48	45	37	43	35	26	20	20.
	Minimum ...	2	15	16	9	-16	-5	-9	-16	-27	-10	-11	-18	-20	-15	-10	-13	-26	-25	-7	-2	25	7	8	28	28	30	26	25	24	18	-11	0.
Bismarck	Maximum...	30	44	28	23	6	7	4	8	12	11	3	2	-2	6	15	-2	2	3	40	37	39	39	42	45	45	41	39	40	37	25	16	22.
	Minimum ...	8	21	16	-6	-7	1	-14	-11	-21	1	-14	-18	-14	-8	-6	-15	-17	-20	-1	-1	27	23	22	33	26	26	24	28	25	16	-4	3.
Bottineau §§	Maximum...	10	25	20	10	10	-1	-7	-5	-10	-3	-5	5	-8	-5	0	-1	-4	-5	3	10	25	23	24	23	30	21	20	25	24	23	18	9.
	Minimum ...	-14	-2	11	-4	-21	-20	-17	-25	-34	-10	-12	-30	-28	-32	-15	-28	-33	-32	-21	-15	10	15	15	20	15	11	10	17	13	12	6	-7.
Bowbells §§	Maximum...	31	25	20	2	-4	-1	-1	-1	4	-7	-11	-11	-9	1	12	-12	-11	9	11	37	37	31	37	44	26	33	23	34	25	11	4	12.
	Minimum ...	-10	15	9	-8	-17	-18	-9	-17	-22	-14	-18	-24	-23	-22	-12	-21	-26	-23	-21	-11	7	23	18	26	16	13	14	17	18	14	-9	4.
Bowman	Maximum...	32	38	40	22	10	6	6	4	14	23	2	4	18	0	13	4	4	20	40	38	39	38	42	46	35	40	43	48	38	22	20	24.
	Minimum ...	8	18	12	-6	-6	-3	-12	-18	-10	-1	-18	-22	-18	-10	-12	-20	-26	-15	6	12	22	28	22	24	24	20	27	26	22	12	3	-2.
Cando	Maximum...	15	34	30	22	4	4	3	0	-2	5	-1	-6	8	-3	9	6	-10	-5	5	18	32	28	30	....	39	24	27	32	31	26	15	[a]13.
	Minimum ...	-6	7	14	-3	-18	-13	-6	-17	-24	-5	-10	-25	-20	-22	-9	-23	-25	-23	-17	-11	13	20	16	....	18	10	16	18	16	13	10	[a]3.
Carson	Maximum...	30	40	30	20	10	5	2	4	10	15	5	0	0	3	15	5	10	10	35	15	40	40	44	45	44	42	44	45	38	28	16	22.
	Minimum ...	4	20	15	-3	-10	-3	-14	-18	-14	0	-18	-20	-20	-10	-10	-20	-23	-17	-7	0	10	28	26	25	28	24	28	30	22	14	-1	2.
Crosby	Maximum...	18	29	24	8	-3	-1	-1	-1	-2	-4	-5	-8	-10	-8	0	-8	-13	-10	23	35	36	34	35	37	42	31	31	36	21	22	8	12.
	Minimum ...	-8	6	8	-8	-17	-14	8	-19	-27	-13	-18	-26	-27	-22	-13	-18	-30	-26	-12	4	15	21	18	22	28	22	14	22	15	11	-12	-3.
Devils Lake	Maximum...	16	39	24	10	6	1	-1	-1	6	10	-2	-11	-6	-1	10	-10	-8	-6	10	33	34	31	33	37	41	27	25	32	26	23	14	14.
	Minimum ...	-3	9	10	-11	-15	-10	-16	-17	-21	-2	-14	-23	-17	-18	-13	-20	-24	-17	-13	-9	23	21	21	22	13	13	14	19	19	12	3	-2.
Dickinson §§	Maximum...	29	34	31	4	2	1	2	2	13	8	-12	-3	-3	2	12	-6	1	35	44	34	37	38	40	44	34	41	43	42	37	18	21	20.
	Minimum ...	0	18	12	-4	-11	-3	-4	-21	-19	-8	-13	-24	22	-12	-11	-10	-26	-23	7	-2	11	26	23	22	25	22	21	25	27	15	0	1.
Donnybrook	Maximum...	24	35	28	12	0	1	0	-1	-2	-1	-4	-2	-3	-2	10	2	-4	0	25	30	38	39	37	39	45	32	40	39	24	24	15	16.
	Minimum ...	-3	13	12	-7	-14	-20	-6	-15	-22	-7	-18	-23	-18	-18	-7	-15	-23	-20	-18	-8	3	20	21	30	18	17	19	20	8	10	-4	-2.
Dunn Center §§	Maximum...	33	37	31	25	5	4	0	-2	6	2	1	15	-8	1	10	7	-5	3	36	38	40	40	37	40	41	38	37	43	....	29	16	[a]19.
	Minimum ...	2	14	15	-3	-14	-3	-15	-21	-30	-11	-15	-21	-19	-12	-8	-11	-23	-22	-4	-1	28	29	23	26	31	22	24	22	....	16	-2	[a]0.
Dunseith	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Edgeley	Maximum...	19	36	30	22	7	7	3	3	2	16	12	0	1	5	11	11	0	4	34	29	37	36	41	37	41	30	37	35	33	31	18	20.
	Minimum ...	0	8	8	0	-8	1	-2	12	-15	2	-10	-17	-14	-5	-7	-16	-17	-16	-10	-5	12	19	26	28	27	19	21	25	23	15	9	2.
Ellendale	Maximum...	18	37	25	23	7	10	2	3	12	19	8	0	4	4	16	-1	-1	4	36	31	38	39	41	36	43	30	30	35	35	27	19	20.
	Minimum ...	5	11	12	-4	-4	2	-7	-10	-15	-4	-11	-14	-12	-7	-9	-17	-18	-20	-3	-1	28	26	25	30	25	20	26	25	27	16	6	4.
Fessenden §§	Maximum...	24	42	28	4	10	11	4	4	13	5	-6	-4	-3	4	11	-6	-2	12	29	35	39	32	41	40	26	32	30	35	28	16	12	17.
	Minimum ...	-2	1	16	0	-16	-14	4	-23	-25	-25	-10	-24	-24	-20	-10	-16	-23	-20	-12	-8	12	23	22	26	23	16	15	16	24	11	5	-2.
Foxholm	Maximum...	21	34	27	17	3	3	2	3	-1	1	0	-7	-4	-2	14	4	-4	-4	13	28	36	37	35	36	40	32	29	35	35	23	18	16.
	Minimum ...	-6	15	13	-5	-13	-14	-8	-15	-20	-5	-15	-22	-18	-22	-10	-17	-16	-16	-3	-3	25	26	19	26	17	16	14	21	19	15	-4	-0.
Fullerton	Maximum...	18	35	30	22	10	9	5	7	4	18	14	3	2	5	16	13	2	2	35	26	37	37	40	37	41	28	30	38	34	32	18	20.
	Minimum ...	2	10	9	4	-5	4	0	-12	-14	-5	-9	16	-13	-3	-7	-12	-17	-18	-7	-3	12	24	26	29	28	21	19	26	28	18	10	4.
Garrison	Maximum...	30	40	32	27	6	2	2	4	4	6	2	-4	-3	2	10	-6	0	2	34	30	38	34	39	37	42	37	38	41	38	28	20	19.7
	Minimum ...	0	17	15	-2	-14	-9	-14	-18	28	-6	-14	-22	-22	-15	-12	-16	-23	-25	-11	-6	21	26	26	26	21	17	24	22	20	2	-10	1.
Grafton	Maximum...	13	22	16	11	5	5	4	4	-3	4	13	-8	-4	1	13	11	-6	-3	6	11	33	28	30	33	41	18	24	29	29	26	15	13.
	Minimum ...	0	-1	12	-2	-13	-10	-6	-15	-21	-8	-13	-20	-20	-20	-11	-19	-22	-24	-21	-18	10	12	9	24	11	4	5	18	17	14	3	-4.
Grand Forks	Maximum...	15	34	20	17	-2	2	0	5	2	19	12	-7	-4	3	16	-4	-8	-4	10	17	34	27	28	30	39	18	22	32	32	28	15	14.
	Minimum ...	1	3	12	-10	-13	-6	-10	-17	-22	2	-6	-19	-17	-18	-10	-18	-22	-20	-19	-14	17	14	18	23	8	7	18	20	21	15	0	2.
Granville	Maximum...	27	38	28	15	5	17	0	5	5	0	-3	-7	-5	5	12	5	-2	-5	19	36	38	34	37	39	40	40	25	43	35	20	18	18.
	Minimum ...	-3	10	5	-12	-17	-15	-18	-22	-24	-4	-15	-25	-20	22	-15	-22	-25	-25	-10	2	25	14	15	25	20	16	10	23	20	15	2	-1.7
Hansboro	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hettinger	Maximum...	31	41	37	35	11	12	3	5	14	27	14	3	3	2	17	6	3	15	40	39	40	40	42	47	43	43	43	49	42	40	....	[a]26.
	Minimum ...	11	20	14	1	-3	1	-8	-16	-13	-6	-15	-18	-15	-9	-12	-15	-25	-20	-2	4	22	31	27	24	29	22	29	26	27	26	....	[a]4.
Hillsboro	Maximum...	11	26	26	19	4	3	1	2	-2	14	10	-6	-3	....	....	9	-4	2	12	12	34	28	30	30	38	17	24	....	30	30	14	[c]14.
	Minimum ...	-3	2	10	-2	-13	-13	-3	-16	-17	-11	-6	-20	-15	....	....	-16	-24	-22	-19	-11	10	15	15	23	17	9	13	....	18	14	7	-[c]2.1
Howard	Maximum...	25	27	25	4	2	8	-6	3	-8	-10	-10	-6	-12	-10	6	-14	-14	-3	31	30	37	35	35	40	37	32	32	40	24	20	16	13.
	Minimum ...	-12	18	-8	-18	-8	-12	-16	-23	-24	-29	-34	-29	-27	-22	-15	-22	-30	-27	-3	-10	20	20	20	22	20	19	20	21	16	15	0	-5.
Jamestown §§	Maximum...	35	31	22	16	10	2	0	13	15	-1	-1	5	-2	14	-2	-1	3	28	30	34	35	40	41	42	36	37	35	33	26	15	10	19.
	Minimum ...	4	3	18	6	9	-9	-1	-12	-15	-16	-4	-17	-17	-17	-13	-14	-18	-19	-13	-4	-2	18	27	29	33	18	19	18	25	13	9	1.
Lamoine	Maximum...	23	41	35	23	2	2	0	-1	4	11	1	-10	-7	-2	-2	-15	-3	-3	32	33	36	36	37	37	39	31	35	30	32	26	13	16.
	Minimum ...	-3	11	14	-3	-13	-5	-8	-19	-23	-2	-12	-23	-19	-17	-20	-17	-25	-20	-4	-10	26	26	20	22	23	18	18	20	22	13	-1	-0.
Langdon§§	Maximum...	15	24	6	6	4	6	5	-2	-2	-2	-5	-8	-6	-1	10	-5	-10	-4	-3	15	32	25	30	22	20	24	26	29	24	17	12	9.
	Minimum ...	-6	-6	-5	-20	-5	-5	-5	-24	-27	-8	-10	-25	-22	-25	-15	-24	-28	-22	-20	-15	-5	17	15	18	9	10	20	15	18	15	7	-5.7
Larimore §§	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Linton	Maximum...	21	43	32	24	8	8	5	10	10	23	14	3	0	7	19	10	3	6	40	19	45	39	45	42	39	31	40	37	36	32	19	22.9
	Minimum ...	-2	4	6	2	-10	4	-4	-19	-20	1	-11	-18	-20	-4	-14	-15	-27	-22	-13	-4	11	18	19	26	31	27	21	26	25	17	3	1.2
Lisbon §§	Maximum...	20	35	33	30	12	9	12	8	22	32	-3	6	12	13	0	1	4	26	36	40	40	38	42	45	38	36	28	22	20	18	14	22.2
	Minimum ...	1	6	12	8	-8	-6	0	-12	-19	-18	-6	-19	-12	-15	-13	-20	-20	-17	16	0	18	18	30	30	28	15	14	12	12	6	9	1.6
McKinney	Maximum...	31	32	25	1	-2	0	0	0	5	-5	-5	-10	-10	-4	0	10	-7	-8	10	28	37	35	35	45	32	30	30	32	32	25	25	14.2
	Minimum ...	-12	0	0	-5	-16	-16	-12	-19	-22	-12	-18	-22	-22	-24	-20	-10	-24	-20	-19	-8	26	27	19	30	18	15	12	19	19	15	-6	-3.5
Maddock	Maximum...	22	39	35	22	6	2	0	1	0	10	-2	0	-5	0	11	8	-1	-5	25	25	37	34	36	34	40	34	32	33	33	26	14	14.4
	Minimum ...	-1	9	20	-2	-15	-10	-11	-15	-27	-2	-19	-22	-15	-18	-8	-18	-23	-17	-18	-9	21	11	21	24	20	15	17	22	21	14	7	0.9
Melville	Maximum...	12	35	35	25	-2	2	2	-2	-4	3	3	-8	-9	-1	8	8	-7	-8	10	20	35	34	32	34	32	30	31	31	32	30	18	14.8
	Minimum ...	-2	16	25	-2	-12	-5	-6	-15	-19	-5	-11	-20	-16	-14	-8	-12	-21	-12	-12	-8	19	25	24	28	20	16	24	20	24	14	6	2.0
Minot §§	Maximum...	23	38	33	20	8	0	2	1	3	1	-3	-9	-5	-2	11	-4	-5	-3	23	33	38	38	38	42	44	40	32	44	34	28	24	18.3
	Minimum ...	-11	10	10	-12	-20	-23	-24	-20	-32	-26	-22	-31	-25	-29	-13	-24	-30	-31	-22	-14	18	11	10	22	10	10	8	12	12	11	-8	-8.8
Mott	Maximum...	26	34	24	3	4	2	-1	-1	2	3	-2	-1	0	2	4	-7	-2	3	29	36	33	38	37	40	35	38	42	43	36	30	17	17.7
	Minimum ...	13	17	8	-8	-6	-2	-6	-20	-15	-18	-21	-20	-16	-14	-9	-11	-26	-17	-4	11	20	23	24	26	21	25	22	26	25	11	3	2.0
Napoleon §§	Maximum...	20	35	23	6	5	6	1	4	13	11	-4	0	1	5	15	-5	-1	8	10	35	38	36	37	40	37	30	40	39	35	18	14	17.7
	Minimum ...	-8	-5	0	0	-18	-5	-5	-25	-27	-15	-11	-25	-25	-20	-13	-24	-30	-23	10	-8	-2	20	21	20	22	22	20	22	21	15	2	-3.7
New Salem	Maximum...	30	44	28	24	14	3	5	6	11	-5	10	-2	-4	-4	14	-7	3	5	40	36	40	36	40	42	39	45	44	42	36	30	3	20.9
	Minimum ...	8	21	15	-6	-5	-11	-5	-17	-19	-8	-19	-19	-17	-14	-8	-13	-20	17	-5	-5	26	27	23	29	28	30	29	26	23	6	7	4.0
Pembina §§	Maximum...	14	26	16	6	12	4	6	6	5	5	4	-5	-4	-2	10	0	-9	-12	4	30	28	28	30	38	28	25	28	29	30	25	10	13.4
	Minimum ...	0	-2	-2	4	-12	-12	-7	-15	-20	-10	-7	-22	-23	-25	-20	-20	-25	-28	-28	-22	-4	12	15	21	19	-6	12	15	12	20	6	-5.4
Steele	Maximum...	14	32	13	-3	-4	0	0	-7	0	6	-11	-6	-11	14	15	-16	12	0	32	12	41	36	39	36	22	33	39	41	33	12	2	16.0
	Minimum ...	-8	4	8	-8	-20	-7	-8	-26	-23	-8	-18	-28	-27	-17	-20	-22	-32	-28	-17	-12	8	18	11	18	20	12	13	16	18	5	-9	-6.0
Towner	Maximum...	30	28	30	15	3	1	3	0	-2	3	-4	-9	-8	3	10	0	-3	-7	16	22	35	42	36	36	35	28	32	18	28	23	25	14.9
	Minimum ...	8	6	-2	-5	-19	-16	-12	-20	-28	-4	-18	-26	-26	-25	-6	-25	-15	-28	-16	0	18	22	24	25	18	18	13	0	-5	-10	5	-5.1
Valley City	Maximum...	12	31	29	23	5	4	2	0	-2	10	6	4	-3	3	13	10	-5	-1	25	18	34	32	32	33	36	25	33	29	31	29	15	16.5
	Minimum ...	-1	7	11	-1	-14	-3	-4	-18	-21	-9	-10	-19	-17	-11	-8	-17	-24	-21	-12	10	10	22	22	25	16	12	20	23	23	14	8	0.4
Wahpeton	Maximum...	29	37	38	29	11	15	13	8	9	33	6	0	1	3	15	16	9	2	22	28	38	36	39	39	40	30	24	30	38	35	23	22.4
	Minimum ...	8	15	20	6	5	3	3	-13	-13	-3	-3	-14	-13	-5	-7	-11	-17	-16	14	5	14	25	21	28	28	12	14	21	29	21	11	6.1
Walhalla	Maximum...	20	35	26	20	8	6	7	6	5	5	0	0	0	2	11	12	-5	-3	6	13	36	25	29	34	45	18	19	29	31	39	20	16.1
	Minimum ...	0	6	9	-2	-11	-10	-9	-12	-18	-5	-8	-21	-18	-18	-7	-19	-23	-22	-21	-9	12	17	16	17	14	9	9	14	16	12	2	-2.6
Westhope	Maximum...	35	38	36	30	26	16	14	3	3	0	-4	-8	-6	-3	-8	-4	-8	-10	8	20	33	32	30	36	40	38	36	36	34	26	23	17.5
	Minimum ...	16	6	-6	-10	-20	-20	-20	-18	-27	-7	-17	-26	-17	-27	-24	-23	-25	-28	-21	-8	24	10	20	32	30	20	12	20	18	10	10	-3.7
Williston	Maximum...	26	33	22	6	0	1	0	-3	1	2	-6	-9	-9	-5	9	-8	-8	7	30	36	38	38	39	43	43	41	37	43	27	21	9	16.3
	Minimum ...	-4	16	5	-12	-12	-6	-11	-18	-24	-7	-19	-24	-20	-17	-9	-18	-26	-24	-5	1	27	24	29	27	25	23	27	23	19	2	-1	0.3
Moorhead, Minn	Maximum...	16	31	26	25	6	6	4	3	6	24	18	5	-3	5	14	0	-3	-4	22	20	35	31	35	33	41	17	23	32	33	30	16	17.3
	Minimum ...	3	15	15	-5	-10	0	-8	-14	-16	6	-8	-16	-13	-9	-9	-14	-18	-18	-15	-7	20	17	18	25	13	10	17	21	28	14	3	1.5

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

MAR 20

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXI. BISMARCK, N. D., ANNUAL, 1922. No. 13

GENERAL SUMMARY.

The weather conditions throughout the State for the year 1922 were favorable for crops, for highway construction work, and for all outdoor occupations. Crop yields were good to excellent in all parts of the State, being especially good in those sections where diversification is practiced. Much road building was done, the total mileage constructed being the largest of record for the State. The year opened with comparatively mild temperature and slightly deficient precipitation, a condition which prevailed throughout January. February, however, was cold and stormy. The fore part of March was like the month preceding, but the latter part was mild and pleasant. April was mild and dry, and allowed spring work on farms and highways to make excellent progress. May and June were favorable and crop conditions were excellent at the close of the latter month. July and August were favorable from a temperature standpoint, but there was a deficiency in precipitation in each instance. September was warm, with more than the usual rainfall, and farm work was somewhat delayed. During October ideal threshing weather prevailed, and rapid progress was made. November and December were productive of more than the usual precipitation; but November was mild, while December was cold and stormy.

The mean annual temperature was 39.7°, or 0.9° above the normal, and 2.3° lower than the mean for 1921. The highest mean annual temperature reported was 43.7° at Wahpeton, Richland County; the lowest was 36.3° at Bottineau, Bottineau County. The highest temperature reported was 115° at Cando, Towner County, on August 2d; the lowest was -46° at Minot, Ward County, on January 23d. The temperature averaged above the normal during all months of the year, except February, July and December. The highest mean annual temperature ever recorded in the State was 42.0° in 1921; the lowest was 35.8° in 1893. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the owest was -56° at Goodall, McKenzie County, on January 12, 916.

The average precipitation for the State was 19.75 inches, or .81 inches above the normal, and 0.16 inch greater than the verage for 1921. The greatest annual precipitation reported was 33.14 inches at Larimore, Grand Forks County; the least was 4.50 inches at Napoleon, Logan County. The greatest monthly mount reported was 7.43 inches at Amidon, Slope County, in une; there was none at Larimore and Pembina in October, and t Wahpeton in December. The precipitation averaged above he normal six months, and below the normal six months. The heaviest annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.92 inches in 1917. The average snowfall for the State was 42.8 inches. The averge number of days with 0.01 inch or more of precipitation was 5. There were 155 clear days, 100 partly cloudy, and 110 loudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—Taken as a whole, the weather of the month was nfavorable. Owing to a shortage of feed in the southwest part of the State, there was much suffering and some loss of livestock. High winds interfered greatly with highway traffic, but during the last decade this condition was somewhat improved. The first decade was the warmest, the highest temperature being generally recorded on the 9th; the last decade was the coldest, the lowest temperature being generally recorded on the 23d. Scattered snows occurred from the 7th to the 21st, inclusive, and from the 29th to the close of the month.

FEBRUARY.—The month was cold and stormy. The mean temperature was more than seven degrees below the normal. The month opened with heavy precipitation in practically all parts of the State, a condition that prevailed until the 5th. From the 10th to the 12th snows were general, and again on the 21-22d heavy snows occurred. The wind movement was above the normal, and combined with heavy snow and low temperature interfered greatly with rail and highway traffic, and caused considerable loss of livestock.

MARCH.—The temperature at the opening of the month was below the normal, but rose rapidly and remained above the normal until near the close, when a change to decidedly colder occurred. The second decade was the warmest, the maximum for the month usually occurring on the 13th; the first decade was the coldest, with the minimum being generally recorded on the 1st. The mild temperature rapidly reduced the snow covering, allowing livestock to graze on ranges, pastures and harvested fields. The soil was generally too wet for spring farm work, and the highways were too soft for much auto or truck traffic. But one severe storm occurred, from the 24th to the 27th, inclusive, and caused much suffering to livestock. Winter grains were generally in good condition at the close of the month.

APRIL.—Mild and dry weather prevailed at the opening of the month, a condition which obtained during the greater part of the first decade. Light showers, however, were general on the 6th and 9th. The second decade was showery, but not sufficiently so to interfere to any great extent with spring seeding. Owing to the weakened condition of livestock much yard feeding was required until the end of the second decade. Plowing for corn made good progress, though delayed somewhat by frozen ground. Most of the main auto trails were in good condition at the close of the month.

MAY.—Weather favorable for farm work prevailed, and excellent progress was made. Rainfall generally sufficient for all needs occurred and did not interfere with field work to any great extent. Spring wheat, rye, oats, barley, corn, meadows, pastures and ranges were generally in excellent condition at the close of the month. Cut worms caused some replanting of corn. Both the precipitation and temperature were above the normal.

JUNE.—With the exception of a very few localities, soil and weather conditions at the opening of the month were favorable. There was practically no rain in the State during the first five days, but from the 6th to the 10th, inclusive, showers were general, being excessive in places. Scattered showers continued throughout both the second and third decades. The soil was in excellent condition at the close of the month. The heavy rains during the second decade interfered considerably with railway and highway traffic. Crops of all kinds made rapid growth, and all were in excellent condition at the close of the month.

JULY.—The month opened with favorable weather. The first decade was rather cool, frosts injurious to corn and garden truck occurring on the 7th. This cool period was followed by general

[Continued on page 53.]

Climatological Data for the Year 1922.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	27	43.0	100	Aug. 23†	-35	Jan. 24	27	19.57	3.93	May	T.	Oct.	64.5	68	184	113	68	n.
Amidon	Slope		6	41.3	97	Aug. 11†	-28	Feb. 27	9	21.66	7.43	June	0.08	Dec.		70	183	108	74	w.
Arnegard	McKenzie		8	39.9	102	Aug. 12	-36	Jan. 23	8	19.02	4.42	Sept.	0.10	Jan.	45.7	76	200	77	88	nw.
Ashley	McIntosh	2,001	27		97	Sept. 4	-29	Jan. 23	27	19.45	3.87	Nov.	0.10	Dec.	57.0	59				nw.
Beach	Golden Valley	2,579	17	39.6	100	Aug. 12	32	Feb. 25	17	16.30	4.16	June	0.04	Mar.		61				
Berthold Agency	McLean	2,082	29	40.7	100	Aug. 12	-40	Jan. 23	30	18.85	4.50	June	0.19	Mar.		72	220	75	70	nw.
Bismarck	Burleigh	1,674	48	41.8	100	Aug. 13	-32	Jan. 23	48	17.16	3.24	June	0.22	Aug.	49.9	93	137	116	112	nw.
Bottineau	Bottineau	1,638	31	36.3	94	June 5†	43	Jan. 23	31	16.91	4.21	May	0.22	Jan.		87	182	97	86	se.
Bowbells	Burke	1,958	11	37.5	98	Aug. 12	43	Jan. 23	11	17.85	3.67	June	0.35	Jan.		60	211	14	140	
Bowman	Bowman	2,961	8	39.8	97	Sept. 4	29	Feb. 27	9	17.04	4.89	June	0.09	Dec.		76	186	109	70	nw.
Cando	Towner	1,488	22	39.9	115	Aug. 2	36	Jan. 23	22	19.45	3.45	June	0.39	Oct.		85				nw.
Carson	Grant	2,500	11	40.8	98	Aug. 13†	-35	Jan. 23	11	16.61	5.16	June	0.20	Apr.	59.4	76	161	125	79	nw.
Cooperstown	Griggs	1,428							17	18.12	4.35	May	0.20	Dec.	35.0	44	180	115	70	nw.
Crosby	Divide	1,954	16	38.4	99	June 22	38	Jan. 23	16	16.65	4.11	May	0.35	Feb.	29.0	66	139	116	110	sw.
Devils Lake	Ramsey	1,478	18	39.1	98	Aug. 13	35	Jan. 23	26	17.21	3.30	Sept.	0.48	Apr.	38.7	111	127	86	152	nw.
Dickinson	Stark	2,543	31	39.4	98	Sept. 4	-27	Jan. 23†	31	18.20	6.57	June	0.22	Jan.		101	149	85	131	nw.
Donnybrook	Ward	1,760	19	40.1	98	Aug. 9†	-45	Jan. 25	24	22.00	5.17	June	0.20	Jan.	22.0	62	79	203	83	n.
Dunn Center	Dunn	2,191	19	40.1	97	Aug. 12†	38	Jan. 22	24	22.04	5.30	June	0.05	Mar.	39.5	63	183	59	123	nw.
Dunseith	Rolette	1,682	26		94	Aug. 13	45	Jan. 23	27	16.72	3.15	Sept.	0.25	Oct.	29.2	96	170	103	92	nw.
Eckman	Bottineau		18	38.9	97	June 5	-43	Jan. 23	18	21.11	3.96	June	0.45	Oct.	41.0	73				nw.
Edgeley	LaMoure	1,468	22	42.0	102	Aug. 23	-30	Jan. 23	22	15.62	4.02	May	0.15	Dec.		45	101	148	116	nw.
Ellendale	Dickey	1,449	20	41.3	100	Aug. 23	-26	Feb. 14	24	16.80	3.69	May	0.16	Aug.	45.2	94	105	107	153	nw.
Energy	McLean	1,750	1		98	Aug. 12			11	17.15	3.69	June	0.10	Jan.	35.4	63	148	161	56	nw.
Epping	Williams	2,224	1		99	Aug. 12			15	16.97	4.35	June	0.24	Jan.	41.0	66	176	112	77	w.
Fessenden	Wells	1,610	11	39.0	101	Aug. 13	-40	Jan. 23	11	22.54	4.43	June	0.40	Jan.	35.2	107				nw.
Forman	Sargent								31	23.19	5.69	May	0.54	Dec.	53.4	62				sw.
Foxholm	Ward		2	38.8	95	Aug. 12	-36	Jan. 23	2	22.17	4.86	June	0.56	Jan.	51.7	77	126	134	105	nw.
Fryburg	Billings	2,790							5	22.12	5.27	June	0.25	Mar.	45.5	73	192	106	67	nw.
Fullerton	Dickey	1,439	25	42.2	103	Aug. 23	-27	Jan. 23†	25	28.29	6.72	May	0.55	Aug.	83.8	71	141	112	112	nw.
Garrison	McLean	1,901	28	40.1	97	Aug. 12	-35	Jan. 22	28	21.79	4.75	June	0.19	Jan.	46.4	72	151	131	83	nw.
Grafton	Walsh	827	31	40.3	97	Aug. 24	-35	Jan. 23	31	24.46	4.86	Sept.	0.21	Oct.		85				nw.
Grand Forks	Grand Forks	830	32	39.9	96	Aug. 13†	-36	Jan. 23	32	22.83	4.18	May	0.20	Oct.	51.2	111	158	83	124	nw.
Granville	McHenry	1,504	16	39.9	97	Aug. 12	41	Jan. 23	16	18.91	4.02	July	0.20	Jan.	20.7	78	127	116	122	nw.
Hannah	Cavalier	1,568							29	21.95	5.39	Sept.	0.41	Oct.	58.0	54				
Hansboro	Towner	1,597	15		100	Aug. 13	-38	Jan. 23	15	23.26	3.50	May	0.35	Oct.	61.5	62				sw.
Hettinger	Adams	2,253	15	41.5	108	June 23	-30	Feb. 28	16	19.04	3.90	June	0.22	Jan.		62				nw.
Hillsboro	Traill	901	17	40.4	99	Aug. 14	-33	Jan. 23	17	18.29	4.69	May	T.	Oct.		66				n.
Howard	Williams	2,275	16		101	Aug. 12	-42	Jan. 22	16	16.77	3.60	May	0.12	Jan.	55.5	58	162	111	92	nw.
Jamestown	Stutsman	1,390	31	41.4	100	Aug. 14	-33	Jan. 23	31	25.78	7.34	June	0.32	Dec.	49.1	81	174	39	152	nw.
Lamoine	Kidder	1,936	17	38.7	103	Aug. 13	-38	Jan. 23	18	15.25	3.51	June	0.25	Jan.†	24.7	51				nw.
Langdon	Cavalier	1,615	27	37.5	97	Aug. 13	-40	Jan. 23	27	24.77	5.22	Sept.	0.10	Feb.		79	196	54	115	nw.
Larimore	Grand Forks	1,134	29	39.3	96	June 4†	36	Jan. 23	29	33.14	6.15	July	0.00	Oct.	48.3	86	133	70	162	n.
Linton	Emmons	1,711	5	43.0	106	Aug. 13	-34	Feb. 14	5	14.76	3.50	May	0.20	Mar.		93	144	114	107	nw.
Lisbon	Ransom	1,091	19	41.2	104	Sept. 4	-32	Jan. 23	19	23.62	5.25	June	0.32	Dec.	61.5	70	179	78	108	nw.
McClusky	Sheridan	1,943	1						5	17.73	3.48	May	0.45	Mar.	47.8	76				
McHenry	Foster		13		96	Sept. 4			13	21.61	4.32	May	0.53	Dec.	55.0	70				nw.
McKinney	Renville	1.640	29	38.0	95	June 22	-45	Jan. 23	29	20.58	3.35	July	0.45	Jan.	51.5	53				nw.
McLeod	Ransom	1,075	10	42.3	100	Sept. 4	-31	Jan. 23	11	21.51	4.50	June	0.36	Oct.		96	170	60	135	nw.
Maddock	Benson	1,604	8		99	Aug. 13	-39	Jan. 23	8											nw.
Mandan	Morton	1,644	9	41.1	101	Aug. 13	-33	Jan. 23	9	17.56	3.43	June	0.19	Jan.		94	153	90	122	se.
Manfred	Wells	1,605	20	39.7	100	Aug. 13	-40	Jan. 23	20	21.29	5.13	June	0.38	Mar.	33.2	103	147	100	118	nw.
Marmarth	Slope	2,714	10				-35	Dec. 17	14											
Mayville	Traill	975	27				-35	Jan. 23	27											nw.
Melville	Foster	1,590	25	39.3	95	Aug. 13†	33	Jan. 22†	25	23.33	4.95	May	0.30	Dec.	38.4	54				nw.
Minot	Ward	1,557	24	36.7	99	Aug. 12	-46	Jan. 23	27	20.24	3.60	June	0.23	Jan.	51.4	86	153	112	100	e.
Minto	Walsh	820	30	40.5	96	Aug. 13†	-35	Jan. 23	30	22.65	4.30	June	0.12	Oct.		88	148	112	105	ne.
Mott	Hettinger	2,424	16	40.1	98	Sept. 4	-30	Feb. 27†	16	17.50	5.23	June	0.19	Sept.	41.4	79	133	101	131	nw.
Napoleon	Logan	1.955	31	39.0	102	Aug. 15	-34	Jan. 23	31	14.50	2.66	June	T.	Dec.	29.0	75				s.
New England	Hettinger	2,400	29	39.3	97	Aug. 2	-34	Jan. 23	29	18.52	6.06	June	0.15	Sept.	43.5	68				nw.
New Salem	Morton	2,163	19	41.3	99	Aug. 13†	-31	Jan. 23	19	20.07	4.48	June	0.12	Jan.		82	174	122	69	nw.
Park River	Walsh	998	19	40.0	95	June 5†	-32	Jan. 22†	19	24.17	5.25	May	0.26	Oct.		68				nw.
Parshall	Mountrail								8	17.76	4.20	June	0.05	Apr.	33.5	40				
Pembina	Pembina	789	42	39.1	99	July 28†	-39	Jan. 23	49	22.46	5.35	Sept.	0.00	Oct.	50.0	44	169	54	142	s.
Pettibone	Kidder	1,856	13				-41	Jan. 23	14						40.3					nw.
Power	Richland	1,020							29											
Powers Lake	Burke	2,205							9	15.23	3.70	June	0.40	Apr.	38.5	55	105	115	145	nw.
Richardton	Stark	2,467	7						7											
Skaar	McKenzie		2		102	Aug. ..	-39	Feb. 27	3	22.15	5.10	May	0.25	Dec.	41.2	73				
Steele	Kidder	1.857	26	38.6	101	Aug. 13	-38	Jan. 23	27	23.05	6.24	June	0.27	Jan.		70	133	141	91	nw.
Towner	McHenry	1,482	21	39.8	96	June 5†	-42	Jan. 23	21	18.96	3.92	July	0.15	Oct.	31.5	57	194	89	82	nw.
Turtle Lake	McLean	1,899	8	39.6	100	Aug. 13	-37	Jan. 23	8	15.58	2.69	June	0.28	Jan.	38.2	80	111	119	135	nw.
Valley City	Barnes	1,245	18				-41	Jan. 23	18											nw.
Wahpeton	Richland	962	29	43.7	103	Aug. 16	-29	Jan. 23	29	18.16	5.64	June	0.00	Dec.		69				se.
Walhalla	Pembina	966	15				-31	Jan. 22†	19						60.3					n.
Westhope	Bottineau	1,508	17	38.5	95	June 22	-41	Jan. 23	17	15.39	2.45	June	T.	Feb.†		63	138	151	76	nw.
Williston	Williams	1,875	44	39.8	98	Aug. 12	-36	Jan. 23	44	20.00	4.28	June	0.50	Feb.	53.5	117	106	105	154	se.
Willow City	Bottineau	1,471	31	37.2	98	Aug. 13	-45	Jan. 23	31	17.54	2.71	June	0.33	Oct.	47.5	82				nw.
Moorhead, Minn.	Clay	935	42	41.5	97	Aug. 14†	-30	Feb. 14	42	17.80	3.94	May	0.16	Oct.	35.8	113	80	111	174	s.

† Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1922, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	1.60	+1.10	2.30	+1.90	0.73	+0.16	1.77	−0.11	3.93	+1.09	3.77	−0.10	1.19	−1.82	0.55	−2.17	0.20	−1.77	T.	−1.29	2.45	+1.91	1.08	+0.57	19.67	−0.53
Amidon	0.48	......	1.40	......	0.10	......	0.95	......	3.83	......	7.43	......	4.93	......	0.29	......	0.99	......	0.70	......	0.18	......	0.08	......	21.66	......
Arnegard	0.10	......	0.82	......	0.80	......	0.76	......	3.04	......	3.78	......	1.86	......	0.73	......	4.42	......	0.91	......	1.35	......	0.15	......	19.02	......
Ashley	0.40	−0.15	2.30	+1.83	0.90	−0.29	0.72	−1.25	3.20	+0.74	2.35	−1.14	2.23	−0.43	1.14	−1.06	1.31	+0.29	0.93	−0.13	3.87	+3.33	0.10	−0.41	19.45	+1.33
Beach	0.34	0.29	0.36	0.15	0.04	−0.74	0.35	−1.07	3.99	+1.18	4.16	+0.68	2.60	+0.80	0.89	−1.16	1.10	0.17	1.22	+0.23	0.70	+0.16	0.55	+0.04	16.39	−0.49
Berthold Agency	0.39	−0.01	0.99	+0.44	0.19	−0.65	0.66	−0.50	2.22	−0.24	4.50	+0.62	3.05	+1.08	0.46	−1.31	3.31	+1.87	0.43	0.43	1.95	+1.47	0.70	+0.30	18.85	+2.64
Bismarck	0.34	−0.20	1.55	+1.05	0.70	−0.34	0.68	−1.20	2.65	+0.15	3.24	−0.30	2.77	+0.63	0.22	−1.76	1.93	+0.74	0.63	0.40	1.51	+0.83	0.94	+0.32	17.16	−0.48
Bottineau	0.22	−0.24	0.31	−0.06	0.53	−0.27	0.99	+0.12	4.21	+2.17	3.20	+0.06	1.23	−1.05	1.83	−0.38	2.00	+0.43	0.42	−0.57	1.39	+0.85	0.58	+0.09	16.91	+1.15
Bowbells	0.35	−0.37	0.38	+0.01	1.00	+0.47	0.51	−0.75	2.73	+0.42	3.67	+0.58	2.73	+0.59	1.29	−0.91	1.98	+0.36	0.67	−0.08	1.54	+1.03	1.00	+0.56	17.85	+1.96
Bowman	0.52	......	1.30	......	0.16	......	0.64	......	4.56	......	4.89	......	2.81	......	0.14	......	0.67	......	0.49	......	0.77	......	0.09	......	17.04	......
Cando	0.59	+0.19	0.92	+0.69	1.42	+0.79	1.37	+0.48	2.56	+0.16	3.45	0.43	1.52	−1.01	2.19	−0.02	2.03	+0.60	0.39	−0.33	2.22	+1.71	0.79	+0.43	19.45	+3.26
Carson	0.24	0.10	2.00	+1.70	0.77	+0.11	0.20	−1.35	1.55	1.09	5.16	+1.29	1.56	−0.38	0.42	−0.98	0.90	−0.83	0.33	−0.55	2.64	+2.08	0.84	+0.30	16.61	+0.20
Cooperstown	0.90	+0.40	0.80	+0.49	0.80	+0.26	0.75	−0.30	4.35	+2.14	2.06	−1.58	1.35	−1.38	2.60	−0.06	1.50	−0.16	0.36	−0.51	2.45	+1.91	0.20	−0.37	18.12	+0.84
Crosby	0.36	−0.19	0.35	+0.09	0.63	−0.03	1.22	+0.20	4.11	+2.09	1.93	−1.03	3.24	+1.26	1.42	−0.79	2.08	+0.84	0.39	−0.37	0.50	−0.26	0.42	−0.09	16.65	+1.72
Devils Lake	0.58	0.02	0.64	+0.11	0.62	−0.39	0.48	−1.55	2.71	+0.51	2.52	−1.01	0.87	−2.91	1.72	−1.04	3.30	+1.91	0.52	−0.71	2.38	+1.67	0.87	+0.48	17.21	−2.95
Dickinson	0.22	−0.20	1.09	+0.66	0.37	−0.47	1.21	−0.02	1.97	−0.46	6.57	+3.53	1.92	0.40	0.69	−1.26	1.28	+0.21	0.58	−0.20	1.72	+1.24	0.58	+0.16	18.20	+2.79
Donnybrook	0.20	−0.19	0.90	+0.39	0.39	−0.38	1.21	+0.16	3.39	+1.15	5.17	+2.31	2.63	0.00	2.13	−0.01	2.07	+0.41	1.70	+0.72	1.31	+0.72	0.90	+0.42	22.00	+5.70
Dunn Center	0.30	−0.21	1.90	+1.34	0.05	−1.06	1.19	−0.13	2.74	+0.20	5.30	+1.00	1.54	−0.51	1.60	+0.03	3.06	+1.94	0.95	+0.32	2.67	+2.05	0.74	+0.18	22.04	+5.15
Dunseith	0.52	+0.05	0.30	−0.12	0.69	−0.08	0.75	−0.08	2.49	+0.79	2.78	−0.18	0.84	−1.50	2.17	−0.24	3.15	+1.58	0.25	−0.50	1.82	+1.39	0.96	+0.55	16.72	+1.66
Eckman	0.47	−0.09	1.10	+0.75	0.70	+0.20	0.65	−0.40	2.44	+0.26	3.96	+1.20	3.56	+1.12	1.97	−0.35	2.09	+0.96	0.45	−0.40	2.92	+2.38	0.80	+0.18	21.11	+5.81
Edgeley	0.45	+0.16	1.05	+0.73	0.55	−0.25	0.76	−1.12	4.02	+1.35	2.44	−0.92	1.34	−1.46	0.43	−1.71	1.05	−0.61	0.65	−0.27	2.73	+2.39	0.15	−0.24	15.62	−1.95
Ellendale	0.53	+0.13	1.48	+1.00	0.87	−0.33	1.63	−0.20	3.69	+0.68	2.17	−0.83	1.54	−1.36	0.16	−2.10	1.21	−0.14	0.45	−0.59	2.73	+1.95	0.34	+0.01	16.80	−1.78
Energy	0.10	−0.19	1.09	+0.83	0.30	−0.37	0.10	−1.04	1.71	−0.49	3.69	+0.08	2.16	−0.02	1.02	−0.93	3.23	+1.69	0.50	−0.20	1.81	+1.55	1.44	+1.09	17.15	+2.00
Epping	0.24	0.32	0.75	+0.40	0.34	−0.22	0.49	−0.66	2.12	−0.19	4.35	+1.01	2.33	+0.41	1.35	−0.80	2.51	+1.05	0.60	−0.29	1.40	+0.98	0.49	+0.06	16.97	+1.43
Fessenden	0.40	−0.20	1.06	+0.73	0.74	+0.02	0.95	−0.59	3.54	+1.26	4.43	+0.38	1.64	−0.83	3.28	+0.90	2.01	+0.29	0.67	−0.11	2.45	+1.81	1.37	+0.64	22.54	+4.30
Forman	0.72	+0.19	1.74	+1.21	1.14	+0.24	2.20	+0.01	5.69	+2.71	2.97	−0.64	2.72	−0.31	0.85	−1.86	1.30	−0.52	0.70	−0.64	2.62	+2.06	0.54	0.00	23.19	+2.45
Foxholm	0.56	......	0.79	......	0.80	......	1.10	......	1.68	......	4.86	......	3.95	......	2.75	......	1.76	......	0.60	......	2.53	......	0.79	......	22.17	......
Fryburg	0.40	......	1.71	......	0.25	......	0.82	......	4.27	......	5.27	......	4.43	......	0.54	......	1.26	......	0.99	......	1.82	......	0.36	......	22.12	......
Fullerton	1.12	+0.37	3.16	+2.35	1.90	+0.68	1.84	−0.16	6.72	+3.48	4.27	+0.99	1.92	−1.40	0.55	−1.98	2.04	−0.03	0.57	−0.72	3.17	+2.44	1.03	+0.19	28.29	+6.21
Garrison	0.19	0.24	1.37	+0.84	0.43	−0.61	1.01	−0.19	2.72	+0.55	4.75	+1.43	3.32	+1.22	1.69	−0.31	2.45	+1.09	1.43	+0.53	1.84	+1.26	0.59	+0.02	21.79	+5.59
Grafton	0.44	−0.16	1.35	+0.77	0.90	+0.21	0.58	−0.90	4.17	+2.06	3.17	−0.07	3.41	+0.93	1.83	−0.76	4.86	+3.04	0.21	−0.68	2.40	+1.74	1.14	+0.60	24.46	+6.78
Grand Forks	0.52	−0.06	1.96	+1.43	1.06	+0.35	0.77	−1.16	4.18	+1.64	1.81	−1.58	3.50	+0.75	2.41	−0.05	2.11	+0.25	0.20	−0.96	3.30	+2.60	1.01	+0.38	22.83	+3.59
Granville	0.20	−0.31	1.30	+0.92	0.53	−0.04	0.40	−0.56	2.38	+0.54	3.32	+0.57	4.02	+1.95	1.43	−0.66	1.86	+0.61	0.50	0.38	2.51	+1.90	0.46	−0.09	18.91	+4.45
Hannah	0.80	+0.08	0.90	+0.34	1.00	+0.34	0.62	−0.64	2.96	+0.86	1.62	−1.82	1.18	−1.28	0.42	−1.43	5.39	+3.25	0.41	−0.55	4.65	+3.97	2.00	+1.37	21.95	+4.49
Hansboro	0.40	−0.55	1.00	+0.52	1.85	+1.19	2.00	+0.71	3.50	+1.42	2.59	−0.10	2.21	+0.23	1.25	−0.97	2.71	+0.81	0.35	0.56	3.40	+2.94	2.00	+1.34	23.26	+6.98
Hettinger	0.22	−0.10	1.50	+1.22	0.90	+0.14	0.66	−0.50	3.56	+1.44	3.90	+0.66	2.67	−0.12	0.75	−0.50	0.47	0.83	0.55	−0.09	3.17	+2.85	0.69	+0.35	19.04	+4.52
Hillsboro	0.33	−0.41	1.80	+1.12	0.50	−0.24	1.65	−0.36	4.69	+1.17	1.22	−2.13	2.12	−0.51	1.62	−1.32	1.21	1.28	T.	−1.02	2.60	+1.79	0.55	−0.35	18.29	−3.54
Howard	0.12	0.63	0.42	−0.27	1.70	+0.56	1.27	−0.13	3.60	+1.42	0.64	−1.95	2.39	+0.79	0.89	−1.00	2.99	+1.62	0.80	−0.01	1.47	+0.96	0.48	−0.34	16.77	+1.02
Jamestown	0.62	0.02	1.43	+0.85	0.95	−0.05	0.98	0.76	6.82	+4.13	7.34	+3.56	1.31	−1.44	1.61	−1.13	1.62	+0.09	1.78	+0.85	1.00	+0.27	0.32	−0.43	25.78	+5.92
Lamoine	0.25	−0.36	0.57	+0.18	0.50	−0.27	0.81	−0.16	2.53	+0.17	3.51	+0.19	2.20	−0.35	1.55	−0.43	2.13	+0.85	0.25	−0.33	0.40	−0.14	0.55	+0.05	15.25	−0.60
Langdon	0.70	+0.05	0.10	−0.55	2.05	+1.21	0.53	0.80	5.01	+2.76	4.12	+0.62	2.96	+0.40	1.47	−1.18	5.22	+3.23	0.20	−0.74	1.88	+1.18	0.53	−0.20	24.77	+5.98
Larimore	0.50	−0.21	1.40	+0.93	0.90	+0.21	0.96	−0.66	5.24	+2.77	2.91	−0.59	6.15	+3.16	2.77	+0.17	6.94	+5.05	0.00	−1.23	4.64	+3.96	0.73	+0.19	33.14	†13.75
Linton	0.28	......	1.20	......	0.20	......	0.83	......	3.50	......	1.89	......	1.52	......	0.30	......	1.52	......	0.49	......	2.69	......	0.34	......	14.76	......
Lisbon	1.45	+0.75	2.10	+1.37	0.80	+0.24	2.20	+0.31	3.95	+0.76	5.25	+0.96	2.11	1.42	0.80	−1.46	0.78	−1.37	0.33	−0.69	3.53	+2.91	0.32	−0.09	23.62	+2.27
McClusky	0.70	......	1.60	......	0.45	......	0.80	......	3.48	......	2.37	......	3.31	......	1.15	......	0.82	......	0.70	......	1.50	......	0.85	......	17.73	......
McHenry	0.80	+0.11	1.30	+0.79	1.10	+0.51	1.04	−0.51	4.32	+1.83	2.95	−0.27	2.86	−0.33	1.98	−1.21	1.52	−0.13	0.79	−0.12	2.42	+1.93	0.53	−0.39	21.61	+2.22
McKinney	0.45	+0.08	1.00	+0.72	1.40	+0.67	0.55	−0.34	2.86	+0.90	3.12	−0.10	3.35	+1.29	2.02	+0.23	2.10	+0.67	0.50	−0.34	2.63	+2.04	0.60	+0.16	20.58	+5.98
McLeod	0.86	+0.19	2.41	+1.83	0.61	−0.02	1.82	−0.57	4.41	+0.63	4.50	+0.30	1.79	−1.64	0.62	−1.73	0.70	−1.84	0.36	−0.70	2.73	+2.14	0.70	+0.25	21.51	−1.16
Maddock	0.19	......	1.12	......	0.45	......	0.13	......	4.23	......	......	......	1.44	......	2.34	......	3.61	......	0.42	......	2.11	......	0.34	......	......	......
Mandan	0.19	......	1.85	......	0.52	......	0.66	......	2.05	......	3.43	......	3.17	......	0.31	......	2.32	......	0.64	......	1.60	......	0.82	......	17.56	......
Manfred	0.60	−0.05	0.92	+0.49	0.38	−0.40	1.17	−0.10	3.27	+0.91	5.13	+1.55	1.73	−0.57	2.71	+0.25	1.84	+0.49	0.68	−0.13	2.06	+1.32	0.80	+0.04	21.29	+3.80
Marmarth	0.48	+0.18	0.97	+0.58	0.49	+0.04	......	......	......	......	......	......	......	......	......	......	......	......	0.65	−0.14	0.57	+0.24	0.20	−0.14	......	......
Mayville	0.50	+0.01	1.00	+0.61	0.65	−0.06	0.31	−1.44	4.60	+1.63	1.60	−1.91	3.98	+1.01	......	......	......	......	......	......	4.66	+3.99	0.92	+0.34	......	......
Melville	0.32	−0.06	1.30	+0.97	0.80	+0.12	1.43	+0.32	4.95	+2.28	2.81	−0.70	1.42	−1.32	4.70	+2.71	1.93	+0.55	1.35	+0.48	2.02	+1.49	0.30	−0.16	23.33	+6.68
Minot	0.23	−0.22	2.12	+1.66	0.60	−0.17	0.55	−0.77	2.46	+0.49	3.60	+0.34	2.79	+0.94	1.75	−0.45	1.12	−0.46	0.36	−0.58	3.33	+2.65	1.33	+0.82	20.24	+4.25
Minto	0.15	−0.34	1.76	+1.26	0.93	+0.11	0.51	−1.06	3.57	+1.23	4.30	+1.00	2.55	−0.21	2.04	−0.37	2.88	+0.88	0.12	−0.98	2.66	+2.01	1.18	+0.70	22.65	+4.23
Mott	0.93	+0.05	1.41	+0.84	0.62	−0.42	0.81	−0.69	1.44	−0.92	5.23	+1.83	3.06	+0.69	0.65	−0.99	0.19	−1.38	0.64	−0.45	2.30	+1.84	0.22	−0.36	17.50	+0.04
Napoleon	0.20	−0.25	1.00	+0.60	0.10	−0.83	0.68	−0.99	2.39	−0.01	2.66	−0.96	1.75	−0.73	0.37	−2.02	2.13	+0.89	0.70	−0.24	2.52	+1.93	T.	−0.48	14.50	−3.09
New England	0.87	+0.45	1.20	+0.66	0.67	−0.20	0.51	−0.51	2.62	+0.47	6.06	+3.37	2.54	+0.53	0.22	−1.55	0.15	−0.97	0.60	−0.05	2.40	+1.91	0.68	+0.27	18.52	+4.38
New Salem	0.12	−0.51	1.61	+1.23	0.69	−0.27	0.29	−0.94	2.04	−0.33	4.48	+0.77	2.91	+0.81	0.79	−0.88	1.68	+0.33	0.59	−0.36	3.73	+3.38	1.14	+0.61	20.07	+3.84
Park River	0.69	+0.25	0.32	−0.12	0.62	+0.07	0.58	0.73	5.25	+3.02	4.66	+1.33	3.76	+1.38	1.49	−0.74	3.48	+1.89	0.26	−0.75	2.75	+1.99	0.31	−0.22	24.17	+7.37
Parshall	0.10	......	1.20	......	0.20	......	0.05	......	2.83	......	4.20	......	1.95	......	2.08	......	2.68	......	0.70	......	0.97	......	0.80	......	17.76	......
Pembina	0.40	−0.24	1.00	+0.29	1.60	+0.70	T.	−1.41	2.70	+0.48	3.60	+0.32	0.90	−1.48	0.30	−1.83	5.35	+3.66	0.00	−1.34	5.33	+4.65	1.28	+0.52	22.46	+4.32
Pettibone	0.55	+0.04	0.90	+0.54	0.23	−0.31	0.15	−1.25	3.45	+0.60	4.26	+1.04	......	......	......	......	2.32	+0.93	0.67	+0.02	1.88	+1.33	0.85	+0.17	......	......
Power	0.95	+0.30	1.40	+0.84	0.91	+0.21	1.65	−1.18	4.07	+1.18	3.10	−0.86	4.05	+0.67	1.39	−1.08	0.35	−1.71	0.30	−1.17	4.34	+3.72	......	......	......	......
Powers Lake	0.60	−0.18	0.70	+0.22	0.45	0.43	0.40	−1.16	1.23	−0.57	3.70	+0.84	2.61	+0.83	1.69	+0.10	1.50	+0.41	0.90	+0.08	0.75	+0.19	0.70	+0.07	15.23	+0.40
Richardton	0.40	......	......	......	......	......	......	......	......	......	7.54	......	1.52	......	5.02	......	2.22	......	0.36	......	2.39	......	0.77	......	......	......
Skaar	0.90	......	0.95	......	0.40	......	1.20	......	5.10	......	4.48	......	1.80	......	1.82	......	3.30	......	0.70	......	1.25	......	0.25	......	22.15	......
Steele	0.27	−0.25	1.40	+0.95	0.65	−0.28	1.08	−0.03	2.88	+0.39	6.24	+2.91	3.89	+1.01	1.00	−1.34	1.91	+0.67	1.70	+0.82	1.59	+1.00	0.44	−0.09	23.05	+5.76
Towner	1.00	+0.51	0.80	+0.42	0.30	−0.60	0.35	−0.75	2.55	+0.23	3.04	−0.04	3.92	+1.69	0.89	−1.20	2.56	+0.91	0.15	−0.75	3.00	+2.52	0.40	−0.01	18.96	+2.93
Turtle Lake	0.28	......	1.23	......	0.46	......	0.70	......	1.98	......	2.69	......	2.04	......	1.59	......	1.77	......	0.33	......	1.55	......	0.96	......	15.58	......
Valley City	1.07	+0.41	3.34	+2.99	1.26	+0.76	1.17	−1.42	4.21	+1.08	2.61	−0.70	......	......	......	......	......	......	0.13	−0.70	2.52	+1.90	0.15	0.40	......	......
Wahpeton	0.58	+0.07	1.80	+1.27	0.54	−0.37	3.15	+0.92	1.74	−1.07	5.64	+1.69	1.23	−2.57	0.61	−2.21	0.36	−1.86	0.20	−1.31	2.31	+1.62	0.00	−0.45	18.16	−4.35
Walhalla	0.79	−0.05	0.38	−0.13	1.24	+0.57	0.32	−0.99	5.63	+2.98	4.01	+1.14	0.60	−2.34	......	......	4.69	+2.87	0.44	−0.59	3.16	+2.49	2.43	+1.37	......	......
Westhope	0.20	−0.36	T.	−0.19	0.51	+0.02	0.41	−0.65	2.38	+0.34	2.45	−0.49	2.10	+0.15	2.14	−0.09	2.36	+1.17	0.45	0.22	2.39	+1.81	T.	0.37	15.39	+1.12
Williston	0.51	−0.07	0.50	+0.03	0.58	−0.10	1.37	+0.14	2.64	+0.38	4.28	+0.71	3.18	+1.15	1.86	+0.55	1.91	+1.00	1.06	+0.29	1.37	+0.77	0.74	+0.08	20.00	+4.93
Willow City	0.50	−0.08	1.40	+0.94	1.10	+0.37	0.59	−0.36	2.01	+0.09	2.71	−0.47	1.01	−1.08	2.46	+0.38	2.18	+0.63	0.33	−0.37	2.39	+1.88	0.86	+0.32	17.54	+2.25
Moorhead, Minn.	0.42	−0.29	0.72	−0.01	1.30	+0.16	1.85	−0.48	3.94	+0.99	2.93	−1.20	1.65	−2.09	0.74	−2.36	0.66	−1.64	0.16	−1.91	2.83	+1.85	0.60	0.14	17.80	−7.12

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace. †Plus.

Monthly and Annual Mean Temperatures for the Year 1922, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	5.3	+0.8	0.4	−6.6	27.6	+4.0	42.6	+0.3	59.0	+4.9	65.4	+1.9	66.2	−2.5	70.6	+4.3	60.4	+3.1	46.4	+2.1	32.0	+4.7	7.5	−5.2	40.3	+1.0
Amidon	11.8	......	3.0	......	24.7	......	42.4	......	54.6	......	65.0	......	66.0	......	70.6	......	61.3	......	48.0	......	32.6	......	15.8	......	41.3	......
Arnegard	[c] 8.7	......	− 0.2	......	25.6	......	42.4	......	54.8	......	64.2	......	65.6	......	69.4	......	59.8	......	46.6	......	31.7	......	10.0	......	39.9	......
Ashley	[a] 8.1	+0.6	2.6	−5.2	27.2	+5.2	43.6	+1.1	56.0	+3.3	[e]63.6	+1.6	[a]66.4	−2.0	70.6	+4.7	57.1	−0.2	......	......	32.0	+4.3	10.6	−2.9	......	......
Beach	9.6	+0.3	− 0.3	−13.9	23.2	−3.3	41.0	−1.5	52.4	+2.3	63.0	+1.9	67.3	0.0	69.8	+4.8	61.0	+4.7	46.4	+2.4	32.0	+0.6	9.2	−7.3	39.6	−0.8
Berthold Agency	7.8	+0.3	[a] 0.2	−9.2	[b]26.6	+1.9	45.4	+1.7	57.0	+3.3	65.4	+2.8	[b]65.5	−3.4	70.3	+2.6	60.2	+3.2	47.3	+2.6	32.4	+3.6	10.7	−5.0	40.7	+0.4
Bismarck	8.4	+0.6	2.2	−8.1	27.3	+3.1	44.8	+2.7	57.6	+3.1	66.2	+2.5	67.9	−1.9	72.6	+5.1	61.4	+3.3	47.6	+2.7	33.2	+4.7	13.0	−1.7	41.8	+1.8
Bottineau	4.9	+5.6	− 3.0	−4.8	24.0	+6.3	41.4	+2.0	55.8	+4.5	60.2	−0.8	61.0	−4.8	67.8	+4.2	54.6	−0.9	40.2	−1.4	27.9	+4.3	0.8	−5.9	36.3	+0.7
Bowbells	1.7	−1.5	− 2.5	−8.3	22.6	+3.8	39.8	+1.4	54.7	+4.1	63.9	+3.7	63.3	−2.5	68.1	+4.2	[a]59.2	+6.4	45.0	+4.7	30.0	+5.2	4.0	−6.7	37.5	+1.2
Bowman	10.2	......	3.3	......	25.0	......	41.5	......	54.0	......	63.6	......	64.4	......	69.2	......	60.4	......	45.8	......	30.2	......	10.6	......	39.8	......
Cando	5.8	+7.3	1.4	−1.4	[b]26.4	+5.9	[a]42.6	+2.0	58.0	+6.5	64.2	+3.0	[a]67.2	+1.1	70.6	+6.7	59.4	+3.8	45.8	+2.1	[a]32.1	+5.6	[a] 5.0	−2.2	39.9	+3.4
Carson	8.4	−1.5	0.4	−13.3	25.4	+0.9	43.3	+1.3	56.4	+4.1	64.9	+1.9	65.8	−2.3	71.8	+4.2	62.6	+6.2	48.0	+4.5	30.3	−0.4	12.2	−3.8	40.8	+0.2
Crosby	6.7	+5.0	− 1.8	−8.9	23.9	+1.9	40.5	−0.1	55.2	+4.8	64.2	+3.6	65.3	−0.6	67.7	+4.0	59.4	+5.7	44.6	+3.1	30.6	+2.8	4.4	−7.9	38.4	+1.1
Devils Lake	4.1	+3.8	− 0.4	−4.9	25.6	+7.1	41.8	+3.6	56.8	+4.1	63.8	+1.2	65.7	−2.4	70.0	+4.9	59.5	+3.9	44.7	+4.2	31.8	+9.2	6.0	−2.0	39.1	+2.7
Dickinson	8.6	−1.7	− 0.6	−12.4	24.8	+0.4	42.0	−0.9	54.1	+1.9	63.3	+2.0	64.4	−3.6	69.2	+2.9	58.7	+2.2	45.4	+1.5	31.8	+3.2	10.8	−6.5	39.4	−0.1
Donnybrook	5.1	+1.7	1.4	−5.6	26.6	+4.2	43.8	+3.4	56.8	+6.7	65.5	+5.0	66.8	+1.0	70.3	+7.0	59.6	+5.6	46.5	+4.4	31.6	+2.8	7.2	−5.0	40.1	+2.6
Dunn Center	9.4	−4.4	2.3	−10.7	27.0	+2.9	41.6	−1.0	54.8	+1.5	63.8	+1.9	65.0	−3.0	68.8	+2.2	59.3	+2.2	46.8	+1.2	32.4	+4.0	[a]10.2	−10.3	40.1	−1.1
Dunseith	3.1	+1.6	− 0.8	−4.2	23.8	+5.0	40.6	+0.2	54.9	+3.0	62.2	+1.0	63.4	−1.0	[c]69.5	+5.9	57.0	+2.2	43.6	+2.5	30.4	+4.2	......	......	......	......
Eckman	5.4	+4.8	[a] 0.3	−6.1	[b]25.8	+3.7	42.2	+0.6	[a]55.6	+5.0	[b]63.9	+2.6	63.6	−2.2	[c]69.2	+5.9	[a]59.4	+3.9	[c]46.2	+3.5	30.0	+3.7	5.2	−4.4	38.9	+1.8
Edgeley	9.8	+2.0	5.4	−5.5	28.3	+1.8	43.4	+0.2	57.4	+3.9	65.5	+2.7	66.2	−2.3	71.8	+5.4	62.0	+4.5	48.4	+2.5	33.8	+3.4	11.6	−4.9	42.0	+1.1
Ellendale	9.0	−1.7	2.1	−8.6	27.8	+2.2	43.6	0.0	57.3	+1.5	64.2	−1.8	66.4	−4.3	71.4	+2.6	61.4	+3.0	47.4	+1.8	32.8	+6.7	12.2	−4.6	41.3	−0.3
Energy	......	......	1.3	......	[j]29.2	......	44.0	......	57.0	......	64.8	......	66.6	......	70.2	......	57.9	......	43.5	......	33.3	......	10.2	......	......	......
Epping	......	......	− 1.4	......	24.6	......	41.2	......	54.1	......	63.0	......	65.8	......	68.9	......	57.8	......	44.5	......	30.0	......	5.6	......	......	......
Fessenden	5.9	+2.7	0.0	−7.9	[b]25.1	+3.7	40.0	−0.2	54.6	+3.1	[c]64.2	+3.2	65.1	−2.0	69.5	+4.5	60.0	+4.9	44.6	+2.6	30.9	+3.9	7.7	−4.5	39.0	+1.2
Foxholm	7.8	......	1.0	......	25.2	......	41.3	......	54.8	......	62.5	......	63.6	......	67.4	......	58.2	......	44.8	......	30.8	......	8.2	......	38.8	......
Fullerton	10.4	+2.6	3.4	−5.9	28.4	+3.2	45.0	+2.2	58.8	+5.5	66.8	+4.1	66.6	−1.8	71.8	+5.5	61.0	+4.3	47.7	+3.4	33.5	+3.8	12.6	−1.1	42.2	+2.2
Garrison	8.0	+1.5	0.3	−8.1	27.1	+5.4	43.0	+0.4	56.0	+3.4	64.1	+1.9	64.8	−3.3	69.2	+3.5	59.9	+3.1	46.4	+2.6	32.7	+5.7	9.4	−4.2	40.1	+1.0
Grafton	5.6	+4.7	1.2	−3.7	27.5	+8.3	43.6	+3.3	60.0	+7.1	65.0	+2.5	66.4	−1.1	70.4	+5.9	59.6	+3.7	45.5	+2.8	33.6	+9.6	4.8	−2.9	40.3	+3.4
Grand Forks	4.2	+0.6	1.6	−4.9	26.6	+4.2	42.0	0.0	58.1	+4.7	64.4	+1.5	66.1	−1.3	69.9	+5.0	60.2	+4.0	46.4	+2.9	33.2	+7.1	6.2	−4.4	39.9	+1.6
Granville	9.0	+7.3	1.0	−7.4	26.8	+3.1	42.2	−0.3	56.3	+4.9	64.0	+0.9	64.4	−2.7	69.0	+5.1	59.2	+4.8	45.8	+1.7	32.9	+6.8	8.2	−4.2	39.9	+1.7
Hansboro	[f] 1.3	+3.6	− 0.9	−4.6	[c]27.2	+5.9	41.2	+1.3	56.4	+6.1	63.4	+3.0	64.0	−1.4	67.1	+4.3	[m]56.6	+2.5	43.3	+2.0	......	......	......	......	......	......
Hettinger	10.3	−2.2	2.8	−10.4	26.0	−1.6	42.5	−2.3	54.5	+1.7	66.0	+3.9	67.2	−2.3	72.5	+5.5	61.1	+3.1	48.0	+1.6	32.0	−1.4	[a]15.4	− 0.4	41.5	0.4
Hillsboro	[d] 5.0	+1.1	[b] 0.6	−7.9	26.7	+2.0	42.4	−1.2	58.4	+5.2	[c]65.5	+1.1	66.8	−2.7	[a]71.0	+4.1	60.8	+1.8	47.6	+1.6	[c]33.3	+4.5	[c] 6.3	−6.3	40.4	+0.3
Howard	3.0	+1.5	− 4.5	−10.5	19.0	−1.8	39.2	−0.6	52.0	+2.6	......	......	62.4	−3.1	68.4	+4.9	59.6	+5.8	44.4	+3.0	28.6	+0.9	4.2	−7.6	......	......
Jamestown	11.0	+4.5	4.0	−3.9	28.6	+6.0	43.0	+0.5	57.0	+3.5	65.4	+2.3	67.4	−1.1	71.1	+4.9	60.8	+4.1	45.4	+0.6	32.7	+5.1	10.6	−3.0	41.4	+2.0
Lamoine	5.5	+1.5	− 1.2	−8.9	24.2	+1.2	42.4	−0.2	54.8	+4.1	[a]62.4	+1.9	64.5	−1.4	69.4	+5.5	58.6	+2.0	45.4	+2.3	30.8	+3.8	8.1	−3.1	38.7	+0.7
Langdon	2.8	+5.5	− 1.4	−4.4	24.9	+5.9	40.7	+2.6	56.4	+5.6	61.6	+1.9	63.3	−1.2	68.0	+6.3	58.5	+5.0	43.7	+3.3	29.6	+3.9	2.0	−5.3	37.5	+2.4
Larimore	3.9	+1.3	0.8	−4.4	26.6	+5.6	42.0	+1.6	58.2	+5.8	63.6	+1.5	66.2	−0.5	68.6	+4.3	58.8	+3.6	44.8	+1.5	31.7	+5.9	6.0	−4.8	39.3	+1.8
Linton	11.0	......	3.2	......	29.4	......	46.4	......	57.6	......	67.2	......	69.6	......	75.2	......	63.6	......	48.0	......	32.4	......	12.0	......	43.0	......
Lisbon	5.2	−0.7	1.8	−7.8	27.8	+1.2	42.8	+0.1	59.6	+6.7	65.6	+2.5	66.8	−1.4	71.8	+5.3	61.3	+3.6	45.9	+0.6	33.5	+3.3	11.9	−2.2	41.2	+0.9
McClusky	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	60.2	......	46.6	......	33.1	......	8.2	......	......	......
McHenry	......	......	1.0	−4.4	25.3	+1.7	[a]41.4	+0.1	[a]56.3	+4.0	[b]64.0	+2.0	[f]67.4	−0.2	69.8	+5.1	58.4	+4.0	[l]41.2	−1.1	[l]29.5	+3.0	[d] 7.5	−2.2	......	......
McKinney	7.2	+4.0	0.6	−4.5	25.9	+6.7	41.8	+0.8	55.0	+3.0	65.2	+4.5	63.5	−2.5	[f]66.1	+2.6	[f]52.3	−1.8	[k]42.4	+0.7	30.5	+5.9	5.4	−5.3	38.0	+1.2
McLeod	9.8	+2.1	3.4	−8.0	28.2	+2.3	43.6	+0.3	59.9	+5.8	66.2	+1.2	68.0	−2.2	71.9	+4.3	61.8	+4.9	49.0	+3.5	34.8	+5.1	10.8	−3.5	42.3	+1.8
Maddock	5.8	......	0.6	......	26.2	......	42.0	......	56.4	......	......	......	65.0	......	71.8	......	60.4	......	46.8	......	33.2	......	6.8	......	......	......
Mandan	6.6	......	1.2	......	26.1	......	44.4	......	57.8	......	66.0	......	66.6	......	72.4	......	61.8	......	47.3	......	32.5	......	10.8	......	41.1	......
Manfred	6.2	+2.2	0.7	−6.1	26.0	+2.9	41.5	0.3	56.2	+4.6	64.6	+3.1	65.2	−1.7	69.8	+5.5	59.4	+3.5	44.8	+1.5	32.3	+3.3	9.5	−1.8	39.7	+1.4
Marmarth	8.2	−2.1	1.6	−11.5	[p]20.9	−5.1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	35.8	+1.4	16.6	−1.1	......	......
Mayville	5.7	−0.4	1.5	−6.2	26.8	+3.6	41.8	−1.4	56.6	+2.1	63.0	+1.5	65.8	−3.6	......	......	......	......	......	......	33.8	+4.5	7.2	−5.9	......	......
Melville	7.0	+1.4	0.4	−6.2	26.4	+4.1	41.1	+1.0	55.8	+3.3	[c]64.0	+1.1	[d]64.0	−3.9	69.0	+2.6	59.5	+3.1	44.1	+0.5	31.6	+2.6	8.4	−3.4	39.3	+0.5
Minot	5.0	0.0	− 2.0	−9.9	23.5	+2.1	39.0	−2.7	53.4	+1.1	61.4	−1.1	62.6	−5.5	66.1	+1.0	55.6	−1.1	41.8	−1.8	28.8	− 0.9	4.8	−7.6	36.7	−2.2
Minto	6.0	+4.2	3.0	−2.9	28.5	+7.4	43.2	+2.6	60.0	+6.6	65.3	+1.4	66.6	0.5	70.0	+5.4	59.6	+3.2	45.6	+2.4	33.0	+8.5	4.9	−6.0	40.5	+2.7
Mott	5.8	−1.7	− 1.4	−13.2	23.8	−2.8	40.6	−2.0	55.8	+4.2	71.5	+8.5	68.4	0.7	69.0	+3.1	62.2	+5.9	47.2	+4.2	28.6	−2.6	9.8	−4.3	40.1	− 0.1
Napoleon	5.8	−0.1	− 1.2	−8.0	23.4	+2.1	41.2	−0.3	54.4	+2.0	63.2	+1.0	65.2	−3.1	70.8	+4.8	60.6	+3.7	47.2	+5.3	30.4	+3.8	7.0	−5.4	39.0	+0.5
New England	5.2	−8.1	− 1.0	−13.1	24.0	−0.4	41.4	−1.7	54.0	+2.4	68.2	+6.2	66.6	−1.9	69.4	+2.7	58.6	+2.8	43.9	+0.2	29.8	−0.4	11.6	−5.8	39.3	−1.4
New Salem	10.8	+3.1	1.2	−9.4	25.4	+0.9	43.4	+0.9	56.6	+5.3	66.6	+3.8	66.8	−2.5	71.6	+5.2	61.5	+4.3	48.2	+3.9	31.4	+0.7	12.4	−2.5	41.3	+1.1
Park River	5.4	+3.6	3.4	−2.3	27.3	+5.2	42.8	+1.3	59.1	+6.9	64.8	+1.6	65.8	−2.0	69.2	+3.7	58.8	+1.9	45.6	+1.3	33.0	+5.0	[a] 4.7	− 6.4	40.0	+1.6
Pembina	1.3	+4.2	2.0	+0.6	26.2	+10.2	43.4	+5.5	59.6	+7.1	65.6	+3.0	66.6	−1.1	68.7	+4.6	57.8	+4.0	43.0	+2.1	31.2	+8.5	4.0	−2.0	39.1	+3.9
Pettibone	4.5	+4.5	[g] 1.0	−3.6	[a]24.4	+0.6	[b]41.8	− 0.1	54.8	+4.3	63.2	+3.0	......	......	......	......	60.0	+6.3	45.4	+4.2	31.4	+4.5	8.2	−2.2	......	......
Richardton	8.0	......	......	......	......	......	......	......	[j]54.4	......	64.8	......	[n]65.0	......	71.0	......	61.8	......	47.6	......	31.5	......	10.8	......	......	......
Skaar	8.5	......	− 0.1	......	[a]25.1	......	42.1	......	[d]53.8	......	63.2	......	[k]62.6	......	[n]68.8	......	[d]57.4	......	......	......	......	......	......	......	......	......
Steele	5.0	−2.6	− 2.2	−9.3	25.7	+3.6	40.7	−3.7	54.0	+0.2	64.7	+2.3	64.7	−4.7	72.2	+5.4	59.8	+2.0	45.2	+1.2	28.8	+0.4	5.0	−8.6	38.6	−1.2
Towner	7.8	+5.2	1.3	−3.9	26.6	+7.4	43.5	+2.1	57.2	+4.9	65.1	+2.9	65.2	−1.9	68.4	+4.0	59.6	+3.8	45.3	+2.9	32.8	+7.8	4.9	−5.1	39.8	+2.5
Turtle Lake	7.0	......	− 1.0	......	25.0	......	42.1	......	55.6	......	64.4	......	65.5	......	70.6	......	59.6	......	45.9	......	32.0	......	8.4	......	39.6	......
Valley City	6.6	+1.8	1.2	−8.4	26.0	−0.1	39.2	−4.6	56.3	+3.7	64.8	+1.6	......	......	......	......	......	......	......	......	......	......	8.4	−5.3	......	......
Wahpeton	[a]10.6	+2.8	4.8	−5.1	29.4	+3.2	44.6	+0.3	61.0	+5.7	67.0	+2.2	68.2	−1.1	72.5	+5.6	64.4	+5.8	50.6	+4.7	36.8	+8.5	14.2	−0.5	43.7	+2.7
Walhalla	[a] 7.2	+7.5	3.7	−0.1	27.8	+7.9	43.0	+3.1	[a]59.1	+8.0	65.6	+3.7	[m]70.1	+3.4	......	......	[l]59.1	+3.2	46.2	+3.2	34.0	+6.9	6.8	−2.7	......	......
Westhope	8.2	+9.6	− 0.8	−4.1	22.3	+1.4	41.2	+1.5	55.6	+4.2	63.6	+2.0	64.4	−1.7	68.0	+3.9	59.1	+4.3	42.0	+0.6	31.0	+4.2	6.9	−2.1	38.5	+2.0
Williston	7.4	+0.9	− 0.8	−8.7	25.5	+3.9	42.8	+2.3	55.4	+1.1	64.7	+1.2	66.4	−3.0	69.6	+1.7	60.1	+0.6	46.5	+3.6	31.9	+6.7	8.0	−5.6	39.8	+0.4
Willow City	3.0	+2.7	− 2.3	−5.0	24.2	+5.9	40.2	0.0	54.2	+2.7	61.2	+0.2	[a]62.4	−3.0	[j]68.4	+4.9	56.8	+2.5	[c]42.8	+1.1	30.4	+8.3	5.0	−3.5	37.2	+1.4
Moorhead, Minn.	8.4	+5.7	2.6	−4.4	27.4	+6.0	43.1	+1.7	59.5	+4.7	65.6	+1.3	67.3	−1.4	71.4	+5.5	61.4	+4.8	47.8	+5.0	34.2	+9.8	9.4	−1.3	41.5	+3.1

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49.]

showers from the 8th to the 11th, inclusive, which were very beneficial. The second decade was much warmer, the temperature being particularly high on the 14th. Only light scattered showers occurred during this decade. The third decade was the most favorable, and crops and farm work made rapid advancement. Some reports of black rust were received, but owing to the ripeness of spring wheat the damage was greatly lessened. Damaging hailstorms were reported, especially during the second decade. Rye harvest was generally completed, and some threshing done. Other small grains were generally in excellent condition. Corn was generally in the ear stage at the close of the month, being an excellent crop in the central and western parts of the State.

AUGUST.—Favorable weather generally prevailed throughout the month. Light scattered showers occurred over the State during the first decade, but not sufficient to benefit pastures to any appreciable extent. The second decade was mostly hot and dry, the weather being very favorable for harvesting and threshing, but somewhat damaging to corn and late small grains and potatoes. Early corn hardened during this decade, and much was out of danger from frosts by the 20th. Showery weather prevailed at the opening of the third decade, but farm work was not materially delayed, and small grain harvest was practically completed, and considerable threshing was done. Pastures and ranges generally needed rain quite badly.

SEPTEMBER.—The month opened with light to heavy showers, which interfered somewhat with threshing, but which were very beneficial for fall plowing and for the seeding of winter rye. Pastures and ranges were also greatly improved. Flax harvesting was well advanced during the first decade, and some early flax was threshed, with good yields. Light to heavy frosts were reported on the 10th. Cloudy, foggy and showery weather generally prevailed during the second decade, greatly interfering with threshing, completely stopping operations in some sections. The third decade was dry, and farm work of all kinds made rapid progress. There was less fall plowing and seeding of winter rye than usual. Livestock was generally in good condition.

OCTOBER.—Weather favorable for farm work prevailed in all parts of the State Owing to the dryness of the soil very little fall plowing or seeding of winter rye was done. Practically no rain fell during the first twelve days of the month. Threshing, which was delayed considerably during September, made rapid progress. Corn husking and potato harvesting were well advanced. Some potatoes were frozen in the ground by low temperatures on the 17-18th, and some of the poorer potatoes were not dug at all, due to prevailing low prices.

NOVEMBER.—The weather during November was unusual, in that the temperature was, with but four exceptions, the highest of record in the climatological history of the State, and the precipitation was the heaviest ever recorded in the State for that month. Light to heavy general showers interfered somewhat with farm work during the first decade. Rapid progress was made during the second decade in farm work. Snow and low temperature prevailed at the close of the month.

DECEMBER.—The month opened with moderate temperature, but this condition was followed by decidedly colder weather on the 4th, and continued until the 19th. Snow was general from the 4th to the 7th, inclusive, and scattered snows continued until the 11th. Snow was also general on the 19th. From the 20th to 30th, inclusive, mild temperature prevailed, with general snows on the 29th and 30th. The temperature fell on the 31st.

CLIMATOLOGICAL SUMMARY.

Month.	Temperature in degrees Fahrenheit.				Precipitation, in inches.				Sky.			Prevailing direction of the wind.
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Snowfall.	Number of rainy days.	Clear.	Pt. cloudy.	Cloudy.	
anuary	7.0	+2.1	55	−46	0.49	−0.05	5.2	5	12	9	10	nw.
ebruary	0.7	−7.2	45	−39	1.21	+0.72	12.8	5	13	6	9	nw.
arch	25.8	+3.2	60	−30	0.72	−0.11	6.4	4	12	7	12	se.
pril	42.3	+0.6	89	− 2	0.92	−0.46	2.3	6	10	9	11	se.
ay	56.3	+3.7	93	24	3.11	+0.56	0.1	12	10	11	10	nw.
une	63.5	+0.7	108	30	3.78	+0.28	0	9	15	8	7	nw.
uly	65.6	− 1.9	100	30	2.43	−0.18	0	8	16	11	4	nw.
ugust	69.8	+4.4	115	33	1.36	−0.92	0	6	18	9	4	se.
eptember	59.8	+3.4	104	23	2.16	+0.52	0	6	16	8	6	nw.
ctober	45.7	+1.9	98	8	0.57	−0.43	2.3	3	15	7	9	nw.
ovember	31.8	+5.2	65	− 8	2.33	+1.75	6.3	6	7	7	16	nw.
ecember	8.5	−4.5	55	−34	0.67	+0.13	7.4	5	11	8	12	nw.
Annual	39.7	+0.9	115	−46	19.75	+1.81	42.8	75	155	100	110	nw.

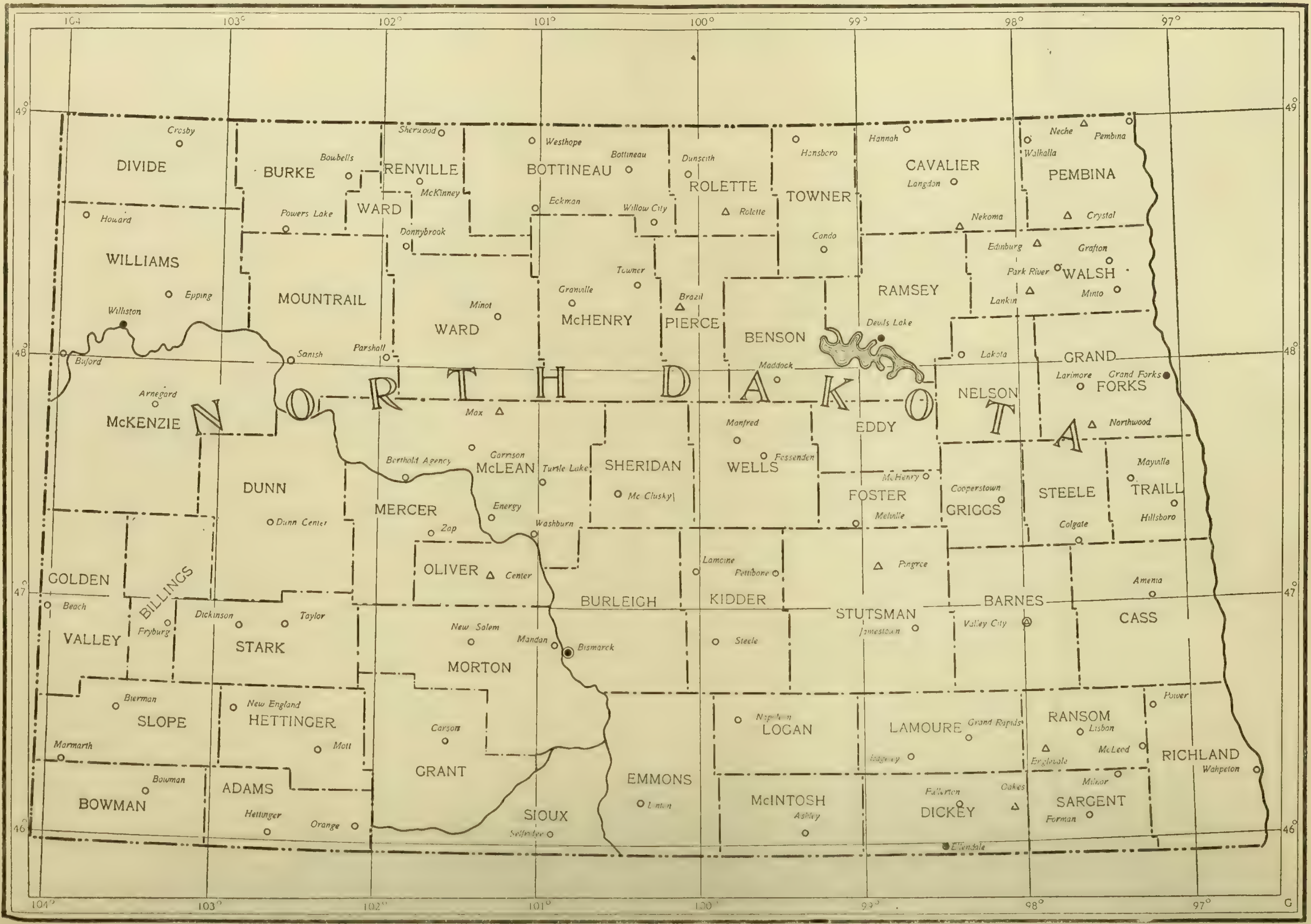
COMPARATIVE ANNUAL STATE DATA.

Yea .	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−1.0	108	−52	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	−48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	−44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60
1921	42.0	+3.2	110	−33	19.59	+1.65
1922	39.7	+0.9	115	−46	19.75	+1.81

KILLING FROSTS.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	Apr. 29	Sept. 10	Lamoine	May 19	Sept. 10
Amidon	" 25	" 15	Langdon	Apr. 27	" 10
Arnegard	May 3	" 15	Larimore	" 26	" 25
Ashley	Apr. 26	" 10	Linton	May 13	" 10
Beach	" 29	" 15	Lisbon	Apr. 27	" 10
Berthold Agency	May 19	" 10	McClusky	....	" 10
Bismarck	Apr. 25	Oct. 8	McHenry	May 20	" 10
Bottineau	May 7	Sept. 10	McKinney	" 31	" 10
Bowbells	Apr. 27	" 10	McLeod	Apr. 26	" 10
Bowman	May 1	Oct. 7	Maddock	May 19	" 10
Cando	Apr. 27	Sept. 10	Mandan	Apr. 26	Oct. 8
Carson	" 25	" 15	Manfred	" 27	Sept. 10
Crosby	" 26	" 15	Mayville	" 27	....
Devils Lake	" 26	Oct. 8	Melville	" 26	Sept. 10
Dickinson	" 26	" 7	Minot	May 30	July 7
Donnybrook	May 19	Sept. 10	Minto	Apr. 27	Sept. 16
Dunn Center	Apr. 29	Oct. 8	Mott	" 29	" 9
Dunseith	May 19	Sept. 10	Napoleon	May 19	July 7
Eckman	" 19	" 10	New England	" 3	Oct. 7
Edgeley	Apr. 29	" 10	New Salem	Apr. 30	" 11
Ellendale	" 26	Oct. 8	Park River	" 27	Sept. 16
Energy	" 27	" 8	Pembina	May 31	" 13
Epping	May 31	Sept. 10	Pettibone	" 19	" 10
Fessenden	" 19	" 10	Richardton	" 31	Oct. 8
Foxholm	Apr. 26	" 10	Skaar	" 31	Sept. 10
Fryburg	" 25	Oct. 9	Steele	" 4	" 10
Fullerton	" 21	Sept. 10	Towner	Apr. 27	" 10
Garrison	" 27	" 15	Turtle Lake	" 26	" 10
Grafton	" 27	" 16	Valley City	" 26	....
Grand Forks	" 27	Oct. 8	Wahpeton	" 26	Sept. 10
Granville	" 28	Sept. 24	Walhalla	May 30	" 16
Hansboro	May 19	" 10	Westhope	" 19	" 10
Hettinger	" 19	" 10	Williston	Apr. 26	Oct. 8
Hillsboro	Apr. 27	Oct. 8	Willow City	May 31	Sept. 10
Howard	May 31	Sept. 15	Moorhead, Minn.	Apr. 26	Oct. 12
Jamestown	Apr. 29	Oct. 9			

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXII. BISMARCK, N. D., JANUARY, 1923. No. 1

GENERAL SUMMARY.

Changeable weather characterized the first decade, but was generally favorable for outdoor work, for livestock and for win-er rye. Snow flurries during this period were general. The second decade was milder, and usually the highest temperature for the month was recorded on the 17th. During this period he snow covering was considerably reduced, allowing livestock o graze on ranges and harvested fields. Snowfall during this period was mostly limited to the 18th and 19th. The third decade was considerably colder, with quite general snows from he 27th to 30th, inclusive. Winter rye was generally well covered at the close of the month, and livestock was in good condition.

TEMPERATURE.

The mean temperature for the State was 10.1°, or 5.2° above he normal, and 3.1° higher than the mean for January, 1922. The highest mean reported was 24.6° at Marmarth, Slope County; the lowest was -0.2° at Bottineau, Bottineau County. The highest temperature reported was 56° at Hettinger, Ad-ms County, on the 9th; the lowest was -35° at Pembina, Pembina County, on the 5th. The greatest monthly range was 3° at Walhalla, Pembina County; the least was 49° at Ashley, McIntosh County. The greatest daily range was 75° at Graf-on, Walsh County, on the 18th.

PRECIPITATION.

The average precipitation for the State was 0.53 inch, or .01 inch below the normal, and 0.04 inch more than the verage for January, 1922. The greatest monthly amount re-orted was 1.36 inches at Forman, Sargent County; there was one at Parshall, Mountrail County. The greatest amount re-orded in any 24 consecutive hours was 0.75 inch at Napoleon, Logan County, on the 13th. The average snowfall was 6.0 inches. The average number of days with 0.01 inch or more f precipitation was 5.

AURORAS.

Auroras were observed at Foxholm on the 13th; at Beach on he 22d and 27th, and at Bismarck on the 29th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.08	30.58	16	29.43	17	57	5,883	7.9	39	nw.	8
Devils Lake	30.06	30.62	16	29.25	17	44	7,003	9.4	50	nw.	17
Ellendale	30.08	30.60	16	29.39	17	56	10,187	13.7	54	nw.	8
Grand Forks	30.06	30.64	16	29.27	17	90	......	......	50	nw.	18
Williston	30.00	30.46	16	29.25	17	48	5,354	7.2	34	nw.	17
Moorhead, Minn	30.06	30.64	16	29.34	17	58	6,102	8.2	40	nw.	18
Av'ges and extremes	30.06	30.64	16	29.25	17	.....	....	9.3	54	nw.	8

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	115.8	279.2	41	−12	90	83	86	66	25
Devils Lake	134.4	275.8	49	− 1	87	83	88	60	24
Ellendale	159.1	282.9	56	......	93	86	....	60	23
Grand Forks	......	......	......	......	86	......	91	......	....
Williston	136.7	275.8	50	0	87	76	81	51	17
Moorhead, Minn	......	......	28	......	89	82	87	50	19
Averages and extremes	138.7	278.4	45	− 6	89	82	87	50	19

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893...	0.8	−4.1	49	−48	0.98	+0.44	7	11	11	9	nw.
1894...	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895...	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896...	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897...	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898...	14.6	+9.7	69	−32	0.11	−0.43	2	8	8	15	nw.
1899...	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900...	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901...	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902...	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903...	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904...	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905...	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906...	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907...	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908...	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909...	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910...	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911...	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912...	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913...	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914...	14.8	+9.9	62	−38	0.50	−0.04	4	16	8	7	nw.
1915...	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916...	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917...	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918...	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919...	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920...	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921...	15.9	+11.0	58	−31	0.24	−0.30	2	13	9	9	nw.
1922...	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.
1923...	10.1	+5.2	56	−35	0.53	−0.01	5	9	9	13	nw.

Climatological Data for January, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	10.4	+5.9	40	17	−19	8	49	0.72	+0.22	0.16	9.0	7	10	14	7	s.	E. T. Carley.
Amidon	Slope	....	9	19.6	....	47	18	−14	30	38	0.43	....	0.19	2.0	3	7	14	10	w.	Charles Eastgate.
Arnegard ††	McKenzie	....	8	14.6	....	43	17	−15	19	29	0.15	....	0.05	1.5	3	15	4	12	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	14.0	+6.5	38	17†	−11	2†	42	0.84	+0.29	0.32	10.5	4	13	6	12	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	17.6	+8.3	40	8†	−16	30	38	0.87	+0.24	0.25	....	5	....	....	....	....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	13.0	+5.5	50	17	−23	31	51	0.06	−0.34	0.06	1.0	1	12	11	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	12.3	+4.5	44	17	−20	31	37	0.29	−0.25	0.11	4.1	6	5	7	19	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	−0.2	+0.5	35	17	−26	19	31	0.33	−0.13	0.20	....	4	12	7	12	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	6.5	+3.3	42	17†	−24	24	46	0.59	−0.08	0.33	....	2	18	0	13	....	G. H. Phelps.
Bowman	Bowman	2,961	9	19.7	....	47	17	−14	30	33	0.64	....	0.29	1.5	9	6	13	12	nw.	R. Love, Jr.
Cando	Towner	1,488	22	6.2^{a}	+7.7	38^{a}	17†	22^{a}	5	45^{a}	0.90	+0.50	0.63	....	6	9	2	20	w.	A. J. Swanson.
Carson	Grant	2,500	11	14.7	+4.8	44	16	13	6†	40	0.22	−0.12	0.10	3.0	3	4	16	11	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	....	....	....	....	....	....	....	0.50	0.00	0.30	5.0	2	14	5	12	nw.	S. Friswold.
Crosby	Divide	1,954	16	8.6	+6.9	43	17	22	31	34	0.52	−0.03	0.24	6.5	8	9	9	13	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	6.0	+5.7	41	17	21	5	30	0.42	−0.18	0.15	6.5	7	9	10	12	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	15.2	+4.9	45	17	21	31	32	0.30	−0.12	0.07	....	7	11	4	16	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	11.4	+8.0	46	17	20	30	52	0.59	+0.20	0.22	3.0	3	3	14	14	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	14.4	+0.6	44	17†	−22	19	46	0.43	−0.08	0.35	3.0	2	6	4	21	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	5.4	+3.9	45	18	28	19	57	0.35	−0.12	0.08	4.5	7	11	5	15	w.	J. G. Lamont.
Eckman	Bottineau	1,500	18	5.6^{c}	+5.0	40^{c}	18	−27^{c}	5	49^{c}	0.40	−0.16	0.30	4.0	2	14	12	5	e.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	12.6	+4.8	43	18	−13	5	44	0.72	+0.43	0.35	9.7	6	3	14	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	13.4	+2.7	43	17	11	5	38	0.59	+0.19	0.30	7.8	9	5	9	17	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	12.1	....	42	17†	−21	31	47	0.47	+0.18	0.18	4.5	4	4	20	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	10.8	....	44	17	21	30	45	0.52	−0.04	0.25	5.0	4	15	8	8	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	8.0	+4.8	40	18	18	26	43	0.45	−0.15	0.16	4.7	6	7	6	18	se.	T. D. Monsen.
Forman	Sargent	1,249	29	....	....	....	....	....	....	....	1.36	+0.83	0.64	17.0	5	5	7	19	e.	O. Enger.
Foxholm	Ward	1,657	2	8.6	....	42	17	21	5	50	0.76	....	0.20	8.7	7	7	9	15	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	....	....	....	....	....	....	....	0.43	....	0.10	3.5	5	12	12	7	nw.	Verne King.
Fullerton	Dickey	1,439	25	13.4	+5.6	43	17†	−10	5†	42	1.34	+0.59	0.57	13.4	6	7	11	13	nw.	F. O. Alin.
Garrison	McLean	1,901	28	10.4	+3.9	40	17	18	31	47	0.29	−0.14	0.09	4.2	4	10	14	7	nw.	G. L. Robinson.
Grafton	Walsh	827	31	5.2	+4.3	43	18	−32	18	75	0.49	−0.11	0.17	8.4	6	13	7	11	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	6.7	+3.1	47	17	26	5	55	0.28	−0.30	0.15	2.8	8	16	5	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	9.3	+7.6	42	17	−20	2†	30	0.46	−0.05	0.16	6.0	4	7	12	12	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	....	....	....	....	....	....	....	0.64	−0.08	0.32	8.0	3	....	....	....	....	J. Moffatt.
Hansboro	Towner	1,597	15	3.2	+5.5	42	17	−34	5	48	1.05	+0.10	0.30	21.0	5	18	6	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	20.0	+7.5	56	9	15	28	40	0.70	+0.38	0.60	1.0	2	10	8	13	nw.	U. J. Downey.
Hillsboro	Traill	901	17	7.7^{d}	+3.8	40^{d}	18	−23^{d}	5	40^{d}	0.35	−0.39	0.10	3.5	4	....	....	....	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	6.9	+5.4	42	27	−22	30	46	1.20	+0.45	0.70	13.0	4	10	10	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	11.4	+4.9	40	16	−12	6	47	0.96	+0.32	0.40	12.0	3	12	2	17	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	9.6^{b}	+5.6	41^{b}	18	−18^{b}	18	59^{b}	0.64	+0.03	0.32	8.0	3	....	....	....	sw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	R. T. Burke.
Larimore	Grand Forks	1,134	29	4.1	+1.5	40	17	−30	6	43	0.40	−0.31	0.16	5.0	5	11	8	12	w.	Reuben Gray.
Linton	Emmons	1,711	5	13.6	....	44	17	−14	31	42	0.56	....	0.28	7.0	5	11	9	11	se.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	10.5	+4.6	42	17	−13	5	43	0.52	0.18	0.50	6.2	2	6	8	17	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	11.0	....	45	27	13	31	37	0.48	....	0.24	6.0	5	11	16	4	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	6.5^{b}	+5.4	40^{b}	17	−17^{b}	2†	40	0.24	−0.45	0.10	4.0	4	....	....	....	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	7.4^{a}	+4.2	47^{a}	17	−25^{a}	5	57^{a}	0.37	0.00	0.21	5.0	4	5	18	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	10.8	+3.1	40	18	−16	19	46	1.29	+0.62	0.52	12.9	7	10	3	18	se.	J. G. Carlson.
Maddock	Benson	1,604	8	7.4	....	39	17	−18	2	44	0.21	....	0.08	2.5	4	9	13	9	nw.	A. T. Felland.
Mandan	Morton	1,644	9	10.0	....	43	17	−19	31	47	0.36	....	0.09	5.5	9	10	3	18	sw.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	20	7.9	+3.9	40	17†	−17	2†	48	0.62	−0.03	0.15	6.0	8	9	6	16	sw.	P. B. Anderson.
Marmarth	Slope	2,714	14	24.6	+14.3	54	11†	−21	31	42	0.38	+0.08	0.30	0.8	3	....	....	....	....	E. C. Niccum.
Mayville	Traill	975	27	7.6^{a}	+1.5	40^{a}	18	−23^{a}	5	42^{a}	0.30	−0.19	0.18	3.5	3	....	....	....	nw.	M. G. Sateren.
Melville	Foster	1,590	25	8.8	+3.2	39	17	−13	6	40	0.28	−0.10	0.18	3.0	2	8	10	13	nw.	J. P. Kidder.
Minot	Ward	1,557	27	6.0	+1.0	45	17	−25	5	57	0.15	−0.30	0.10	1.5	2	17	9	5	w.	W. I. Faris.
Minto	Walsh	820	30	5.8	+4.0	40	18	−28	5	48	0.34	−0.15	0.12	....	8	12	7	12	se.	C. M. Evans.
Mott	Hettinger	2,424	16	13.6	+6.1	44	17	−17	31	40	0.80	−0.08	0.30	8.3	5	10	6	15	w.	O. H. Opland.
Napoleon	Logan	1,955	31	8.8	+2.9	43	17	−16	16	45	0.90	+0.45	0.75	8.5	3	14	6	11	nw.	C. J. Hoof.
New England	Hettinger	2,400	29	17.8^{b}	+4.5	46^{a}	7	−20^{d}	31	42^{d}	0.68	+0.26	0.30	4.0	3	7	6	18	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	11.8	+4.1	43	17	−16	19	35	0.31	−0.32	0.09	....	7	6	11	14	....	J. Christiansen.
Park River	Walsh	998	19	6.2	+4.4	40	17	−27	5	43	0.28	−0.16	0.11	6.7	3	12	6	13	nw.	C. B. Wright.
Parshall	Mountrail	....	8	....	....	....	....	....	....	....	0.00	....	0.00	0.0	0	....	....	....	....	J. A. Johnson.
Pembina	Pembina	789	49	1.2	+4.1	45	17	−35	5	53	0.26	−0.38	0.18	3.0	2	9	9	13	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	8.2^{b}	+8.2	38^{b}	18	17^{b}	19	....	0.40	−0.11	0.16	5.0	6	....	....	....	nw.	S. C. Shanks.
Power	Richland	1,020	29	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. A. Power.
Powers Lake	Burke	2,205	9	....	....	....	....	....	....	....	0.85	+0.07	0.35	9.0	4	5	15	11	nw.	C. Frank.
Richardton	Stark	2,467	7	15.6	....	44	17†	−12	30	45	0.55	....	0.20	5.5	5	8	11	12	s.	Geo. Keim.
Skaar	McKenzie	....	3	14.8^{a}	....	45^{a}	10†	−25^{a}	31	35^{a}	0.80	....	0.25	8.0	6	6	13	12	se.	Conrad Brunsvold.
Steele	Kidder	1,857	27	7.6	0.0	42	18	−18	2†	32	0.47	−0.05	0.12	4.6	6	9	14	8	nw.	H. S. Wood.
Towner	McHenry	1,482	21	6.4	+3.8	43	17	−22	4	40	0.24	−0.25	0.24	3.0	1	14	3	14	se.	B. Bagley.
Turtle Lake	McLean	1,899	8	8.2	....	41	17†	−19	31	48	0.26	....	0.09	4.5	4	2	8	21	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	9.0	+4.2	39	18	20	5	45	0.41	−0.25	0.15	3.6	9	5	15	11	nw.	H. Twito.
Wahpeton	Richland	962	29	11.4	+3.6	41	18	−14	5	38	0.18	−0.33	0.13	2.1	4	12	1	18	se.	C. G Luick.
Walhalla	Pembina	966	19	6.9	+7.1	52	18	31	5	56	0.48	−0.36	0.32	6.0	2	14	5	12	sw.	Wm. Campbell.
Washburn	McLean	1,731	22	....	....	....	....	....	....	....	0.36	−0.03	0.14	....	4	....	....	....	....	Karl Klein.
Westhope	Bottineau	1,508	17	3.6	+5.0	42	17	−28	5	38	0.53	−0.03	0.48	5.5	2	1	16	14	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	12.5	+6.0	49	17	−18	31	41	0.56	−0.02	0.28	7.4	9	7	6	18	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	3.6^{a}	+3.3	43^{a}	17	−30^{a}	19	48^{a}	0.64	+0.06	0.16	8.0	5	....	....	....	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	11.0	+8.3	41	17	−19	5	38	0.47	−0.24	0.15	6.0	13	8	5	18	nw.	U. S. Weather Bureau.
Averages	....	....	....	10.1	+5.2	56	9	−35	5	75	0.53	−0.01	0.75	6.0	5	9	9	13	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used i determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for January, 1923.

Stations.	Drainage Basin.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ‖‖	Red					.08			.08		T.	.08			.16						.08								.16	.08			0.72
Amidon	Lit. Missouri			T.	T		.06	.19												T.							.18						0.43
Arnegard	Missouri		.05			.05				T.									T		.05			T									0.15
Ashley	Missouri													.24	.16					.32								.12					0.84
Beach	Lit. Missouri			.17		.20	.03	T.	.25									T.		T.				T			T		T.	.22			0.87
Berthold Agency	Missouri																														.06		0.06
Bismarck ***	Missouri		T.	.05	T.	T.	.03			.05	T.	T.		T.				T.	.03	.08	T.							.05	T.	T.			0.29
Bottineau	Mouse						.06			.05	.02																				.20		0.33
Bowbells ‖‖	Mouse				.33																										.26		0.59
Bowman	Grand				.05		.20	.29										.01	.01	.01							.02	.03		.02			0.64
Cando	Devils Lake.			.63			.03		.02		.07																		.02		.13		0.90
Carson	Heart																T.		.10								.08			.04			0.22
Cooperstown	Sheyenne			T			.30				.20			T.																			0.50
Crosby	Mouse			.02		.02		.04		.04		.08	.04								T.							.04	T.	.24			0.52
Devils Lake ***	Devils Lake.			.08			T.	T.	T.	.12	.03		T.								.01							.04	.02	.12			0.42
Dickinson‖‖	Heart		.02	T	.02	T.		.07												.04	.02							.07		T.	.06		0.30
Donnybrook	Mouse		T.	T						.22	T.																.18		T.	.19			0.59
Dunn Center ‖‖	Knife				T.														.08											.35			0.43
Dunseith	Mouse						.08			.04	.04								.04									.06	.01		.08		0.35
Eckman	Mouse			.10	T.	T.	T.		T.	T.																	T		T.		.30		0.40
Edgeley	James			.05			.02								.35						.03							.13		.14			0.72
Ellendale***	James	T.	T.	.01	.01		.02			.03		T.		.30			T.		.03	.04	T.							.14	.01				0.59
Energy	Missouri		T.	.08		T.				.18									T.	T.								.07		.14			0.47
Epping	Missouri			.14		.06				.07									T.		T.									.25			0.52
Fessenden	James	T.		T.	.08		T.	.02			.15		.02						T.		.02	T.									.16		0.45
Forman	Sheyenne			.16							.16			.64					T.									.24		.16			1.36
Foxholm	Mouse		T.	.06	T.				T.	.09	T.		.13					T.			T.	T.						.12	.01	.15	.20		0.76
Fryburg	Heart			.10															.05		.10	.08								.10			0.43
Fullerton	James	T.		T.	.18		T.			.20				.57			T.			.08								.27	.04	T.		T.	1.34
Garrison	Missouri	T.	T.	.09						.06												T.						.07		.07		T.	0.29
Grafton	Red				.17			.02				.06									.05								.05		.14		0.49
Grand Forks ***	Red			.04	T.		.03		.01	.01	.01	T.	T.					T.			.15	T.						.02	.01		T.		0.28
Granville	Mouse			T.				T.		T.	T.	.08	.16					T.			T.	.08						T.	T.		.14		0.46
Hannah	Pembina			T.					.08		.24																		.32				0.64
Hansboro	Devils Lake.			.20							.25																	.20			.30	.10	1.05
Hettinger	Grand	T.					.10		.60																								0.70
Hillsboro	Red						.10			.10				.10								T.						.05					0.35
Howard	Missouri		.20			T.		T.	T.	.15	T.	T.																.15		.70			1.20
Jamestown	James						.40							.32														.24					0.96
Lamoine	Missouri														.32					.16										.16			0.64
Langdon	Pembina																																
Larimore	Red						.08			.04	.04	.16																	.08				0.40
Linton	Missouri		.02	.02						T.				.28					T.	.16		T.						.08		T			0.56
Lisbon ‖‖	Sheyenne				T.										.50				T.	T.								.02		T.			0.52
McClusky	Missouri				.08					.08									T.	.04									.04		.24		0.48
McHenry	James	T.		.09			.02			.03								T.						.10				T.					0.24
McKinney	Mouse	T.	T.	T.						.04	.04																		T.	.08	.21		0.37
McLeod	Sheyenne				.08		.02				.17				.52						.39	.02					T.		.09				1.29
Maddock	Sheyenne			.04							.05																		.04	.08			0.21
Mandan‖‖	Missouri			.02	T.		.05				.06									.04	.09							.04	.01	.01	.04		0.36
Manfred	James		T.	.10			.05			.10	T.		.05				T.			T.	.05	T.						.07	.05	T.	.15		0.62
Marmarth	Lit. Missouri	T.	.05				.30	T.	T.										.03	T.	T.						T.						0.38
Mayville	Red							.18			.08																		.04				0.30
Melville	James									.10									T.									.18					0.28
Minot	Mouse				.05																									.10			0.15
Minto	Red				.12		.07		.01	.03	.02	.03																.03			.03		0.34
Mott	Cannon Ball		T.		.14			.30			.06									.27								T.		.03			0.80
Napoleon ‖‖	Missouri				.10					.05				.75																			0.90
New England	Cannon Ball	T.	T.	T.	T.		.30		.30											.08													0.68
New Salem	Heart		.01	.09				T.		.04									.02									.04	.02	.09			0.31
Park River	Red						.09	.08			.11																						0.28
Parshall	Missouri																																0.00
Pembina ‖‖	Red											.18																			.08		0.26
Pettibone	James			.08			.04			.16				.04						.04								.04					0.40
Power	Sheyenne																																
Powers Lake	Missouri		T.		T.	.25	T.	.20	T.	T.	T.	T.	T.							.05		T.	T.						T.	.35	T.		0.85
Richardton	Heart	.10			.06					T.									T.	.14								.20		.05			0.55
Skaar	Yellowstone			.25	T.	T.	T.	.05	T.								T.	.10	.10					T.				.05		.25			0.80
Steele	Missouri	T.	T.	.08	T.		T.	T.	T.	T.	T.		T.	.05	T.			T.	.10	.12							.08	.04					0.47
Towner	Mouse	T.	T.							T.	T.		T.															T.			.24		0.24
Turtle Lake	Missouri		.09	.08	T.					T.	T.								T.	.04										.05			0.26
Valley City	Sheyenne			.15			T.		.05	.02	.01			.05	.04						.05							.02	.02				0.41
Wahpeton	Red													.02	.13						.02							.01					0.18
Walhalla	Pembina			T.	.32						.16																						0.48
Washburn				.06	.08														T.	.08										T.	.14		0.36
Westhope	Mouse							T	.05	.48																							0.53
Williston ***	Missouri	.07	.02	.07	T.	.03		T.		.05		T.						T.	.01		T.			T.			.01	.02	T.	.28			0.56
Willow City	Mouse			.16					.16	.08											T.	T.						.08	T.	T.	.16		0.64
Moorhead, Minn ***	Red			.03	.01		.02	T.	T.	.03	T.	T.	.02	.15			T.	.01	.02	.02	.06	.02	T.	.01				.07	T.	T.	T.		0.47

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	24	17	22	19	18	18	18	30	13	28	26	30	18	19	22	20	40	28	34	35	17	30	32	34	28	26	22	18	19	16	8	23.5
	Minimum ...	-8	-10	8	4	11	11	-10	-19	-2	1	7	-5	0	-1	-4	2	0	1	-12	-6	4	-4	6	-6	-10	-6	4	3	-3	-10	-12	2.8
Amidon	Maximum...	11	26	38	36	12	36	38	41	40	43	39	36	33	33	33	33	46	47	17	23	29	35	35	22	24	21	25	17	11	11	5	28.9
	Minimum ...	7	8	4	9	-4	5	25	29	20	25	25	16	19	19	23	17	28	9	7	3	15	-3	18	-6	3	4	10	-5	2	-14	-4	10.3
Arnegard	Maximum...	9	16	36	16	10	28	35	37	37	41	33	33	32	27	29	31	43	16	11	23	28	30	22	16	22	21	19	10	18	16	16	24.6
	Minimum ...	0	0	12	-9	-10	10	18	23	8	19	13	10	7	9	9	11	16	4	-15	3	2	4	8	-11	0	3	3	0	2	3	2	4.7
Beach	Maximum...	15	25	37	18	15	36	38	40	34	39	40	31	32	29	36	38	38	16	23	28	38	34	23	21	22	23	22	17	10	10	2	26.8
	Minimum ...	10	10	14	5	6	15	24	18	17	23	20	14	11	17	15	14	0	-3	10	10	13	12	10	-2	1	7	5	-4	4	-16	-10	8.5
Berthold Agency	Maximum...	8	10	35	30	3	20	35	45	38	41	42	37	25	30	32	23	50	47	7	20	29	28	25	15	20	18	25	18	11	5	3	25.0
	Minimum ...	-4	3	9	3	-10	-3	4	16	8	15	4	6	6	-4	0	0	16	-4	-10	4	11	3	8	-11	0	-4	11	-11	5	-12	-23	1.0
Bismarck	Maximum...	8	10	33	17	0	19	33	40	36	39	34	34	27	32	34	23	44	37	7	25	26	35	36	12	19	15	19	13	13	4	5	23.5
	Minimum ...	-2	3	10	-7	-13	-2	8	20	6	13	14	13	8	3	8	-3	20	0	-15	4	9	0	6	-8	0	-10	-6	-10	4	-7	-20	1.1
Bottineau §§	Maximum...	3	0	10	0	2	8	10	20	12	10	12	10	20	10	15	12	35	-5	8	-2	3	10	15	8	9	5	6	9	7	0	-5	8.8
	Minimum ...	-8	14	-7	10	-21	15	6	12	-9	-7	3	-9	-10	9	-8	-7	4	-11	-26	-10	-11	-8	5	-21	11	10	-5	-10	-2	-15	-21	-8.7
Bowbells §§	Maximum...	2	12	23	7	11	22	30	22	12	24	12	26	24	25	12	28	42	3	12	22	42	26	25	22	10	22	22	9	2	0	2	17.8
	Minimum ...	3	-15	-8	-9	-14	-13	-1	-1	4	0	4	1	6	5	7	8	0	-12	-16	-11	3	5	5	-24	2	-3	2	0	-2	-22	-15	-4.8
Bowman	Maximum...	13	24	37	32	14	36	40	40	40	44	39	39	33	33	40	32	47	42	20	23	29	35	33	24	32	32	22	19	12	10	9	29.8
	Minimum ...	6	8	10	8	1	3	23	24	20	25	26	18	17	16	16	19	23	10	0	12	10	10	10	0	4	6	4	-2	-6	-14	-8	9.6
Cando	Maximum...	11	....	18	18	1	25	21	25	22	10	20	18	16	15	15	12	38	38	4	12	17	19	25	22	14	13	18	21	18	7	1	[a]17.5
	Minimum ...	-10	....	19	-5	-22	14	12	19	-7	7	0	-7	-6	-3	0	0	2	-7	-21	-5	0	-5	14	16	1	10	2	-12	-12	-15	-9	[a]-5.0
Carson	Maximum...	8	15	38	33	15	15	35	40	40	40	35	30	33	36	26	44	40	10	22	25	35	33	20	20	15	15	18	15	15	5	5	25.0
	Minimum ...	-1	-1	10	12	0	-13	13	20	10	20	15	20	10	12	10	18	0	-4	5	10	10	15	-10	0	-1	-5	-4	4	-5	-13	12	4.4
Crosby	Maximum...	8	6	8	6	4	11	30	31	26	35	31	18	16	21	21	22	43	23	15	23	28	27	23	13	22	21	28	10	6	0	4	18.5
	Minimum ...	-1	-6	-4	-14	-6	-8	4	10	12	7	12	8	1	4	5	-10	23	-11	-15	1	3	0	3	16	-5	5	18	7	-1	-21	-23	-1.3
Devils Lake	Maximum...	3	3	18	16	-4	14	26	26	10	22	21	22	22	20	16	11	41	20	6	13	20	23	27	8	17	16	17	18	8	8	0	15.7
	Minimum ...	16	-19	3	-4	-21	-15	13	8	-5	8	-5	3	3	3	-1	0	11	-7	-15	0	0	3	2	-12	-1	5	4	-6	-13	-13	13	-3.7
Dickinson §§	Maximum...	9	30	38	15	14	32	38	35	41	40	32	35	35	32	37	30	45	20	21	23	22	29	18	21	19	21	22	14	10	7	7	25.5
	Minimum ...	3	5	8	9	2	0	13	20	12	25	21	14	14	12	12	10	14	5	-7	0	5	0	10	10	-4	6	9	12	4	-14	-21	4.9
Donnybrook	Maximum...	5	25	33	30	4	25	30	32	26	30	30	27	30	26	27	30	46	44	16	17	27	28	30	30	22	23	22	23	10	4	0	24.3
	Minimum ...	-6	18	-3	-7	-17	-4	10	20	-4	0	-1	-3	4	10	14	-8	10	-8	-10	-8	6	10	12	10	-5	-6	0	-3	-6	-20	10	-1.5
Dunn Center §§	Maximum...	9	15	38	27	6	22	35	35	40	40	39	33	29	29	36	28	44	44	19	21	26	27	24	16	22	18	22	14	14	14	4	25.5
	Minimum ...	-2	-8	11	6	-4	-1	18	18	8	22	18	14	2	2	12	3	21	-2	-22	3	10	-2	6	8	5	-8	7	-15	3	-7	-8	3.3
Dunseith	Maximum...	9	5	16	18	1	13	17	27	23	16	18	19	29	25	23	19	37	45	4	14	21	23	30	35	21	17	13	17	11	6	5	18.6
	Minimum ...	-14	-17	-8	-10	-20	-17	2	12	-10	7	-3	-12	-1	-7	-2	-1	0	12	-28	-8	0	-2	11	18	-8	-6	-2	-4	-4	-27	17	-7.7
Edgeley	Maximum...	9	4	21	31	4	17	32	37	26	28	33	32	32	30	28	20	40	43	4	19	22	25	34	29	33	18	17	16	14	13	13	23.4
	Minimum ...	5	-12	1	2	-13	-11	6	23	4	10	11	5	21	9	11	5	0	-1	-10	-3	8	5	18	-5	-1	-6	7	-5	4	1	11	1.8
Ellendale	Maximum...	8	4	33	27	-3	18	30	40	22	34	35	31	34	29	30	24	43	41	9	20	24	30	34	12	22	15	17	14	15	13	13	23.2
	Minimum ...	-6	-10	4	-4	-11	-5	10	21	6	15	7	12	22	9	3	-4	22	3	0	6	11	7	12	-4	4	4	-1	4	1	-3	10	3.8
Fessenden §§	Maximum...	-3	14	25	4	7	18	31	28	16	28	14	28	24	25	18	28	40	0	14	25	23	31	23	11	19	20	22	10	9	4	-3	17.8
	Minimum ...	-3	-15	-6	3	-10	9	-2	18	-1	5	10	3	10	3	5	-5	7	-3	10	-9	2	4	11	-12	-9	18	6	3	5	10	-16	1.9
Foxholm	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fullerton	Maximum...	13	5	23	28	5	18	27	38	27	26	33	29	33	29	28	11	43	43	7	21	23	26	34	26	20	15	17	16	15	14	12	22.7
	Minimum ...	-4	-7	5	5	-10	-10	10	20	8	13	12	7	18	20	11	-1	4	1	-1	1	9	8	22	-4	1	-4	9	-3	1	2	10	4.2
Garrison	Maximum...	3	5	27	27	7	17	30	29	30	29	33	29	25	23	28	20	40	39	5	20	29	25	22	18	21	19	21	21	16	10	3	21.6
	Minimum ...	-3	-9	4	3	-15	-4	6	19	4	2	11	9	-1	-5	0	-3	4	-8	-9	1	7	0	12	8	-1	-6	8	8	-3	-12	-18	-0.7
Grafton	Maximum...	4	6	13	11	2	13	22	21	19	20	20	18	21	24	22	15	35	43	5	13	18	16	31	24	21	16	20	20	9	12	12	17.1
	Minimum ...	-10	-21	19	-4	-27	-25	12	15	5	1	1	-10	-3	-5	3	-6	-4	-32	-23	-4	2	9	7	-6	-5	-10	-1	3	-10	5	10	-6.6
Grand Forks	Maximum...	-2	-12	16	16	-8	21	23	24	10	21	23	19	24	27	18	4	47	45	2	13	19	20	33	10	22	13	23	18	20	23	16	17.7
	Minimum ...	-12	-17	-15	-8	-26	-17	15	10	1	1	-9	-10	6	4	6	-4	4	-10	-18	0	2	-7	8	-6	-4	-7	6	8	-11	2	-6	-4.8
Granville	Maximum...	8	10	25	10	2	18	28	37	15	28	20	30	30	28	30	20	42	18	12	20	28	28	28	12	20	18	22	20	6	8	5	20.2
	Minimum ...	8	-20	8	-8	-20	4	3	10	-2	2	-10	3	5	0	0	8	18	8	-12	8	2	2	0	-12	0	-8	5	8	6	-10	15	-1.6
Hansboro	Maximum...	15	5	20	16	0	14	21	28	20	17	12	19	26	28	20	31	42	36	-2	6	20	17	17	22	12	17	18	18	3	2	0	16.6
	Minimum ...	-16	-25	12	-25	-34	-17	7	8	7	0	-14	14	-5	2	-2	-2	1	-12	25	20	15	10	6	-18	-7	-14	-9	-7	-14	-14	-12	-10.1
Hettinger	Maximum...	10	7	31	12	12	34	39	40	56	44	37	40	37	55	50	34	50	45	16	25	30	33	32	20	29	20	25	14	10	10	12	29.3
	Minimum ...	5	2	4	10	0	3	18	35	42	25	28	15	17	15	18	18	32	12	2	11	18	8	15	0	8	3	5	-15	2	-10	9	10.7
Hillsboro	Maximum...	7	9	2	5	-4	13	20	25	20	....	....	13	25	25	22	10	30	40	2	10	10	18	30	24	...	...	20	18	9	9	12	[d]16.0
	Minimum ...	-11	-15	-9	2	-23	-17	12	12	6	....	....	5	6	0	4	-3	-2	0	-16	-1	0	-6	6	-5	...	....	6	-3	-3	3	-9	[d]-2.6
Howard	Maximum...	5	18	7	5	0	24	33	31	30	37	34	27	19	18	22	23	42	32	0	11	24	23	21	11	14	18	18	15	6	-6	-5	17.7
	Minimum ...	-14	-12	-14	-14	-15	-14	8	7	10	11	11	2	2	5	6	10	16	-14	-17	-7	-7	0	-1	-15	-4	-4	0	-7	7	-22	20	-3.9
Jamestown §§	Maximum...	11	24	7	3	14	35	33	32	18	30	32	28	26	25	26	40	16	17	22	23	28	35	10	22	16	17	15	12	8	8	14	20.9
	Minimum ...	0	-8	-6	2	8	-12	3	12	4	12	4	12	15	11	6	2	2	5	6	-8	9	7	17	4	6	-4	6	2	4	0	10	1.9
Lamoine	Maximum...	1	3	22	22	0	13	27	32	30	28	32	24	32	21	....	32	37	41	4	15	20	...	20	17	16	13	15	22	14	8	4	19.4
	Minimum ...	-7	13	-2	-8	-10	-10	3	20	28	20	20	4	5	5	....	5	4	-18	-12	6	1	....	17	-13	-6	-5	7	0	-3	-12	-15	[b]-0.1
Langdon §§	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Larimore §§	Maximum...	-5	-3	15	15	-18	-3	25	25	10	15	18	18	20	23	18	21	40	20	3	15	18	18	18	18	20	18	17	18	13	17	14	14.9
	Minimum ...	-10	21	-10	-10	26	-30	-10	3	5	2	3	-8	5	5	0	-10	-3	-1	-20	-3	0	-5	2	-8	10	-8	-7	-6	-10	-8	-5	-6.7
Linton	Maximum...	8	12	33	34	1	21	31	38	36	32	35	37	35	31	35	18	44	43	8	21	27	32	35	19	19	18	24	24	15	12	7	25.3
	Minimum ...	-1	4	11	0	-9	-6	7	24	5	13	15	11	17	14	6	-8	13	1	-2	-6	6	-7	8	-9	0	10	11	-10	3	-6	-14	2.0
Lisbon §§	Maximum...	16	12	12	12	14	18	17	23	24	18	31	28	31	21	20	27	42	10	16	30	31	28	34	15	24	14	14	20	16	10	15	20.7
	Minimum ...	1	-12	6	6	-13	-6	3	6	8	10	6	13	16	12	3	6	-1	1	12	2	5	6	3	-8	5	-9	-8	-1	9	-10	-12	0.3
McKinney	Maximum...	0	0	22	22	5	18	28	30	30	20	20	28	18	20	10	42	47	10	20	25	25	22	....	12	16	15	21	15	10	0	-2	[a]18.5
	Minimum ...	-5	-19	0	-13	-25	-5	5	15	19	3	1	0	10	5	0	10	-10	-17	0	4	0	8	....	-13	4	-14	0	0	-1	-20	-22	[a]-3.7
Maddock	Maximum...	8	-1	23	21	-1	17	28	26	22	21	22	24	22	19	17	9	39	38	7	15	24	23	30	20	16	18	16	21	8	7	3	18.1
	Minimum ...	-9	-18	-1	6	-12	12	4	17	6	10	0	-3	1	5	1	-7	2	-6	-16	0	-1	-1	16	14	2	10	6	7	-9	-12	-17	-3.2
Melville	Maximum...	10	0	18	18	-3	14	21	22	24	20	20	20	26	26	18	15	39	37	3	10	22	22	20	20	16	17	16	14	15	7	0	17.0
	Minimum ...	-8	-12	0	-3	-11	-13	2	17	-2	9	-5	0	20	8	8	3	0	-3	10	4	3	8	17	-10	1	3	8	4	-7	0	6	0.6
Minot §§	Maximum...	10	24	24	21	6	21	32	32	20	31	32	28	30	25	25	15	45	42	4	15	28	32	27	12	23	22	25	13	4	4	4	21.8
	Minimum ...	-15	-24	-2	-14	-25	-9	-11	-11	-4	-10	-2	-10	-11	-3	-1	-15	8	-15	-17	-4	2	-2	-3	18	-7	14	-5	8	-8	-22	-16	-9.7
Mott	Maximum...	15	13	38	31	8	23	33	36	38	40	30	36	33	31	37	20	44	21	12	20	25	32	22	17	25	15	16	10	2	5	2	23.5
	Minimum ...	2	1	-2	6	0	-3	16	22	23	20	21	5	15	10	9	11	7	4	-4	-3	5	-2	10	-3	-2	5	0	-15	0	-15	-17	3.7
Napoleon §§	Maximum...	3	13	33	10	8	20	30	35	32	35	21	34	34	22	28	27	43	14	19	23	20	29	31	12	17	18	18	13	12	4	4	21.4
	Minimum ...	-9	-12	5	-2	-15	-12	2	22	1	5	12	4	20	-5	-3	-16	-2	3	-15	-6	2	-3	5	-13	-12	13	-5	-13	-10	-10	-14	3.8
New Salem	Maximum...	7	12	36	26	-4	18	34	37	40	36	18	30	29	32	36	11	43	6	7	18	27	31	33	10	19	16	22	13	2	6	5	21.2
	Minimum ...	6	-8	10	0	10	-9	12	22	5	34	8	9	13	10	11	2	16	2	-16	2	4	0	15	-10	2	-5	7	-7	10	-12	-11	2.3
Pembina §§	Maximum...	2	5	15	-5	-12	-10	10	25	9	20	10	15	25	20	25	23	45	-1	4	10	20	25	30	10	20	25	28	20	16	15	24	15.1
	Minimum ...	-15	24	-21	4	-35	-25	-20	-25	-2	-4	10	-10	-2	-10	-12	-10	8	-5	-31	6	-12	-15	8	-14	15	-16	-2	-5	-19	-18	10	-12.7
Steele	Maximum...	0	8	25	-4	-8	8	32	32	22	26	27	30	34	14	25	16	39	42	11	18	15	26	31	7	15	12	15	10	11	0	2	17.5
	Minimum ...	-10	-18	-7	-14	-21	-15	15	16	8	18	15	8	14	-4	0	-8	7	-6	-5	-6	-6	0	18	-12	0	10	-8	0	-8	-12	-18	-2.2
Towner	Maximum...	8	10	25	8	26	16	22	22	20	19	20	20	18	16	15	10	43	42	7	14	24	24	27	17	14	20	16	19	5	7	3	18.0
	Minimum ...	-8	-20	8	-22	-10	-8	3	16	-6	-4	3	-5	-6	-6	-8	7	3	-7	20	-3	-4	5	10	16	-2	3	6	4	-8	-16	-18	-5.3
Valley City	Maximum...	11	3	17	16	-2	15	20	27	24	20	25	23	30	30	22	12	37	39	4	14	20	22	30	20	20	15	17	21	14	14	11	19.4
	Minimum ...	8	-13	-3	-2	-20	-15	14	16	-3	8	4	-3	12	-4	4	-2	-3	-6	-11	4	-4	7	15	-7	-2	-3	5	0	-1	1	-8	-1.2
Wahpeton	Maximum...	17	12	17	20	12	13	23	31	30	25	28	18	32	32	26	20	32	41	11	16	14	20	32	33	26	21	22	24	26	24	17	23.1
	Minimum ...	-5	-4	-5	-4	-14	-10	10	17	5	4	-11	-2	15	-1	-1	-6	-1	3	-5	2	-3	-5	20	1	12	-5	6	-4	7	7	-11	-0.3
Walhalla	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Westhope	Maximum...	15	12	19	17	-8	17	22	18	19	18	12	17	12	18	15	10	42	8	10	16	12	25	18	20	15	15	5	8	15	10	15	15.1
	Minimum ...	-10	-15	-19	-10	-28	-15	-5	-7	10	-5	-5	-5	-10	-10	-2	9	10	10	-24	10	-5	5	5	-18	-10	8	-10	-10	-6	5	6	-8.0
Williston	Maximum...	11	16	36	10	10	23	39	36	34	41	23	32	26	26	31	32	49	8	13	25	29	30	24	17	18	24	21	17	11	-1	1	22.9
	Minimum ...	1	4	10	-11	-11	10	15	13	11	20	15	7	3	4	3	2	8	-8	-11	5	10	2	0	-9	0	-2	8	10	-9	-16	-18	2.1
Moorhead, Minn	Maximum...	3	0	18	18	-4	19	23	28	18	27	28	19	32	25	20	12	41	39	7	15	17	24	33	22	21	17	21	17	23	23	13	20.0
	Minimum ...	-8	-7	-1	-4	-19	-8	14	18	8	11	0	0	14	6	4	-2	12	1	-8	2	5	-2	22	-1	-2	-4	11	-3	7	6	-6	2.1

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

NT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

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NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXII. BISMARCK, N. D., FEBRUARY, 1923. No. 2

GENERAL SUMMARY.

The weather throughout North Dakota during February was unusually cold and disagreeable, with more than the average snowfall and wind movement. The month opened with low temperature, accompanied by high winds, which caused the snow to interfere with both highway and railway traffic. Except for local use of sleds, highway traffic was brought to a standstill. One of the most severe storms in the climatological history of the State occurred during the second decade. Improved conditions, however, prevailed during the last decade. The snow covering was considerably reduced, allowing livestock to graze on ranges and harvested fields. The covering of snow on winter rye was sufficient up to the close of the month.

TEMPERATURE.

The mean temperature for the State was 4.1°, or 3.8° below the normal, and 3.4° higher than the mean for February, 1922. The highest mean reported was 11.8° at Hettinger, Adams County; the lowest was -4.1° at Bottineau, Bottineau County. The highest temperature reported was 48° at Hansboro, Towner County, on the 24th and 28th; the lowest was -40° at Westhope and Willow City, both in Bottineau County, on the 3d. The greatest monthly range was 84° at Hansboro, Towner County; the least was 60° at Fullerton, Dickey County. The greatest daily range was 61° at Jamestown, Stutsman County, on the 5th.

PRECIPITATION.

The average precipitation for the State was 0.65 inch, or 0.16 inch more than the normal, and 0.07 inch less than the average for February, 1922. The greatest monthly amount reported was 2.10 inches at Fullerton, Dickey County, and McHenry, Foster County; the least was a trace at Berthold Agency, McLean County. The greatest amount recorded in any 24 consecutive hours was 1.40 inches at Bowbells, Burke County, on the 15th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 7.2 inches.

AURORAS.

Auroras were observed at New England on the 2d; at Foxholm and McLeod on the 3d; at New England on the 7th and 14th; at Foxholm on the 16th; at McLeod on the 17th and 18th; at Foxholm and Howard on the 24th, and at Howard on the 25th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.31	31.08	14	29.61	12	57	7,599	11.3	42	w.	13
Devils Lake	30.23	30.90	14	29.42	7	44	8,944	13.3	46	nw.	13
Ellendale	30.27	31.00	15	29.53	12	56	11,927	17.7	62	nw.	13
Grand Forks	30.21	30.82	15	29.60	7	90	......	......	48	nw.	7
Williston	30.28	31.08	14	29.51	7	48	6,411	9.5	38	nw.	7
Moorhead, Minn	30.24	30.94	14	29.52	7	58	6,740	10.0	37	nw.	13
Av'ges and extremes	30.26	31.08	14	29.42	7	.....	8,324	12.4	62	nw.	13

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	182.8	288.7	63	+ 5	90	81	86	63	10
Devils Lake	189.9	286.9	66	+10	87	82	87	63	1
Ellendale	195.9	290.3	67	......	93	84	....	56	21
Grand Forks	......	......	......	......	89	....	90	.....	....
Williston	198.9	286.9	69	+16	91	77	80	62	8†
Moorhead, Minn.	......	......	.....	......	85	76	84	40	4
Averages and extremes	191.9	288.1	66	+10	89	80	81	40	4

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893	- 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904	- 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908	13.9	+6.0	62	−34	1.07	+0.58	5	12	7	10	nw.
1909	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw.
1916	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917	- 0.7	−8.6	62	−48	0.66	+0.17	5	10	8	10	nw.
1918	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919	7.7	−0.2	58	−40	0.66	+0.17	5	10	8	10	nw.
1920	12.5	+4.6	53	−36	0.30	−0.19	3	11	9	9	nw.
1921	19.9	+12.0	64	−33	0.39	−0.10	3	11	10	7	nw.
1922	0.7	−7.2	45	−39	1.21	+0.72	5	13	6	9	nw.
1923	4.1	−3.8	48	−40	0.65	+0.16	4	13	7	8	nw.

Climatological Data for February, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	3.4	-3.6	38	23	-31	3	54	1.74	+1.34	0.72	21.0	5	15	8	5	nw.	E. T. Carley.
Amidon	Slope	.....	9	11.0	.....	47	28	-27	14	46	0.20	.....	0.20	2.0	1	16	5	7	w.	Charles Eastgate.
Arnegard ††	McKenzie	.....	8	7.0	.....	40	24†	-30	14	38	0.42	.....	0.10	4.0	6	19	0	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	7.0	-0.8	41	28	-25	3	39	0.64	+0.17	0.32	8.0	2	18	4	6	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	7.8	-5.8	46	28	-23	10	45	0.42	-0.09	0.14	.....	7	.....	.....	.....	.....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	5.6	-3.8	42	24	-32	6	47	T.	-0.55	T.	T.	0	18	6	4	w.	C. L. Hall.
Bismarck	Burleigh	1,674	48	7.4	-0.9	45	28	-28	4	42	0.46	-0.04	0.29	5.4	3	9	10	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	-4.1	-5.9	35	28	-37	3	32	0.50	+0.13	0.36	.....	4	20	4	4	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	0.3	-5.5	40	27†	-30	3†	56	1.40	+1.03	1.40	.....	1	16	0	12	.....	G. H. Phelps.
Bowman	Bowman	2,961	9	9.6	.....	45	28	-27	14	43	0.06	.....	0.04	.....	3	12	10	6	nw.	R. Love, Jr.
Cando	Towner	1,488	22	0.4	-2.4	35	28	-35	3	34	0.67	+0.44	0.52	.....	4	12	8	8	w.	A. J. Swanson.
Carson	Grant	2,500	11	8.0	-5.7	45	24	-27	3†	42	0.16	-0.14	0.08	2.0	3	17	6	5	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	.....	.....	.....	.....	.....	.....	.....	0.30	-0.01	0.30	3.0	1	15	8	5	nw.	S. Friswold.
Crosby	Divide	1,954	16	2.8	-4.3	43	28	-31	3†	35	0.38	+0.12	0.12	4.8	5	11	12	5	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	2.0	-2.5	36	28	-30	3	36	0.73	+0.20	0.28	9.7	10	11	7	10	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	6.9	-4.9	45	28	-28	14	56	0.20	-0.23	0.11	4.0	2	13	4	11	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	4.6	-2.4	36	28	-30	6†	43	0.62	+0.11	0.39	2.5	3	6	19	3	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	7.6	-5.4	41	27	-32	14	44	0.50	-0.06	0.38	6.0	3	15	5	8	sw.	W. H. Moede.
Dunseith	Rolette	1,682	27	.....	.....	.....	.....	-38	3	.....	1.27	+0.85	0.32	12.8	9	.....	.....	.....	.....	J. G. Lamont.
Eckman	Bottineau	1,500	18	2.5	-3.9	38	7†	-35	3	49	0.71	+0.36	0.30	10.0	1	18	4	6	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	7.2	-3.7	37	24	-27	14	41	0.38	+0.06	0.20	4.0	3	8	12	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	7.4	-3.3	38	28	-23	4	40	0.47	-0.01	0.27	4.7	6	8	7	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	8.4	.....	44	28	-32	6	44	0.43	+0.17	0.38	4.0	2	14	12	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	3.8	.....	41	27†	31	14	40	0.75	+0.40	0.31	12.5	6	20	4	4	nw.	M. E. Uggen.
Fessenden	Wells	1,610	11	0.8	-7.1	39	7	-35	14	51	1.40	+1.07	.....	13.5	.....	12	9	7	nw.	T. D. Monsen.
Forman	Sargent	1,249	29	.....	.....	.....	.....	.....	.....	.....	0.40	-0.13	0.24	5.0	4	10	5	13	nw.	O. Enger.
Foxholm	Ward	1,657	2	4.6	.....	39	28	-28	3†	38	0.25	.....	0.10	3.2	5	8	16	4	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	.....	.....	.....	.....	.....	.....	.....	0.66	.....	0.30	6.5	4	16	5	7	nw.	Verne King.
Fullerton	Dickey	1,439	25	7.6	-1.7	36	24†	-24	14	32	2.10	+1.29	0.70	21.0	6	6	16	6	nw.	F. O. Alin.
Garrison	McLean	1,901	28	5.1	-3.3	44	28	-29	3	34	0.21	-0.32	0.08	3.0	4	13	7	8	nw.	G. L. Robinson.
Grafton	Walsh	827	31	4.4	-0.5	37	7†	-32	3	39	1.11	+0.53	0.35	9.4	6	18	1	9	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	3.9	-2.6	38	25	-31	3	40	0.76	+0.23	0.48	7.6	8	17	4	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	3.8	-4.6	40	24†	-30	3	41	1.31	+0.93	0.40	15.0	6	12	9	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	.....	.....	.....	.....	.....	.....	.....	1.40	+0.84	0.40	14.0	6	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	1,597	15	-1.9^{b}	-1.8	48^{b}	24†	-36	3	55^{b}	1.09	+0.61	0.45	14.0	3	12	10	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	11.8	-1.4	47	24†	-25	14	35	0.20	-0.06	0.20	2.0	1	21	3	4	nw.	C. J. Downey.
Hillsboro	Traill	901	17	2.8^{c}	-5.7	34^{c}	7	-30^{d}	3	43^{d}	0.20	-0.48	0.20	2.0	1	15	7	6	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	0.2	-5.8	36	28	-35	14	48	0.85	+0.16	0.40	8.5	3	19	7	2	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	4.8	-3.1	38	5	-24	3†	61	0.78	+0.20	0.35	7.8	5	14	4	10	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	3.3^{a}	-4.4	36^{a}	28	-30^{a}	3	37^{a}	0.33	-0.06	0.16	4.0	4	18	4	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	-1.0	-4.0	34	25	-37	3	60	0.62	-0.03	0.24	7.5	5	20	5	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	3.9	-1.3	35	7†	-35	3	38	0.48	+0.01	0.32	6.0	2	7	9	12	w.	Reuben Gray.
Linton	Emmons	1,711	5	6.4	.....	42	28	-30	3†	48	0.38	.....	0.12	4.5	6	17	1	10	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	6.0	-3.6	36	26†	-28	3	54	0.60	-0.13	0.32	7.5	4	19	2	7	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	3.0	.....	42	27	28	3	35	1.02	.....	0.36	14.0	6	16	2	10	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	4.6	-0.8	39	27	30	3	38	2.10	+1.59	0.73	14.0	6	17	0	11	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	2.9^{a}	-2.2	40^{a}	28	-32^{a}	4	40^{a}	0.16	-0.12	0.08	2.0	2	10	13	5	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	5.8	-5.6	35	7	-31	3	50	1.07	+0.49	0.46	10.7	8	12	5	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	3.3	.....	37	27†	-32	3	37	0.95	.....	0.40	10.4	5	9	13	6	nw.	A. T. Felland.
Mandan	Morton	1,644	9	4.7	.....	44	28	-29	3	57	0.38	.....	0.21	7.0	4	12	7	9	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	4.2	-2.6	38	28	-30	3	33	0.68	+0.25	0.30	5.9	8	12	10	6	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. C. Niccum.
Mayville	Traill	975	27	3.8	-3.9	35	24†	-30	3	37	0.80	+0.41	0.40	10.0	3	13	3	12	nw.	M. G. Sateren.
Melville	Foster	1,590	25	3.6^{a}	-3.0	36^{a}	28	-30^{a}	15	31^{a}	0.12	-0.21	0.08	1.5	2	13	9	6	nw.	J. P. Kidder.
Minot	Ward	1,557	27	1.6	-6.3	40	24	-34	3	44	0.40	-0.06	0.20	4.0	3	14	6	8	w.	W. I. Faris.
Minto	Walsh	820	30	3.1	-2.8	38	24	-35	3	39	0.93	+0.43	0.33	.....	8	11	10	7	nw.	C. M. Evans.
Mott	Hettinger	2,424	16	5.6	-6.2	43	28	-29	14	38	0.23	-0.34	0.11	2.0	3	20	2	6	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	2.4	-4.2	37	28	-31	3	48	0.15	-0.25	0.15	.....	1	12	2	14	w.	C. J. Hoof.
New England	Hettinger	2,400	29	8.4	-3.7	45	28	-27	14	38	0.56	+0.02	0.12	7.0	7	.....	.....	.....	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	4.4	-6.2	45	28	-28	14	40	1.19	+0.81	0.50	.....	6	14	8	6	nw.	J. Christiansen.
Park River	Walsh	998	19	3.0^{c}	-2.7	34^{c}	24†	-31	3	31	0.20	-0.24	0.12	4.0	2	.....	.....	.....	nw.	C. B. Wright.
Parshall	Mountrail	.....	8	.....	.....	.....	.....	.....	.....	.....	0.50	.....	.....	.....	2	.....	.....	.....	.....	J. A. Johnson
Pembina	Pembina	789	49	-1.4	-2.8	40	25	-36	3	58	1.12	+0.41	0.48	14.0	6	19	1	8	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	2.3	-2.3	38	27†	-34	6	42	0.10	-0.26	0.05	1.0	2	16	5	7	nw.	S. C. Shanks.
Power	Richland	1,020	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Power.
Powers Lake	Burke	2,205	9	.....	.....	.....	.....	.....	.....	.....	1.05	+0.57	0.50	10.5	3	3	11	14	nw.	C. Frank.
Richardton	Stark	2,467	7	7.0	.....	43	28	-28	14	37	0.60	.....	0.35	6.0	3	13	8	7	w.	Geo. Keim.
Skaar	McKenzie	.....	3	1.2^{i}	.....	44^{i}	28	-32^{i}	3	49^{i}	0.15	.....	0.05	1.5	3	.....	.....	.....	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	2.6	-4.5	37	27	-31	14	38	0.48	+0.03	.....	6.0	.....	15	8	5	w.	H. S. Wood.
Towner	McHenry	1,482	21	0.4	-4.8	36	27	-33	1	40	1.16	+0.78	0.48	14.0	5	7	11	10	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	3.0	.....	38	28	-29	3	39	0.67	.....	0.39	7.0	4	10	9	9	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	4.8	-4.8	35	25	-29	3	42	0.27	-0.06	0.14	2.9	6	4	17	7	nw.	H. Twito.
Wahpeton	Richland	962	29	8.4	-1.5	38	7	-28	4	50	0.44	-0.09	0.18	5.0	3	16	0	12	nw.	C. G. Luick.
Walhalla	Pembina	966	19	5.6	+1.8	41	7	-32	3	38	1.30	+0.79	0.90	17.0	5	16	1	11	nw.	Wm. Campbell.
Washburn	McLean	1,731	22	.....	.....	.....	.....	.....	.....	.....	0.46	+0.07	0.24	.....	3	.....	.....	.....	.....	Karl Klein.
Westhope	Bottineau	1,508	17	0.4^{c}	.....	41^{a}	27	-40^{c}	3	45^{c}	0.56	+0.37	.....	.....	.....	.....	.....	.....	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	5.5	-2.6	42	28	-30	14	50	0.76	+0.29	0.30	10.4	11	6	9	13	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	-2.4	-5.1	37	28	-40	3	45	0.88	+0.42	0.16	11.0	7	12	12	4	nw.	M. A. Ostlie.
Moorhead, Minn.	Clay	935	42	4.8	-3.3	35	7	-24	3	47	0.45	-0.28	0.13	5.9	8	8	5	15	nw.	U. S. Weather Bureau.
Averages	.....	.....	.....	4.1	-3.8	48	24†	-40	3	61	0.65	+0.16	1.40	7.2	4	13	7	8	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for February, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red						.18		T.		T		T	.18	.48	.72				T.	.18												1.74
Amidon	Lit. Missouri				T	T		T	T.					.20																			0.20
Arnegard	Missouri		.07			.10		.05	.05					.10														.05					0.42
Ashley	Missouri					.32								.32																			0.64
Beach	Lit. Missouri	.02				.07		.08		.02	.14			.01														.08					0.42
Berthold Agency	Missouri				T								T.	T.							T.												T.
Bismarck ***	Missouri		T		.05	.25		T.			T		T.	.16						T	T.	T						T	T				0.46
Bottineau	Mouse							.36					.06															.05	.03				0.50
Bowbells ‖	Mouse															1.40																	1.40
Bowman	Grand																																
ando	Devils Lake		.02			.02										.52					.11								T				0.67
arson	Heart				.04	.04								.08																			0.16
ooperstown	Sheyenne		T.					T.						.30	T.					T													0.30
rosby	Mouse																																
Devils Lake ***	Devils Lake		T			.04		.10	.01		T.	T.	.06	.20	.16				.10	.01	T	.01				T		.04	T.				0.73
Dickinson ‖	Heart					.11		T.	T	T				T	.09													T					0.20
Donnybrook	Mouse					.11		.12								.39																	0.62
Dunn Center ‖	Knife				.06	.38							.06															T					0.50
Dunseith	Mouse					.15		.32		.05			.25	.30						.08	.02							*	.10				1.27
ckman	Mouse		T.			.30		T.	T.				.10	.30						T.									.01				0.71
dgeley	James					.13								.20						.05													0.38
llendale***	James				.01	.15	T.	T.			.02	.01	T.	.27	T.			T.		.01	T.		T.					T.	T.				0.47
nergy	Missouri					.38							.05															T	T.				0.43
pping	Missouri		.05					.07	.06				.06	.31	.20																		0.75
essenden	James						.15								*	1.25																	1.40
orman	Sheyenne					.08								.24	.08																		0.40
oxholm	Mouse					.10		.05	.01				.07	.02						T.								T.	T.				0.25
ryburg	Heart				.08	.24	.30	.04							T.																		0.66
ullerton	James		.20				.50		T.			.03	T.		.70	.60		T.		T.	.07												2.10
arrison	Missouri					.07							.03	.08		.03																	0.21
rafton	Red								.16				.15	.35	.33					.10								.02					1.11
rand Forks ***	Red							.04			.02		.09	.48				T.	.02	.05	T.	.01						.05	T.				0.76
ranville	Mouse																																
annah	Pembina							.30					.40	.20	.10					.30	.10												1.40
ansboro	Devils Lake							.40	.24			.45																					1.09
ettinger	Grand													.20																			0.20
illsboro	Red													.20	T.			T.				T.						T.					0.20
oward	Missouri				.40								*	.45														T.					0.85
amestown	James					.35				.15		.13							.10		.05												0.78
amoine	Missouri					.16							.08							.08	T.								.01				0.33
angdon	Pembina								.18				.08	.24	.08				.04														0.62
arimore	Red													.32						.16													0.48
inton	Missouri		.04		T.	.12		T.	.04					.12	.04					T.								.02					0.34
isbon ‖	Sheyenne					T.	.32							.08	.16	.04					T.												0.60
cClusky	Missouri							.32					.16	.36						.08								.05	.05				1.02
cHenry	James					.42		.42				.02	.02		.73													.49					2.10
cKinney	Mouse					.08								.08											T.	T.	T.						0.16
cLeod	Sheyenne						.46		.12		.03		.10		.20					.09	T.		.03						.04				1.07
addock	Sheyenne		T.			.15			.13				.24	.40						.03								T.					0.95
andan ‖	Missouri					.21	.04				T.		T.	.07	.06						T.							T.	T.				0.38
anfred	James					.10		.05		T.			.07	.30	.05					.07								.02	.02				0.68
armarth	Lit. Missouri																																
ayville	Red															.40				.32			.08										0.80
elville	James					.04		T					T.		T.					.08	T.							T.					0.12
inot	Mouse					.20							.10	.10																			0.40
into	Red							.06	.05				.04	.33	.32	.03				.08								.02					0.93
ott	Cannon Ball					.06							.06	.11																			0.23
apoleon ‖	Missouri					.15																											0.15
ew England	Cannon Ball		.12	.04	.08	.12					.04		.08	T.	.08																		0.56
ew Salem	Heart		T.		T.	.20	.20						.02	.50	.25					T.								.02	T.				1.19
ark River	Red												.08	.12																			0.20
arshall	Missouri																																0.50
embina ‖	Red		.08					.08	.16					.24	.48								.08										1.12
ettibone	James							.05					.05															T.	T.				0.10
ower	Sheyenne																																
owers Lake	Missouri	T.			T.	.35	T.	T.			T.		.20	.50	T.	T.												T.					1.05
ichardton	Heart					.35				T.	.15			.10																			0.60
kaar	Yellowstone				.05	.05	.05																										0.15
teele	Missouri				T.			T.			T.			*	.48				T.								T.	T.					0.48
owner	Mouse					.18		.18	.24					.48						.08													1.16
urtle Lake	Missouri		T.			.39	.13	.08						.07	T.		T.																0.67
alley City	Sheyenne					.14		.02					.01	.03	.02					.05													0.27
ahpeton	Red					.18	.08							.18																			0.44
alhalla	Pembina							.08	.08				.08	.90						.16		T.						T.					1.30
ashburn						.16									.24													.06					0.46
esthope	Mouse																																0.56
illiston ***	Missouri		.02		.22	.09	T.	.04	.01	.03	.02	.01	.12	.13														.07					0.76
illow City	Mouse					.16		.08	.08	T.	T.		.16	.16						.16	T.	T.							.08				0.88
oorhead, Minn ***	Red		T.			.07		.08	T.	T.	.03	T.	.02	.11			T.		.02	.09	T.	T.						.03					0.45

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of servation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the -hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum...	11	9	9	12	9	9	35	7	4	8	14	18	4	-11	1	2	-4	28	22	19	24	30	38	32	34	36	34	35	....	....	....	16
	Minimum ...	-15	-11	-31	-29	-26	-25	-19	-3	-16	-18	-26	-3	-7	-26	-19	-18	-11	-21	10	4	-6	-11	8	-20	14	17	20	22	....	....	....	-10
Arnegard	Maximum...	16	20	-6	-10	31	30	32	17	2	8	3	4	-12	-8	-6	-3	14	34	27	27	24	12	37	40	34	31	37	40	....	....	....	17
	Minimum ...	-9	-18	-26	-21	10	10	5	9	-7	-10	-18	-14	-27	-30	-18	-14	-8	2	10	-4	-4	-3	5	13	14	16	23	27	....	....	....	-3
Ashley	Maximum...	11	10	-10	10	22	12	34	24	9	5	15	21	20	-12	0	8	11	21	28	21	20	15	28	37	34	30	36	41	....	....	....	17
	Minimum ...	-10	-14	-25	-20	-3	-20	-5	5	-8	-10	-13	3	-18	-24	-17	-10	-8	-5	11	12	10	-9	-6	11	19	18	15	19	....	....	....	4
Beach	Maximum...	7	2	-4	28	32	33	32	28	10	12	16	16	-12	-16	-2	5	22	38	26	32	27	22	38	43	41	30	35	46	....	....	....	21
	Minimum ...	-17	-13	-21	-13	-5	-12	5	-10	-12	-23	-18	-18	-25	-29	-20	-15	3	0	12	0	7	0	1	13	15	9	13	22	....	....	....	-5
Berthold Agency	Maximum...	18	18	-9	4	29	15	33	18	18	4	10	9	5	-13	-1	7	22	27	30	34	14	10	38	42	30	40	36	34	....	....	....	18
	Minimum ...	16	-12	-26	-28	-14	-32	5	-3	-18	-6	-23	-10	-16	-26	-18	8	-10	-7	10	-4	-4	-7	-2	7	12	15	17	14	....	....	....	-7
Bismarck	Maximum...	11	15	-10	1	14	15	35	15	7	4	14	20	14	-14	0	10	12	29	26	26	21	10	29	38	36	33	38	45	....	....	....	18.
	Minimum ...	-15	-14	-25	-28	-10	-27	13	-1	-9	-12	-15	5	-16	-24	-17	-8	-4	-1	20	12	0	-8	-1	11	23	19	19	22	....	....	....	-3
Bottineau §§	Maximum...	-3	-2	-12	-11	0	-3	24	2	-5	-4	-5	0	4	-9	-9	-3	3	10	19	20	14	0	15	23	21	25	30	35	....	....	....	6
	Minimum ...	-27	-21	37	-36	-22	-32	-8	-13	-25	-20	-30	5	-18	-32	-30	-20	-10	-12	-4	-7	0	-16	-10	0	11	3	12	12	....	....	....	14
Bowbells §§	Maximum...	16	-5	5	1	1	33	32	10	5	4	5	-3	0	-10	-5	0	5	26	23	26	14	8	32	21	30	36	40	40	....	....	....	13.
	Minimum ...	-15	-16	-30	-30	-12	-23	-12	-8	-22	-20	-21	-5	-16	-27	-28	-18	-12	7	-8	-6	5	-15	-8	6	2	-5	3	12	....	....	....	12.
Bowman	Maximum...	14	0	0	26	30	20	30	18	19	10	26	10	0	-10	-4	6	28	40	36	36	30	20	40	46	39	32	33	45	....	....	....	22.
	Minimum ...	-18	-16	-26	-17	0	-10	-9	-1	-10	8	-12	-10	-23	-27	-17	-14	-10	7	14	2	8	3	8	19	23	18	22	27	....	....	....	-2.
Cando	Maximum...	10	-11	-18	17	0	5	33	17	2	-5	11	12	10	-14	-17	2	11	19	21	19	22	8	21	34	34	29	34	35	....	....	....	11.
	Minimum ...	-20	-19	-35	-30	-18	-27	-1	-8	-25	-16	25	-10	-15	-27	-23	-16	-7	-11	11	5	7	-11	-13	5	9	5	19	12	....	....	....	-10.
Carson	Maximum...	10	5	15	15	30	15	30	20	15	10	12	10	5	-10	5	8	15	22	31	32	34	15	35	45	36	35	37	40	....	....	....	20.
	Minimum ...	-17	13	-27	-17	-5	-22	5	-5	-12	-12	-15	0	-20	-27	-18	-15	-10	0	16	0	10	-5	0	10	20	20	20	15	....	....	....	-4.
Crosby	Maximum...	12	-10	-10	8	11	13	33	13	0	5	5	0	16	-14	-4	2	9	28	27	26	15	11	32	35	34	32	35	43	....	....	....	13.
	Minimum ...	-20	-19	-31	-25	-11	-22	13	-9	-22	-15	-18	-11	-21	-31	-25	-14	-10	-2	5	1	-2	-3	3	9	11	17	18	19	....	....	....	7.
Devils Lake	Maximum...	11	11	-16	-3	0	9	34	8	-1	2	9	13	2	-15	-5	2	10	21	22	19	19	3	23	35	31	26	33	36	....	....	....	12.
	Minimum ...	-17	-25	-30	-25	-22	-25	8	-6	-19	-14	-21	1	-15	-25	-21	-14	7	-7	11	13	-4	-13	-11	6	15	10	20	16	....	....	....	-7.
Dickinson §§	Maximum...	10	2	4	34	33	32	34	12	8	2	15	12	-14	-12	-5	5	12	37	27	35	24	14	40	42	38	36	37	45	....	....	....	20.
	Minimum ...	-18	-11	-23	-25	4	-23	-17	-7	-14	-10	-24	-4	-22	-28	-27	-13	-10	7	12	7	7	-2	4	10	14	22	20	20	....	....	....	6.
Donnybrook	Maximum...	5	10	15	4	9	-5	35	20	5	10	-6	-5	-10	-8	-5	10	15	19	22	17	19	26	35	35	34	35	35	36	....	....	....	14.
	Minimum ...	-10	-8	-24	-29	-9	-30	-8	-5	-22	-10	-18	-23	-30	-24	-20	-10	1	0	10	7	11	12	0	15	19	20	18	22	....	....	....	-5.
Dunn Center §§	Maximum...	11	18	-1	12	35	14	32	22	17	7	9	6	3	-8	-1	6	11	31	35	31	27	14	39	40	38	34	37	41	....	....	....	20.
	Minimum ...	-14	-14	-25	-24	-9	-26	6	16	-18	-9	-27	-13	-22	-32	-19	-9	-4	0	18	-2	10	-3	2	9	18	21	20	19	....	....	....	-4.
Dunseith	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Edgeley	Maximum...	12	13	-10	11	9	9	34	23	9	6	14	22	15	14	3	10	15	23	27	22	21	16	30	37	35	33	36	36	....	....	....	18.
	Minimum ...	-11	-13	-25	-21	-6	21	7	4	-8	-9	-14	1	-15	-27	-17	8	-3	-2	16	9	10	-8	-10	5	5	21	20	20	....	....	....	-4.
Ellendale	Maximum...	7	13	-9	6	13	3	35	14	11	7	14	22	17	-10	3	11	12	27	28	23	21	10	31	35	36	32	37	38	....	....	....	17.
	Minimum ...	9	-15	-23	-23	-4	-17	-3	0	-12	-13	-17	4	-17	-20	-13	-7	-2	3	13	12	4	6	9	18	26	24	21	21	....	....	....	-2.
Fessenden §§	Maximum...	12	0	-4	5	2	5	39	10	5	0	12	-3	-14	-11	3	0	5	24	26	23	11	10	25	35	35	28	34	38	....	....	....	12.
	Minimum ...	-16	-13	-28	-34	-10	-22	-12	-6	-28	-19	-22	-8	-24	-35	-33	-24	-19	18	10	10	9	9	-9	0	15	5	15	17	....	....	....	-11.
Foxholm	Maximum...	13	16	-10	2	3	10	33	18	18	4	9	8	4	-14	-3	6	11	20	24	25	23	8	32	35	34	30	35	39	....	....	....	15.
	Minimum ...	-14	-18	-28	-28	-15	22	2	-6	-20	-10	-17	-5	-17	-27	-21	-11	-8	-2	16	0	4	-14	5	14	18	17	21	16	....	....	....	6
Fullerton	Maximum...	9	13	-9	7	8	7	35	24	11	6	15	23	18	9	3	10	11	25	28	23	22	11	29	36	35	33	36	36	....	....	....	17.
	Minimum ...	-8	-13	-23	-22	-6	-19	7	-1	-7	-11	-15	3	-14	-25	-15	-5	-18	-3	12	13	10	7	8	15	23	22	20	21	....	....	....	-2.
Garrison	Maximum...	14	13	-17	2	9	7	32	20	15	2	10	9	15	-9	-7	5	16	20	25	25	21	15	34	36	34	34	36	44	....	....	....	16.
	Minimum ...	-18	-13	-29	-24	-7	-25	0	-5	-19	-8	-22	-6	-19	-27	-22	-12	-10	-3	14	4	6	-12	3	12	14	17	18	24	....	....	....	-6.
Grafton	Maximum...	12	20	-12	-4	0	11	37	20	3	0	6	15	15	10	0	10	14	18	23	24	20	12	12	36	37	35	34	33	....	....	....	15.
	Minimum ...	-17	-18	-32	-28	-26	-26	-2	5	-18	-13	-25	3	-16	-16	-22	-10	2	4	14	0	11	-6	-2	2	19	14	21	20	....	....	....	6.
Grand Forks	Maximum...	10	9	-10	8	10	11	37	18	6	4	8	18	16	-6	2	12	12	21	22	27	20	11	16	35	38	28	33	31	....	....	....	16.
	Minimum ...	-14	-25	-31	-26	-22	-26	-3	3	-17	-14	-23	2	-12	-18	21	-11	8	-12	6	0	3	-16	-17	11	19	14	23	24	....	....	....	-8.
Granville	Maximum...	15	15	8	4	8	10	35	10	7	8	10	14	0	11	-18	5	10	22	18	25	20	8	33	40	35	27	36	40	....	....	....	14.
	Minimum ...	-15	-15	-30	-28	-14	10	20	-10	-22	-15	25	7	-16	-26	-21	-18	-10	-10	8	2	4	15	-8	10	15	14	15	17	....	....	....	-6.
Hansboro	Maximum...	2	12	-10	-3	-4	4	13	23	12	-4	8	-3	-12	2	....	....	18	18	3	10	28	5	20	48	45	43	45	48	....	....	....	14.
	Minimum ...	-12	26	36	-34	-28	-28	-4	-4	-28	-20	-7	-8	-25	-21	....	....	-8	-10	-3	5	2	-10	-16	-7	10	15	20	26	....	....	....	-10.
Hettinger	Maximum...	15	20	3	29	22	19	30	20	17	15	22	24	-2	-3	3	10	20	25	21	35	31	40	42	47	40	35	39	47	....	....	....	24.
	Minimum ...	-13	-11	-20	-17	-12	-10	11	15	-8	-3	-14	-10	-20	25	-15	-11	-3	4	2	2	10	11	7	16	24	22	25	26	....	....	....	0.
Hillsboro	Maximum...	9	5	4	-5	5	5	34	23	2	5	9	15	15	-10	0	9	14	18	25	20	20	....	....	....	33	33	32	30	....	....	....	13.
	Minimum ...	-16	-18	-30	-27	-19	-22	-9	-3	-16	-16	-24	0	-13	-20	-19	-10	1	-13	13	5	8	....	....	....	....	13	19	22	....	....	....	-8.
Howard	Maximum...	12	0	-16	0	26	10	15	20	5	5	4	-2	-11	-18	-13	-1	8	28	29	30	28	8	21	28	28	22	31	36	....	....	....	12.
	Minimum ...	-10	-20	-32	-22	-22	-22	-32	-11	-22	-20	-21	-11	-23	-35	-26	-19	-16	-3	-6	-6	-5	-10	1	10	10	9	21	18	....	....	....	11.
Jamestown §§	Maximum...	10	-12	-11	5	38	10	10	7	5	15	9	3	-11	1	11	13	25	27	23	18	9	29	36	37	30	36	37	47	....	....	....	16.
	Minimum ...	-10	-11	-24	-24	-23	-22	-8	1	-9	-13	-18	-19	-5	-20	-21	-17	-8	1	-5	12	13	-6	9	-8	16	21	20	20	....	....	....	-6
Lamoine	Maximum...	6	2	-14	-3	3	0	31	18	2	0	9	16	....	15	-5	6	9	21	25	20	17	10	23	33	36	23	34	36	....	....	....	13.
	Minimum ...	-18	-15	-30	-25	-11	-26	-6	-7	-17	-12	-22	1	....	-26	-23	-13	-7	-6	12	10	6	[illegible]	-6	10	15	12	11	15	....	....	....	7.
Langdon §§	Maximum...	10	4	-10	-4	0	20	33	24	10	5	8	11	5	-10	-5	6	12	20	18	20	17	12	18	32	34	23	33	32	....	....	....	13.
	Minimum ...	-26	-24	-37	-34	-30	-31	-27	8	-26	-22	-29	-15	-16	-25	-27	-28	-16	-15	1	0	0	-10	-15	6	0	2	15	13	....	....	....	-15.
Larimore §§	Maximum...	3	-2	-15	3	0	10	35	10	25	10	13	10	13	-12	1	10	12	25	22	25	25	14	8	34	3	34	35	32	....	....	....	14.
	Minimum ...	-17	-15	-35	-26	-20	-17	-3	6	-8	18	-20	15	-3	23	-20	-15	-8	5	3	6	8	-3	20	5	15	18	25	20	....	....	....	-6.
Linton	Maximum...	13	13	-11	6	26	5	34	19	11	5	19	22	21	-11	3	10	15	23	29	25	21	18	30	40	37	32	37	42	....	....	....	19.
	Minimum ...	-20	-12	-30	-30	-2	-29	-14	8	-6	-12	-27	8	-15	-22	-18	-10	-8	-5	15	16	5	9	-2	5	18	12	[illegible]	20	....	....	....	-6.
Lisbon §§	Maximum...	10	5	-5	5	8	12	34	24	5	10	14	20	-10	-6	11	12	16	24	26	28	16	19	[illegible]	[illegible]	32	36	34	36	....	....	....	17.
	Minimum ...	-10	-10	-28	-21	-15	-22	-20	-10	-12	-15	-6	0	-8	-20	-21	-9	-6	-6	7	11	12	-15	12	16	16	13	14	16	....	....	....	-4.
McKinney	Maximum...	18	20	-18	3	4	10	33	20	10	3	7	4	0	-17	-5	0	12	26	25	26	23	31	37	33	30	35	....	40	....	....	....	15.
	Minimum ...	-15	-20	-31	-32	-15	-31	-3	3	-22	-10	-20	-15	-17	-28	-20	-12	-10	-10	15	-3	2	-4	12	14	15	20	....	15	....	....	....	-9.
Maddock	Maximum...	10	11	-14	0	2	7	33	22	5	-1	12	15	12	-12	-4	2	10	27	25	22	21	10	25	35	35	32	37	37	....	....	....	14.
	Minimum ...	-16	-17	-32	-26	-18	-27	-3	-6	-25	-9	-24	-1	-15	-27	-22	-13	-10	-10	13	9	6	-17	-10	10	13	14	17	15	....	....	....	-8.
Melville	Maximum...	5	5	-13	0	0	0	20	20	6	0	10	12	....	-16	-2	3	7	22	22	20	18	8	[illegible]	32	33	33	32	36	....	....	....	12.
	Minimum ...	-14	-17	-28	-22	-10	-27	-3	-4	-20	-8	-20	2	....	-22	-30	-10	-7	-2	10	8	5	-10	-7	14	17	17	18	28	....	....	....	-5.
Minot §§	Maximum...	10	4	-11	-4	4	9	4	12	11	4	12	11	-5	-10	2	7	18	23	25	26	21	20	35	40	34	34	37	38	....	....	....	14.
	Minimum ...	-22	-22	-34	-30	-18	-35	-1	-10	-22	-22	-28	-15	-22	-32	-27	-15	-13	-11	8	-6	-5	-3	-8	10	11	12	14	20	....	....	....	-11.
Mott	Maximum...	11	-3	5	15	30	15	28	18	10	6	4	3	1	-15	-2	5	15	27	25	20	18	25	31	40	37	33	33	43	....	....	....	16.
	Minimum ...	-20	-18	-26	-23	0	-20	5	-6	-5	-11	-21	-3	-22	-29	-19	-14	-11	1	0	1	1	-2	10	11	20	22	21	19	....	....	....	-5.
Napoleon §§	Maximum...	10	3	-6	7	10	17	33	10	2	1	18	21	-1	-5	-2	8	10	24	26	20	17	8	25	37	33	29	35	37	....	....	....	14.
	Minimum ...	-21	-20	-31	-25	-10	-31	-10	-9	-14	-15	-20	0	-11	-28	-23	-22	-12	-10	0	12	7	-16	-11	-3	8	11	10	14	....	....	....	-10.
New Salem	Maximum...	11	2	-11	0	24	7	32	17	0	-3	0	11	-5	-16	-3	4	11	26	28	22	23	5	35	36	36	28	36	45	....	....	....	14.
	Minimum ...	-14	-15	-27	-21	-10	-20	-6	-7	-12	-12	-16	-4	-20	-28	-19	-11	-6	2	5	0	5	-10	-5	12	18	18	18	27	....	....	....	5
Pembina §§	Maximum...	10	-10	-10	6	1	10	36	6	4	-5	9	14	-5	-10	-10	8	20	20	22	30	18	2	14	40	38	28	35	34	....	....	....	12.
	Minimum ...	-25	-21	-36	-34	-32	-30	-22	8	-28	-20	-28	-18	-4	-16	-22	-24	-11	20	-18	-5	5	-14	-21	10	10	5	4	12	....	....	....	-15.
Steele	Maximum...	5	2	-15	4	-2	0	32	10	2	2	17	21	-10	-14	-3	6	10	27	24	14	15	5	18	32	34	27	37	35	....	....	....	12.
	Minimum ...	-22	-18	-30	-29	-5	-28	-6	-18	-18	-14	-20	4	-14	-31	-24	-6	-4	14	19	9	-10	-9	-5	10	19	18	10	12	....	....	....	7.
Towner	Maximum...	-5	-15	-2	4	0	6	34	19	10	0	10	13	-4	15	-10	1	16	25	24	21	20	12	24	27	33	34	36	32	....	....	....	12.
	Minimum ...	-33	-30	-25	-20	-19	-30	-2	-7	-30	-15	-25	-4	-15	-30	-25	-14	-11	-14	-15	-8	-3	5	-12	-2	14	20	13	12	....	....	....	-11.
Valley City	Maximum...	10	7	-10	4	5	5	34	22	4	10	8	15	14	-5	1	5	12	24	25	22	21	9	25	34	35	30	33	33	....	....	....	15.
	Minimum ...	-13	-14	-29	-17	-11	-28	8	-1	-16	-14	-14	2	-22	-15	-21	-10	-7	-8	12	6	8	-10	-9	7	21	18	19	19	....	....	....	-5.
Wahpeton	Maximum...	14	9	26	6	0	11	38	37	19	16	14	19	22	10	5	10	13	21	28	25	25	21	20	35	35	32	34	37	....	....	....	20.
	Minimum ...	-11	-11	-5	-28	-14	-24	-12	-2	8	-14	-24	8	-10	-15	-23	-10	0	-11	15	5	10	-8	16	6	20	-1	21	25	....	....	....	3.
Walhalla	Maximum...	10	19	-11	2	-6	11	41	32	7	4	10	12	-4	3	1	12	14	26	26	23	24	17	21	36	37	33	35	37	....	....	....	16.
	Minimum ...	-15	-19	-32	-25	-28	-26	3	-4	-18	-8	-22	0	-17	-17	-19	-8	4	-4	15	9	12	-4	-16	14	2	10	22	20	....	....	....	-5.
Westhope	Maximum...	10	8	5	2	4	6	10	38	3	-5	-6	-5	-10	-15	-17	-4	12	20	25	26	13	10	28	30	31	36	41	..	....	....	....	11.
	Minimum ...	6	6	-40	-38	....	....	....	....	....	....	-27	-10	-26	-28	-19	-15	-9	9	10	-8	0	-26	8	10	6	10	14	...	....	....	....	-10.
Williston	Maximum...	17	17	-10	11	34	25	33	18	3	5	11	2	-10	-17	-3	6	13	33	24	24	21	13	35	40	36	32	37	42	....	....	....	17.
	Minimum ...	-18	-19	-26	-19	-16	-20	3	-5	-14	-16	-19	-10	-24	-30	-20	-12	-14	1	7	-3	-5	-6	9	12	13	17	25	24	....	....	....	6.
Moorhead, Minn	Maximum...	6	6	-9	2	9	1	35	16	3	6	11	19	20	-8	2	7	11	18	25	23	22	6	23	34	31	31	34	33	....	....	....	14.
	Minimum ...	-11	-20	-24	-23	-14	-21	-12	-1	-13	-15	-21	11	-14	-19	-16	-9	0	-12	10	5	7	-7	-15	13	22	8	22	24	....	....	....	-5.

§§Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. † 2 days, etc.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXII. Bismarck, N. D., March, 1923. No. 3

GENERAL SUMMARY.

The weather during March in North Dakota was much colder nd drier than usual, and there was less than the normal sunhine. As a result of these conditions there was practically no pring work performed on farms. The month opened with ather mild temperature, but was followed by cloudy and cold veather, a condition that prevailed during the second and third lecades. Usually the highest temperature for the month was ecorded on the 1st, and the lowest on the 18th. The precipiation was quite evenly distributed, both geographically and hroughout the month. Winter rye came through in generally ood condition, the snow covering being ample to the close of he month. Considerable yard feeding of livestock was reuired, but generally stock of all kinds were in good condition.

TEMPERATURE.

The mean temperature for the State was 18.3°, or 4.3° below he normal, and 7.5° lower than the mean for March, 1922. he highest mean reported was 27.8° at Hettinger, Adams ounty, and at Mott, Hettinger County; the lowest was 7.4° t Pembina, Pembina County. The highest temperature reorted was 65° at Bowman, Bowman County, on the 1st and d; the lowest was -35° at Willow City, Bottineau County, on he 18th. The greatest monthly range was 89° at Pembina, embina County; the least was 58° at Beach, Golden Valley ounty. The greatest daily range was 62° at Pettibone, Kidler County, on the 26th.

PRECIPITATION.

The average precipitation for the State was 0.41 inch, or .42 inch below the normal, and 0.31 inch less than the verage for March, 1922. The greatest monthly amount reorted was 1.68 inches at Hansboro, Towner County; the least as a trace at Cooperstown, Griggs County, and at Hillsboro, raill County. The greatest amount recorded in any 24 conecutive hours was 0.60 inch at Dunn Center, Dunn County, on he 12th. The average number of days with 0.01 inch or more f precipitation was 4. The average snowfall was 4.8 inches.

AURORAS.

Auroras were observed at Richardton on the 16th, and at oxholm on the 21st.

BAROMETRIC PRESSURE AND WINDS.

UNIVERSITY OF ILLINOIS
MAY 14 1923

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.11	30.86	30	29.28	19	57	8,303	11.2	36	nw.	23
Devils Lake	30.09	30.87	30	29.07	20	44	9,146	12.3	44	ne.	17
Ellendale	30.10	30.82	30	29.27	20	56	12,670	17.0	56	n.	17
Grand Forks	30.08	30.85	18	29.14	20	90	....	......	40	nw.	26
Williston	[illegible].06	30.82	17	29.21	19	48	6,863	9.2	35	ne.	16
Moorhead, Minn	30.09	30.86	17	29.17	20	58	8,124	10.9	33	n.	29
Av'ges and extremes	30.09	30.87	30	29.07	20	.....	....	12.1	56	n.	17

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	199.8	369.9	54	−2	80	64	67	44	31
Devils Lake	229.9	369.7	62	+6	86	78	85	62	10
Ellendale	261.2	370.0	71	......	85	69	....	40	10
Grand Forks	......	......	......	.....	84	.....	75	.....	....
Williston	223.1	369.7	60	+4	82	64	67	40	31
Moorhead, Minn	......	......	......	......	82	65	70	.....	....
Averages and extremes	228.5	369.8	62	+0	83	68	73	40	10

† And other dates.

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898	21.3	−1.3	79	−24	0.79	−0.04	5	13	8	10	nw.
1899	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905	32.5	+0.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915	23.3	+0.7	63	−23	0.22	−0.71	2	16	6	9	nw.
1916	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921	25.2	+2.6	75	−22	1.00	+0.17	6	9	12	10	nw.
1922	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.
1923	18.3	−4.3	65	−35	0.41	−0.42	4	10	10	11	nw.

Climatological Data for March, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	17.0	−6.6	45	1	−22	18	48	0.30	−0.27	0.30	3.0	1	12	7	2	nw.	E. T. Carley.
Amidon	Slope	......	9	26.8	......	58	1†	−14	18	42	0.16	......	0.10	......	2	11	19	1	w.	Charles Eastgate.
Arnegard ††	McKenzie	......	8	19.6	......	52	28	−30	18	48	0.33	......	0.23	3.2	3	10	8	13	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	22.2^{a}	+0.2	48^{a}	1	−21^{a}	18	50^{a}	0.70	−0.49	0.50	7.0	2	17	8	6	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	23.8	−2.7	48	1	−10	18	38	0.11	−0.67	0.03	1.5	5	......	......	......	......	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	30	22.8	−1.9	55	1†	−17	18	44	0.05	−0.79	0.05	0.5	1	23	1	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	21.3	−2.9	54	1	−16	18	43	0.28	−0.76	0.18	3.4	4	8	9	14	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	9.1	−8.6	32	1	−32	18	40	0.16	−0.64	0.07	......	3	15	10	6	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	13.8	−5.0	46	1	−23	18	53	0.31	−0.22	0.25	......	2	18	0	13	......	G. H. Phelps.
Bowman	Bowman	2,961	9	26.7	......	65	1†	−13	18	43	0.12	......	0.12	......	1	13	11	7	nw.	R. Love, Jr.
Cando	Towner	1,488	22	13.8^{a}	−6.7	39^{a}	1	−26^{a}	18	45^{a}	0.51	−0.12	0.26	......	4	10	7	14	n.	A. J. Swanson.
Carson	Grant	2,500	11	20.1	−4.4	45	19†	−22	18	43	0.32	−0.34	0.15	3.2	4	4	17	10	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	......	......	......	......	......	......	......	T.	−0.54	T.	T.	0	10	10	11	nw.	S. Friswold.
Crosby	Divide	1,954	16	18.7^{a}	−3.3	56^{a}	16	−21^{a}	18	58^{a}	0.17	−0.49	0.10	1.8	5	8	13	10	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	12.4	−6.1	40	1	−23	18	40	0.76	−0.25	0.23	11.8	12	5	8	18	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	22.2	−2.2	55	1	−17	17	47	0.37	−0.47	0.20	......	6	11	7	13	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	17.4	−5.0	50	1	−28	18	50	0.40	−0.37	0.22	1.5	2	3	25	3	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	22.8	−1.3	56	1	−22	18	45	0.70	−0.41	0.60	7.0	2	13	7	11	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. G. Lamont.
Eckman	Bottineau	1,500	18	12.5^{c}	−9.6	43^{c}	1	−32^{b}	18	52^{b}	0.47	−0.03	0.20	5.0	4	......	......	......	......	J. Nussbaum.
Edgeley	LaMoure	1,468	22	21.2	−5.3	47	1	−21	18	45	0.20	−0.60	0.05	2.0	4	5	14	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	20.7	−4.9	51	1	−18	18	45	0.26	−0.94	0.15	2.9	4	4	13	14	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	22.0	......	53	28	−18	18	44	0.35	−0.32	0.22	3.5	4	7	21	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	19.4	......	49	1	−18	18	39	0.20	−0.36	0.10	2.0	3	19	5	7	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	15.2	−6.2	45	1	−23	18	53	0.53	−0.19	0.20	4.8	5	......	......	......	nw.	T. D. Monsen.
Finley	Steele	1,461	......	13.5^{i}	......	40^{i}	10	−22^{i}	18	38^{i}	0.36	......	0.10	......	5	......	......	......	......	G. J. Mustad.
Forman	Sargent	1,249	29	......	......	......	......	......	......	......	0.20	−0.70	0.20	2.0	1	......	......	......	......	O. Enger.
Foxholm	Ward	1,657	2	16.3	......	44	28	22	18	38	0.78	......	0.17	7.0	10	6	13	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	......	......	......	......	......	......	......	0.50	......	0.20	5.0	5	6	16	9	nw.	Verne King.
Fullerton	Dickey	1,439	25	22.0	−3.2	49	1	−18	18	44	0.79	−0.43	0.33	7.4	4	9	11	11	nw.	F. O. Alin.
Garrison	McLean	1,901	28	19.2	−2.5	51	28	−19	18	43	0.21	−0.83	0.15	2.1	2	12	8	11	nw.	G. L. Robinson.
Grafton	Walsh	827	31	15.1^{l}	−4.1	48	1†	−22^{c}	18	41^{c}	0.43	−0.26	0.10	11.0	7	13	5	13	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	14.1	−8.3	46	1†	−20	18	36	0.65	−0.06	0.14	6.5	14	8	7	16	n.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. A. Christianson.
Hannah	Cavalier	1,568	29	......	......	......	......	......	......	......	0.88	+0.22	0.48	11.0	5	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	15	11.8	−9.5	50	1	−34	18	45	1.68	+1.02	0.48	21.0	5	16	9	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	27.8	+0.2	60	1†	3	13	40	0.01	−0.75	0.01	......	1	11	7	13	nw.	U. J. Downey.
Hillsboro	Traill	901	17	16.2	−8.5	45	26	−20	18	38	T.	−0.74	T.	T.	0	13	13	5	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	15.6	−5.2	44	19†	−20	18	36	1.21	+0.07	0.35	11.9	7	7	14	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	16.8	−5.8	46	25	−22	18	37	0.33	−0.67	0.15	3.2	3	9	5	17	n.	S. Calvelage.
Lamoine	Kidder	1,936	18	17.2^{a}	−5.8	44^{c}	1	−25	18	44^{c}	0.40	−0.37	0.20	4.0	3	17	6	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	R. T. Burke.
Larimore	Grand Forks	1,134	29	14.0	−7.0	44	25	−25	18	47	0.44	−0.25	0.16	5.5	5	4	15	12	nw.	Reuben Gray.
Linton	Emmons	1,711	5	24.0	......	53	1	−19	18	49	0.20	......	0.15	2.0	4	19	5	7	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	20.4	−6.2	47^{a}	1†	−18	18	41^{a}	0.05	−0.51	0.05	0.5	1	18	4	9	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	19.0	......	44	1	−24	18	47	1.10	......	0.20	11.0	7	15	13	3	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	15.9	−3.3	44	28	−26	18	43	0.20	−0.53	0.08	2.5	3	4	17	10	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	21.4	−4.5	47	1†	−17	18	42	0.17	−0.46	0.06	1.7	5	13	2	16	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	16.5	......	40	1†	−22	18	47	0.27	......	0.12	3.0	4	9	10	12	nw.	A. T. Felland.
Mandan	Morton	1,644	9	19.7	......	54	1	−18	18	61	0.16	......	0.08	......	4	7	9	15	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	16.4	−6.7	41	1	−22	18	48	0.54	−0.24	0.10	5.2	10	10	10	11	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. C. Niccum.
Mayville	Traill	975	27	17.0	−6.2	45	1	−20	18	43	......	......	......	......	......	13	4	14	nw.	M. G. Sateren.
Melville	Foster	1,590	25	17.0	−5.3	40	1†	−25	18	42	0.60	−0.08	0.30	6.0	3	5	7	19	nw.	J. P. Kidder.
Minot	Ward	1,557	27	14.4	−7.0	50	28	−31	18	50	0.40	−0.37	0.10	4.0	4	12	11	8	w.	W. I. Faris.
Minto	Walsh	820	30	14.7	−6.4	46	1	−23	18	37	0.36	−0.46	......	......	......	10	14	7	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	22.8	−3.8	52	1	−18	18	38	0.30	−0.74	0.09	2.5	6	7	9	15	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	16.8	−4.5	46	9†	−27	18	49	0.15	−0.78	0.10	1.0	2	11	3	17	nw.	C. J. Hoof.
New England	Hettinger	2,400	29	18.8	−6.4	57	28	−15^{b}	18	27^{b}	0.20	−0.67	0.10	2.0	3	4	8	19	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	19.2	−5.3	54	1	−20	18	52	0.41	−0.55	0.20	......	7	6	21	4	nw.	J. Christiansen.
Park River	Walsh	998	19	14.4	−7.7	45	1	−24	18	40	0.39	−0.16	0.32	6.0	2	6	9	16	nw.	C. B. Wright.
Parshall	Mountrail	......	8	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	49	7.4	−8.6	57	1	−32	18	54	0.08	−0.82	0.08	1.0	1	9	6	16	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	13.8	−10.0	45	1	−32	18	62	0.30	−0.24	0.20	3.0	2	15	8	8	nw.	S. C. Shanks.
Power	Richland	1,020	29	......	......	......	......	......	......	......	0.50	−0.20	0.20	5.0	4	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	9	......	......	......	......	......	......	......	0.60	−0.28	0.20	6.0	4	1	19	11	ne.	C. Frank.
Richardton	Stark	2,467	7	23.1	......	55	28†	−18	18	52	0.81	......	0.40	8.1	6	9	9	13	nw.	Geo. Keim.
Skaar	McKenzie	......	3	21.0^{d}	......	53^{d}	19	−15^{d}	18	39^{d}	0.50	......	0.40	5.0	2	......	......	......	nw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	17.7	−4.4	44	2	−19	18	41	0.15	−0.78	0.10	1.5	2	12	9	10	nw.	H. S. Wood.
Towner	McHenry	1,482	21	17.3	−1.9	42	1	−29	19	46	0.24	−0.66	0.16	3.0	2	8	17	6	se.	B. Bagley.
Turtle Lake	McLean	1,899	8	16.5	......	44	28	−21	18	55	0.31	......	0.12	4.5	5	6	10	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	17.2	−8.9	44	26	−26	17	50	0.23	−0.27	0.05	2.3	6	2	16	13	nw.	H. Twito.
Wahpeton	Richland	962	29	22.8	−3.4	47	26	−17	18	37	0.20	−0.71	0.10	2.0	2	15	1	15	nw.	C. G Luick.
Walhalla	Pembina	966	19	14.0^{a}	−5.9	51^{a}	1	−30^{a}	18	58^{a}	1.04	+0.37	0.40	13.0	5	9	7	15	n.	Wm. Campbell.
Washburn	McLean	1,731	22	......	......	......	......	......	......	......	0.26	−0.39	0.10	......	5	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	17	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. A. Meddaugh.
Williston	Williams	1,875	44	20.0	−2.9	54	1	−15	18	37	0.44	−0.24	0.10	6.3	10	4	7	20	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	9.6	−8.7	43	1	−35	18	43	0.94	+0.21	0.18	11.0	8	8	12	11	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	17.3	−5.4	47	26	−19	18	43	0.29	−0.85	0.15	4.4	5	5	5	21	n.	U. S. Weather Bureau.
Averages	......	......	......	18.3	−4.3	65	1†	−35	18	62	0.41	−0.42	0.60	4.8	4	10	10	11	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for March, 1923.

Stations.	Drainage Basin.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ||	Red				T.		T.			T.			T.					.30			T.									T.	T.		0.30
Amidon	Lit. Missouri							T.		T.				T.		T.	T.			T.	.06			T.		.10		T.					0.16
Arnegard	Missouri							T.		T.			.03				.20								.10								0.33
Ashley	Missouri												.50												.20								0.70
Beach	Lit. Missouri								.01	T.			.03		.02		T.	T.		.02		T.		T.	.03								0.11
Berthold Agency	Missouri																								.05								0.05
Bismarck ***	Missouri			T.		T.	T.	.04	T.	T.		T.	.02		T.	T.	T.			.04	T.	T.			.18	T.				T.			0.28
Bottineau	Mouse					.07				.05										.04													0.16
Bowbells ||	Mouse																				.25					.06							0.31
Bowman	Grand		T.				T.		T.	T.																.12							0.12
Cando	Devils Lake												.26		.03	.04					.18	T.											0.51
Carson	Heart							.02					.15					.05						.10									0.32
Cooperstown	Sheyenne					T.											T.	T.		T.					T.								T.
Crosby	Mouse							.02					T.		.02		.02				.01			.10									0.17
Devils Lake ***	Devils Lake					.01	T.	T.	.18	T.	.01	.10	.15	T.	.07	.01	.07			.12	.02	T.		T.	.01		T.		T.	.01		T.	0.76
Dickinson ||	Heart							.20		T.			.03		T.	T.		.01		.02		T.		T.	.06	.05							0.37
Donnybrook	Mouse												T.	T.	.22	T.						T.			.18								0.40
Dunn Center ||	Knife												.60		.10																		0.70
Dunseith	Mouse																																
Eckman	Mouse												.10		T.		T.	.20		.05	T.	T.			.12								0.47
Edgeley	James												.05		.05					.05					.05								0.20
Ellendale***	James			T.		T.	T.	.02		T.			.15			T.		T.		.03	T.	T.	T.		.06	T.				T.	T.		0.26
Energy	Missouri							.05	.04				T.		T.		T.			.04					.22	T.							0.35
Epping	Missouri															T.	.05				.10				.05								0.20
Fessenden	James						T.		T.	.03	T.		.12			.09		.09								.20							0.53
Finley	Red										.05		.06				.06	.10		.09	T.	T.		T.	T.		T.		T.	T.			0.36
Forman	Sheyenne												.20																				0.20
Foxholm	Mouse		T.	T.		T.		.09	.03	T.		.04	.08		.05	.04	.08	T.		.08	.12	T.			.17	T.				T.			0.78
Fryburg	Heart					T.		T.	.05	T.			T.	.10	.05	T.		T.		.10	T.	T.	T.		.20		T.						0.50
Fullerton	James			T.		T.		.04		T.			.33			T.		T.		.22		T.			.20					T.			0.79
Garrison	Missouri								T.						T.		T.				T.	T.			.06	.15							0.21
Grafton	Red						.08			.06			.10				.01	.09		.03	.06												0.43
Grand Forks ***	Red			T.		.03	.08		.02	.12	.02	T.	.04		.03	.01	.14	.04	T.	.04	.02	.03		.03			T.		T.	T.			0.65
Granville	Mouse																																
Hannah	Pembina			T.			T.		.48						.08					.16		.08		.08					T.				0.88
Hansboro	Devils Lake									.32		.40						.48			.16			.32									1.68
Hettinger	Grand		T.															.01							T.								0.01
Hillsboro	Red					T.																											T.
Howard	Missouri			T.		T.		.20	T.	T.		.01	.15		.20	.10	.20				T.	T.	T.	T.		.35	T.	T.					1.21
Jamestown	James												.15					.12							.05								0.33
Lamoine	Missouri													T.	.10	.10				T.					.20								0.40
Langdon	Pembina																																
Larimore	Red									.12			.16		.04			.08		.04													0.44
Linton	Missouri							.02					T.			T.				.02	.01	T.			.15								0.20
Lisbon ||	Sheyenne								T.	T.			.05					T.							T.								0.05
McClusky	Missouri										.15		.20		.05			.20			.15				.20	.15							1.10
McHenry	James																																
McKinney	Mouse		T.	T.				T.	T.	T.			.08	T.			T.	.04			T.	T.			.08	T.				T.			0.20
McLeod	Sheyenne			T.			T.			T.				.04	T.				.03		.06	T.			.01	.03				T.			0.17
Maddock	Sheyenne									.03	T.		T.				.12			.06						.06							0.27
Mandan ||	Missouri				T.			T.	.02	T.		T.	T.	T.		T.		T.		.03	T.	T.	T.	.03		.08							0.16
Manfred	James					T.	T.	T.		.10	T.	.02	.05	T.	.02	.07	.05	T.		.05	.08	.05			.05					T.			0.54
Marmarth	Lit. Missouri																																
Mayville	Red																																
Melville	James					T.							.30			T.	.10			.20													0.60
Minot	Mouse								.10								.10				.10				.10								0.40
Minto	Red																																0.36
Mott	Cannon Ball							.09					.04		.05			.05			.02				.05								0.30
Napoleon ||	Missouri												.10												.05								0.15
New England	Cannon Ball		T.	T.				.10	T.			T.								.02		T.	T.		.08								0.20
New Salem	Heart						.10		.04			.02	.02		T.	T.	T.	T.		.02		T.		.01	T.	.20							0.41
Park River	Red												.32								.07												0.39
Parshall	Missouri																																
Pembina ||	Red																		.08														0.08
Pettibone	James			T.		T.		T.				T.	.20					T.		.10	T.	T.			T.								0.30
Power	Sheyenne									T.			.10		T.		.20	.05			T.	.15	T.										0.50
Powers Lake	Missouri									T.	T.	T.					.10	.20					.10	.20		T.						T.	0.60
Richardton	Heart					T.		.08		.05		T.	.14		T.			.06			T.	T.	.08			.40							0.81
Skaar	Yellowstone							T.							.40										.10		T.						0.50
Steele	Missouri			T.			T.	.05							T.		T.	.10		T.		T.					T.						0.15
Towner	Mouse																.16								.08								0.24
Turtle Lake	Missouri			T.		T.	T.	.08	T.	.12			T.				T.	.06			.02				.03								0.31
Valley City	Sheyenne								.01	T.			.05			T.	.02	.05		.05		T.			T.	.05				T.			0.23
Wahpeton	Red																			.10	.10												0.20
Walhalla	Pembina									T.	T.	T.	.40		T.	.08		.32		T.	.16	.08											1.04
Washburn								.02	.04			.07								.03					.10								0.26
Westhope	Mouse																																
Williston ***	Missouri		T.	T.		T.	T.	.08		T.		.04	.06	.03	.05		.06			T.	.01	T.	T.	.03	.06	.02	T.						0.44
Willow City	Mouse					.18		T.	T.	.18	T.	T.	T.		.08	T.	.08			.18	.08	T.		.08	T.	.08			T.	T.			0.94
Moorhead, Minn ***	Red			T.		T.	T.		T.	.01	.01		T.		T.	T.	.09	.06	T.	.12		T.		T.	T.	T.	T.	T.		T.	T.		0.29

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T Trace, or less than 0.01 inch.

Daily Temperatures for March, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	45	38	18	30	34	18	16	30	36	32	34	32	24	30	18	24	2	6	37	26	28	32	28	32	28	44	32	38	23	16	30	27.8
	Minimum...	23	28	12	-1	13	12	-2	0	12	18	10	18	12	9	13	0	-12	-22	-11	7	13	17	18	2	-4	7	6	1	4	-6	2	6.2
Arnegard	Maximum...	50	46	22	25	27	22	33	36	27	32	43	33	20	20	17	38	26	18	48	38	22	26	28	14	28	43	24	52	33	15	39	30.5
	Minimum...	34	22	9	0	7	10	13	14	15	20	30	8	1	11	-4	-3	-10	-30	18	22	4	-6	0	-2	17	10	17	14	0	14	12	8.6
Ashley	Maximum...	48	44	31	30	33	....	31	48	40	42	42	36	34	25	25	38	38	2	38	42	38	32	30	20	20	45	43	40	40	26	35	a34.5
	Minimum...	32	31	10	2	13	....	6	10	20	18	24	15	15	-2	5	-4	-12	21	5	30	16	13	20	3	-2	10	10	10	26	-5	8	a9.9
Beach	Maximum...	48	41	23	27	34	30	41	35	35	42	32	34	38	25	24	41	26	28	42	38	25	40	30	27	31	46	31	46	40	23	27	33.9
	Minimum...	38	23	12	2	15	15	19	19	17	25	22	6	6	12	12	12	-8	-10	12	25	14	10	14	9	4	22	19	20	16	11	12	13.7
Berthold Agency	Maximum...	55	55	30	30	35	34	30	35	33	40	45	35	26	28	34	38	35	15	52	40	34	35	34	35	24	30	34	55	43	22	38	35.8
	Minimum...	20	20	10	3	27	10	10	4	11	10	30	12	11	16	1	2	-10	-17	8	17	15	7	4	6	6	8	12	13	22	-2	19	9.8
Bismarck	Maximum...	54	38	23	28	36	26	21	44	30	43	40	32	28	30	16	40	26	12	49	43	25	34	31	13	17	48	24	47	39	16	38	32.0
	Minimum...	37	23	9	4	18	10	9	15	18	21	31	11	4	14	7	6	-13	-16	6	21	18	12	10	6	-6	9	12	13	8	-2	13	10.6
Bottineau §§	Maximum...	32	29	12	20	23	20	10	21	19	31	19	15	18	17	10	15	14	8	20	29	17	20	16	3	5	30	10	30	29	21	19	18.8
	Minimum...	17	26	3	-16	10	5	-12	12	11	9	7	9	-6	7	-11	-12	-21	-32	4	9	4	-7	-3	11	10	6	-3	-1	11	-12	1	-0.6
Bowbells §§	Maximum...	46	31	12	31	21	18	19	35	28	39	26	16	21	16	20	27	9	28	42	23	21	31	12	4	34	39	16	34	37	29	26	25.5
	Minimum...	27	28	4	0	12	2	0	3	9	14	9	6	3	1	14	-12	-17	-23	11	18	10	-1	4	-7	-7	1	0	2	9	8	-2	2.2
Bowman	Maximum...	65	65	40	21	34	34	42	42	33	43	42	36	32	24	20	45	37	20	52	52	28	40	30	28	20	50	39	58	42	28	48	38.7
	Minimum...	35	25	0	2	10	26	22	31	18	26	28	9	7	15	5	12	-6	-13	10	28	17	9	15	12	6	21	22	20	26	5	13	14.7
Cando	Maximum...	39	34	30	27	29	27	19	33	32	36	....	36	24	21	19	24	24	14	20	34	21	24	20	7	12	38	25	33	35	15	25	a25.9
	Minimum...	28	29	5	-8	17	10	8	14	12	11	....	10	0	11	-13	-11	-21	26	-13	10	-5	-5	4	-10	-11	8	-1	-1	3	-9	2	a1.6
Carson	Maximum...	42	40	30	20	28	30	20	35	30	30	35	33	17	20	20	33	32	20	45	26	35	30	15	25	28	45	45	45	40	25	32	30.7
	Minimum...	32	28	10	0	10	12	10	12	15	20	28	12	-5	10	0	0	-11	22	25	18	5	14	5	-5	5	15	10	15	20	-4	10	9.5
Crosby	Maximum...	45	29	17	31	35	32	27	37	30	42	40	20	25	19	18	56	12	15	45	37	20	30	10	32	41	21	48	37	17	36	....	a30.1
	Minimum...	27	17	4	-2	7	11	7	11	12	12	18	2	10	8	12	-2	15	-21	12	17	5	7	-7	9	15	8	12	13	-4	13	....	a7.8
Devils Lake	Maximum...	40	33	13	26	28	23	19	34	25	37	24	18	22	23	13	24	13	5	35	36	18	24	23	6	10	40	13	37	31	8	23	23.4
	Minimum...	29	12	2	-3	18	-2	-7	14	14	16	11	7	3	13	-5	-6	-21	-23	-5	10	-1	-1	7	9	-11	6	0	0	7	-9	2	1.3
Dickinson §§	Maximum...	55	34	31	29	32	29	38	38	37	42	44	26	30	24	20	42	2	30	52	40	29	40	23	18	31	46	28	56	30	26	39	33.6
	Minimum...	29	31	13	4	14	12	11	13	17	17	26	11	2	2	0	3	6	17	17	29	19	5	13	8	-4	4	19	17	26	-1	2	10.7
Donnybrook	Maximum...	50	42	28	32	30	32	30	35	37	40	37	34	28	30	20	30	20	10	42	30	24	33	30	23	20	42	28	42	34	30	28	31.3
	Minimum...	28	20	5	0	7	4	4	16	3	10	17	10	2	-8	10	5	-17	-28	-8	15	8	0	0	0	-8	16	2	10	15	-10	12	3.5
Dunn Center §§	Maximum...	56	43	29	29	34	31	27	38	31	41	44	37	23	29	21	39	35	10	49	48	27	36	33	16	25	46	38	52	44	24	40	31.7
	Minimum...	34	28	10	5	16	15	10	9	16	12	29	11	11	9	11	-6	10	22	4	23	18	9	9	7	-5	18	12	17	24	-2	14	10.8
Dunseith	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Edgeley	Maximum...	47	42	35	27	37	34	24	46	39	44	41	35	23	25	24	34	33	7	31	41	39	30	30	19	17	46	41	36	38	26	32	33.0
	Minimum...	34	28	13	4	14	19	0	14	21	17	23	17	8	0	9	-4	12	-21	-5	26	13	11	18	1	-5	7	10	8	24	6	4	9.4
Ellendale	Maximum...	51	42	30	26	38	28	22	45	34	45	43	32	23	26	20	35	31	6	35	41	27	31	32	10	18	48	28	38	40	15	34	31.4
	Minimum...	33	30	10	7	15	11	6	14	21	19	24	14	11	6	3	0	-14	-18	-2	27	16	16	9	4	0	14	12	10	4	-4	6	9.8
Fessenden §§	Maximum...	45	34	31	28	32	20	20	37	26	40	31	18	26	27	18	30	10	13	41	27	34	30	10	7	31	41	15	39	24	13	28	26.6
	Minimum...	20	31	17	3	10	15	0	3	15	17	22	14	-3	5	-3	4	-17	-23	-12	10	0	0	6	5	8	3	2	0	10	-7	0	3.9
Foxholm	Maximum...	43	39	23	30	31	28	17	33	30	40	35	25	21	23	15	28	17	12	41	40	21	29	28	6	17	40	24	44	40	15	27	27.8
	Minimum...	34	23	6	0	18	10	-1	6	12	14	13	8	0	3	7	-1	-17	-22	3	12	10	2	1	5	-8	11	2	6	15	8	10	4.8
Fullerton	Maximum...	49	44	33	28	37	34	22	43	39	44	40	37	21	28	24	35	33	7	31	41	35	29	32	17	15	48	41	35	38	25	33	32.8
	Minimum...	33	32	14	16	7	12	5	12	23	18	23	15	11	5	10	1	-11	-18	-2	31	16	14	17	4	-1	12	11	9	24	-4	7	11.2
Garrison	Maximum...	49	37	29	29	35	31	15	36	29	40	43	37	27	25	14	35	27	9	46	39	23	32	29	11	18	45	29	51	39	18	32	30.9
	Minimum...	31	29	7	0	17	11	5	7	12	16	25	10	-2	10	-3	2	-16	-19	4	23	13	4	6	1	-9	10	6	8	18	-6	10	7.4
Grafton	Maximum...	48	43	35	27	30	30	17	33	33	48	38	25	25	22	22	22	20	5	14	20	22	28	25	8	15	44	32	19	25	16	25	26.3
	Minimum...	28	30	6	-2	19	10	-5	8	12	11	7	14	1	9	1	-5	21	-22	3	....	....	....	....	....	-11	9	0	-4	-2	-7	-3	e3.9
Grand Forks	Maximum...	46	34	23	24	30	25	20	37	33	42	30	24	26	26	24	23	17	3	17	33	22	27	24	7	12	46	12	20	20	10	24	24.5
	Minimum...	20	23	4	1	17	2	-4	16	11	11	12	6	5	13	2	0	-17	-20	-1	14	6	2	-3	-7	-6	10	3	-2	-5	-5	-2	3.7
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hansboro	Maximum...	50	46	30	28	32	28	17	30	32	36	35	18	23	27	20	26	18	0	25	25	18	32	20	5	25	45	20	32	35	17	34	26.7
	Minimum...	10	23	0	12	8	6	-17	1	9	4	0	4	-6	6	-10	13	23	34	-12	5	6	4	-8	-20	-20	15	-6	10	7	-17	-10	3.1
Hettinger	Maximum...	60	49	27	23	37	33	45	48	32	45	43	34	35	27	20	46	39	45	40	50	32	42	32	24	27	60	52	46	51	28	44	39.2
	Minimum...	37	26	13	7	13	19	18	29	21	21	29	10	3	12	7	10	5	18	10	30	21	7	17	13	4	20	27	21	26	4	15	16.5
Hillsboro	Maximum...	42	37	32	23	30	29	17	34	34	40	37	32	24	25	25	22	19	5	10	32	20	26	28	10	14	45	39	17	26	17	23	26.3
	Minimum...	28	27	9	0	14	14	3	15	20	14	14	14	7	12	10	0	16	-20	-5	8	10	2	10	4	-4	7	5	-3	13	-7	-3	6.1
Howard	Maximum...	43	34	23	30	29	25	24	35	33	30	36	29	20	17	12	27	12	14	44	38	17	33	30	10	25	34	24	44	21	14	30	27.0
	Minimum...	30	19	1	-4	-4	8	9	8	9	28	28	2	7	-2	-13	0	-17	-20	8	17	11	-1	5	5	-3	5	5	12	12	-5	10	1.3
Jamestown §§	Maximum...	38	30	27	34	24	21	40	28	42	32	24	23	26	13	35	-3	7	45	36	23	31	32	7	23	46	21	38	36	11	31	44	28.0
	Minimum...	20	30	13	5	4	16	0	0	16	19	24	20	6	1	3	-4	-7	22	21	5	10	8	8	0	9	-5	8	6	9	-6	-5	5.5
Lamoine	Maximum...	44	41	28	25	32	26	17	38	35	38	33	31	24	26	26	30	....	....	....	....	....	29	28	14	14	41	19	40	37	21	30	e29.6
	Minimum...	28	15	10	-5	16	9	-4	10	5	15	25	14	-3	-1	-3	5	-20	-25	3	21	11	2	9	-3	11	-3	-3	5	20	8	6	3.9
Langdon §§	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Larimore §§	Maximum...	35	17	30	28	25	20	32	23	40	32	25	28	25	23	22	-13	7	20	20	22	28	22	8	22	44	22	22	22	15	26	41	23.7
	Minimum...	20	25	5	-2	18	10	-3	12	17	15	10	12	3	10	3	3	-20	-25	5	8	3	10	12	-8	-3	20	0	8	5	10	4	4.4
Linton	Maximum...	53	45	31	28	37	33	24	45	40	44	42	40	31	27	25	42	40	11	47	45	36	35	31	20	19	48	44	46	44	28	40	36.2
	Minimum...	26	30	14	0	16	17	9	14	19	20	26	20	8	10	10	5	-9	-19	2	31	19	12	19	7	0	10	9	14	27	-2	4	11.9
Lisbon §§	Maximum...	47	34	28	36	29	24	23	47	45	43	37	26	24	22	19	30	3	19	29	36	34	30	32	22	30	47	37	30	24	2	....	a30.3
	Minimum...	22	30	5	12	16	12	1	6	21	22	23	21	12	18	6	0	-12	-18	12	9	15	12	15	2	12	8	16	12	9	5	15	10.6
McKinney	Maximum...	43	37	23	30	32	30	21	30	30	38	35	20	23	15	12	23	16	12	43	40	20	30	30	5	20	40	23	44	38	25	28	27.6
	Minimum...	30	21	10	0	20	10	0	15	12	12	10	8	-12	3	10	5	-16	26	0	10	10	5	-3	-6	-6	10	1	8	15	5	10	4.2
Maddock	Maximum...	40	40	33	28	30	28	19	35	34	37	35	27	24	26	24	30	29	12	32	38	21	26	25	9	13	38	35	36	37	21	26	28.6
	Minimum...	31	30	9	-2	18	13	-4	15	14	10	13	12	1	8	-3	5	-18	-22	-1	13	-3	-7	2	-5	-9	6	1	4	16	-7	6	4.4
Melville	Maximum...	40	40	32	25	30	30	22	35	34	38	37	30	27	27	25	25	25	8	28	26	27	27	28	6	11	33	35	35	35	20	26	28.0
	Minimum...	31	30	10	0	17	15	3	15	15	28	20	13	-2	3	-4	-7	-17	-25	-5	16	4	3	6	-4	10	5	5	3	18	-8	5	5.9
Minot §§	Maximum...	40	38	25	32	33	30	20	25	30	43	38	30	25	20	15	32	20	13	45	45	23	33	23	11	20	43	25	50	42	18	30	29.6
	Minimum...	28	15	-1	-5	11	2	-5	-1	10	8	10	3	-8	3	-11	-10	-23	-31	5	5	5	-4	-3	10	-15	10	-3	1	9	-15	5	-0.8
Mott	Maximum...	52	36	21	24	36	37	36	38	41	38	36	15	19	23	27	38	31	12	46	39	33	36	30	27	28	46	36	41	34	27	38	32.9
	Minimum...	31	18	12	14	17	20	16	20	23	20	15	-5	0	6	11	20	-5	-18	8	30	18	16	5	7	9	15	10	23	24	-1	12	12.6
Napoleon §§	Maximum...	37	45	38	11	26	35	26	22	46	27	46	40	20	26	29	15	35	0	11	41	43	24	33	28	18	22	45	23	40	32	16	29.0
	Minimum...	16	29	9	-4	5	12	0	3	15	16	22	16	-1	-6	0	-6	-14	-27	-6	8	12	7	10	-1	-10	10	7	5	24	10	5	4.7
New Salem	Maximum...	54	34	13	25	32	27	14	31	29	33	50	29	24	24	32	35	35	32	47	30	21	14	26	17	17	47	30	47	32	14	30	29.5
	Minimum...	34	28	8	0	15	7	7	10	16	18	24	14	0	10	0	1	-13	-20	3	20	14	11	14	7	-10	7	9	10	22	-4	10	8.8
Pembina §§	Maximum...	57	35	12	25	25	15	16	32	20	31	25	19	25	19	5	23	-19	3	14	22	18	25	25	15	15	38	8	22	14	5	25	19.8
	Minimum...	12	26	4	-14	10	12	-15	5	10	6	-5	-4	5	3	-12	-18	-20	-32	2	-5	-2	-10	10	22	-20	-16	-5	-15	5	15	-15	-5.1
Steele	Maximum...	37	44	30	21	33	24	16	23	41	39	34	27	24	26	17	32	2	8	39	42	24	34	14	29	23	43	23	33	24	14	26	27.6
	Minimum...	29	30	14	-2	11	13	3	11	14	21	14	11	9	8	9	2	-17	-29	-2	14	14	14	11	3	9	8	8	12	-2	-6	8	7.8
Towner	Maximum...	42	40	30	30	28	27	17	33	39	38	36	27	27	25	23	20	27	24	17	38	34	28	27	25	20	25	21	20	36	18	37	28.4
	Minimum...	25	26	10	-7	3	11	9	12	12	22	12	15	15	-7	-10	5	-11	-17	-29	5	12	10	15	3	16	10	10	10	15	10	4	6.2
Valley City	Maximum...	42	40	31	24	33	32	20	38	35	40	35	26	25	27	25	24	24	6	21	38	25	26	25	7	15	41	34	27	32	21	25	28.0
	Minimum...	30	31	12	0	16	13	-4	16	19	17	17	14	7	10	10	0	-26	-22	-3	18	9	4	6	-3	-6	-6	4	3	19	-7	1	6.4
Wahpeton	Maximum...	43	45	35	23	35	35	26	41	42	40	42	42	30	29	30	28	30	15	19	39	32	29	36	25	25	47	46	24	30	25	25	32.7
	Minimum...	26	30	15	5	14	22	2	22	26	23	38	24	14	19	10	5	7	-17	-5	18	18	15	20	1	2	11	10	5	20	5	2	12.8
Walhalla	Maximum...	51	47	39	28	29	35	....	31	37	36	37	20	28	27	23	22	35	6	15	19	24	27	32	10	14	45	25	20	41	21	26	a28.3
	Minimum...	29	18	4	-6	19	11	....	4	16	10	3	9	-6	5	-5	-9	-23	-30	-7	8	2	-1	4	19	-15	4	-2	14	7	-9	10	a-0.2
Westhope	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Williston	Maximum...	54	34	17	33	34	22	25	39	28	42	43	22	26	22	16	32	9	21	51	38	22	38	29	13	30	45	25	54	35	18	39	30.8
	Minimum...	34	15	5	5	22	14	11	10	15	21	12	7	6	4	-5	7	-14	15	21	19	12	7	4	3	1	17	11	17	6	0	16	9.3
Moorhead, Minn	Maximum...	43	38	29	23	33	27	19	37	37	43	38	32	25	27	23	26	26	3	20	38	22	28	32	11	14	47	17	20	30	11	25	27.2
	Minimum...	30	29	8	3	14	8	0	19	20	20	18	14	10	15	6	4	-17	-19	-5	20	14	9	2	-1	2	10	6	0	-4	6	1	7.4

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

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NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXII. BISMARCK, N. D., APRIL, 1923. No. 4

GENERAL SUMMARY.

The weather during April, taken as a whole, was generally cold and unfavorable for farm work, for highway work, and for vegetation. The month opened with the ground frozen in all parts of the State, a condition which prevailed during the first and second decades. Generally the ground was quite free from snow in the western portion, and the snow covering was somewhat reduced in the east and south portions. Some seeding was done during the second decade, but wet and frozen ground interfered greatly, and not much was accomplished. During the third decade, however, a great improvement in both weather and soil conditions obtained, and excellent progress was made in the seeding of spring wheat and oats. Winter rye generally came through in good condition. Pastures and ranges were backward, necessitating considerable feeding of livestock, which were usually in good condition. Most of the main highways were considerably improved during the last decade, with some work on cross roads and lesser trails.

TEMPERATURE.

The mean temperature for the State was 38.7°, or 3.0° below the normal, and 3.5° lower than the mean for April, 1922. The highest mean reported was 43.8° at McLeod, Ransom County, and at Wahpeton, Richland County; the lowest was 32.2° at Bottineau, Bottineau County. The highest temperature reported was 89° at Jamestown, Stutsman County, on the 18th; 2d; the lowest was −15° at Willow City, Bottineau County, on the 1st. The greatest monthly range was 90° at Willow City, Bottineau County; the least was 62° at Hillsboro, Traill County. The greatest daily range was 59° at Skaar, McKenzie County, on the 18th.

PRECIPITATION.

The average precipitation for the State was 1.45 inches, or 0.07 inch above the normal, and 0.53 inch more than the average for April, 1922. The greatest monthly amount reported was 3.83 inches at Dunn Center, Dunn County; the least was a trace at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 2.50 inches at McHenry, Foster County, on the 13th. The average snowfall was 7.2 inches. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS.

Auroras were observed at Howard on the 10th, at Crosby on the 11th and 12th, at Foxholm on the 17th, at Arnegard, Foxholm, Howard and Williston on the 20th, and at Foxholm on the 21st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.98	30.34	11	29.26	19	57	6,064	8.4	32	sw.	30
Devils Lake	29.96	30.39	11	29.21	19	44	7,102	9.9	26	ne.	23
Ellendale	29.98	30.38	11	29.19	19	56	10,188	14.2	45	n.	14
Grand Forks	29.95	30.35	11	29.16	19	90	....	......	....	......	....
Williston	29.94	30.34	23	29.35	19	48	5,411	7.6	29	nw.	19
Moorhead, Minn	29.96	30.42	11	29.15	20	58	6,153	8.5	24	†nw.	20
Av'ges and extremes	29.96	30.42	11	29.15	20	.....	....	9.7	45	n.	14

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c t.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	242.4	408.5	59	+ 1	79	50	52	22	17
Devils Lake	278.7	410.5	68	+10	81	62	68	27	30
Ellendale	258.9	407.2	63	......	88	54	....	27	19
Grand Forks	......	......	......	......	78	.....	65	......	....
Williston	270.9	410.5	66	+ 9	80	51	52	19	20
Moorhead, Minn	......	......	......	......	78	58	61	26	30
Averages and extremes	263.4	409.2	64	+ 5	81	55	60	19	20

† And other dates.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893...	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894...	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895...	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896...	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897...	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898...	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899...	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900...	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901...	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902...	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903...	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904...	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905...	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906...	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907...	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908...	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909...	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910...	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911...	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912...	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913...	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914...	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915...	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916...	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918...	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919...	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920...	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921...	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922...	42.3	+0.6	89	− 2	0.92	−0.46	6	10	9	11	se.
1923...	38.7	−3.0	89	−15	1.45	+0.07	5	13	8	9	nw.

Climatological Data for April, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	38.4	−3.9	82	19	6	1	48	0.72	−1.16	0.40	4.0	5	15	9	6	n.	E. T. Carley.
Amidon	Slope		9	42.2		85	18	7	8	47	1.35		0.68		6	14	5	11	w.	Charles Eastgate.
Arnegard ††	McKenzie		8	39.4		82	18	12	6	48	2.47		0.80	9.5	7	14	5	11	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	40.5	−2.0	80	19	10	8	43	1.18	−0.79	0.36	3.0	4	14	7	9	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	39.7	−2.8	84	18	6	7	45	1.41	−0.01	0.57		7					J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	30	40.4	−3.3	83	18	15	6	45	0.40	−0.76	0.40	4.0	1	18	2	10	w.	C. L. Hall.
Bismarck	Burleigh	1,674	48	41.1	−1.2	81	18	16	2	40	2.01	+0.13	0.82	9.1	8	9	11	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	32.2	−7.2	71	18	−5	3	38	0.85	−0.02	0.52		4	16	6	8	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	35.8	−2.6	79	28	3	1	52	1.84	+0.58	0.66	1.4	5	18	2	10		G. H. Phelps.
Bowman	Bowman	2,961	9	40.0		82	18	10	8	55	0.50		0.18		5	14	9	7	nw.	R. Love, Jr.
Cando	Towner	1,488	22	38.2^{b}	−2.4	75^{b}	29	7^{b}	2	38^{b}	1.02	+0.13	0.55		3				ne.	A. J. Swanson.
Carson	Grant	2,500	11	36.8	−5.2	80	29	10	2	40	2.10	+0.55	1.00	7.5	7	12	9	9	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17								1.05	0.00	0.65		4	15	11	4	nw.	S. Friswold.
Crosby	Divide	1,954	16	38.5	−2.1	81	18	6	6	43	1.76	+0.74	0.67	11.0	5	12	10	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	37.4	−0.8	77	19	9	2	36	1.44	−0.59	0.65	5.4	9	9	8	13	n.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	39.1	−3.8	83	18	5	8	47	1.55	+0.32	0.35		9	16	6	8	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	38.8	−1.6	82	18†	2	2	49	3.14	+2.09	1.45		4	6	21	3	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	38.7	−3.9	82	18	13	6†	48	3.82	+2.50	1.98	11.0	6	13	5	12	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	36.8	−3.6	82	18	3	2†	43	0.67	−0.16	0.58	6.2	5	19	0	11	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	18	36.4^{a}	−5.2	78^{a}	18	0^{a}	1	46^{a}	1.49	+0.44	0.70	13.0	5	16	9	5	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	40.9	−2.3	86	19	15	1	45	0.79	−1.09	0.65		3	7	8	15	ne.	O. A. Thompson.
Ellendale	Dickey	1,449	24	40.5	−3.1	86	19	12	8	44	1.38	−0.45	0.59	4.5	7	9	9	12	ne.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	40.2^{a}		86^{a}	28	12^{a}	2	45^{a}	1.36	+0.22	0.80	12.0	4				nw.	H. S. Solenberger.
Epping	Williams	2,224	15	37.2		80	17	10	6	45	0.86	−0.29	0.39	13.0	4	19	6	5	nw.	M. E. Uggen.
Fessenden	Wells	1,610	11	39.4	−0.8	80	29	12	2	38	0.82	−0.72	0.25	3.3	6	14	7	9	nw.	T. D. Monsen.
Finley	Steele	1,461		37.8		80	19	9	1†	41	1.20		0.49		7	11	8	11	ne.	G. J. Mustad.
Forman	Sargent	1,249	29								2.43	+0.24	0.90	9.0	4	9	6	15	n.	O. Enger.
Foxholm	Ward	1,657	2	37.2		76	18	5	2	42	2.29		0.63	15.8	9	7	16	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								1.50		0.41	10.0	6	10	10	10	nw.	Verne King.
Fullerton	Dickey	1,439	25	41.2	−1.6	86	19	16	8	45	1.82	−0.18	0.50	5.3	7	11	7	12	ne.	F. O. Alin.
Garrison	McLean	1,901	28	38.1	−4.5	78	18	10	2	42	1.40	+0.20	0.86	8.0	3	17	8	5	nw.	G. L. Robinson.
Grafton	Walsh	827	31	38.4	−1.9	80	2	10	2	41	0.60	−0.88	0.40	4.0	2	17	5	8	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	38.4	−3.6	80	19	14	15	38	1.26	−0.67	0.48	9.1	10	14	4	12	n.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	39.1	−3.4	80	18	6	2	45	2.09	+1.13	0.96	7.5	6	12	9	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29								1.10	−0.16	0.70		3					J. Moffatt.
Hansboro	Towner	1,597	15	36.6^{d}	−3.3	75^{d}	29	−9^{d}	1	44^{d}	1.85	+0.56	1.00	6.0	2	23	3	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	40.0	−4.8	88	28	9	7	54	0.37	−0.79	0.16		3	20	3	7	nw.	U. J. Downey.
Hillsboro	Traill	901	17	40.0^{b}	−3.6	78^{b}	19†	16^{b}	8	39^{b}	1.18	−0.83	0.80	0.8	5	12	14	4	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	36.0	−3.8	68	27†	4	6	31	1.19	0.21	0.40	11.1	6	11	6	13	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	39.1	−3.4	89	18	8	1	54	0.86	−0.88	0.40		7	17	2	11	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	39.8^{b}	−2.8	79^{b}	29	10^{b}	6	41^{b}	1.56	+0.59	0.76	8.0	4				nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	34.2	−3.9	75	18	−8	1	53	0.71	−0.62	0.32	2.5	3	21	2	7		R. T. Burke.
Larimore	Grand Forks	1,134	29	37.9	−2.5	81	18	13	2†	48	1.79	+0.17	0.65	6.5	6	12	7	11	nw.	Reuben Gray.
Linton	Emmons	1,711	5	43.0^{e}		84^{e}	29	12	1	42	1.44		0.58	2.8	7				ne.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	40.3	−2.4	84	19	12	1	42	1.50	−0.39	0.97	3.0	6	16	8	6		W. S. Adams.
McClusky	Sheridan	1,943	5	38.5		80	30	12	2	51	1.70		1.00	14.0	5	16	6	8	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	42.2^{i}	+0.9	85^{i}	19	12^{i}		38^{i}	3.81	+2.26	2.50	5.0	5					F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	37.4^{d}	−3.6	78^{d}	18	0^{d}	2	48^{d}	2.16	+1.27			5				nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	43.8	+0.5	83	29	18	1	48	1.99	−0.40	0.87		6	20	1	9	sw.	J. G. Carlson.
Maddock	Benson	1,604	8	38.5		76	29†	11	2	39	0.99		0.72		4	7	15	8	nw.	A. T. Felland.
Mandan	Morton	1,644	9	40.6		81	18†	15	2	42	1.21		0.72		6	12	8	10	sw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	38.0	−3.8	77	29†	10	2	38	1.83	+0.56	0.50	7.7	9	8	12	10	ne.	P. B. Anderson.
Marmarth	Slope	2,714	14																	E. C. Niccum.
Mayville	Traill	975	27	37.6	−5.6	81	19	11	15	41	1.90	+0.15	0.70		4	16	6	8	n.	M. G. Sateren.
Melville	Foster	1,590	25	37.4^{a}	−2.7	88^{a}	19	11^{a}	2	43^{a}	1.26	+0.15	0.50	6.0	4	12	9	9	nw.	J. P. Kidder.
Minot	Ward	1,557	27	34.8	−3.1	82	18	1	2	54	1.66	+0.34	1.00	6.5	4	14	12	4	w.	W. I. Faris.
Minto	Walsh	820	30	37.9	−2.7	80	19	10	2	42	0.79	−0.78	0.50	5.0	4	13	8	9	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	36.8	−5.8	78	19	4	7	36	1.33	−0.17	0.51	3.8	8	11	7	12	ne.	O. H. Opland.
Napoleon	Logan	1,955	31	39.4	−2.1	83	19†	11	8	46	1.32	−0.35	0.60	7.0	6	14	4	12	s.	C. J. Hoof.
New England	Hettinger	2,400	29	38.6	−4.5	81	18	8	7	44	1.27	+0.25	0.42	6.5	6	13	4	13	ne.	W. C. McKenzie.
New Salem	Morton	2,163	19	36.0	−6.5	72	28	12	8	40	2.04	+0.81	1.00	9.0	8	15	7	8	sw.	J. Christiansen.
Park River	Walsh	998	19	36.7	−4.8	81	19	2	11	45	0.64	−0.67	0.35		2	18	3	9	nw.	C. B. Wright.
Parshall	Mountrail		8								1.72		0.97	7.0	4					J. A. Johnson.
Pembina	Pembina	789	49	35.4	−2.5	79	28	3	2	46	T.	−1.41	T.	0	0	18	3	9	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	38.2	−3.7	82	19	10	2	42	1.27	−0.13	0.55	3.0	5	12	7	11	sw.	S. C. Shanks.
Power	Richland	1,020	29								1.44	−0.39	0.65	3.5	5					J. A. Power.
Powers Lake	Burke	2,205	9								1.85	+0.29	0.70	17.0	5	9	9	12	ne.	C. Frank.
Richardton	Stark	2,467	7	40.8		83	18	10	8	42	1.47		0.40	9.6	7	11	8	11	nw.	Geo. Keim.
Skaar	McKenzie		3	39.9		84^{c}	18	12	6†	59	2.15		0.60	5.0	6				nw.	Conrad Brunsvold.
Steele	Kidder	1,857	27	38.4	−6.0	80	19	12	8†	42	1.20	+0.09	0.85	4.5	4	9	13	8	se.	H. S. Wood.
Towner	McHenry	1,482	21	39.4	−2.0	79	29	12	6†	41	1.40	+0.30	0.80	14.0	2	19	7	4	w.	B. Bagley.
Turtle Lake	McLean	1,899	8	38.0		78	18†	10	2	42	1.31		0.78	14.1	5	11	12	7	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	39.8	−4.0	82	19	15	1†	36	1.06	0.53	0 57	3.1	3	9	12	9	sw.	H. Twito.
Wahpeton	Richland	962	29	43.8	−0.5	84	19†	10	8	44	1.78	−0.45	0.48		8	19	1	10	nw.	C. G. Luick.
Walhalla	Pembina	966	19	38.4	−1.5	81	19	9	9	42	0.84	−0.47	0.41	4.0	4	17	5	8	n.	Wm. Campbell.
Washburn	McLean	1,731	22								1.28	+0.18	0.98	10.0	3					Karl Klein.
Westhope	Bottineau	1,508	17	37.8	−1.9	78	18	7	2	48						14	11	5	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	40.2	−1.8	83	18	13	6	43	2.03	+0.80	0.74	14.9	9	6	8	16	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	35.2	−5.0	75	29	−15	1	46	1.05	+0.10	0.30	8.0	4	11	12	7	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	40.2	−0.4	82	19	18	6	37	1.28	−1.05	0.78	3.3	10	9	9	12	n.	U. S. Weather Bureau.
Averages				38.7	−3.0	89	18	−15	1	59	1.45	+0.07	2.50	7.2	5	13	8	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for April, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red		T.				T.					T.			.40						T.	.10			.07	.10	.05						0.72
Amidon	Lit. Missouri		T	T		.14	T.	.01						.68						.18				.02	.02					T.	T		1.05
Arnegard	Missouri	T.				T.		T						.60						.80	.18			.35	.45	.05					.04		2.47
Ashley	Missouri							.24			T.			.36							.25			.33	T.								1.18
Beach	Lit. Missouri					.15	.03	.07	T.						.57					.45				.03	.11	T.							1.41
Berthold Agency	Missouri					T								T.										.40		T.				T			0.40
Bismarck ***	Missouri		T		T	.02	.04	T.		T.				.29	.02					.07	.07			.82	T	T					.68		2.01
Bottineau	Mouse										.05				.26										.52		.02						0.85
Bowbells ‖‖	Mouse													.10	.62						.16				.30	.66							1.84
Bowman	Grand					T.	.14							.18							.14			.02	.02								0.50
Cando	Devils Lake	T.									T.				.55						.04			T.	.43								1.02
Carson	Heart					.02	.02	.04						.22						.20			.60								1.00		2.10
Cooperstown	Sheyenne														.65									.10		.05					.25		1.05
Crosby	Mouse	T.				T.	T.							.50						T				.35	.67	.03					.21		1.76
Devils Lake ***	Devils Lake	.01				.02				T.	.08			.37	.14						.10			.33	.21					T	.18		1.44
Dickinson ‖‖	Heart			.01		.07	.05	.20	T.					.26	.35						.35				.26	T.					T.		1.55
Donnybrook	Mouse	T.				T.	T.	T.							1.37						.07				1.45						.25		3.14
Dunn Center ‖‖	Knife						1.98	.02						.40	.54						.42				.46	T.							3.82
Dunseith	Mouse	.02												.02										.03	.58	.02							0.67
Eckman	Mouse													.22	.30									.70	.12						.15		1.49
Edgeley	James														.09						.05			.65									0.79
Ellendale ***	James		T.			T.	.20	.15		T.	T.	T.		.19	.05					T.	T.			.59		.01					.19		1.38
Energy	Missouri	T.				T.	.06	.05		T.				.45									.80	T.							T.		1.36
Epping	Missouri	T.												.39					.20					.15							.12		0.86
Fessenden	James		T.				.04				T.	.10			.25						.06				.30						.07		0.82
Finley	Red	T.	.03			.02					.07			T.	.49						T.			T.	.35	.16	.08						1.20
Forman	Sheyenne							.32							.90										.87	.34							2.43
Foxholm	Mouse	.01				.12		T.			.03			.50	.10						.06			.50	.34						.63		2.29
Fryburg	Heart					.20	.12	.18						.36						.23				.41									1.50
Fullerton	James						.08	.27			T.			.27	.18						.04			.48	.50	T.							1.82
Garrison	Missouri					T.		T.						.48										.86							.06		1.40
Grafton	Red														.40										.20								0.60
Grand Forks ***	Red	.01				.03			T.	T.	.01			.38	.48						.06			.02	.22	.01	.04						1.26
Granville	Mouse	T.				.10	.02				.05			.59										.37		T.					.96		2.09
Hannah	Pembina													.70										.36		.04							1.10
Hansboro	Devils Lake													1.00											.85								1.85
Hettinger	Grand						T.			T.				.10								.16		.11	T.						T		0.37
Hillsboro	Red										T.				.80						.12	.04			.16	.06							1.18
Howard	Missouri	.10		T.		.15		T.		T.				.40						T.	T.			.26	.25					T.	.03		1.19
Jamestown	James						.02								.35						.02	.03		.01	.40		.03						0.86
Lamoine	Missouri						.10							.20										.50							.76		1.56
Langdon	Pembina														.25							.14			.32								0.71
Larimore	Red						.04								.65	.35									.55	.05	.15						1.79
Linton	Missouri					.02	.10	.15						.32							.21			.58	.06								1.44
Lisbon ‖‖	Sheyenne		T.				T.	T.				T.		T.	.20	.10						.11			.97	.10	.02						1.50
McClusky	Missouri	.05					.05							.40	.20										1.00								1.70
McHenry	James	.01												2.50						.05				.15		T.					1.10		3,81
McKinney	Mouse	.02												.60										*	1.20						.34		2.16
McLeod	Sheyenne		T.				.05	T.	T.	.02				.87						.06		T.	.67	.32									1.99
Maddock	Sheyenne					T.								.20							.06			.01	.72								0.59
Mandan ‖‖	Missouri					.02	.04	.01	T.	T.					.31						.11			T.	.72		T.						1.21
Manfred	James	.05				.05					.12			.20	.40					.14			.37	.50						[illegible]			1.83
Marmarth	Lit. Missouri																																
Mayville	Red										.70				.60	.40									.20								1.90
Melville	James													.10	.50									.28	.38								1.26
Minot	Mouse					.05									,60						.01				1.00								1,66
Minto	Red	T.				T.			T.		T.			T.	.50										.11	.10	.08						0.79
Mott	Cannon Ball					.02	.06	.11					.51								.26			.29	.06						.02		1.33
Napoleon ‖‖	Missouri						.10							.40							.03	.12			.60	.07							1.32
New England	Cannon Ball			T.		T.	.10	.30						.42											.20	.10					.15		1.27
New Salem	Heart					.04	.05	.02						.18	.05									.65	.05						1.00		2.04
Park River	Red														.35										.29								0.64
Parshall	Missouri								T.					.97		.05								.60							.10		1.72
Pembina ‖‖	Red																								T.								T.
Pettibone	James					T.	.10							.20							.02			.55	.40	T.							1.27
Power	Sheyenne						.07	.08						.65	.24							T.		.40									1.44
Powers Lake	Missouri	.10					.10	T.				T		.65										.70	.30	T.					T.		1.85
Richardton	Heart			T.		.16	.12	.08		T.				.34							.24				.40						.13		1.47
Skaar	Yellowstone					T	.15	T.						.60						.50				.40	.20						.30		2.15
Steele	Missouri				T.	.10	T.				T.			.25										.85		T.					T.		1.20
Towner	Mouse													.80										.60									1.40
Turtle Lake	Missouri	.04				T.	T.	T.	T.					.33	.07									.78	.09								1.31
Valley City	Sheyenne		T.			T.	.01				T.			T.	.57						T.			T.	.48	T.	T.						1.06
Wahpeton	Red						.09	.18							.30							.48			.13	.16	.06				.38		1.78
Walhalla	Pembina														.40						.02			.01	.41	T.							0.84
Washburn								.02						.28										.98									1.28
Westhope	Mouse																																
Williston ***	Missouri	.02		T.	T.	.03	T.	.02		T.				.64						.33	.11			.52	.22	T.					.14		2.03
Willow City	Mouse	T.												.20	.30									.30	.25	T.							1.05
Moorhead, Minn ***	Red	T.				T.	.02		T.	T.	.06			.50	.29						.14	.03		.02	.01	.20					.01		1.28

Except as otherwise indicated observations are generally made late in the afternoon near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	46	31	37	42	35	28	34	40	45	42	42	54	38	37	43	48	62	74	82	56	56	54	56	60	48	52	66	74	72	80	....	51.1
	Minimum ...	6	19	16	16	26	17	17	17	21	21	19	21	18	29	11	21	26	30	34	44	38	32	36	34	34	33	30	31	35	38	....	25.7
Arnegard	Maximum...	37	32	32	47	37	23	30	42	50	50	59	56	40	51	54	38	71	82	67	55	55	52	38	37	41	42	71	78	71	62	....	50.7
	Minimum ...	23	15	16	20	18	12	17	18	30	26	30	32	25	27	29	27	34	34	42	37	28	32	30	28	33	25	32	35	44	43	....	28.2
Ashley	Maximum...	40	35	36	45	43	29	30	32	44	45	45	61	45	37	52	53	65	78	80	67	55	50	42	50	50	52	67	77	78	79	....	52.1
	Minimum ...	20	15	18	25	26	18	15	10	24	28	22	35	32	27	26	26	32	35	48	42	35	30	32	27	35	32	32	34	42	43	....	28.9
Beach	Maximum...	42	28	32	50	36	26	24	42	34	55	63	65	42	49	55	59	72	84	73	61	55	51	40	40	43	59	71	76	74	64	....	52.2
	Minimum ...	23	18	15	25	20	16	6	7	24	34	25	32	30	27	30	27	32	39	36	30	27	31	29	25	31	28	32	37	41	40	....	27.2
Berthold Agency	Maximum...	40	41	35	45	36	33	38	36	48	53	55	53	42	43	54	57	70	83	76	62	60	56	43	45	46	55	70	78	60	82	....	53.2
	Minimum ...	18	17	16	30	31	15	18	20	18	22	22	30	30	18	26	25	35	38	38	40	25	32	31	31	35	28	30	33	30	42	....	27.5
Bismarck	Maximum...	45	30	37	48	33	26	28	44	48	55	51	58	36	46	56	56	69	81	76	52	58	53	38	45	50	54	70	78	80	80	....	52.7
	Minimum ...	20	16	21	30	20	18	20	17	23	26	22	35	28	23	28	26	35	43	46	38	32	33	32	26	29	33	31	43	40	50	....	29.5
Bottineau §§	Maximum...	24	25	25	32	21	20	25	34	35	30	41	35	30	39	47	50	63	71	67	45	55	45	35	40	35	37	61	65	70	65	....	42.2
	Minimum ...	8	− 4	5	6	19	6	7	15	20	19	11	15	20	21	22	24	26	33	45	40	26	29	29	30	31	30	23	30	46	43	....	22.2
Bowbells §§	Maximum...	27	29	35	41	24	23	41	42	42	38	51	42	30	42	48	54	66	72	64	56	59	48	41	36	38	53	68	79	67	66	....	47.4
	Minimum ...	− 3	5	5	12	18	7	10	19	26	23	21	21	28	14	28	27	30	35	40	39	30	28	30	30	31	31	31	27	43	40	....	24.2
Bowman	Maximum...	52	28	30	52	40	21	22	42	49	59	56	64	54	50	58	58	69	82	70	53	54	46	42	40	48	72	72	75	74	70	....	53.4
	Minimum ...	23	17	18	28	21	15	14	10	22	26	26	33	30	27	25	24	31	38	37	27	24	32	30	26	30	24	24	20	44	48	....	26.5
Cando	Maximum...	30	31	30	38	37	23	29	39	..	40	43	42	35	40	51	51	64	73	71	61	52	50	40	47	48	63	..	72	75	72	....	[b]48.1
	Minimum ...	15	7	10	20	20	11	18	19	..	21	15	31	27	28	24	29	33	35	42	44	32	31	32	33	32	31	..	67	40	42	....	[b]28.2
Carson	Maximum...	35	26	32	44	35	22	18	44	36	48	44	44	42	45	42	70	58	48	45	45	43	40	38	38	48	70	75	70	80	78	....	46.8
	Minimum ...	20	10	15	28	20	15	15	7	23	26	22	32	22	25	25	30	48	42	38	25	26	28	20	25	25	32	38	35	40	46	....	26.8
Crosby	Maximum...	30	32	37	45	37	25	36	44	46	41	57	48	36	51	50	58	68	81	63	56	56	52	45	35	35	56	70	79	66	55	....	49.7
	Minimum ...	21	9	15	22	19	6	17	20	23	27	20	28	29	28	27	29	35	38	45	37	27	26	29	30	30	28	36	40	40	36	....	27.3
Devils Lake	Maximum...	33	29	30	38	31	21	28	38	39	34	44	39	36	36	48	50	65	72	77	49	56	48	41	48	50	50	76	72	74	74	....	47.1
	Minimum ...	15	9	18	21	17	12	18	19	21	23	16	28	28	27	25	28	34	36	46	39	33	31	33	33	33	33	32	37	42	43	....	27.7
Dickinson §§	Maximum...	44	30	33	50	27	20	25	42	48	55	57	61	34	49	56	57	70	83	70	54	56	50	34	42	46	55	70	77	77	68	....	51.8
	Minimum ...	29	16	15	21	21	12	16	5	18	26	23	28	34	28	28	26	32	36	39	39	26	31	30	23	30	28	30	32	39	47	....	26.9
Donnybrook	Maximum...	30	33	43	38	37	36	38	41	45	42	54	52	42	38	51	52	70	82	71	57	58	50	50	46	48	55	68	82	68	68	....	51.5
	Minimum ...	15	2	17	15	10	9	12	22	26	20	26	31	20	16	26	20	32	33	43	40	25	30	27	32	37	30	43	37	43	42	....	26.0
Dunn Center §§	Maximum...	41	28	32	46	28	21	28	41	47	53	55	57	34	48	54	57	70	82	72	54	59	51	35	42	45	56	70	78	76	69	....	51.0
	Minimum ...	21	15	15	19	21	13	14	13	21	27	24	28	32	24	27	25	31	34	40	39	26	30	31	22	28	28	28	32	39	44	....	26.4
Dunseith	Maximum...	30	32	31	37	37	24	31	39	42	40	46	49	32	43	52	54	66	82	77	63	56	55	43	42	43	51	64	77	77	67	....	49.4
	Minimum ...	15	3	5	10	16	3	13	12	18	21	10	27	24	22	26	23	30	39	45	39	27	26	28	29	30	30	24	40	54	38	....	24.2
Edgeley	Maximum...	49	40	39	44	44	29	33	37	47	58	55	57	45	35	50	52	63	76	86	75	56	54	45	51	50	58	67	74	78	80	....	54.2
	Minimum ...	15	18	16	26	25	16	16	17	21	25	24	21	25	28	25	27	30	40	41	43	36	30	32	29	34	32	30	31	37	37	....	27.6
Ellendale	Maximum...	50	31	38	46	37	25	29	31	43	57	43	59	42	33	49	51	62	75	86	57	53	52	42	53	50	53	65	72	76	80	....	51.3
	Minimum ...	17	20	18	27	24	19	18	12	23	30	25	32	31	28	26	30	29	34	42	45	35	31	36	30	37	33	32	35	40	43	....	29.4
Fessenden §§	Maximum...	37	31	33	41	31	26	31	42	42	48	47	46	40	40	51	54	66	76	77	47	56	51	40	47	50	54	67	76	80	77	....	50.1
	Minimum ...	14	12	15	20	20	14	14	20	22	23	22	25	29	27	28	29	30	39	47	46	35	36	36	31	33	35	34	36	42	46	....	28.7
Foxholm	Maximum...	28	28	33	41	35	21	32	40	43	38	49	46	35	38	49	54	66	76	71	55	58	49	42	36	39	49	64	73	68	67	....	47.4
	Minimum ...	15	5	14	22	17	9	16	20	26	26	19	30	27	17	29	28	35	34	45	40	29	29	30	30	32	31	32	37	48	40	....	27.1
Fullerton	Maximum...	49	31	37	46	40	29	29	36	47	57	45	57	40	36	48	49	62	74	86	71	55	53	54	54	51	51	66	72	77	82	....	52.8
	Minimum ...	17	20	20	25	26	20	18	16	29	27	25	34	31	29	25	28	29	31	41	45	38	31	30	30	40	34	32	35	41	40	....	29.6
Garrison	Maximum...	35	31	33	46	39	24	29	41	46	47	51	50	41	40	49	55	68	78	68	59	57	48	45	38	43	51	68	75	76	72	....	50.1
	Minimum ...	16	10	12	28	18	11	16	15	19	26	22	30	27	17	26	26	32	36	41	40	27	30	30	23	32	28	30	36	39	40	....	26.1
Grafton	Maximum...	35	32	33	38	38	36	32	38	40	40	42	42	40	35	48	49	63	69	80	79	57	54	51	55	55	52	64	68	71	78	....	49.1
	Minimum ...	16	10	15	18	24	15	18	15	16	29	15	33	29	30	18	28	30	33	39	44	37	33	34	37	34	35	32	35	39	41	....	27.7
Grand Forks	Maximum...	41	31	33	38	31	23	34	38	43	35	41	47	40	34	40	45	60	71	80	52	53	51	53	52	52	51	64	68	70	78	....	48.3
	Minimum ...	21	17	17	20	19	16	18	17	19	24	19	32	30	20	14	17	30	35	42	43	40	34	38	39	39	34	32	37	44	46	....	28.4
Granville	Maximum...	30	30	35	42	35	25	32	40	45	38	50	45	35	42	55	67	70	80	74	58	60	55	40	44	53	55	68	78	76	72	....	51.0
	Minimum ...	10	6	15	24	20	12	18	20	25	28	30	32	28	22	28	27	30	35	40	25	30	30	29	30	45	30	28	33	43	42	....	27.2
Hansboro	Maximum...	30	36	32	36	34	34	25	32	..	..	..	..	46	42	58	58	66	70	72	62	56	50	51	55	52	65	50	60	75	70	....	[d]50.7
	Minimum ...	− 9	0	9	10	17	18	10	16	..	..	..	..	10	25	23	28	30	30	40	28	42	26	28	26	28	29	30	32	31	30	....	[d]22.6
Hettinger	Maximum...	28	36	39	26	22	25	43	34	23	60	35	66	52	51	60	57	71	86	73	70	55	57	50	46	53	60	71	88	79	74	....	53.0
	Minimum ...	18	28	17	18	16	15	9	20	15	26	23	20	32	30	24	22	32	42	42	36	37	25	28	26	28	28	28	34	38	51	....	26.9
Hillsboro	Maximum...	38	38	..	..	37	27	31	39	42	39	39	49	45	33	40	42	57	69	78	76	50	51	57	57	52	49	59	68	70	78	....	[b]50.4
	Minimum ...	20	18	..	..	24	17	17	16	19	30	19	32	29	30	18	25	30	37	39	45	37	33	36	35	41	42	31	33	37	40	....	[b]29.6
Howard	Maximum...	28	31	38	28	22	21	31	38	45	41	43	51	42	50	53	57	58	65	58	54	56	49	46	55	37	53	68	63	68	67	....	47.2
	Minimum ...	8	6	18	14	14	4	13	14	22	26	21	27	28	21	28	26	32	34	44	34	25	27	28	27	30	26	32	36	38	38	....	24.7
Jamestown §§	Maximum...	31	37	42	32	26	33	43	45	49	47	50	41	34	48	54	65	75	89	48	57	52	42	42	51	48	68	75	81	71	69	....	51.5
	Minimum ...	8	12	17	23	28	14	16	19	22	25	21	24	29	27	23	23	29	35	35	44	37	31	33	30	30	31	33	36	33	34	....	26.7
Lamoine	Maximum...	..	..	32	40	33	24	27	40	40	45	46	48	36	40	58	65	64	75	77	68	55	55	40	40	48	52	68	78	79	78	....	[b]51.8
	Minimum ...	..	..	12	26	20	10	17	15	22	26	17	32	29	22	28	30	23	38	44	42	27	40	32	26	28	28	27	37	41	43	....	[b]27.9
Langdon§§	Maximum...	31	30	31	33	32	31	33	36	31	38	38	36	38	47	46	59	70	75	72	55	47	39	49	49	49	61	70	72	71	67	....	47.9
	Minimum ...	− 8	0	3	11	3	5	9	11	10	12	9	15	24	14	18	18	20	22	33	35	32	31	31	32	36	31	29	37	49	41	....	20.4
Larimore §§	Maximum...	32	35	39	40	25	32	40	41	35	42	43	40	35	47	50	61	70	81	51	60	55	50	52	54	52	64	70	72	77	70	....	50.5
	Minimum ...	18	13	13	18	23	15	14	15	14	20	15	17	23	30	15	26	30	33	33	41	31	33	33	34	32	31	30	34	35	40	....	25.3
Linton	Maximum...	50	42	41	49	49	29	28	43	48	..	..	..	..	..	56	58	68	81	74	74	57	55	47	51	54	54	70	78	84	82	....	[e]56.9
	Minimum ...	12	18	20	30	26	19	19	14	25	..	..	..	..	..	26	23	31	44	42	43	31	29	32	21	30	32	28	37	42	51	....	[e]29.0
Lisbon §§	Maximum...	53	31	43	45	36	28	30	39	45	54	45	55	40	33	45	46	62	75	84	52	51	57	47	57	47	52	65	73	79	80	....	51.7
	Minimum ...	12	22	18	22	25	19	19	15	20	25	20	25	31	30	18	25	27	32	47	47	40	36	38	33	35	32	36	34	37	48	....	28.9
McKinney	Maximum...	30	29	34	40	35	23	32	40	43	39	..	..	..	..	50	57	67	78	68	55	60	62	40	38	40	50	68	76	68	66	....	[d]49.5
	Minimum ...	10	0	8	18	20	8	18	20	28	16	..	..	..	..	25	30	30	30	35	40	30	26	30	30	32	32	30	34	35	44	....	[d]25.3
Maddock	Maximum...	35	28	30	37	38	28	29	40	39	39	46	46	38	39	49	51	65	72	74	65	56	55	44	46	47	53	63	72	76	76	....	49.2
	Minimum ...	15	11	17	25	20	12	20	19	25	27	29	32	28	26	26	28	32	33	40	42	30	31	32	31	32	30	29	34	37	40	....	27.8
Melville	Maximum...	33	35	30	40	40	26	27	38	38	37	41	40	40	33	46	47	58	72	88	68	52	50	45	48	48	50	62	72	..	78	....	[a]47.6
	Minimum ...	14	11	18	24	18	16	17	18	24	26	18	35	28	26	23	25	32	33	45	42	32	30	32	30	32	32	30	34	..	43	....	[a]27.2
Minot §§	Maximum...	32	32	34	44	23	22	35	42	46	38	53	45	33	43	54	54	70	82	71	54	61	51	38	45	47	53	70	78	72	70	....	49.7
	Minimum ...	9	1	2	15	12	5	9	14	22	18	14	17	25	11	20	18	18	28	34	35	20	22	25	25	27	27	22	28	39	35	....	19.9
Mott	Maximum...	39	27	37	44	38	30	24	36	42	45	43	56	38	44	41	38	54	74	78	44	42	40	36	35	39	53	70	76	52	65	....	46.0
	Minimum ...	12	13	20	30	23	15	4	12	23	28	26	34	32	23	26	28	30	45	43	31	33	26	33	30	24	30	34	40	36	44	....	27.6
Napoleon §§	Maximum...	47	28	38	43	30	25	29	41	46	60	47	57	37	43	53	57	67	80	83	48	56	52	35	49	53	54	70	79	81	83	....	52.4
	Minimum ...	13	14	15	25	24	15	13	11	23	24	18	32	27	23	20	22	30	35	53	40	28	25	29	18	30	29	24	33	55	45	....	26.4
New Salem	Maximum...	28	24	31	43	28	22	28	33	41	39	51	42	29	42	48	52	63	71	61	50	51	40	40	39	42	47	70	72	70	69	....	45.5
	Minimum ...	14	13	17	27	14	17	16	12	25	21	28	25	28	23	26	27	32	35	42	40	27	30	29	27	27	28	30	37	35	44	....	26.5
Pembina §§	Maximum...	31	30	31	35	25	22	27	34	35	34	40	35	36	34	45	48	63	69	78	54	56	49	50	54	55	56	63	79	76	77	....	47.4
	Minimum ...	10	3	5	8	20	9	10	8	9	14	10	16	25	28	14	25	27	34	43	43	35	32	33	34	33	35	33	33	32	40	....	23.4
Steele	Maximum...	41	34	38	40	29	30	21	39	41	53	47	54	35	49	54	49	57	76	80	48	56	50	34	40	57	49	66	74	77	76	....	49.8
	Minimum ...	15	15	15	27	24	18	15	12	19	12	19	32	29	25	24	27	31	34	45	46	31	29	32	22	29	29	29	36	41	46	....	26.9
Towner	Maximum...	36	38	36	39	39	36	32	41	43	40	49	48	39	43	55	57	70	78	78	63	65	53	45	46	46	56	60	68	79	71	....	51.6
	Minimum ...	18	20	15	21	19	12	19	12	28	17	19	31	29	21	27	21	31	37	42	43	43	29	31	31	31	31	35	36	38	43	....	27.2
Valley City	Maximum...	40	35	35	41	38	37	31	40	43	44	42	52	42	35	45	47	59	72	82	71	55	53	56	53	51	54	63	71	74	78	....	51.3
	Minimum ...	15	17	17	23	25	15	17	16	19	26	20	33	28	29	16	27	31	36	46	44	30	31	33	33	35	32	33	40	43	42	....	28.4
Wahpeton	Maximum...	49	48	38	44	45	35	29	35	42	53	43	60	59	46	43	48	60	75	84	84	67	56	58	79	59	56	64	70	75	79	....	56.1
	Minimum ...	21	24	21	24	30	19	19	10	21	32	23	35	31	32	28	30	30	36	47	49	39	34	38	35	39	38	35	35	42	46	....	31.4
Walhalla	Maximum...	31	30	32	36	41	29	30	37	38	42	39	43	37	38	52	54	64	72	81	75	57	58	51	53	56	53	65	70	72	75	....	50.4
	Minimum ...	16	10	12	16	16	10	16	13	9	27	14	29	23	29	19	27	35	36	39	44	36	31	31	35	34	34	31	33	43	41	....	26.3
Westhope	Maximum...	29	32	38	40	40	24	32	42	44	38	34	42	38	44	53	58	68	78	68	69	68	68	50	40	44	53	68	67	67	69	....	50.2
	Minimum ...	8	7	18	18	5	5	22	28	24	20	18	23	22	22	26	35	30	30	25	27	25	26	30	30	33	32	56	35	40	40	....	25.3
Williston	Maximum...	34	33	36	48	31	23	32	45	50	47	61	55	38	50	54	60	71	83	64	55	58	49	37	38	40	57	71	78	68	58	....	50.8
	Minimum ...	23	15	18	24	20	13	18	20	26	28	26	30	27	29	32	29	38	40	44	37	29	33	31	30	34	31	34	39	44	44	....	29.5
Moorhead, Minn	Maximum...	42	30	35	40	37	27	31	39	43	43	39	55	38	35	40	45	59	72	82	61	50	52	58	55	46	50	60	68	72	77	....	49.4
	Minimum ...	22	22	20	26	21	18	19	20	23	28	22	33	33	30	23	29	30	37	45	44	39	35	38	36	40	36	36	36	42	45	....	30.9

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

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Vol. XXXII. Bismarck, N. D., May, 1923. No. 5

GENERAL SUMMARY.

Scattered showers delayed farm and other outdoor work on the first day of the month, but rapid progress was made thereafter. During the first decade spring seeding was well advanced, and practically completed during the second decade. Much small grain, however, was stubbled in. Early sown wheat and oats were up to good stand and color at the close of the first decade, and at the close of the second much corn was planted, and early sown was up. Frosts and freezing temperatures occurred during the first decade in nearly all parts of the State, and in a few localities during the second decade, but only slight damage was reported. At the close of the month all crops were in excellent condition, although more rain was needed in many parts of the State for best results for grains and pastures. A slight increase in corn acreage, and a considerable increase in flax acreage, were reported.

TEMPERATURE.

The mean temperature for the State was 54.1°, or 1.5° above the normal, and 2.2° lower than the mean for May, 1922. The highest mean reported was 57.4° at Wahpeton, Richland County; the lowest was 49.8° at New Salem, Morton County. The highest temperature reported was 100° at New Salem, Morton County, on the 26th; the lowest was 13° at Pembina, Pembina County, on the 12th. The greatest monthly range of temperature was 83° at New Salem, Morton County; the least was 58° at Ashley, McIntosh County. The greatest daily range was 56° at Hansboro, Towner County, on the 23d.

PRECIPITATION.

The average precipitation for the State was 1.77 inches, or 0.78 inch below the normal, and 1.34 inches less than the average for May, 1922. The greatest monthly amount reported was 4.63 inches at Larimore, Grand Forks County; the east was 0.03 inch at Parshall, Mountrail County. The greatest amount recorded in any 24 consecutive hours was 3.55 inches at Edgeley, LaMoure County, on the 19th. The average snowall was 0.2 inch. The average number of days with 0.01 nch or more of precipitation was 6.

AURORAS.

Auroras were observed at Foxholm and Howard on the 3d; t Foxholm on the 7th; at Williston on the 17th, and at Howrd on the 21st and 22d.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.96	30.53	3	29.60	27	57	7,343	9.9	36	n.	9
Devils Lake	29.94	30.46	4	29.57	1	44	7,484	10.1	39	ne.	26
Ellendale	29.99	30.50	4	29.65	19	56	10,187	13.7	45	n.	14
Grand Forks	29.93	30.45	4	29.61	1	90	....	......	32	w.	7
Williston	29.90	30.51	3	29.41	27	48	6,235	8.4	37	se.	31
Moorhead, Minn	29.94	30.47	4	29.58	1	58	6,222	8.4	28	n.	8
Av'ges and extremes	......	......	....	......	....	.....	....	......	....	......	....

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	295.9	467.3	63	+ 5	74	47	44	22	2
Devils Lake	349.0	471.0	74	+16	69	41	49	20	13
Ellendale	336.5	463.8	73	......	79	43	....	25	4†
Grand Forks	......	......	......	......	67	.....	36	.....	....
Williston	370.5	471.0	79	+24	74	38	38	15	3
Moorhead, Minn	......	......	......	.....	67	41	41	18	26
Averages and extremes	......	......	......	......	....	....	.....	.....	....

† And other dates.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1892...	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893...	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894...	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895...	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896...	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897...	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898...	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899...	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900...	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901...	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902...	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903...	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904...	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905...	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906...	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907...	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908...	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909...	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910...	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911...	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912...	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913...	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914...	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915...	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916...	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917...	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918...	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919...	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920...	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921...	52.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922...	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.
1923...	54.1	+1.5	100	13	1.77	−0.78	6	15	10	6	nw.

Climatological Data for May, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	52.6^{b}	−1.5	85^{c}	31	20	12	48^{c}	3.47	+0.63	1.10	0	8	15	12	4	n.	E. T. Carley.
Amidon	Slope	......	9	54.6	......	88	26	16	8	52	2.20	......	0.47	0	9	13	15	3	e.	Charles Eastgate.
Arnegard ††	McKenzie	......	8	53.9	......	90	26	21	8	39	0.79	......	0.34	3.0	4	20	5	6	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	54.8	+2.1	82	27	24	8	38	3.20	+0.74	1.42	T.	7	16	6	9	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	52.2^{a}	+2.1	90^{a}	26	21^{a}	8	39^{a}	0.90	−1.91	0.29	......	6	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	55.0	+1.3	86	31	22	8	48	0.50	−1.96	0.30	0	3	25	0	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	56.2	+1.7	87	26	25	8	41	1.01	−1.49	0.45	T.	7	8	15	8	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	51.5	+0.2	91	27	19	8	42	1.32	−0.72	1.15	0	3	20	9	2	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	52.7	+2.1	88	26	20	8	40	1.02	−1.29	0.48	......	6	22	3	6	......	G. H. Phelps.
Bowman	Bowman	2,961	9	52.6	......	85	26	19	8	40	1.91	......	0.88	......	12	14	9	8	nw.	R. Love, Jr.
Cando	Towner	1,488	22	54.2^{a}	+2.7	85^{a}	28	22^{a}	12	41^{a}	2.19	0.21	0.96	0	5	8	16	7	se.	A. J. Swanson.
Carson	Grant	2,500	11	54.1	+1.8	84	25†	15	8	40	0.30	−2.34	0.18	......	5	9	17	5	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	......	......	......	......	......	......	......	2.15	−0.06	0.90	T.	4	22	6	3	nw.	S. Friswold.
Crosby	Divide	1,954	16	53.2	+2.8	89	26	22	8	47	0.75	−1.27	0.27	0	7	12	14	5	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	54.5	+1.8	86	27	24	8	38	2.04	−0.16	0.53	T.	10	13	11	7	s.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	52.4	+0.2	88	27	21	8	37	1.46	−0.97	0.35	0	9	17	7	7	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	55.0	+4.9	91	26	20	8	49	1.23	−1.01	0.55	0	6	3	25	3	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. H. Moede.
Dunseith	Rolette	1,682	27	53.8	+1.9	91	31	18	8	47	0.90	−0.80	0.41	0	5	20	0	11	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	18	53.6	+3.0	88	26†	19	8	42	1.28	−0.90	0.69	T.	8	21	5	5	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	55.0	+1.5	85	27	22	12	47	4.46	+1.79	3.55	T.	3	2	22	7	se.	O. A. Thompson.
Ellendale	Dickey	1,449	24	54.6	−1.1	85	27	24	12	45	1.79	−1.22	0.81	T.	8	7	17	7	se.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	55.4	......	87	26†	24	8	44	1.44	−0.76	0.51	......	8	12	17	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	52.4	......	89	26	15	8	45	0.24	−2.07	0.20	......	2	24	4	3	w.	M. E. Uggen.
Fessenden	Wells	1,610	11	56.9	+5.4	87	27	27	8†	36	1.08	−1.20	0.35	0	9	17	10	4	nw.	T. D. Monsen.
Finley	Steele	1,461	......	54.8	......	86	27	22	12	40	1.79	......	0.88	0	10	16	9	6	n.	G. J. Mustad.
Forman	Sargent	1,249	29	......	......	......	......	......	......	......	2.20	−0.78	1.23	0	4	14	11	6	s.	O. Enger.
Foxholm	Ward	1,657	2	53.4	......	87	31	20	8	38	0.86	......	0.37	T.	6	8	17	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	......	......	......	......	......	......	......	1.44	......	0.51	T.	7	10	12	9	se.	Verne King.
Fullerton	Dickey	1,439	25	55.4	+2.1	88	28	23	12	47	2.93	−0.31	1.18	T.	5	19	9	3	s.	F. O. Alin.
Garrison	McLean	1,901	28	54.6	+2.0	85	26†	22	8	38	2.04	−0.13	0.73	0	6	14	11	6	nw.	G. L. Robinson.
Grafton	Walsh	827	31	55.3^{a}	+2.4	90^{a}	27	23^{a}	9†	47^{a}	1.68	−0.43	0.52	0	5	22	3	6	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	55.2	+1.8	88	27	20	12	48	2.78	+0.24	1.05	0.1	9	17	7	7	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	54.8	+3.4	88	31	22	8	48	0.72	+1.12	0.20	......	8	9	15	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	......	......	......	......	......	......	......	2.16	+0.06	1.98	0	3	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	15	53.4	+3.1	96	30	19	8	56	2.16	+0.08	1.00	0	4	23	5	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	U. J. Downey.
Hillsboro	Traill	901	17	54.8^{b}	+1.6	86^{b}	27	21^{b}	12	42^{b}	2.07	−1.45	1.03	T.	7	14	12	5	s.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	50.9	+1.5	90	26	17	8	44	2.33	+0.15	2.07	0.7	5	10	12	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	54.8	+1.3	91	31	25	8	48	3.89	+1.20	1.45	T.	8	19	6	6	se.	S. Calvelage.
Lamoine	Kidder	1,936	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. V. Virgin.
Langdon	Cavalier	1,615	27	52.8	+2.0	87	26	19	12	48	0.77	−1.48	0.41	T.	4	26	2	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	54.4	+2.0	90	26	18	12	45	4.63	+2.14	1.00	0	9	16	6	9	s.	Reuben Gray.
Linton	Emmons	1,711	5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. C. Wolverton.
Lisbon	Ransom	1,091	19	54.8	+1.9	88	26	22	9	48	4.62	+1.43	2.12	T.	10	18	8	5	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	54.4	......	86	31	22	7†	38	1.89	......	1.05	......	5	22	7	2	se.	Edw. Tapley.
McHenry	Foster	1,509	12	54.2	+1.9	85	27	22	12	43	2.00	−0.49	0.93	T.	7	22	1	8	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	53.8	+1.8	90	26	18	8	46	1.00	−0.96	0.65	0	3	18	10	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	54.9	+0.8	86	26	21	12	43	2.86	−0.92	1.21	0.1	7	18	4	9	se.	J. G. Carlson.
Maddock	Benson	1,604	8	54.1	......	83	26	21	12†	44	2.54	......	0.66	0	8	4	19	8	nw.	A. T. Felland.
Mandan	Morton	1,644	9	56.4	......	88	26	23	8	43	1.82	......	0.64	0	7	18	2	11	se.	No. Gt. Plains Field St
Manfred	Wells	1,605	20	54.5	+2.9	84	26†	23	8†	44	1.36	−1.00	0.70	0	7	20	3	8	se.	P. B. Anderson.
Marmarth	Slope	2,714	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. C. Niccum.
Mayville	Traill	975	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	M. G. Sateren.
Melville	Foster	1,590	25	53.2	+0.7	85	27	22	8	37	1.80	0.87	0.88	T.	4	15	12	4	nw.	J. P. Kidder.
Minot	Ward	1,557	27	51.8	−0.5	89	26†	18	8	41	1.39	−0.58	0.50	0	8	17	13	1	nw.	W. I. Faris.
Minto	Walsh	820	30	54.2	+0.8	90	27	16	12	49	1.57	−0.77	0.61	T.	5	13	13	5	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	55.4	+3.8	83	25	17	8	49	2.30	−0.06	1.10	3.0	8	9	9	13	se.	O. H. Opland.
Napoleon	Logan	1,955	31	53.4	+1.0	85	27	18	12	54	1.55	−0.85	0.70	0.5	6	18	5	8	s.	C. J. Hoof.
New England	Hettinger	2,400	29	52.5	+0.9	86	26	18	7	43	1.11	−1.04	0.38	2.5	6	10	6	15	se.	W. C. McKenzie.
New Salem	Morton	2,163	19	49.8	−1.5	100	26	17	8	50	1.02	−1.35	0.35	......	7	18	10	3	s.	J. Christiansen.
Park River	Walsh	998	19	55.0	+2.8	89	27	20	12	41	2.40	+0.17	0.99	0	4	16	7	8	nw.	C. B. Wright.
Parshall	Mountrail	......	8	......	......	......	......	......	......	......	0.03	......	0.02	......	3	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	49	54.0	+1.5	91	25†	13	12	51	1.50	−0.72	0.80	0	4	20	6	5	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	53.8^{a}	+3.3	84^{a}	31	19^{a}	8	47^{a}	2.33	−0.52	1.02	0	8	18	4	9	sw.	S. C. Shanks.
Power	Richland	1,020	29	......	......	......	......	......	......	......	1.76	−1.13	0.70	......	5	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	9	......	......	......	......	......	......	......	0.75	−1.05	0.30	0	4	14	14	3	e.	C. Frank.
Richardton	Stark	2,467	7	54.6	......	85	26†	21	8	39	1.86	......	0.99	1.9	9	13	10	8	nw.	Geo. Keim.
Skaar	McKenzie	......	3	53.6^{d}	......	90^{d}	26	20^{d}	16	45^{d}	2.15	......	0.60	T.	10	......	......	......	se.	Conrad Brunsvold.
Steele	Kidder	1,857	27	53.4	−0.4	84	27	23	8	36	2.36	−0.13	0.80	0.2	6	13	13	5	se.	H. S. Wood.
Towner	McHenry	1,482	21	56.0	+3.7	84	27	23	8	40	1.64	−0.68	0.80	0	3	12	14	5	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	54.4	......	86	26†	22	8	43	1.52	......	0.70	1.0	6	12	12	7	se.	A. T. Anderson.
Valley City	Barnes	1,245	18	55.8	+3.2	86	27	22	11	48	2.36	−0.77	1.28	......	5	13	15	3	se.	H. Twito.
Wahpeton	Richland	962	29	57.4	+2.1	86	27†	23	12	42	1.94	−0.87	0.80	0	6	23	2	6	se.	C. G. Luick.
Walhalla	Pembina	966	19	56.7	+6.6	91	27†	15	12	47	1.13	−1.52	0.69	T.	7	23	5	3	n.	Wm. Campbell.
Washburn	McLean	1,731	22	......	......	......	......	......	......	......	1.77	−0.61	0.86	0	8	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	17	53.0	+1.6	88	25†	18	7	46	0.87	−1.17	0.69	......	4	18	8	5	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	53.8	−0.2	89	26	21	8	38	0.50	−1.76	0.15	1.2	10	6	14	11	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	52.6	+1.1	85	31	18	12	45	1.43	−0.49	1.04	T.	5	14	13	4	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	55.8	+0.7	86	31	23	12	37	1.85	−1.10	0.71	T.	7	12	13	6	n.	U. S. Weather Bureau.
Averages	......	......	......	54.1	+1.5	100	26	13	12	56	1.77	−0.78	3.55	0.2	6	15	10	6	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used i determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for May, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red	.06						.02				.05			T.	T.				.32	1.00									.32	1.10	.60	3.47
Amidon	Lit. Missouri						.22	.22		.17		.17			.32			.06		.47	T.		T.						.18			.39	[illegible]
Arnegard	Missouri						.03	.32			T				.10					.34										T.			0.79
Ashley	Missouri	.96						T.				.14				.05				1.42								.09	.32	.22			3.20
Beach	Lit. Missouri	T.					T.	.09							.02			.15	.29	.36	T.										.09		0.90
Berthold Agency	Missouri						T.	T.				.15			T.														T.	.30	.05		0.50
Bismarck ***	Missouri					T.	.18	.02			T.	.02		T.	T.				.10	.35								T.	.20	.14			1.01
Bottineau	Mouse	1.15		.02																										.15			1.32
Bowbells ‖	Mouse	.16						.18				.11							.05	.04										.48			1.02
Bowman	Grand						.25	.03			.05	.03			.16	.02			.05	.20	.07	.03	T.						.14			.88	1.91
Cando	Devils Lake	.72																										.06	.96	.22	.23		2.19
Carson	Heart							.04				.02								.02									.04			.18	0.30
Cooperstown	Sheyenne							T.						.10						.90									.40	.75			2.15
Crosby	Mouse		.09				.05	T.			.07	.20	T.		.04															.27		.03	0.75
Devils Lake ***	Devils Lake	.47						T.			.14	T.		.06	.03					.44						.03		.29	.51	.05	.02		2.04
Dickinson ¶	Heart	.22						.04	.11			.09	.03			.08			T.	.34	T	T.								[illegible]		.20	1.46
Donnybrook	Mouse										.28	.25	T	.10											.05				T.	.55			1.28
Dunn Center ‖	Knife																																
Dunseith	Mouse	.04						.01																				.40	.04	.41			0.90
Eckman	Mouse	.69				.10					.04	.03		.09	.04				.01									T.		.28			1.28
Edgeley	James	.63							T.											3.55										.28			4.46
Ellendale***	James	.52						T.			T.	.03		.13		.01		.02	T.	.81								T.	.19	.08			1.79
Energy	Missouri	.50					.08	.04				.18			.04													.05	.04	.51			1.44
Epping	Missouri						.04	.20																									0.24
Fessenden	James	.17						.02				.08				.01				.35	.08								.15	.04	.18		1.08
Finley	Red		.29				T.	.02	.03			.05		.04	T.	T.				.88									.20	.18	.09	.01	1.79
Forman	Sheyenne													.27						1.23										.40	.30		2.20
Foxholm	Mouse	.16	.01			T.	T.	T.			.18	.12		.02	T.										T.				T.	.37			0.86
Fryburg	Heart							.16			.07				.09				.11	.51				T.						.47		.03	1.14
Fullerton	James	.92						T.						.04					T.	1.18									.42	.37			2.93
Garrison	Missouri	.70					.15	.12				.22								.12										.73			2.04
Grafton	Red	.20													T.				T.	.28									.52	.27	.41		1.68
Grand Forks ***	Red	.06					T.	.01		T.				.05	.02	.02			T.	.63									1.05	.80	.14		2.78
Granville	Mouse		.05			.04	T.				.20			.05	.05				T.	.05					T				.08	.20			0.72
Hannah	Pembina	.14						T													.04										1.98		2.16
Hansboro	Devils Lake																											1.00	.50	.50	.16		2.16
Hettinger	Grand																																
Hillsboro	Red	.23						.02	T.					.08						1.03									.09	.50	.12		2.07
Howard	Missouri		T.				T.	.05			T.	.18	T		.03			T							T.			T.	T.	T.	.87	1.20	2.33
Jamestown	James	.31							.03			.41								1.45	.50								.12	.81	.26		3.89
Lamoine	Missouri																																
Langdon	Pembina	.41							T.																				T.	.01	.15	.20	0.77
Larimore	Red	.65							.05						.40	.05				.70	.45									1.00	.80	.03	4.13
Linton	Missouri																																
Lisbon ‖	Sheyenne	.38	.09					.04	T.			.23							.10	2.12	.80									.08	.68	.10	4.62
McClusky	Missouri	1.05						.14				.15			T.					.40									.15				1.89
McHenry	James						.04	T.			.11			T.						.93								.04	.75	.05	.08		2.00
McKinney	Mouse									.25					.10															.65			1.00
McLeod	Sheyenne	.46						T.	.01			.22		.09				T.		1.21									.30		.57		2.86
Maddock	Sheyenne	.66													.24					.39						.19		.57	.23	.10	.16		2.54
Mandan ‖	Missouri	.64						.16	.01			.03				.02				.43									T.	.53			1.82
Manfred	James	.70					T.	.02			.06	.02			T.					.40									T.	.12	.04		1.36
Marmarth	Lit. Missouri																																
Mayville	Red																																
Melville	James	.40					T.	T.				.42		T.						.88								T.	T.	.10	T.		1.80
Minot	Mouse	.50	.01									.30		.04	.02					.02								.02		.48			1.39
Minto	Red	.05						T.						.11						.37										.61	.43		1.57
Mott	Cannon Ball							.37			.08	.20			.01				.12	.30	T.								1.10			.12	2.30
Napoleon ‖	Missouri	.70							.05			T.								.36	.16								.03	.25			1.55
New England	Cannon Ball						.08	.10			T.							.08	.38	T.	T.								.25			.22	1.11
New Salem	Heart	.21						.05				.05								.35								.02	.08	.26			1.02
Park River	Red	.31																		.55										.99	.55		2.40
Parshall	Missouri					T.		.01							.02				T.	T.		T.					T.						0.03
Pembina ‖	Red							T.													T.					.10				.80	.50	.10	1.50
Pettibone	James	.78					.05	.04				.12						.05		1.02									.05	.22			2.33
Power	Sheyenne	.36						.08						.30																.70	.32		1.76
Powers Lake	Missouri								.15	.30					.05			T.												.25	T.		0.75
Richardton	Heart						.05	.08				.16			.03	.11			T.	.25									.01	.99		.18	1.86
Skaar	Yellowstone				.20			.40			.10	.15			.15			.20	.15	.60									.10		.10		2.15
Steele	Missouri	.73						.25							T.	T.				.80								.33	.15		.10		2.36
Towner	Mouse	.65										.19		T.																.80			1.64
Turtle Lake	Missouri	.70	T.				T.	.15				.17			T.					.20									.07	.23			1.52
Valley City	Sheyenne	.40					T.		T.		.25									1.28									T.	.35	.08	T.	2.36
Wahpeton	Red	.38										.15		.25						.80										.25	.11		1.94
Walhalla	Pembina	.10						T.						.03		.08	T.		.02											.69	.20	.01	1.13
Washburn		.86					.13	.04				.10				.05				.28									.11	.20			1.77
Westhope	Mouse	.69	.03								.06				.09																		0.87
Williston ***	Missouri	T.						.01	.10			.02			T.	.04			.02	.07	.08					T.			T.	.04	.01	.11	0.50
Willow City	Mouse	1.04	T.				.01	T.			T.	.05			.03														T.	.30			1.43
Moorhead, Minn ***	Red	.26					T.	.04				.01		T.		T.			T.	.68									.70	.08	.08		1.85

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	64	61	57	62	61	64	50	50	70	60	59	63	52	75	56	64	72	72	58	68	64	68	79	80	.	..	..	80	78	78	85	[c]66.1
	Minimum...	44	41	38	33	42	40	32	26	23	25	31	20	36	27	33	24	31	40	42	34	39	43	44	45	49	47	52	56	58	58	60	39.1
Arnegard	Maximum...	66	60	65	73	77	57	58	55	72	59	58	60	63	55	51	65	72	66	64	67	74	62	75	79	82	90	75	70	73	78	86	68.0
	Minimum...	38	39	33	34	41	33	29	21	37	39	40	28	34	33	27	28	40	36	42	42	40	49	46	47	60	57	48	37	54	47	56	39.8
Ashley	Maximum...	69	65	62	68	71	70	46	42	61	61	53	59	65	71	56	72	70	72	61	67	67	70	73	75	78	80	82	72	75	74	81	67.4
	Minimum...	49	47	45	34	42	41	30	24	26	32	39	25	42	33	31	39	40	43	45	39	50	42	50	48	49	54	56	46	58	52	60	42.3
Beach	Maximum...	65	60	68	70	76	63	47	56	70	61	57	60	63	66	51	64	69	61	60	64	66	64	76	79	86	90	70	76	73	78	..	[a]67.0
	Minimum...	32	34	36	38	38	39	27	21	31	34	36	34	33	30	27	28	36	36	40	44	36	34	41	47	51	51	50	37	50	48	..	[a]37.5
Berthold Agency	Maximum...	67	63	68	74	81	69	40	51	72	62	56	63	65	66	50	65	75	68	67	67	74	70	78	81	84	84	80	69	75	77	86	69.3
	Minimum...	41	32	46	40	33	36	28	22	33	36	42	30	32	36	28	28	44	38	48	38	36	45	60	48	40	57	57	36	58	44	67	40.6
Bismarck	Maximum...	68	64	64	70	78	59	41	48	73	62	56	61	66	70	51	63	71	69	66	66	70	70	76	77	81	87	78	69	77	76	85	68.1
	Minimum...	49	45	42	37	49	37	29	25	32	34	35	30	44	36	30	42	41	44	43	41	52	47	51	52	55	58	63	55	61	54	62	44.4
Bottineau §§	Maximum...	60	56	60	66	70	51	39	46	65	46	50	53	57	50	51	61	69	64	65	70	71	75	76	75	81	85	91	73	75	75	85	64.9
	Minimum...	45	39	32	35	43	35	28	19	23	24	34	21	29	34	20	25	37	39	37	34	40	45	47	46	50	54	58	55	56	47	51	38.1
Bowbells §§	Maximum...	65	61	62	72	77	58	46	58	69	53	56	62	58	49	52	66	73	61	67	71	72	75	78	80	87	88	68	73	75	77	86	67.6
	Minimum...	29	38	30	38	45	32	29	20	36	32	33	25	30	34	23	26	37	34	34	36	38	42	47	48	50	57	60	39	45	49	55	37.8
Bowman	Maximum...	68	60	64	68	75	60	50	54	71	57	51	60	62	65	58	68	63	63	60	56	62	60	71	78	80	85	75	64	73	73	78	65.5
	Minimum...	33	35	34	35	39	44	31	19	31	42	41	30	35	33	28	34	31	37	47	43	48	45	43	46	48	52	52	40	50	49	50	39.6
Cando	Maximum...	69	65	69	71	73	72	46	49	70	59	50	56	61	62	51	65	72	68	65	73	74	78	77	77	84	..	83	85	70	73	83	[a]68.3
	Minimum...	51	43	34	39	35	36	34	24	39	26	37	22	41	36	24	29	35	41	39	35	36	42	47	47	57	..	56	50	59	59	57	[a]40.0
Carson	Maximum...	76	63	66	66	80	65	45	50	70	60	69	60	70	70	50	60	73	76	65	66	66	70	70	76	84	84	70	65	75	75	80	68.2
	Minimum...	40	40	35	36	46	38	28	15	30	35	39	29	36	33	28	35	36	36	43	40	50	44	46	48	50	50	50	48	55	52	50	40.0
Crosby	Maximum...	63	61	67	72	75	64	38	57	69	56	57	62	60	60	51	65	65	63	68	74	76	73	78	79	85	89	67	71	64	79	86	67.5
	Minimum...	49	40	33	36	46	35	25	22	37	36	33	28	35	32	25	29	39	38	36	36	38	42	31	52	46	57	49	52	49	49	54	39.0
Devils Lake	Maximum...	67	64	63	69	72	57	41	47	71	53	48	53	60	67	48	62	70	68	63	70	72	75	76	77	82	84	86	81	73	73	84	67.0
	Minimum...	50	45	39	37	48	36	28	24	33	27	29	25	40	35	25	32	40	48	39	35	39	45	49	50	60	54	56	57	61	58	58	42.0
Dickinson §§	Maximum...	67	61	68	71	72	50	38	52	72	61	55	57	65	61	50	62	69	71	61	64	68	66	74	77	84	88	73	66	72	77	83	66.3
	Minimum...	37	39	30	35	42	41	31	21	26	35	39	30	33	35	28	24	34	36	36	43	46	42	41	47	51	54	59	34	41	50	56	38.6
Donnybrook	Maximum...	65	64	65	73	79	68	52	55	71	62	59	64	55	53	68	75	66	67	76	77	78	76	79	82	90	91	79	76	74	83	90	71.6
	Minimum...	41	41	34	24	47	32	28	20	35	29	37	24	32	24	32	38	42	36	41	40	34	45	43	50	43	56	60	34	56	39	52	38.4
Dunn Center §§	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Dunseith	Maximum...	78	70	65	77	72	73	43	47	70	62	51	56	59	61	51	63	78	69	66	72	74	82	76	72	84	87	90	73	81	74	91	69.9
	Minimum...	46	39	37	30	43	35	27	18	25	23	32	19	30	30	19	27	39	35	35	33	40	43	46	45	49	53	56	52	54	51	56	37.6
Edgeley	Maximum...	71	68	65	69	72	70	49	50	73	67	56	59	65	72	62	62	72	75	67	66	71	71	75	75	79	82	85	76	76	76	84	69.7
	Minimum...	50	42	41	33	38	41	30	24	26	25	39	22	33	40	31	29	41	41	42	38	47	40	48	39	51	42	47	57	59	57	57	40.3
Ellendale	Maximum...	65	68	63	67	71	62	49	47	72	58	55	58	63	70	52	59	72	75	58	67	67	71	75	76	79	82	85	74	75	77	84	67.6
	Minimum...	48	42	44	38	43	39	30	26	27	32	31	24	36	37	35	33	31	44	45	42	49	44	49	43	44	46	50	58	59	57	55	41.3
Fessenden §§	Maximum...	69	67	64	70	77	52	42	49	72	56	55	57	67	70	58	64	73	74	68	74	75	75	78	76	84	85	87	77	79	75	86	69.5
	Minimum...	52	47	42	40	50	40	32	27	36	33	40	27	42	40	30	34	38	48	40	42	42	45	48	50	58	55	60	56	60	60	60	44.3
Foxholm	Maximum...	62	60	62	70	74	62	42	50	70	52	52	58	59	58	51	61	70	65	63	70	73	74	76	75	82	86	79	73	71	76	87	66.5
	Minimum...	44	43	35	36	47	34	30	20	36	32	37	25	38	33	25	32	43	38	36	41	35	45	47	49	50	56	61	44	57	47	54	40.3
Fullerton	Maximum...	67	70	63	59	72	63	48	48	73	61	56	59	67	73	53	61	75	78	68	67	72	73	75	76	82	85	86	88	77	79	84	69.6
	Minimum...	50	43	44	37	41	40	32	25	26	32	38	23	34	35	34	34	31	45	48	39	50	43	50	42	43	44	50	49	60	59	57	41.2
Garrison	Maximum...	76	69	70	69	77	69	49	49	72	63	57	62	63	56	51	64	72	70	65	71	75	74	82	77	82	85	77	66	73	77	85	69.3
	Minimum...	40	40	33	35	46	35	29	22	34	30	41	28	34	34	25	32	43	38	34	38	38	41	44	48	52	58	55	48	57	48	57	39.9
Grafton	Maximum...	72	69	67	66	74	71	48	49	70	65	53	53	61	74	53	66	72	72	68	70	..	80	81	82	86	88	90	85	80	74	85	[a]70.8
	Minimum...	50	39	41	36	44	38	29	26	23	26	34	23	30	30	27	25	34	43	38	34	..	36	45	46	55	48	54	58	60	61	60	[a]39.8
Grand Forks	Maximum...	71	69	67	65	74	59	45	50	72	57	53	56	65	77	56	64	74	73	59	67	74	79	77	80	81	84	88	80	75	76	85	69.4
	Minimum...	54	43	38	36	46	39	30	27	24	24	30	20	35	34	29	26	35	46	39	34	37	43	49	48	54	50	56	61	60	61	62	41.0
Granville	Maximum...	68	63	65	72	80	55	44	52	72	49	55	60	62	60	62	63	74	69	67	72	75	79	78	80	85	87	82	70	75	79	88	69.0
	Minimum...	48	43	35	38	32	35	27	22	33	28	37	26	39	35	26	30	40	44	44	42	38	43	45	48	47	55	60	50	68	47	56	40.7
Hansboro	Maximum...	70	70	70	70	75	56	45	45	73	54	48	54	66	54	65	70	73	63	71	71	82	76	81	80	80	87	90	75	76	96	81	69.9
	Minimum...	44	42	36	50	42	32	25	19	27	32	28	35	34	31	28	30	32	31	42	30	36	38	25	36	40	47	46	42	43	65	57	36.9
Hettinger	Maximum...	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hillsboro	Maximum...	76	61	68	..	..	69	53	47	68	66	57	51	61	70	69	52	68	72	68	62	71	75	76	79	81	83	86	83	64	75	83	[b]68.8
	Minimum...	52	48	41	..	..	39	32	26	26	27	42	21	34	34	31	26	37	40	40	35	39	42	43	45	50	45	52	56	56	60	60	[b]40.7
Howard	Maximum...	64	64	48	74	74	55	56	54	69	59	55	59	59	46	50	51	65	60	64	68	73	70	75	77	83	90	70	71	69	72	81	65.3
	Minimum...	30	31	28	30	38	33	25	17	36	36	33	26	36	28	20	26	35	34	34	38	37	44	48	51	57	54	52	36	48	48	42	36.5
Jamestown §§	Maximum...	65	65	71	73	61	45	48	73	60	55	55	66	73	53	63	74	75	53	67	72	73	76	77	81	84	80	79	73	76	82	91	69.0
	Minimum...	38	43	41	36	10	40	31	25	28	30	37	32	32	34	32	31	34	35	43	39	42	47	51	45	49	47	49	51	57	58	60	40.5
Lamoine	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Langdon§§	Maximum...	64	63	64	71	55	41	45	70	52	45	50	48	67	54	63	70	60	61	70	73	89	78	78	84	84	87	80	72	72	80	85	66.6
	Minimum...	41	44	39	36	36	34	31	22	28	25	33	19	33	34	24	27	36	37	37	30	35	45	50	46	56	53	55	54	57	59	57	39.1
Larimore §§	Maximum...	68	65	67	72	60	45	48	70	55	53	55	63	72	55	65	72	70	58	68	72	80	80	80	84	86	90	83	70	75	84	86	69.4
	Minimum...	50	40	40	36	42	38	30	25	24	25	37	18	30	31	25	24	35	40	38	35	36	42	45	45	50	48	52	56	61	60	60	39.3
Linton	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Lisbon §§	Maximum...	65	70	66	72	75	63	50	50	70	60	53	51	65	76	59	63	75	80	55	63	76	76	78	80	85	88	72	80	74	80	86	69.5
	Minimum...	50	45	41	33	47	43	35	26	22	29	29	23	29	37	34	29	29	36	43	40	42	42	45	43	47	47	54	46	60	58	60	40.1
McKinney	Maximum...	64	62	64	72	78	67	67	60	52	57	57	53	62	58	55	66	76	65	72	73	75	78	80	78	85	90	80	76	73	76	88	69.6
	Minimum...	45	42	34	30	40	32	30	18	35	35	35	25	42	32	25	30	36	38	45	45	38	33	40	58	40	50	55	30	53	40	50	38.1
Maddock	Maximum...	71	66	63	70	72	71	49	48	73	68	53	56	63	66	53	62	70	70	68	71	74	76	75	76	81	83	80	72	75	73	82	68.7
	Minimum...	49	44	36	33	45	36	31	22	31	24	40	21	40	35	21	26	32	45	38	35	38	38	42	43	51	49	51	55	60	56	58	39.5
Melville	Maximum...	70	68	60	67	72	72	48	46	65	64	48	51	51	50	48	58	67	65	67	65	67	68	70	70	77	78	85	78	71	66	77	64.8
	Minimum...	64	45	40	45	41	40	30	22	28	32	38	25	34	47	26	26	35	45	43	38	39	42	45	45	55	47	52	54	62	56	50	41.6
Minot §§	Maximum...	65	62	62	72	78	52	41	52	68	52	54	62	61	56	53	65	73	69	61	79	71	71	78	73	82	89	80	72	75	80	83	67.6
	Minimum...	36	38	30	32	35	32	30	18	28	30	35	22	30	35	23	27	35	40	30	35	35	40	46	47	43	55	58	38	50	40	46	36.1
Mott	Maximum...	77	78	71	67	66	58	43	60	76	54	62	69	68	58	50	67	70	66	63	67	70	73	78	78	83	80	74	77	76	75	82	68.9
	Minimum...	37	35	31	31	33	32	28	17	27	34	36	40	37	36	37	41	44	40	39	42	48	53	57	56	58	60	51	52	50	53	61	41.8
Napoleon §§	Maximum...	70	66	65	70	74	60	44	48	74	63	57	61	70	74	54	62	72	73	63	67	71	72	75	75	82	84	85	73	75	74	83	68.9
	Minimum...	45	40	40	32	34	37	31	19	20	28	34	18	36	36	28	26	32	40	40	34	45	37	40	46	47	51	53	55	53	48	52	38.0
New Salem	Maximum...	53	51	58	62	60	62	41	44	46	50	49	49	63	54	46	53	63	55	54	51	52	61	72	74	79	100	62	60	69	72	75	59.3
	Minimum...	30	39	42	38	43	41	28	17	27	32	39	32	40	31	27	39	37	37	38	41	46	39	40	45	52	50	59	49	57	59	55	40.3
Pembina §§	Maximum...	72	69	70	70	75	58	45	48	63	55	46	53	60	75	51	68	71	66	65	69	76	84	84	82	91	89	91	86	77	76	86	70.0
	Minimum...	51	41	38	32	42	35	27	25	29	21	32	13	29	35	19	21	33	39	37	25	25	42	46	59	55	49	52	54	59	50	59	37.9
Steele	Maximum...	69	63	59	66	71	51	43	46	61	59	56	59	59	56	53	53	59	70	69	67	62	69	76	79	83	83	84	71	71	73	83	65.3
	Minimum...	50	44	42	36	47	36	29	23	29	30	34	40	36	36	27	39	36	43	44	37	41	44	40	47	50	51	60	54	57	52	58	41.6
Towner	Maximum...	68	75	64	71	77	76	42	49	68	64	53	58	62	60	52	67	72	69	68	72	75	77	78	79	80	81	84	80	77	77	80	69.5
	Minimum...	50	43	36	46	43	36	32	23	31	26	39	26	40	36	27	31	38	44	39	35	41	42	45	47	48	68	67	65	58	50	65	42.5
Valley City	Maximum...	70	68	65	79	70	64	47	46	74	74	70	60	64	73	54	62	72	77	55	70	72	74	75	77	80	82	86	81	70	75	84	70.0
	Minimum...	45	48	44	40	50	40	30	24	27	27	22	23	30	41	35	47	39	45	42	35	42	45	40	42	50	53	52	52	60	58	60	41.5
Wahpeton	Maximum...	80	81	73	70	69	72	64	52	65	67	61	59	51	73	72	62	73	78	76	69	76	76	77	78	82	83	86	84	80	78	86	72.7
	Minimum...	54	46	40	34	40	40	36	27	24	32	42	23	32	40	36	28	31	36	55	40	42	44	49	47	49	49	55	61	60	63	64	42.2
Walhalla	Maximum...	78	73	69	66	78	75	54	49	66	74	63	54	57	74	56	66	74	72	66	69	74	81	86	85	86	90	91	91	80	74	84	72.7
	Minimum...	49	44	43	32	50	35	26	25	26	27	34	15	31	42	25	24	44	36	37	29	30	50	54	52	57	60	54	56	57	60	59	40.7
Westhope	Maximum...	72	63	64	73	78	65	42	42	70	48	54	60	60	53	53	58	73	63	68	70	78	80	78	86	88	88	82	75	86	88	87	69.2
	Minimum...	40	43	35	34	43	33	18	22	25	25	34	25	35	33	24	30	34	35	40	42	40	42	45	46	45	50	48	45	43	43	41	36.7
Williston	Maximum...	65	61	65	72	75	52	40	57	71	58	57	61	61	48	51	63	71	63	65	67	72	69	76	79	84	89	72	72	71	75	85	66.7
	Minimum...	39	41	34	34	50	37	27	21	42	43	37	30	36	33	30	31	44	38	41	39	41	47	49	53	56	61	44	36	50	47	57	40.9
Moorhead, Minn	Maximum...	62	70	64	66	70	62	49	46	65	56	57	52	59	72	52	59	69	77	61	67	74	75	77	78	81	83	85	79	78	76	86	68.0
	Minimum...	54	47	44	40	43	42	30	28	28	31	32	23	34	41	34	29	35	52	47	39	46	48	51	49	50	52	55	61	59	62	65	43.6

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

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NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXII. BISMARCK, N. D., JUNE, 1923. No. 6

GENERAL SUMMARY.

The weather at the opening of the month was favorable for crops, although rain was needed in several sections of the State. Comparatively hot winds prevailed during the first four days, causing rapid evaporation of surface moisture. Spring wheat, oats, barley and speltz were in good condition, especially where well planted. During the first decade light scattered showers prevailed, but the rainfall in most sections was below the normal. The fore part of the second decade was similar to the first, with rain badly needed in many sections of the State. Highly beneficial rains occurred in practically all parts of the Section during the third decade, greatly relieving droughty conditions. In many instances, however, this moisture came too late to be of much benefit, except for corn and pastures. Severe hail and wind storms caused considerable loss of lives and property. Spring rye was headed and ripening rapidly at the close of the month, with indications of a poor yield. Corn was generally an excellent crop, and clean. Flax, both early and late sown, showed promise of good returns. Spring wheat, where well planted, was excellent, but where stubbled in was fair to poor. A few instances of black stem rust were reported on the last day of the month. Highways were generally excellent in all sections, particularly the main trails.

TEMPERATURE.

The mean temperature for the State was 66.1°, or 3.3° above the normal, and 2.6° higher than the mean for June, 1922. The highest mean reported was 70.8° at Wahpeton, Richland County; the lowest was 61.9° at New Salem, Morton County. The highest temperature reported was 100° at Dunseith, Rolette County, on the 16th, and at Hettinger, Adams County, on the 22d; the lowest was 30° at Hansboro, Towner County, on the 6th. The greatest monthly range of temperature was 70° at Hansboro, Towner County; the least was 40° at Richardton, Stark County. The greatest daily range was 55° at Hansboro, Towner County, on the 22d.

PRECIPITATION.

The average precipitation for the State was 3.82 inches, or 0.32 inch above the normal, and 0.04 inch more than the average for June, 1922. The greatest monthly amount reported was 10.27 inches at Power, Richland County; the least was 0.91 inch at McClusky, Sheridan County. The greatest amount recorded in any 24 consecutive hours was 4.85 inches at Fullerton, Dickey County, on the 21st. The average number of days with 0.01 inch or more of precipitation was 8.

AURORAS.

Auroras were observed at Richardton on the 1st; at Devils Lake and Williston on the 3d; at Grand Forks and Williston on the 4th; at Foxholm on the 5th; at Crosby on the 11th; at Crosby, Devils Lake and Foxholm on the 12th; at New England and Richardton on the 13th; at Crosby and New England on the 14th, and at Foxholm on the 30th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.88	30.21	7	29.40	22	57	7,342	10.2	48	nw.	24
Devils Lake	29.85	30.26	28	29.36	25	44	6,300	8.9	42	ne.	25
Ellendale	29.92	30.26	28	29.50	25	56	9,583	13.3	56	ne.	20
Grand Forks	29.85	30.21	9	29.48	18	90	....	......	60	sw.	17
Williston	29.88	30.21	28	29.18	17	48	6,175	8.6	52	e.	2
Moorhead, Minn	29.88	30.23	8	29.51	25	58	5,257	7.3	40	nw.	25
Av'ges and extremes	29.88	30.26	28	29.18	17	.....	....	9.7	60	sw.	17

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	317.8	475.1	67	+ 5	81	53	51	22	17
Devils Lake	364.3	478.7	76	+ 7	79	51	52	28	2
Ellendale	325.3	470.9	69	......	84	57	....	26	2
Grand Forks	......	......	......	......	77	.....	55	.....	....
Williston	340.8	478.7	71	+10	84	52	51	27	2
Moorhead, Minn	......	......	......	......	80	50	53	28	18
Averages and extremes	336.6	475.7	71	+ 8	81	53	53	22	17

† And other dates.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.
1922	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.
1923	66.1	+3.3	100	30	3.82	+0.32	8	13	12	5	se.

Climatological Data for June, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	67.4	+3.9	93	17	40	28	38	3.29	−0.58	1.25	0	6	18	7	5	s.	E. T. Carley.
Amidon	Slope	...	9	64.5	...	93	16	42	7	44	2.70	...	0.75	0	9	15	13	2	n.	Charles Eastgate.
Arnegard ††	McKenzie	...	8	65.0	...	91	16	40	2	49	4.53	...	1.30	0	11	16	12	2	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	65.0	+3.0	88	15	40	28	36	6.62	+3.13	2.30	0	8	18	7	5	se.	R. C. Miles.
Beach	Golden Valley	2,579	17	63.8	+2.7	91	16	42	14	45	3.70	+0.22	0.78	0	12	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	67.0	+4.4	90	16†	38	7	47	2.04	−1.84	1.00	0	5	21	2	7	se.	C. L. Hall.
Bismarck	Burleigh	1,674	48	66.6	+2.9	88	1	40	7	37	1.99	−1.55	0.54	0	14	8	12	10	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	66.0	+5.0	95	22	35	7	44	5.83	+2.69	3.45	0	9	19	7	4	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	64.6	+4.4	90	16	40	21	40	4.99	+1.90	1.60	0	11	19	4	7	...	G. H. Phelps.
Bowman	Bowman	2,961	9	62.5	...	84	16	40	30	38	4.78	...	1.35	0	10	11	14	5	se.	R. Loye, Jr.
Cando	Towner	1,488	22	67.8	+6.6	96	14	39	28	43	1.93	1.95	0.66	0	6	9	20	1	se.	A. J. Swanson.
Carson	Grant	2,500	11	64.2	+1.2	86	11†	40	7	40	5.34	+1.47	1.33	0	11	8	20	2	s.	J. W. Evens.
Cooperstown	Griggs	1,428	17	...	...	...	...	...	...	...	3.12	−0.52	1.05	0	5	20	7	3	w.	S. Friswold.
Crosby	Divide	1,954	16	65.5	+4.9	90	16	43	7	35	5.72	+2.76	1.32	0	8	8	16	6	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	67.0	+4.4	90	1	38	28	32	1.46	−2.07	0.42	0	8	15	9	6	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	65.3	+4.0	88	2†	39	7	45	4.49	+1.45	1.72	0	8	15	5	10	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	67.6	+7.1	94	16	37	7†	50	3.08	+0.22	1.50	0	7	1	28	1	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	...	...	...	...	...	...	...	2.23	−2.07	0.75	0	8	...	...	...	...	W. H. Moede.
Dunseith	Rolette	1,682	27	66.9	+5.7	100	16	35	28	43	4.21	+1.25	2.50	0	9	12	8	10	n.	J. G. Lamont.
Eckman	Bottineau	1,500	18	66.4	+5.1	91^{b}	17	37^{c}	28	44^{c}	3.42	+0.66	1.36	0	7	15	12	3	se.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	65.5	+2.7	89	3†	39	28	37	6.43	+3.07	3.57	0	7	7	11	12	s.	O. A. Thompson.
Ellendale	Dickey	1,449	24	65.8	−0.2	88	2	43	28	31	6.86	+3.86	2.67	0	13	7	10	13	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	67.8	...	94	22	37	7†	46	0.91	−2.20	0.52	0	5	10	18	2	se.	H. S. Solenberger.
Epping	Williams	2,224	15	64.5	...	88	16	43	26	37	6.31	+2.97	2.45	0	11	16	12	2	se.	M. E. Uggen.
Fessenden	Wells	1,610	11	69.4	+8.4	95	3	42	28	37	1.32	−2.73	0.40	0	8	8	16	6	se.	T. D. Monsen.
Finley	Steele	1,461	...	66.8	...	90	16†	40	28	34	3.43	...	0.92	0	11	15	9	6	se.	G. J. Mustad.
Forman	Sargent	1,249	29	...	...	...	...	...	...	...	5.49	+1.88	1.13	0	8	14	10	6	se.	O. Enger.
Foxholm	Ward	1,657	2	66.2	...	91	16	39	28	37	2.59	...	0.75	0	8	6	21	3	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	...	...	...	...	...	...	...	4.23	...	0.97	0	10	13	14	3	se.	Verne King.
Fullerton	Dickey	1,439	25	66.2	+3.5	93	3	33	28	37	8.37	+5.09	4.85	0	9	15	8	7	s.	F. O. Alin.
Garrison	McLean	1,901	28	65.6	+3.4	87	2	39	28	42	1.93	−1.39	0.53	0	8	15	11	4	se.	G. L. Robinson.
Grafton	Walsh	827	31	68.2	+5.7	92	16†	40	28†	40	2.42	−0.82	0.90	0	6	24	4	2	s.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	67.9	+5.0	96	17	39	28	32	2.27	−1.12	0.75	0	8	13	9	8	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	66.8	+3.7	93	16	40	28	40	2.15	−0.60	0.96	0	7	6	16	8	se.	W. A. Christianson.
Hannah	Cavalier	1,568	29	...	...	...	...	...	...	...	2.11	−1.33	1.52	0	4	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	15	66.6	+6.2	100	22	30	6	55	6.10	+3.41	4.70	0	3	22	8	0	se.	C. E. Blackorby.
Hettinger	Adams	2,675	16	64.9	+2.8	87	2†	42	5†	35	5.83	+2.59	1.50	0	8	16	12	2	n.	U. J. Downey.
Hillsboro	Traill	901	17	67.6	+3.2	92	17	40	28	34	4.00	+0.65	1.28	0	8	15	11	4	s.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	63.3	+3.6	93	16	44	6	37	4.08	+1.49	1.47	0	8	9	17	4	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	66.0	+2.9	94	2	40	28	43	3.92	+0.14	1.75	0	13	14	10	6	se.	S. Calvelage.
Lamoine	Kidder	1,936	18	68.0	+7.5	91	22	33	28	42	1.00	−2.32	0.50	0	3	15	11	4	se.	E. V. Virgin.
Langdon	Cavalier	1,615	27	65.4	+5.7	90	21	34	28	38	1.98	−1.52	0.85	0	6	26	0	4	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	67.4	+5.3	95	15	38	28	39	6.52	+3.02	4.00	0	7	19	6	5	s.	Reuben Gray.
Linton	Emmons	1,711	5	66.2	...	92	2	36	28	46	4.58	...	0.91	0	13	14	9	7	se.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	67.4	+4.3	94	16	40	29	38	6.98	+2.69	2.95	0	8	15	13	2	se.	W. S. Adams.
McClusky	Sheridan	1,943	5	66.2	...	93	22	33	28	41	0.98	...	0.26	0	8	20	9	1	se.	Edw. Tapley.
McHenry	Foster	1,509	12	66.4	+4.4	90	15†	37	28	36	2.39	0.83	0.73	0	6	22	1	7	s.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	65.6	+4.9	91	15	38	28	45	3.10	−0.12	0.66	0	5	12	18	0	se.	N. P. Swenson.
McLeod	Ransom	1,075	11	67.4	+2.4	91	17	42	7	38	9.54	+5.34	3.65	0	8	15	9	6	se.	J. G. Carlson.
Maddock	Benson	1,604	8	65.0	...	88	3†	33	28	36	1.22	...	0.42	0	6	6	22	2	se.	A. T. Felland.
Mandan	Morton	1,644	9	67.2	...	90	16†	40	7	39	1.94	...	0.81	0	13	11	12	7	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	66.2	+4.7	89	16†	36	28	35	1.60	−1.98	0.60	0	7	16	13	1	se.	P. B. Anderson.
Marmarth	Slope	2,714	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. C. Nieeum.
Mayville	Traill	975	27	66.2	+1.7	90	15	40	28†	41	2.26	−1.25	0.80	0	8	15	8	7	s.	M. G. Sateren.
Melville	Foster	1,590	25	64.9^{c}	+2.0	87^{c}	16	34^{c}	29	40^{c}	2.46	−1.05	0.81	0	5	...	...	...	se.	J. P. Kidder.
Minot	Ward	1,557	27	64.6	+2.1	93	16	33	7	46	3.01	−0.25	1.10	0	7	8	20	2	e.	W. I. Faris.
Minto	Walsh	820	30	67.2	+3.3	94	3	38	9†	44	2.51	−0.79	0.97	0	6	7	21	2	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	63.8	+0.8	87	22	40	7	33	3.50	+0.10	1.12	0	10	8	10	12	se.	O. H. Opland.
Napoleon	Logan	1,955	31	63.0	+0.8	89	3	35	28	44	5.85	+2.23	2.02	0	15	13	6	11	se.	C. J. Hoof.
New England	Hettinger	2,400	29	64.6	+2.6	87	22	41	7	35	3.28	+0.59	0.75	0	8	2	20	8	se.	W. C. McKenzie.
New Salem	Morton	2,163	19	61.9	−0.9	88	17	39	6†	36	2.96	−0.75	1.02	0	7	21	8	1	se.	J. Christiansen.
Park River	Walsh	998	19	67.4	+4.2	91	16	38	28	35	2.03	−1.30	1.11	0	5	9	17	4	se.	C. B. Wright.
Parshall	Mountrail	...	8	...	...	...	...	...	...	...	2.46	...	1.03	0	5	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	49	67.4	+4.8	94	16	35	6	39	3.70	+0.42	2.50	0	4	20	7	3	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	62.7^{j}	+2.5	91^{j}	3	33^{j}	28	38^{j}	3.33	+0.11	0.80	0	11	...	...	...	sw.	S. C. Shanks.
Power	Richland	1,020	29	...	...	...	...	...	...	...	10.27	+6.31	4.61	0	6	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	9	...	...	...	...	...	...	...	5.47	+2.61	2.28	0	8	14	14	2	se.	C. Frank.
Richardton	Stark	2,467	7	65.6	...	86	22	46	28	31	3.75	...	1.60	0	8	11	13	6	se.	Geo. Keim.
Skaar	McKenzie	...	3	64.5^{c}	...	92^{c}	16	41^{c}	4†	49^{c}	4.28	...	0.75	0	10	...	...	...	se.	Conrad Brunsvold.
Steele	Kidder	1,857	27	64.0	+1.6	89	2†	35	27†	37	3.24	−0.09	0.55	0	9	5	20	5	se.	H. S. Wood.
Towner	McHenry	1,482	21	68.7	+6.5	92	22	36	28	43	1.98	−1.10	0.71	0	5	20	8	2	se.	B. Bagley.
Turtle Lake	McLean	1,899	8	66.6	...	93	22	36	28	37	1.45	...	0.52	0	6	9	11	10	s.	A. T. Anderson.
Valley City	Barnes	1,245	18	67.4	+4.2	91	3	40	10	33	5.90	+2.59	1.50	0	14	7	20	3	se.	H. Twito.
Wahpeton	Richland	962	29	70.8	+6.0	94	3†	42	28	36	6.95	+3.00	3.70	0	8	21	0	9	se.	C. G. Luick.
Walhalla	Pembina	966	19	68.0	+6.1	93	16	36	7	42	1.53	−1.34	0.57	0	6	18	10	2	s.	Wm. Campbell.
Washburn	McLean	1,731	22	...	...	...	...	...	...	...	1.35	−2.20	0.32	0	8	...	...	...	...	Karl Klein.
Westhope	Bottineau	1,508	17	66.8	+5.2	93	16†	37	28	45	3.53	+0.59	1.12	0	5	22	8	0	se.	W. A. Meddaugh.
Williston	Williams	1,875	44	66.0	+3.3	88	16	47	2	39	5.93	+2.36	1.86	0	12	4	18	8	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	65.6	+4.6	91	22	35	28	44	2.61	−0.57	1.03	0	5	14	15	1	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	68.1	+3.7	92	17	42	28	30	6.73	+2.60	3.64	0	11	8	13	9	s.	U. S. Weather Bureau.
Averages	...	...	...	66.1	+3.3	100	16†	30	6	55	3.82	+0.32	4.85	0	8	13	12	5	se.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for June, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
menia |||	Red				.06								.20						.10		.53	1.15				1.25	T.						3.29
midon	Lit. Missouri		.40			.52	.09		T.												T.	.75	.09		T	.18	T.	.51	.02		.14		2.70
rnegard	Missouri		.17	.13		T.									.32					1.00	.32	.21	1.30	.18		.50		.02			.05		4.53
shley	Missouri									T.					2.08					.22		2.30		.55	.10	.05		1.18		.11			6.62
each	Lit. Missouri		.16		.38	.07			.36										T.	.23	T.	.35	.78	.12	.16			.45		.06	.28		3.40
erthold Agency	Missouri		.40				.12														.08	.44		1.00									2.04
ismarck ***	Missouri			.07		.01				.21					.03			.14		.11	.03	.20	.05		.53	.01	.07	.16		.07			1.99
ottineau	Mouse				.03					.08									.15				.45	3.45		.80	.32			.08	.47		5.83
owbells |||	Mouse	.96		.21						.83									.17		.14	.05	.30	.52		1.60	.06			.15			4.99
owman	Grand			.76	T.	.26	.02													.44		.55	.10			1.35		.90		.05	.35		4.78
ando	Devils Lake			.13	.13	.07																.61	T.	.33		.66							1.93
arson	Heart			.58		.02	.05			.05										.20	.07	.57	1.00		.57	.90		1.30					5.31
ooperstown	Sheyenne			.40																.67	.63		.37		1.05								3.12
rosby	Mouse	.97		.70					T.	.80											.52	.22		1.06		1.32					.13		5.72
evils Lake ***	Devils Lake			.40	.02													.09		.04	T.	.21	.35			.33				.02			1.46
ickinson||||	Heart		T.	.70			.36			T.	T.										T.	.41	.41	.49		.18		1.72	.22		T.		4.49
onnybrook	Mouse			.20					T	.42									.04			.27	1.50			.60				.05			3.08
unn Center ||||	Knife		T.	.75			.30				T.										.10	.20	.58		.08		.12		.10				2.23
unseith	Mouse			.16						.11		.07					.11		.11			.10		2.50		.50				.55			4.21
ekman	Mouse			.04						.10												.33	.40	.75		1.36				.44			3.42
dgeley	James																			.25	.47	3.57		.61		.78		.45		.30			6.43
llendale***	James			.01	.02	.01	T.			T	T.				1.29					.80	2.40	.27	.58	.21	T	.51	.08	.40		.28			6.86
nergy	Missouri			.52																.04			.10		.16					.09			0.91
pping	Missouri	1.56	.03	.55					.01	.31	.06										.12	.36		.82		2.45					.04		6.31
essenden	James				.05													.20		.08	.05	T.	.12			.40		.14			.28		1.32
inley	Red			.04	.24					T.		.31						.04		.07	.53	.84	.18	.24	.02	.92	T.						3.43
orman	Sheyenne																	.05	.80		1.13	.50		1.04	.98	.73		.26					5.49
oxholm	Mouse			.18						.06								.06				.26	.48	.75		.63				.17			2.59
ryburg	Heart		.97			.36	.14		T.	T.							T.	T.			.32	.68	.35		T.	.34	.94	.02			.11		4.23
ullerton	James					T.									.49			.06		.54	.26	4.85	.70		.25	.42	T.	.80		T.			8.37
arrison	Missouri			.34		.07	.11															.53	.32		.23	.24				.09			1.93
rafton	Red			.15														.23		.08		.90		.62		.44							2.42
rand Forks ***	Red			T.								T.			.01			.75		.09	.40	.36	.09	.02	T.	.55							2.27
ranville	Mouse			.07		.02												.27	T.	T.	T.	.39	.96			.39				.05			2.15
annah	Pembina			.09												.40			1.52										.10				2.11
ansboro	Devils Lake																					.30	4.70			1.10							6.10
ettinger	Grand		.51				.91				.02			.12						T.	1.50	.90	.20					1.67					5.83
illsboro	Red			.55														.07		.10	.48	1.20		.12	.20	1.28							4.00
oward	Missouri	.87	T.	.21					.12					T.				T.	T.	.26		.31		.74		1.47			.10				4.08
amestown	James				.18		.02				.21		.02			.15				.06	.92	1.75	.07	.11	.05			.18			.20		3.92
amoine	Missouri		T.																	.26					.24					.50			1.00
angdon	Pembina				.02											.85							.31	.10		.45	.25						1.98
arimore	Red				.30																.30	.70	.50	4.00		.70	.02						6.52
inton	Missouri			.06	.33	.01	.18			.57										.13	.79	.52			.24	.55			.91	.26	.03		4.58
isbon |||	Sheyenne	.08			.07		T.			T.										.15	.34	2.85		.48		2.95		.06			T.		6.98
cClusky	Missouri			.05														.03		.07	.10	.22		.10		.26				.15			0.98
cHenry	James			.73																.04	.47	.42	.24			.49							2.39
cKinney	Mouse	.55							T.	.66												.33	T.	.56		1.00				T.			3.10
cLeod	Sheyenne				1.12													.02		.49	.04	3.45		.66		3.65		.11					9.54
addock	Sheyenne				.16													.23	.01			.06				.34				.42			1.22
andan ||	Missouri			.09			T.			.06	.01								.02	.16	.07	.21		.07	.17	.81		.19		.07	.01		1.94
anfred	James			T.	.60		.05													.12	.02	.10				.50				.21			1.60
armarth	Lit. Missouri																																.....
ayville	Red				.20					.20								.40	.14	.80	T.	.10		.12	.30								2.26
elville	James			.81								T.						.55			.25		T.		.55	T.				.30			2.46
inot	Mouse			.12			.02			.02									.10				.55	1.10		1.10							3.01
into	Red																	.20		.11		.73	.97		.13	.37							2.51
ott	Cannon Ball			.83		.44	.08			.02										.02		.07		.08		.76		1.12		.08			3.50
apoleon ||||	Missouri			.19	.68	.15				.09	.16									.07	.60	2.02	.02	.45	.07	.73		.30	.05		.27		5.85
ew England	Cannon Ball			.65		.19	.06														T.	.58	.38		.55			.75			.12		3.28
ew Salem	Heart			.39		.09														.41	T.	.30	.27			.48		1.02					2.96
ark River	Red																	.26		.12		.16		1.11		.38							2.03
arshall	Missouri		.65			.10															1.03		.43		.25								2.46
embina |||	Red																						.75	2.50		.35	.10						3.70
ettibone	James				.38					.30						.40						.80	.05	.10	.18	.60		.12		.38	.02		3.33
ower	Sheyenne			T.	.55							.06						T.	.41		3.96		.68			4.61							10.27
owers Lake	Missouri	.65	.20					T.	1.56											T.	.12	.42	.12	.12	T.	2.28				T.	T.		5.47
ichardton	Heart			.76		.02	.05														T.	.40		.18		.70		1.60			.04		3.75
kaar	Yellowstone	.15	.28												.10			.40		.60	.30			.75		.75		.65			.30		4.28
eele	Missouri			.10	.10	T.				.46	T.				T.					.18	.53	.47	T.		.35	.55	T.		T.	.50	T.		3.24
owner	Mouse																		.24			.58	.30			.71			.15				1.98
urtle Lake	Missouri			.22														.15		.10		.28				.52				.18			1.45
alley City	Sheyenne			1.50	.77					.05		.65			.08	.03		.02		.24	.42	1.44	T.	.14	.12	.30		.14		T.			5.90
ahpeton	Red				.25													.20		.90		.22		.50	.95	3.70		.23					6.95
alhalla	Pembina															.57		.01				.21	.01	.22		.51	T.						1.53
ashburn			.18															.06	.24			.16	.08			.32		.22		.09			1.35
esthope	Mouse								.48													.31		1.06		1.12				.56			3.53
illiston ***	Missouri	1.86	.47	T.					1.11	.15					.22			T.	T.	.15	T.	.13	.58	.11	.06	1.25			T.		.04		5.93
illow City	Mouse									T								.12		T.		.68		1.03		.27				.51			2.61
oorhead, Minn ***	Red			.28	.13							.03				T.		.02		.30	2.95	.75	.30	.14	1.36	.47							6.73

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	90	86	89	80	70	71	78	82	82	78	88	83	83	88	79	92	93	77	78	89	88	90	82	71	74	81	66	76	68	70	....	80.
	Minimum...	61	60	56	61	55	52	46	44	50	50	52	55	52	53	56	55	65	60	56	58	60	56	62	61	58	50	49	40	41	46	....	54.
Arnegard	Maximum...	79	89	78	74	67	71	74	80	77	77	72	89	84	86	86	91	83	81	82	76	83	81	72	78	71	79	67	69	68	74	....	77.
	Minimum...	60	40	55	48	50	47	43	53	59	49	52	43	57	61	49	64	59	55	56	54	58	50	52	50	52	51	52	46	52	45	....	52.
Ashley	Maximum...	82	86	80	78	71	68	72	70	62	60	75	78	79	78	88	82	84	81	76	80	81	85	80	75	70	80	78	60	62	69	....	75.
	Minimum...	62	51	60	59	59	55	41	50	53	50	49	48	48	60	52	60	68	56	59	60	61	64	58	59	53	58	49	40	45	45	....	54.
Beach	Maximum...	78	89	79	75	69	75	72	81	73	73	80	84	89	79	88	91	76	78	76	78	78	81	73	79	79	79	60	79	70	73	....	77.
	Minimum...	53	55	45	55	49	49	45	51	52	51	49	49	44	42	45	57	48	50	55	53	56	49	53	53	52	48	46	49	48	47	....	49.
Berthold Agency	Maximum...	86	88	82	78	67	71	75	83	83	81	78	81	85	85	88	90	82	81	79	81	84	90	76	84	87	82	71	71	70	77	....	80.
	Minimum...	67	41	58	54	47	52	38	56	50	52	57	60	51	60	55	76	70	58	55	52	56	48	55	50	48	42	52	47	53	44	....	53.
Bismarck	Maximum...	88	88	86	78	67	71	74	76	64	74	78	80	81	81	86	88	86	85	72	79	84	87	79	79	70	79	66	68	68	76	....	77.
	Minimum...	61	51	59	56	52	50	40	57	56	56	49	54	56	62	59	64	62	63	60	57	62	62	57	55	55	53	50	42	51	49	....	55.
Bottineau §§	Maximum...	89	86	86	77	67	70	79	80	81	83	85	70	85	90	91	92	91	86	85	87	88	95	70	81	68	80	64	70	65	72	....	80.
	Minimum...	62	48	60	55	50	45	35	49	55	51	54	53	55	57	57	62	58	56	53	51	55	52	52	49	55	47	45	40	42	45	....	51.
Bowbells §§	Maximum...	76	85	81	75	64	73	74	80	82	80	87	86	81	84	86	90	85	74	77	75	80	80	71	72	68	81	63	69	70	74	....	77.
	Minimum...	56	46	55	50	49	44	45	52	57	56	51	56	53	55	55	62	61	55	55	52	40	47	58	58	53	51	47	40	46	46	....	51.
Bowman	Maximum...	76	83	78	70	62	65	69	71	64	72	73	78	73	74	82	84	77	79	72	72	77	81	77	79	69	70	66	69	70	73	....	73.
	Minimum...	59	45	52	47	53	51	44	52	55	55	45	47	54	59	51	61	61	56	54	52	59	50	48	50	50	47	49	45	48	40	....	51.
Cando	Maximum...	90	86	88	79	78	74	76	72	77	80	83	87	83	96	86	89	89	84	79	83	82	90	84	83	78	79	76	68	66	76	....	81.4
	Minimum...	65	54	60	61	53	49	43	50	58	55	53	56	55	53	57	60	69	53	54	56	62	62	59	51	53	48	46	39	44	44	....	54.1
Carson	Maximum...	85	85	75	75	65	80	75	75	65	70	86	74	78	75	85	86	85	82	72	75	70	85	77	77	72	75	72	72	72	77	....	76.
	Minimum...	60	45	55	50	50	50	40	50	52	54	46	44	50	60	55	70	60	58	51	50	50	56	52	52	52	50	52	45	48	44	....	51.7
Crosby	Maximum...	75	76	77	68	76	77	78	89	77	84	87	86	85	87	89	90	85	76	80	74	80	83	76	74	69	85	69	67	73	67	....	78.
	Minimum...	53	53	53	53	49	48	43	49	54	54	54	56	68	58	54	62	56	51	52	50	54	54	52	49	54	51	49	46	46	46	....	52.4
Devils Lake	Maximum...	90	86	89	78	66	70	74	76	72	73	82	85	82	86	86	89	90	83	76	81	82	89	78	85	69	80	62	66	65	75	....	79.
	Minimum...	64	56	62	59	55	49	42	52	54	52	51	58	58	55	59	62	68	62	59	57	59	64	60	57	54	49	44	38	46	45	....	55.1
Dickinson §§	Maximum...	79	88	77	72	62	67	72	72	70	78	79	82	81	83	87	88	83	82	75	84	82	86	75	78	72	79	75	68	71	76	....	77.3
	Minimum...	59	43	48	47	50	52	39	46	51	53	45	47	54	60	51	57	68	51	55	51	58	49	50	51	50	45	51	44	48	44	....	50.8
Donnybrook	Maximum...	90	92	89	77	72	75	80	83	82	84	90	84	88	92	93	94	91	85	84	86	87	85	80	80	72	86	75	75	77	74	....	83.
	Minimum...	45	42	55	52	48	40	37	52	57	59	53	50	58	48	52	60	70	57	55	50	57	50	50	56	57	54	49	37	54	47	....	51.7
Dunn Center §§	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	80	83	83	74	81	71	81	63	69	69	77	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	60	48	53	49	54	48	51	44	49	39	....	.....
Dunseith	Maximum...	96	90	89	79	75	68	74	84	75	79	80	89	86	86	93	100	98	84	82	83	85	97	92	77	76	76	73	66	67	72	....	82.4
	Minimum...	61	50	58	55	49	44	36	49	55	51	55	51	53	57	61	60	56	53	53	56	54	54	54	47	52	47	44	35	41	41	....	51.4
Edgeley	Maximum...	85	87	89	81	74	69	75	73	68	64	75	79	82	75	80	88	89	87	84	86	81	88	82	78	72	79	75	64	63	72	....	78.1
	Minimum...	63	54	58	60	50	52	41	44	51	48	47	53	45	49	56	56	68	53	59	54	61	63	61	55	52	52	49	39	42	45	....	52.9
Ellendale	Maximum...	87	88	88	79	70	69	74	72	68	64	76	79	81	81	84	85	85	84	72	87	81	87	79	76	73	77	64	62	64	69	....	76.8
	Minimum...	65	57	60	59	55	48	44	50	53	47	49	53	50	61	58	63	65	56	62	59	62	62	62	58	56	51	46	43	41	48	....	54.9
Fessenden §§	Maximum...	89	90	95	83	82	76	75	76	73	78	88	86	87	86	88	90	91	88	78	81	81	92	93	86	74	85	66	72	62	80	....	82.5
	Minimum...	65	53	60	60	52	68	44	50	57	53	54	58	55	57	59	60	66	61	58	59	62	64	60	57	60	50	52	42	50	48	....	56.3
Foxholm	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Fullerton	Maximum...	90	79	93	79	72	71	76	78	77	68	81	85	85	81	89	89	96	87	71	88	82	88	84	73	73	80	70	67	68	75	....	79.7
	Minimum...	64	57	61	51	53	53	44	43	46	49	47	52	49	58	59	59	70	65	61	67	61	62	56	48	49	43	43	33	36	40	....	52.6
Garrison	Maximum...	84	87	81	75	64	69	74	77	73	78	84	84	84	82	85	86	86	84	86	84	78	86	72	80	70	79	67	68	66	74	....	78.2
	Minimum...	70	45	58	51	48	49	40	53	56	52	52	54	51	59	59	62	58	58	55	54	59	53	54	49	56	51	49	39	52	44	....	53.0
Grafton	Maximum...	90	88	91	76	74	73	77	80	76	82	85	82	88	91	89	92	92	81	81	85	84	91	86	85	80	82	71	68	73	77	....	82.5
	Minimum...	64	68	51	62	55	67	44	47	50	47	51	53	55	52	53	53	60	48	57	50	63	69	63	53	58	47	47	40	40	43	....	54.9
Grand Forks	Maximum...	90	86	89	76	70	70	76	80	72	79	74	75	75	90	85	94	96	88	76	83	85	89	80	76	72	75	64	66	70	73	....	80.1
	Minimum...	65	62	58	61	56	51	45	48	51	51	57	56	58	58	63	62	65	61	58	62	61	68	61	55	55	49	45	39	42	46	....	55.8
Granville	Maximum...	88	88	86	77	69	72	76	80	78	82	85	87	87	85	90	93	90	80	80	85	85	92	72	80	78	80	65	67	66	75	....	80.3
	Minimum...	62	48	60	53	50	48	38	48	57	54	55	57	50	55	55	60	58	60	57	58	60	54	55	55	58	53	50	40	50	41	....	53.3
Hansboro	Maximum...	89	85	81	82	76	80	84	80	82	83	85	90	86	97	90	92	94	80	91	93	94	100	84	87	87	80	75	73	76	79	....	85.2
	Minimum...	52	57	55	50	50	30	35	42	47	48	53	53	55	45	53	51	54	56	53	55	45	45	48	50	50	50	41	31	40	43	....	48.0
Hettinger	Maximum...	77	87	93	75	76	65	70	74	65	74	82	70	65	78	82	77	82	69	71	75	80	87	76	81	78	76	70	71	82	69	....	75.9
	Minimum...	50	52	52	45	42	54	42	54	55	56	61	42	54	51	64	52	70	46	48	54	58	64	48	71	54	45	54	56	61	59	....	53.9
Hillsboro	Maximum...	86	86	86	78	74	71	72	74	74	70	79	81	82	87	88	90	92	86	85	86	82	89	87	80	71	80	72	67	70	72	....	79.9
	Minimum...	63	60	56	59	55	51	44	50	52	47	55	50	57	55	51	58	68	60	56	60	62	69	64	56	59	60	48	40	44	48	....	55.3
Howard	Maximum...	75	82	72	73	66	70	75	80	85	79	80	81	82	82	84	93	92	75	71	72	70	75	71	72	72	71	68	69	66	70	....	75.5
	Minimum...	55	51	47	46	47	44	45	45	55	53	58	55	54	57	56	58	55	53	52	52	49	51	52	52	50	51	45	45	45	47	....	50.8
Jamestown §§	Maximum...	91	94	79	67	70	71	76	67	71	81	82	83	82	87	89	90	86	77	84	83	91	80	73	73	81	64	71	62	74	73	....	78.6
	Minimum...	58	54	61	61	54	54	43	47	51	48	51	59	51	44	61	60	65	51	51	57	61	62	56	57	56	52	48	40	41	48	....	53.4
Lamoine	Maximum...	88	87	89	86	84	80	75	80	80	78	76	80	82	83	87	88	85	88	85	78	80	72	84	70	74	83	72	71	58	75	....	81.6
	Minimum...	68	52	58	66	65	60	40	46	50	60	68	65	40	53	57	60	65	60	55	72	70	69	56	54	50	47	40	33	44	44	....	55.5
Langdon§§	Maximum...	84	84	72	68	69	75	79	77	79	80	84	85	86	82	88	80	76	74	80	81	90	75	82	66	77	68	64	69	74	74	....	77.4
	Minimum...	63	55	58	60	52	43	41	50	51	51	46	55	56	55	58	62	67	57	55	52	58	62	6	51	58	45	43	34	41	54	....	53.3
Larimore §§	Maximum...	87	90	90	69	72	78	80	78	80	84	84	85	90	86	95	89	88	80	85	82	90	80	80	72	82	64	68	71	76	76	....	81.0
	Minimum...	64	61	55	60	54	50	41	41	54	45	50	50	54	55	60	56	69	58	55	60	60	68	60	58	60	50	44	38	40	42	....	53.8
Linton	Maximum...	91	92	90	85	80	74	78	76	68	70	76	82	84	80	89	90	90	88	86	86	86	89	82	80	75	81	85	70	71	75	....	81.6
	Minimum...	64	46	59	57	52	54	40	54	55	53	53	48	46	64	50	55	69	50	52	49	54	56	49	45	46	38	41	36	48	44	....	50.9
Lisbon §§	Maximum...	91	93	91	80	70	70	78	80	72	84	83	83	85	85	93	94	93	88	77	91	84	91	81	70	74	80	65	65	68	78	....	81.2
	Minimum...	64	59	58	62	52	53	44	49	51	46	50	49	48	53	61	58	68	56	60	57	62	56	60	56	56	48	50	42	40	42	....	53.7
McKinney	Maximum...	85	85	84	76	68	73	76	81	85	82	85	87	85	82	91	90	83	80	81	81	82	82	77	77	71	80	71	71	72	73	....	79.9
	Minimum...	60	40	45	53	54	47	40	50	50	52	52	53	48	52	58	58	58	56	55	48	60	50	55	51	58	51	50	38	51	48	....	51.4
Maddock	Maximum...	85	84	88	86	73	71	72	74	73	77	79	80	80	83	83	88	88	86	81	76	82	87	80	78	70	80	71	67	64	73	....	78.5
	Minimum...	65	48	60	58	50	49	37	41	54	49	58	55	49	51	54	59	64	57	54	59	58	56	57	48	54	45	45	33	41	43	....	51.5
Melville	Maximum...	82	83	81	72	75	65	72	..	65	..	78	77	77	82	82	87	87	85	82	82	82	82	86	75	67	75	80	..	56	72	....	77.3
	Minimum...	60	52	53	58	48	50	42	..	45	..	56	52	52	52	55	58	62	45	58	52	59	64	60	56	50	60	48	..	34	42	....	52.5
Minot §§	Maximum...	88	89	83	77	68	72	78	83	80	84	88	89	87	88	90	93	91	80	82	89	88	93	73	80	69	81	63	70	70	73	....	81.4
	Minimum...	56	48	52	46	45	42	33	46	53	51	51	51	48	50	48	53	62	51	49	50	53	45	48	45	52	46	43	31	43	40	....	47.8
Mott	Maximum...	84	80	72	76	70	68	64	66	67	75	76	79	82	86	86	83	82	83	77	80	82	87	80	80	78	77	79	61	64	65	....	76.3
	Minimum...	64	66	51	48	55	46	40	42	41	42	45	48	50	53	62	60	57	50	53	55	55	57	58	56	50	52	53	42	43	46	....	51.4
Napoleon §§	Maximum...	85	88	89	76	66	77	73	72	61	67	75	77	80	78	84	85	88	85	72	82	81	86	77	72	68	77	62	61	67	72	....	76.1
	Minimum...	58	44	47	56	50	48	40	45	46	50	44	45	49	50	55	56	60	55	57	54	57	60	58	57	50	47	48	35	46	45	....	51.0
New Salem	Maximum...	78	72	72	60	61	68	64	68	70	71	73	69	77	76	85	86	88	84	78	74	79	81	84	74	58	71	62	67	73	78	....	73.4
	Minimum...	52	42	60	52	51	39	53	39	40	42	49	59	41	49	53	56	58	60	57	53	57	56	59	51	52	51	47	41	49	43	....	50.4
Pembina §§	Maximum...	91	90	84	78	73	74	80	84	74	82	80	88	91	91	90	94	93	85	81	85	82	92	89	87	64	73	62	71	74	73	....	81.8
	Minimum...	61	59	62	61	54	35	36	48	52	50	48	50	56	57	58	59	68	62	55	54	58	64	64	55	57	42	42	36	41	44	....	52.9
Steele	Maximum...	86	89	87	78	66	68	69	71	62	70	78	79	77	81	87	86	88	89	69	78	84	85	73	70	67	76	67	62	64	73	....	78.2
	Minimum...	62	52	58	57	56	52	41	52	52	50	42	48	49	57	59	62	61	52	58	55	55	54	57	55	54	48	35	35	45	55	....	51.7
Towner	Maximum...	87	87	87	84	77	75	80	78	81	83	89	90	89	90	90	91	87	83	84	85	84	92	85	81	80	83	82	71	70	76	....	85.3
	Minimum...	58	44	68	49	53	65	41	48	53	50	55	55	52	58	58	62	68	59	58	54	62	54	55	52	55	58	48	37	50	46	....	54.1
Valley City	Maximum...	89	87	91	77	70	68	75	75	69	72	82	80	80	87	84	87	88	83	75	82	75	83	80	74	72	78	72	67	63	73	....	78.1
	Minimum...	62	62	58	60	51	52	47	53	52	40	57	55	59	54	60	62	67	55	59	67	63	6	67	58	51	59	48	49	45	45	....	56.7
Wahpeton	Maximum...	93	93	91	89	81	74	76	78	75	75	83	85	85	85	92	91	94	89	89	90	91	92	90	85	87	79	80	70	70	77	....	81.4
	Minimum...	65	65	60	63	55	55	44	49	52	52	47	50	54	59	59	63	64	62	65	64	67	71	65	65	58	50	54	42	44	50	....	57.1
Walhalla	Maximum...	89	91	89	79	76	71	75	81	82	81	82	86	90	91	90	93	91	85	83	82	80	91	97	85	73	79	83	70	74	81	....	84.4
	Minimum...	59	58	48	59	54	45	36	43	57	57	47	49	56	52	57	59	66	62	59	52	57	66	61	53	53	50	41	41	38	44	....	52.6
Westhope	Maximum...	89	88	87	78	70	80	78	79	78	80	87	90	86	87	92	93	93	76	82	83	87	70	68	79	70	79	65	71	72	73	....	79.4
	Minimum...	45	43	60	58	50	45	38	55	51	55	57	60	56	55	57	59	58	52	55	70	72	57	58	57	53	50	48	37	40	46	....	53.2
Williston	Maximum...	76	86	76	73	67	71	74	81	77	79	82	83	83	81	86	88	85	79	76	75	82	89	72	79	72	73	62	63	67	73	....	77.0
	Minimum...	53	47	56	52	52	51	48	56	57	56	59	58	59	63	60	68	58	57	54	55	59	55	54	53	52	54	51	48	53	51	....	55.0
Moorhead, Minn	Maximum...	90	90	90	79	70	69	75	77	71	72	81	81	83	85	85	89	92	86	75	87	83	89	82	72	74	79	65	64	68	73	....	79.2
	Minimum...	66	61	60	63	57	53	45	50	53	50	54	61	56	57	64	64	66	62	61	60	65	66	64	59	56	50	47	42	45	50	....	57.0

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXII. BISMARCK, N. D., JULY, 1923. No. 7

GENERAL SUMMARY.

Taken as a whole the weather during July was generally favorable for crops and outdoor work. Heavy precipitation and high temperatures caused rapid propogation of black-stem rust, which damaged spring wheat extensively. Corn, however, made excellent progress, and was a good to excellent crop in all parts of the State at the close of the month. Several high winds and severe hailstorms did great damage in various parts of the State. At the close of the month rye harvest was practically completed, and some threshing done, with the crop generally poor. Spring wheat, oats, barley and speltz were ripening, and some early sown was harvested. Early flax indicates an excellent crop, although some late planted is rather weedy. Pastures, meadows and ranges were in good condition.

TEMPERATURE.

The mean temperature for the State was 71.2°, or 3.7° above the normal, and 5.6° higher than the mean for July, 1922. The highest mean reported was 74.4° at Fessenden, Wells County, and Wahpeton, Richland County; the lowest was 65.6° at Larimore, Grand Forks County. The highest temperature reported was 103° at Pembina, Pembina County, on the 9th; the lowest was 35° at Turtle Lake, McLean County, on the 30th. The greatest monthly range of temperature was 64° at Hansboro, Towner County. The greatest daily range was 54° at Hansboro, Towner County, on the 3d.

PRECIPITATION.

The average precipitation for the State was 3.14 inches, or 0.53 inch above the normal, and 0.71 inch more than the average for July, 1922. The greatest monthly amount reported was 6.16 inches at Washburn, McLean County; the least was 0.70 inch at Langdon, Cavalier County. The greatest amount recorded in any 24 consecutive hours was 5.00 inches at Steele, Kidder County, on the 20th. The average number of days with 0.01 inch or more of precipitation was 8.

AURORAS.

Auroras were observed at Devils Lake, Grand Forks and Williston on the 6th; at Napoleon on the 7th; at Williston on the 18th, and at New England on the 19th and 24th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	29.97	30.18	27	29.54	31	57	6,007	8.1	42	n.	8
Devils Lake	29.94	30.16	12	29.49	31	44	5,423	7.3	37	ne.	8
Ellendale	29.98	30.18	12	29.53	31	56	7,369	9.9	43	nw.	5
Grand Forks	29.92	30.13	2	29.60	31	90	....	......	60	se.	22
Williston	29.91	30.12	27	29.49	30	48	5,285	7.1	36	sw.	17
Moorhead, Minn	29.94	30.15	2	29.54	31	58	4,642	6.2	33	sw.	31
Av'ges and extremes	29.94	30.18	12†	29.49	30†	.....	....	7.7	60	se.	22

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	320.0	479.2	67	− 4	86	57	55	37	15
Devils Lake	375.8	483.1	78	+10	82	51	56	35	23
Ellendale	358.5	475.2	75	......	90	65	....	42	1
Grand Forks	......	....	......	......	83	.....	62	.....	....
Williston	376.7	483.1	78	+ 6	85	52	51	33	26
Moorhead, Minn	......	....	65	......	82	56	61	37	1
Averages and extremes	357.8	480.1	73	......	84	56	57	33	26

† And other dates.

COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.
1923	71.2	+3.7	103	35	3.14	+0.53	8	16	11	4	se.

Climatological Data for July, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	71.4	+2.7	94	19	49	2	36	2.61	−0.40	1.25	0	7	20	9	2	nw.	E. T. Carley.
Amidon	Slope		9	72.6		100	19	50	1†	38	2.24		0.77	0	5	25	4	2	se.	Charles Eastgate.
Arnegard	McKenzie		8	71.8		96	7	40	30	52	1.29		0.43	0	6	26	4	1	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	71.5^{b}	+3.1	92^{b}	19†	51^{b}	2	29^{b}	3.75	+1.09	1.03	0	8				se.	R. C. Miles.
Beach	Golden Valley	2,579	17	71.4	+4.1	99	19	50	2†	37	2.19	+0.39	0.90	0	8					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	72.0^{f}	+3.1	95^{f}	7	42^{f}	30	50^{f}	1.96	−0.01	0.62	0	5	24	7	0	s.	C. L. Hall.
Bismarck	Burleigh	1,674	48	73.3	+3.6	94	8	52	1	30	4.77	+2.63	1.22	0	11	8	14	9	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	68.8	+3.0	91	7	39	30	37	3.44	+1.16	1.57	0	6	19	10	2	se.	N. A. Eckberg.
Bowbells	Burke	1,958	11	69.2	+3.4	91	31	36	30	39	3.14	+1.00	1.30	0	6	22	4	5		G. H. Phelps.
Bowman	Bowman	2,961	9	71.3		96	19	50	27	40	2.00		0.40	0	8	22	4	5	se.	R. Love, Jr.
Cando	Towner	1,488	22																	A. J. Swanson.
Carson	Grant	2,500	11	71.6	+3.5	97	18	50	29	35	5.82	+3.88	2.25	0	5	17	13	1	s.	J. W. Evens.
Cooperstown	Griggs	1,428	17								3.45	+0.72	1.55	0	8	23	6	2	nw.	S. Friswold.
Crosby	Divide	1,954	16	70.2	+4.3	94	22	38	30	43	4.48	+2.50	1.33	0	10	7	17	7	se.	John Jensen.
Devils Lake	Ramsey	1,478	26	71.8	+3.7	97	18	46	30	35	2.07	−1.71	0.66	0	9	18	8	5	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	70.0	+2.0	94	19	45	31	45	4.67	+2.35	1.46	0	10	14	8	9	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	72.2	+6.4	98	6	37	30	46	3.23	+0.60	1.85	0	10	4	26	1	s.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	70.9^{a}	+2.9	95^{a}	7	42^{a}	30	52^{a}	3.82	+1.77	1.66	0	7	21	7	3	se.	W. H. Moede.
Dunseith	Rolette	1,682	27	68.0	+3.6	97	4	39	30	45	3.99	+1.65	2.90	0	9	9	12	10	n.	J. G. Lamont.
Eckman	Bottineau	1,500	18	72.2^{a}	+6.4	96^{a}	7†	37^{a}	30	41^{a}	1.88	−0.56	0.72	0	7	22	7	2	nw.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	71.4	+2.9	91	19	50	30	29	3.10	+0.30	1.02	0	6	2	27	2	se.	O. A. Thompson.
Ellendale	Dickey	1,449	24	71.6	+0.9	92	19	52	30	29	3.62	+0.72	1.08	0	10	8	15	8	se.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	73.1		98	7†	45	1†	43	3.32	+1.14	1.12	0	8	9	22	0	se.	H. S. Solenberger.
Epping	Williams	2,224	15	69.9		92	21	40	30	41	1.96	+0.04	0.57	0	9	20	8	3	n.	M. E. Uggen.
Fessenden	Wells	1,610	11	74.4	+7.3	99	19	50	18	37	2.65	+0.18	1.25	0	10	16	11	4	se.	T. D. Monsen.
Finley	Steele	1,461		71.2		91	8†	50	30	34	5.59		1.85	0	12	14	11	5	se.	G. J. Mustad.
Forman	Sargent	1,249	29								3.88	+0.85	0.97	0	7	10	9	12	s.	O. Enger.
Foxholm	Ward	1,657	2	69.7		92	7	40	30	37	3.50		1.50	0	9	14	13	4	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								5.16		1.72	0	7	20	9	2	se.	Verne King.
Fullerton	Dickey	1,439	25	69.9	+1.5	92	21	46	1	36	2.89	+0.56	1.20	0	9	11	12	8	s.	F. O. Alin.
Garrison	McLean	1,901	28	70.8	+2.7	93	7†	44	1	39	3.95	+1.85	1.81	0	11	15	14	2	se.	Wm. H. Robinson.
Grafton	Walsh	827	31	72.4^{b}	+4.9	96^{b}	18	44^{b}	2	36^{b}	2.12	−0.36	0.80	0	9	20	9	2	s.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	72.1	+4.7	96	18	49	2	32	3.46	+0.71	1.40	0	12	13	9	9	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	71.2	+4.1	98	7	43	30	39	1.63	−0.44	0.94	0	9	6	23	2	se.	W. A. Christianson.
Hannah	Cavalier	1,568	29								2.23	−0.23	0.87	0	4					J. Moffatt.
Hansboro	Towner	1,597	15	70.4	+5.0	100	19†	36	30†	54	3.42	+1.44	2.00	0	7	20	11	0	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	73.4	+3.9	96	12†	50	30	43	3.17	+0.38	1.90	0	5	18	9	4	se.	U. J. Downey.
Hillsboro	Traill	901	17	72.4^{c}	+2.9	94^{c}	19	48^{c}	2	30^{c}	3.35	+0.72	2.12	0	7				se.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	67.6	+2.1	90	21†	38	30	48	2.63	+1.03	1.14	0	9	13	16	2	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	68.4	−0.1	94	18	42	15†	49	3.08	+0.33	1.43	0	10	16	3	12	se.	S. Calvelage.
Lamoine	Kidder	1,936	18																	E. V. Virgin.
Langdon	Cavalier	1,615	27	70.2	+5.7	96	17	44	2	39	0.70	−1.86	0.40	0	4	24	5	2	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	65.6	−1.1	95	17	45	5	42	3.25	−0.26	1.35	0	5	18	6	7	s.	Reuben Gray.
Linton	Emmons	1,711	5	74.0		97	19	51	1	33	3.35		1.05	0	9	17	8	6	se.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	71.9	+3.7	98	19	51	4†	36	3.98	+0.45	1.61	0	13	20	5	6	se.	W. S. Adams.
McClusky	Sheridan	1,943	5	71.4		97	7	46	1	36	1.82		0.57	0	7	17	12	2	se.	Edw. Tapley.
McHenry	Foster	1,509	12	71.2	+3.6	99	8	48	12	37	4.57	+1.38	2.68	0	7	24	2	5	s.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	68.4	+2.4	91	7	38	29	40	3.00	+0.91	1.20	0	5	18	9	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	73.4	+3.2	95	19	53	30	31	3.49	+0.06	1.50	0	8	19	5	7	se.	J. G. Carlson.
Maddock ††	Benson	1,604	8	70.6		97	18	44	30	39	3.32		2.36	0	9	9	19	3	se.	A. T. Felland.
Mandan	Morton	1,614	9	73.4		97	8†	48	1	32	4.12		1.30	0	12	22	2	7	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	71.5	+4.6	100	19	42	1	34	2.46	+0.16	0.74	0	6	13	13	5	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14																	E. C. Niccum.
Mayville	Traill	975	27																	M. G. Sateren.
Melville	Foster	1,590	25	71.8^{c}	+3.9	95^{c}	18	45^{c}	31	35^{c}	2.00	−0.74	1.40	0	4					J. P. Kidder.
Minot	Ward	1,557	27	67.8	−0.3	98	7	36	30	50	2.33	+0.48	1.69	0	6	12	19	0	e.	W. I. Faris.
Minto	Walsh	820	30	71.9	+4.8	95	18†	44	2	35	2.58	−0.18	0.90	0	8	12	17	2	se.	C. M. Evans.
Mott	Hettinger	2,424	16	69.6	+0.5	96	19	48	4†	37	3.12	+0.75	1.33	0	7	14	10	7	se.	O. H. Opland.
Napoleon	Logan	1,955	31	69.6	+1.3	93	18	48	1†	35	4.01	+1.53	1.20	0	13	14	10	7	se.	C. J. Hoof.
New England	Hettinger	2,400	29	71.8	+3.3	94	19	50	1	39	3.24	+1.23	1.12	0	6	2	29	0	se.	W. C. McKenzie.
New Salem	Morton	2,163	19	72.0	+2.7	97	2†	40	4	47	3.14	+1.04	0.73	0	10	15	16	0	se.	J. Christiansen.
Park River	Walsh	998	19	71.2	+3.4	95	18	45	2	36	3.59	+1.21	1.75	0	7	11	17	3	se.	C. B. Wright.
Parshall	Mountrail		8								2.36		0.91	0	5					J. A. Johnson
Pembina	Pembina	789	49	70.6	+2.9	103	9	41	1	41	2.50	+0.12	1.20	0	6	19	8	4	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	70.4	+4.6	96	18	45	1	36	1.08	−1.67	0.39	0	10	17	8	6	se.	S. C. Shanks.
Power	Richland	1,020	29								3.26	−0.12	0.90	0	10					I. A. Power.
Powers Lake	Burke	2,205	9								2.68	+0.90	0.84	0	8	16	12	3	se.	C. Frank.
Richardton	Stark	2,467	7	71.4		92	19	47	30	43	3.76		0.70	0	8	17	11	3	se.	Geo. Keim.
Skaar	McKenzie		3																	Conrad Brunsvold.
Steele	Kidder	1,857	27	71.4	+2.0	95	7	46	1	31	6.04	+3.16	5.00	0	4	14	13	4	s.	H. S. Wood.
Towner	McHenry	1,482	21	73.2		98	7	46	27	37	1.36		0.80	0	4	23	6	2	se.	B. Bagley.
Turtle Lake	McLean	1,899	8	70.8		96	7	35	30	46	5.37		1.37	0	10	9	6	16	se.	A. T. Anderson.
Valley City	Barnes	1,245	18	71.8	+3.8	92	19	50	1	30	4.51	+1.67	1.30	0	11	9	19	3	se.	H. Twito.
Wahpeton	Richland	962	29	74.4	+5.1	98	22	52	30	31	1.75	−2.05	0.55	0	8	24	0	7	se.	C. G. Luick.
Walhalla	Pembina	966	19	73.3	+6.6	101	18†	45	2†	39	2.18	−0.76	1.26	0	10	20	8	3	nw.	Wm. Campbell.
Washburn	McLean	1,731	22								6.16	+3.86	1.84	0	10					Karl Klein.
Westhope	Bottineau	1,508	17	70.8	+4.7	97	7	39	30	37	4.01	+2.06	1.81	0	8	22	6	3	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	71.8	+2.9	94	21	43	30	42	1.38	−0.65	0.37	0	11	7	16	8	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	69.0	+3.6	93	7	38	30	40	1.48	−0.61	0.97	0	7	21	8	2	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	72.5	+4.4	93	19	52	2	28	2.34	−1.40	1.26	0	7	7	16	8	n.	U. S. Weather Bureau
Averages				71.2	+3.7	103	9	35	30	54	3.14	+0.53	5.00	0	8	16	11	4	se.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for July, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red						.78				.05					.40					1.25						T.	.05		.06	T.	.02	2.61
Amidon	Lit. Missouri				.55				.12						T.					.77			.20							.60			2.24
Arnegard	Missouri				.31				.15						.43		T.			.06										.11		.23	1.29
Ashley	Missouri				.58		1.03				.09				.25						1.03						.40	.10		.27			3.75
Beach	Lit. Missouri				.51				.10						.10				.22	.23	.01		.90								.12		2.19
Berthold Agency	Missouri				.62						.60				.20		T.			.06										.18		T.	1.66
Bismarck ***	Missouri	T.	.06		.49	T.			.26	.06		T.			.37				1.22	.95	T.		.04			1.17		T.	.04	.11		T.	4.77
Bottineau	Mouse				.25		1.04			.15				1.57																.02	.41		3.44
Bowbells ‖	Mouse				1.30		.70			.30	.12							.14			.58												3.14
Bowman	Grand				.28	.08		.10	.28						.40					.37	.31									.18			2.00
Cando	Devils Lake																																
Carson	Heart		.30		.80														2.25		2.05									.42			5.82
Cooperstown	Sheyenne					.25			.15						.15				.80			1.55	.15				.30		.10				3.45
Crosby	Mouse			.06	.76	.43		T.	.14		.13	T.		T.			1.33	.02		1.15									T.	.09		.37	4.48
Devils Lake ***	Devils Lake			T.		.42			.49	T.	.14			.15						.66			.04							.08	.04	.05	2.07
Dickinson ‖	Heart	.06		.02	.97		.28			.39	T.					.03					1.22	T.	1.15	.31			T.			.30			4.67
Donnybrook	Mouse				1.85	.25			.25					.20			.10			.08									.10	.20	.05	.15	3.23
Dunn Center ‖	Knife	.06	.10		.83					1.66						.60							.25							.32			3.82
Dunseith	Mouse				.13		.40		.07	.08			2.90																.04	.15	.14	.08	3.99
Eckman	Mouse			.72		.32			.15	.44													.03								.06	.16	1.88
Edgeley	James				.17		.88														1.02							.60	.35	.08			3.10
Ellendale ***	James	T.	.11		.16	.76	.31	.21			T.			T.	.04			T.		.50	.58		T.				.71		T.	.24		T.	3.62
Energy	Missouri				.50				.31		.04			T.	.11					1.12			.74					.34		.16		T.	3.32
Epping	Missouri				.57	.28			.06					.06	.06		.17	.02												.45		.29	1.96
Fessenden	James				.11					1.25	.01			.37	.02						.27			.37			.01	.02	T.		.22		2.65
Finley	Red		.28				1.19	T.	.01	.02	T.			T.	.28					1.12	1.85		.12	.46			.09		.03	.14			5.59
Forman	Sheyenne		.97		.05		.70														.62						.27		.75	.52			3.88
Foxholm	Mouse				.59	1.50			.37		.01			.43				.02		.19			T.						T.	.21	T.	.18	3.50
Fryburg	Heart				1.60				.30						.05					.98			1.72							.45		.06	5.66
Fullerton	James		.25		.16	1.20		.22												.08	.18						.48		.25	.07			2.89
Garrison	Missouri				.56	.24			1.81		.40			.04	.07					.10	.07		.08						.26	.32			3.95
Grafton	Red	.03					.78		.80	.03											.05		.13			.10			.10			.10	2.12
Grand Forks ***	Red			T.			1.21	.02	.19	.02				.01					.04	.33	.04		1.40			.01			.05	.14		T.	3.46
Granville	Mouse				.17	.09			.16		.03			.94						.06			T.							.14	.02	.02	1.63
Hannah	Pembina					.14		.80					.87																	.42			2.23
Hansboro	Devils Lake						.60		.27	.25				2.00																.05	.05	.20	3.42
Hettinger	Grand				.85	1.90									.27						.10									.05		T.	3.17
Hillsboro	Red							T.		.34	.06			T.						T.	2.12		.07	.48			T.		.15	.13			3.35
Howard	Missouri		1.14			.06			.16			.33		.33			.14	.07		T.			T.				T.		T.	.09		.31	2.63
Jamestown	James		.07				.46			.16	.10	.23								.21	1.43						.22			.10	.10	*	3.08
Lamoine	Missouri																																
Langdon	Pembina	.12												.40																.04	.14		0.70
Larimore	Red	.05					.60			.75											.50			1.35									3.25
Linton	Missouri		.01		.53	T.	1.05			.03				.05	.09						1.00						.44			.15			3.35
Lisbon ‖	Sheyenne		.40	.07		.04	.37				T.	.04							.12		1.61			T.			.20	.09	.10	.32	.37	.25	3.98
McClusky	Missouri				.40	T.				T.	.08				T.					.57	.12		.42							.17	.06		1.82
McHenry	James					.02			.30					.20						2.68			.92				.30			.15			4.57
McKinney	Mouse			1.15		1.20			.25											.20									T.			.20	3.00
McLeod	Sheyenne		.23		.02		.63	T.							T.					.29	1.50						.41		.29	.12			3.49
Maddock	Sheyenne				.02		.28	.03						.45						2.36			.09							.02	.06	.01	3.32
Mandan	Missouri		.06	.04	.36		T.			.37		T.				.19				1.30	.73		T.	.09			.83		.02	.07	.06		4.12
Manfred	James				.26				.63					.55						.74			.11							.17		T.	2.46
Marmarth	Lit. Missouri																																
Mayville	Red																																
Melville	James								.30	T.				.05						1.40										.25			2.00
Minot	Mouse				.28		.04				.03			.28							1.69									.01			2.33
Minto	Red	.16					.90		.73					.06									.47			.05			.10			.11	2.58
Mott	Cannon Ball				1.20					.05					.02						1.33		.19				.09			.24			3.12
Napoleon ‖	Missouri		.09	.27	.05	.35	1.20				.02	.05				.02					1.10						.58		.06	*	.22		4.01
New England	Cannon Ball				1.12			.29	.11	T.	T.									.95			.30				T.			.47			3.24
New Salem	Heart				.54				.73	.04					.16								.60			.37	.08			.24	.07	.31	3.14
Park River	Red				.58		.87		1.75												.08	.06		.11			T.		T.			.14	3.59
Parshall	Missouri				.42	.10			.91											.73										.20			2.36
Pembina ‖	Red					.25	1.26			T.	.15									.40	T.			.10							T.	.40	2.50
Pettibone	James		.10		T.		.02		.39		.10			T.					T.	.05	.10		.03				.10		.10	.09			1.08
Power	Sheyenne		.07		.02		.62		T.									.04			.90		T.				.76		.17	.59	.06	.03	3.26
Powers Lake	Missouri				.84	.84			.22		.33	T.	.14										.08					.09		.14	T.	T.	2.68
Richardton	Heart	.04			.65	.70			.55								T.			.58			.70			.04	T.			.50			3.76
Skaar	Yellowstone																																
Steele	Missouri	T.			.51				.18	.35	T.	T.									5.00								T.	T.			6.04
Towner	Mouse				.33		.15		.08					.80						T.										T.		T.	1.36
Turtle Lake	Missouri				.66	.13			.84		1.30				T.					1.37	.06		.35						.33	.32	.01		5.37
Valley City	Sheyenne						.79		.03	.51				.09		.03				.91	1.30		T.	.02			.16		.22	.45			4.51
Wahpeton	Red					.02	.46														.55						.40		.06	.13	.03	.10	1.75
Walhalla	Pembina	.07			.15	.01	1.26	T.	T.	T.	.06			.02							.02			.14							.35	.10	2.18
Washburn				.44					1.84		.48			.15	.02					1.49			1.41			.07	.02			.24			6.16
Westhope	Mouse			.08	.44	1.20								1.81	.06					.09										.07		.26	4.01
Williston ***	Missouri			.28		.09			.03	.04		.37			.14		.11	.01		.01		T.								.08		.22	1.38
Willow City	Mouse			.07	.21		.05		.07					.97						T.				T.						T.	.04	.07	1.48
Moorhead, Minn ***	Red				T.		.82	T.	T.	.08										.35	.91		.05				.12		T.	.01		T.	2.34

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum...	78	81	86	86	84	83	85	89	78	86	76	83	85	84	84	86	86	90	94	85	89	88	81	78	85	71	80	88	70	79	85	83.
	Minimum ...	50	49	50	52	55	59	61	68	69	63	56	54	56	63	56	57	63	63	86	67	63	70	68	54	57	63	54	56	55	51	53	59.
Arnegard	Maximum...	75	80	82	83	86	80	96	76	86	85	84	80	87	85	84	93	92	90	93	92	93	94	88	86	82	85	89	85	77	92	73	85.
	Minimum ...	47	51	57	57	61	48	66	65	57	62	55	58	65	59	52	63	59	62	62	62	66	72	68	52	53	58	54	55	54	40	55	57.
Ashley	Maximum...	75	75	80	78	79	81	89	91	78	86	81	82	85	81	..	85	85	90	92	92	85	87	84	80	81	75	79	85	76	79	..	b82.
	Minimum ...	54	51	53	60	58	57	67	68	67	68	61	55	56	64	..	57	64	65	67	65	63	70	68	57	53	62	54	58	54	52	..	b60.
Beach	Maximum...	73	80	83	80	84	96	83	82	80	85	85	90	83	82	89	90	94	91	99	87	91	87	84	78	72	83	85	83	92	73	76	84.
	Minimum ...	51	50	57	56	59	66	51	57	55	58	62	60	62	60	55	60	71	65	62	60	60	65	67	59	57	56	53	50	51	52	53	58.
Berthold Agency	Maximum...	77	84	..	85	85	90	95	..	..	91	..	85	85	75	85	90	91	91	93	87	..	..	88	85	85	86	85	86	77	92	84	f86.
	Minimum ...	44	48	..	56	60	62	53	..	..	60	..	56	67	60	53	63	65	71	64	60	..	..	69	52	55	64	50	54	55	42	59	f57.
Bismarck	Maximum...	77	78	80	82	84	83	93	94	84	84	86	86	92	81	87	88	91	94	91	86	88	86	86	80	81	83	85	84	71	84	76	84.
	Minimum ...	52	57	58	58	60	60	69	65	68	66	62	60	66	66	57	67	67	66	67	63	66	70	69	57	60	62	57	61	57	54	93	61.
Bottineau §§	Maximum...	72	77	80	79	81	79	91	84	85	80	79	87	81	80	84	86	88	86	85	90	90	83	81	86	85	83	80	85	71	71	69	82.
	Minimum ...	46	49	51	57	57	53	54	67	60	60	55	55	57	59	55	60	62	67	59	61	64	67	66	58	55	54	46	48	40	39	40	55.
Bowbells §§	Maximum...	72	77	82	82	78	78	89	80	86	81	78	87	83	83	84	88	90	86	82	87	91	89	85	86	85	82	83	81	71	75	63	82.
	Minimum ...	46	51	53	54	57	52	57	63	61	61	58	54	60	58	54	60	63	63	57	69	63	68	60	51	57	57	53	60	47	33	17	56.
Bowman	Maximum...	74	78	78	80	76	79	93	86	78	82	82	88	89	80	83	86	90	99	96	83	86	88	82	75	78	82	84	82	78	92	83	83.
	Minimum ...	52	53	58	56	62	51	67	60	61	61	60	63	61	63	57	60	61	61	63	62	64	68	68	61	56	59	50	55	54	52	56	59.
Cando	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Carson	Maximum...	77	77	80	85	88	86	90	90	85	85	80	84	88	82	85	90	93	97	91	83	80	85	83	85	76	83	74	86	85	88	80	84.
	Minimum ...	56	56	55	54	55	58	56	55	65	65	60	55	62	65	52	65	63	68	65	65	66	60	55	60	55	60	58	52	50	55	55	58.7
Crosby	Maximum...	73	80	81	84	75	80	88	82	86	81	80	88	81	82	86	88	88	87	78	87	90	94	83	85	83	78	83	79	72	81	71	82.
	Minimum ...	50	49	54	56	61	53	61	65	58	58	56	62	61	58	57	62	63	60	57	59	63	67	62	57	57	59	56	61	61	38	56	58.
Devils Lake	Maximum...	73	78	82	82	87	83	93	89	83	84	78	82	89	84	86	89	91	97	92	88	90	86	86	84	86	83	84	86	69	75	82	84.
	Minimum ...	50	52	52	60	52	62	66	64	65	59	55	52	62	60	58	60	66	70	62	65	67	71	61	54	63	60	50	58	52	46	54	59.
Dickinson §§	Maximum...	76	78	80	85	83	78	91	75	82	82	81	84	86	80	82	89	90	89	91	84	85	85	82	78	72	82	83	83	80	91	70	82.
	Minimum ...	47	50	54	55	54	50	59	65	60	63	58	62	62	61	52	61	61	64	64	61	61	64	65	57	53	58	50	58	56	46	45	57.
Donnybrook	Maximum...	82	82	90	87	85	98	96	92	89	82	83	91	83	91	93	96	94	89	90	95	96	91	93	85	91	82	89	85	75	83	77	88.
	Minimum ...	48	49	51	56	63	53	56	56	58	62	56	53	60	51	57	64	60	62	60	51	68	63	62	59	60	61	60	50	45	37	55	56.
Dunn Center §§	Maximum...	78	80	82	86	81	80	85	75	83	83	83	87	86	80	83	91	90	90	94	89	90	87	85	80	86	..	84	85	72	94	70	a84.
	Minimum ...	45	50	52	56	59	51	61	72	60	62	55	60	63	60	52	62	62	67	64	60	62	64	68	53	61	56	..	53	58	42	50	a57.8
Dunseith	Maximum...	71	73	78	97	84	83	90	88	92	80	80	83	87	78	82	84	88	89	86	92	95	86	83	83	83	80	77	81	85	70	70	83.2
	Minimum ...	46	45	55	57	55	53	61	54	61	58	51	53	57	59	55	50	54	49	51	53	50	61	60	52	53	55	46	49	40	39	54	52.8
Edgeley	Maximum...	76	74	79	78	82	83	90	90	87	86	79	80	85	84	83	85	85	89	91	83	84	86	87	84	81	82	76	84	81	78	82	83.0
	Minimum ...	52	54	51	52	55	58	67	69	65	64	58	54	57	65	58	56	63	66	66	65	62	63	70	65	54	54	60	61	57	59	66	59.8
Ellendale	Maximum...	76	71	78	77	83	81	88	91	81	84	78	79	85	82	84	85	81	89	92	82	87	89	83	78	82	72	78	84	72	81	83	81.9
	Minimum ...	54	58	54	59	57	59	69	71	68	67	61	57	57	63	60	59	63	60	66	67	66	70	69	57	56	62	57	52	55	52	57	60.
Fessenden §§	Maximum...	80	84	95	85	87	90	98	96	83	89	83	87	91	91	90	90	91	99	94	89	91	83	90	86	86	85	88	93	69	79	86	88.0
	Minimum ...	50	55	58	60	59	60	65	70	65	64	58	65	63	62	62	60	61	71	65	65	63	70	66	55	58	62	52	60	51	52	55	60.7
Foxholm	Maximum...	72	75	82	77	79	76	92	84	83	78	75	84	82	79	82	87	89	[illegible]	87	85	87	87	82	83	85	82	81	85	73	77	71	81.4
	Minimum ...	50	51	52	55	59	51	60	64	60	62	56	55	61	62	56	58	61	71	59	60	65	70	64	54	60	62	52	61	49	40	55	58.0
Fullerton	Maximum...	76	76	82	80	85	82	90	91	83	85	80	83	70	83	86	87	87	91	85	85	92	90	84	80	82	73	82	81	74	80	83	82.9
	Minimum ...	46	48	46	52	50	51	59	62	59	60	53	48	50	58	51	51	62	56	58	67	65	70	68	58	58	63	55	63	57	53	67	56.9
Garrison	Maximum...	74	81	86	81	81	82	93	84	83	79	78	84	81	80	84	88	89	86	93	87	88	84	85	83	81	85	85	83	75	84	78	83.5
	Minimum ...	44	48	47	56	58	53	66	58	61	61	57	58	64	58	54	62	63	68	72	68	64	66	68	54	54	62	52	58	51	46	51	58.1
Grafton	Maximum...	76	79	81	83	88	84	88	91	84	84	78	83	89	86	85	90	91	96	90	92	93	95	87	86	87	84	..	..	80	75	87	b85.9
	Minimum ...	48	44	53	55	52	59	63	66	67	62	55	54	69	61	56	60	63	67	64	68	63	67	56	55	60	58	..	..	48	50	61	b58.8
Grand Forks	Maximum...	76	75	81	82	86	86	86	92	81	85	77	82	90	86	86	87	90	96	90	87	93	93	84	80	82	78	80	88	68	75	88	84.2
	Minimum ...	51	49	59	56	55	62	66	68	67	62	55	54	63	61	58	60	63	68	66	63	65	68	68	[illegible]	61	61	53	56	54	51	56	60.0
Granville	Maximum...	73	78	84	80	86	80	98	84	85	82	80	90	83	83	83	90	91	88	90	89	99	87	86	86	87	86	84	87	72	82	74	84.5
	Minimum ...	48	50	55	60	58	53	65	67	61	62	56	56	60	60	55	59	63	65	57	[illegible]	62	73	65	53	56	58	49	58	48	43	56	57.9
Hansboro	Maximum...	87	90	99	90	90	87	89	89	90	87	89	86	86	88	95	88	91	98	100	100	100	100	95	90	89	84	84	82	78	72	71	89.3
	Minimum ...	50	55	45	45	45	52	52	68	56	55	68	48	60	59	56	54	54	61	57	51	51	51	55	55	48	52	43	40	38	36	36	51.6
Hettinger	Maximum...	70	94	78	80	85	80	95	85	82	88	85	96	90	80	84	91	90	91	96	85	89	85	78	76	69	85	86	88	81	93	88	85.3
	Minimum ...	62	70	53	61	58	75	68	65	67	59	60	65	61	64	55	59	63	63	67	63	62	69	60	58	57	69	52	57	53	50	60	61.4
Hillsboro	Maximum...	..	75	..	81	..	85	86	90	81	84	76	82	87	85	86	88	88	93	94	93	90	90	86	81	85	82	78	86	75	76	84	84.6
	Minimum ...	..	48	..	50	..	54	63	72	74	63	55	54	60	63	57	58	61	65	70	65	63	69	66	55	60	60	53	56	54	51	64	60.1
Howard	Maximum...	80	70	79	81	80	79	82	75	84	80	78	88	80	79	86	80	84	86	78	88	90	90	82	85	85	80	84	80	70	86	70	81.3
	Minimum ...	51	47	46	50	50	48	49	51	55	60	57	58	62	58	54	54	57	62	58	57	57	58	58	59	57	57	53	58	50	38	41	54.0
Jamestown §§	Maximum...	76	80	81	89	85	89	91	82	84	80	87	87	86	88	91	89	93	94	90	87	88	85	81	81	77	83	68	86	79	82	68	84.2
	Minimum ...	52	55	54	58	51	59	60	59	59	55	48	46	64	52	42	47	59	48	58	57	58	58	58	48	46	52	45	48	42	46	43	52.5
Lamoine	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Langdon§§	Maximum...	77	82	77	80	78	86	83	79	78	73	82	83	82	83	89	93	96	90	92	95	93	85	85	87	85	83	85	74	72	78	78	83.3
	Minimum ...	45	44	51	60	54	58	62	71	62	62	50	51	61	60	65	69	65	69	60	63	63	64	65	52	58	57	46	50	45	48	49	57.1
Larimore §§	Maximum...	80	78	64	88	84	96	93	82	85	72	83	90	82	85	88	92	95	91	90	92	88	85	85	84	78	81	85	80	75	80	68	83.6
	Minimum ...	46	47	52	46	45	55	64	70	67	62	55	52	60	61	55	58	61	65	65	68	63	70	66	55	59	59	52	51	55	50	51	47.6
Linton	Maximum...	80	77	81	85	83	84	92	90	85	88	85	87	91	85	87	89	91	91	97	90	90	91	91	84	85	81	85	90	86	84	83	86.7
	Minimum ...	51	57	59	58	58	58	69	69	69	64	62	58	61	63	54	61	66	69	71	64	63	72	67	58	54	63	53	58	57	52	68	61.4
Lisbon §§	Maximum...	78	76	82	80	88	87	92	92	83	87	79	84	86	84	88	90	86	93	98	85	91	92	84	81	88	72	80	84	82	82	83	85.0
	Minimum ...	51	52	52	51	56	61	66	70	67	66	59	53	51	64	52	54	54	62	68	69	67	67	68	57	56	54	55	59	51	50	55	[illegible]
McKinney	Maximum...	72	76	80	82	82	80	91	82	88	80	78	88	83	82	85	90	90	85	82	80	89	85	86	87	83	88	84	75	70	74	70	82.4
	Minimum ...	50	55	52	52	55	56	51	55	55	63	56	55	60	60	50	61	60	60	55	56	70	55	50	56	54	51	60	45	38	40	47	54.4
Maddock	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Melville	Maximum...	67	72	75	..	80	82	88	92	82	84	85	85	82	88	84	86	86	95	93	88	88	90	88	86	90	84	80	..	..	85	75	c84.3
	Minimum ...	48	52	53	..	58	58	65	68	62	64	55	51	58	56	55	56	60	60	65	65	65	65	70	70	68	62	50	..	..	59	45	c59.2
Minot §§	Maximum...	75	80	86	85	87	83	98	74	89	83	80	91	85	85	87	93	95	89	91	86	92	89	85	82	87	84	81	85	74	82	81	85.0
	Minimum ...	40	41	46	50	52	47	51	63	45	56	55	48	54	54	45	53	52	61	49	54	58	62	59	47	51	55	45	52	41	36	43	50.6
Mott	Maximum...	75	77	78	70	73	73	75	78	82	83	80	84	89	83	85	88	90	92	93	78	88	84	81	83	86	82	88	85	87	91	78	82.6
	Minimum ...	50	56	52	48	50	52	54	60	63	64	61	58	63	65	57	63	67	64	60	57	62	53	50	48	53	50	57	56	53	57	55	56.5
Napoleon §§	Maximum...	75	75	78	78	81	82	88	90	81	85	90	85	85	82	85	86	86	93	92	82	85	82	83	87	83	78	81	85	68	80	78	82.7
	Minimum ...	48	52	51	55	53	55	59	66	65	62	60	51	54	62	50	56	60	65	68	62	60	62	65	54	48	50	48	56	53	48	57	56.5
New Salem	Maximum...	90	97	88	83	85	84	92	91	83	80	81	86	90	85	83	88	91	95	97	84	89	81	84	81	82	84	83	85	79	87	80	86.1
	Minimum ...	48	50	48	40	53	57	65	59	63	60	57	57	62	66	54	68	60	67	67	61	61	69	67	54	69	57	[illegible]	56	53	47	49	58.0
Pembina §§	Maximum...	74	79	86	82	85	85	90	89	103	79	78	85	86	86	78	90	90	95	90	93	94	94	84	86	89	84	70	70	76	72	72	84.6
	Minimum ...	41	43	51	54	55	58	60	68	62	62	59	49	61	58	51	58	63	58	60	65	65	65	64	70	62	61	55	52	50	48	51	56.5
Steele	Maximum...	68	73	79	76	79	84	95	94	87	85	80	83	87	85	85	89	88	93	94	85	86	76	84	82	81	80	79	87	67	78	77	82.9
	Minimum ...	46	56	55	56	57	59	73	65	65	63	60	59	59	56	57	62	66	69	63	66	62	71	62	57	55	51	53	61	53	49	68	59.5
Towner	Maximum...	74	72	83	82	85	83	98	95	82	87	89	90	88	82	87	89	92	89	92	90	96	90	88	89	88	86	82	90	88	80	73	86.5
	Minimum ...	47	49	55	69	64	60	65	70	68	65	60	58	60	62	52	60	70	60	60	64	65	63	60	52	55	54	46	65	63	58	60	60.0
Valley City	Maximum...	73	74	79	80	82	83	86	88	79	85	85	80	80	83	85	87	86	90	92	83	87	87	82	78	83	75	78	81	71	76	84	82.4
	Minimum ...	50	52	58	59	57	62	65	68	68	64	65	57	65	60	55	63	64	68	68	68	68	71	69	57	60	57	53	59	53	51	64	61.2
Wahpeton	Maximum...	79	71	81	81	85	85	95	91	88	87	87	82	89	87	87	89	85	93	96	93	91	98	97	87	83	84	78	86	85	83	85	86.8
	Minimum ...	51	54	55	62	66	62	71	68	67	67	52	51	58	61	60	62	66	65	67	67	67	72	68	56	54	61	60	59	56	52	67	62.1
Walhalla	Maximum...	85	83	86	90	78	85	87	89	85	92	81	85	88	88	89	90	93	101	100	93	100	101	89	89	91	88	87	86	87	72	85	88.6
	Minimum ...	49	45	45	60	54	58	59	70	67	60	51	48	64	62	54	62	64	69	61	62	68	72	64	52	60	61	48	52	48	48	56	58.0
Westhope	Maximum...	78	85	85	85	83	81	97	75	89	83	82	87	84	83	87	91	93	87	89	93	89	92	82	90	87	81	82	81	77	76	66	84.6
	Minimum ...	47	58	55	58	58	55	62	65	60	60	60	57	60	60	55	60	64	65	55	60	72	62	61	57	55	53	51	48	43	39	50	57.0
Williston	Maximum...	73	80	82	82	82	80	93	78	87	82	79	91	83	81	85	92	93	85	88	90	94	92	84	85	82	81	81	81	76	85	67	[illegible]
	Minimum ...	48	53	58	60	56	53	70	63	57	61	61	66	65	62	58	69	65	63	63	61	67	74	66	58	60	61	57	59	49	43	46	59.7
Moorhead, Minn	Maximum...	77	75	80	80	83	82	86	92	81	87	76	81	86	85	86	87	85	92	93	84	90	92	84	79	84	68	77	84	71	79	84	82.9
	Minimum ...	56	52	55	60	59	61	67	73	67	66	58	56	62	65	60	62	67	67	70	68	67	72	68	58	60	63	57	56	57	54	61	62.1

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXII. BISMARCK, N. D., AUGUST, 1923. No. 8

GENERAL SUMMARY.

Cool weather characterized the weather at the opening of the month, a condition that continued throughout the greater part of the month. In spite of cool weather, black stem rust caused deterioration in late spring wheat in practically all parts of the State. Rye harvesting was completed during the first decade, and considerable threshing accomplished during the month. Harvesting of spring wheat, oats and barley was well advanced early in the month, and flax harvest was general during the last two decades. Pastures and ranges generally were in need of rain at the opening of the month, but general showers during the first decade greatly relieved this condition, and during the remainder of the month were good to excellent. The precipitation was quite evenly distributed both geographically and throughout the month. While comparatively low temperature prevailed throughout the month, no damaging frosts occurred. Fall plowing, silo filling, potato digging, and haying were in general progress at the close of the month.

TEMPERATURE.

The mean temperature for the State was 63.0°, or 2.4° below the normal, and 6.8° lower than the mean for August, 1922. The highest mean reported was 67.0° at Wahpeton, Richland County; the lowest was 54.6° at Willow City, Bottineau County. The highest temperature reported was 97° at Westhope, Bottineau County, on the 31st; the lowest was 28° at Hansboro, Towner County, on the 24th. The greatest monthly range of temperature was 64° at Minto, Walsh County; the least was 46° at Bismarck, Burleigh County, and at Steele, Kidder County. The greatest daily range was 51° at Minot, Ward County, on the 30th.

PRECIPITATION.

The average precipitation for the State was 1.90 inches, or 0.38 inch below the normal, and 0.54 inch more than the average for August, 1922. The greatest monthly amount reported was 4.98 inches at Bottineau, Bottineau County; the least was 0.24 inch at Beach, Golden Valley County. The greatest amount recorded in any 24 consecutive hours was 2.90 inches at Bottineau, Bottineau County, on the 9th.

AURORAS.

An aurora was observed at Foxholm on the 19th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.04	30.40	21	29.79	5	57	5,093	6.8	36	nw.	13
Devils Lake	30.00	30.32	21	29.70	13	44	5,711	7.7	32	nw.	17
Ellendale	30.04	30.33	22	29.74	13	56	6,838	9.2	40	n.	26
Grand Forks	29.97	30.24	22	29.66	13	90	....	.....	60	ne.	17
Williston	29.99	30.37	21	29.46	12	48	4,218	5.7	31	e.	10
Moorhead, Minn	30.00	30.28	22	29.67	13	58	4,549	6.1	25	nw.	25
Av'ges and extremes	30.00	30.40	21	29.46	12	.....	....	7.1	60	ne.	17

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	246.9	439.4	56	− 9	83	51	54	26	13
Devils Lake	274.3	442.0	62	− 3	86	51	56	30	3
Ellendale	......	......	......	......	89	54	....	......	....
Grand Forks	......	......	......	......	86	.....	58	......	....
Williston	344.1	442.0	78	+ 9	85	51	43	24	4†
Moorhead, Minn	......	......	......	......	85	50	57	35	1
Averages and extremes	......	......	......	......	86	51	54	24	4†

† And other dates.

COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917	65.2	0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.
1923	63.0	2.4	97	28	1.90	−0.38	8	14	12	5	nw.

Climatological Data for August, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	63.0	−3.3	87	10	35	24	39	2.49	−0.23	1.30	0	9	17	13	1	n.	E. T. Carley.
Amidon	Slope		9	65.8		93	30	42	22	40	3.32		1.59	0	6	15	12	4	n.	Charles Eastgate.
Arnegard	McKenzie		8	64.8		95	30	37	2	42	1.68		0.98	0	7	21	8	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	63.4	−2.5	86	13†	37	22	41	1.99	−0.21	0.72	0	6	24	5	2	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	63.5	−1.5	94	30	42	1†	46	0.24	−1.81	0.11	0	3					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	63.4^{a}	−4.3	92^{a}	30	38^{a}	1†	43^{a}	2.08	+0.31	0.80	0	7	20	8	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	65.4	−1.9	89	30	43	22	37	0.63		0.26	0	4	8	13	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	59.7	−3.9	89	30	34	4	40	4.98	+2.77	2.90	0	7	20	7	4	nw.	N. A. Eckberg.
Bowbells	Burke	1,958	11	61.4	−2.5	86	17	37	21	39	1.37	−0.83	0.55	0	8	16	7	8		G. H. Phelps.
Bowman	Bowman	2,961	9	63.8		90	18†	42	3†	38	1.21		0.41	0	6	14	11	6	se.	R. Love, Jr.
Cando	Towner	1,488	22																	A. J. Swanson.
Carson	Grant	2,500	11	63.6	−4.0	90	30†	40	22†	50	2.13	+0.73	1.30	0	4	15	15	1	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17								1.45	−1.21	0.55	0	7	18	9	4	nw.	S. Friswold.
Crosby	Divide	1,954	16	63.8	+0.1	91	30	40	1†	40	1.55	−0.66	0.76	0	12	12	13	6	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	62.0	−3.1	90	30	36	24	34	2.25		0.64	0	16	13	11	7	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	63.1	−3.2	94	30	35	22	42	0.82	−1.13	0.39	0	9	16	6	9	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	62.7^{b}	−0.6	94^{b}	30	38^{b}	3†	42^{b}	2.39	+0.25	1.00	0	8				nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	62.6	−4.0	91	30	38	1	42	2.10	+0.53	0.54	0	10	20	7	4	se.	W. H. Moede.
Dunseith	Rolette	1,682	27																	J. G. Lamont.
Eckman	Bottineau	1,500	18	62.5^{h}	−0.8	94^{a}	30	34^{c}	4	41^{c}	0.97	−1.35	0.25	0	8	13	11	7	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	63.3	−3.1	87	13†	36	24	35	2.17	+0.03	0.97	0	3	6	20	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	63.8	−5.0	87	13	39	24	32	1.45	−0.81	0.54	0	8	9	17	5	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	63.6		95	30	38	22	42	1.41	−0.54	0.38	0	8	14	15	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	62.6		91	30	34	1	37	0.87	−1.28	0.33	0	5	17	14	0	ne.	A. O. Wang.
Fessenden	Wells	1,610	11	65.1	+0.1	92	30	41	24	39	1.38	−1.00	0.45	0	10	12	17	2	nw.	T. D. Monsen.
Finley	Steele	1,461		62.2		87	30	37	24	32	2.55		0.79	0	8	13	16	2	nw.	G. J. Mustad.
Forman	Sargent	1,249	29								2.60	−0.11	0.72	0	7	16	9	6	nw.	O. Enger.
Foxholm	Ward	1,657	2	61.4		90	30	38	1	35	1.41		0.55	0	7	12	13	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								0.56		0.25	0	6	13	14	4	se.	Verne King.
Fullerton	Dickey	1,439	25	64.0	−2.3	86	13	39	22	31	2.32	−0.21	0.98	0	8	20	7	4	nw.	F. O. Alin.
Garrison	McLean	1,901	28	62.2	−3.5	91	30	39	1	40	2.20	+0.20	0.85	0	11	12	14	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	31	62.8	−1.7	90	30	34	24	41	2.42	−0.17	1.03	0	10	18	6	7	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	62.9	−2.0	90	30	34	24	39	3.21	+0.75	1.41	0	11	11	8	12	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16																	W. A. Christianson.
Hannah	Cavalier	1,568	29								4.39	+2.54	1.60	0	8					J. Moffatt.
Hansboro	Towner	1,597	15	59.0	−3.8	90	31	28	24	47	4.47	+2.25	1.00	0	13	10	14	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	64.4	−2.6	92	31	42	22	40	1.97	+0.72	0.70	0	8	13	12	6	nw.	U. J. Downey.
Hillsboro	Traill	901	17	62.8	−4.1	89	30	36	24	41	2.03	−0.91	0.59	0	8	13	17	1	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	61.4	−2.1	92	30	34	1	49	0.95	−0.94	0.48	0	7	10	16	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	60.4	−5.8	87	17	37	1	41	3.43	+0.69	1.50	0	7	16	4	11	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18																	E. V. Virgin.
Langdon	Cavalier	1,615	27	58.7	−3.0	86	30	32	24	36	4.55	+1.90	1.60	0	14	22	3	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	62.4	−1.9	92	29	34	22†	47	2.42	−0.18	0.80	0	10	14	8	9	n.	Reuben Gray.
Linton	Emmons	1,711	5	66.2		93	31	37	22	42	1.48		0.51	0	11	15	5	11	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	64.1	−2.4	92	10	35	22	40	1.71	−0.55	0.70	0	7	21	10	0	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	62.3		89	30	34	14	45	1.16		0.22	0	11	16	15	0	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	66.6	+1.9	88	17	32	24	37	2.21	−0.97	1.36	0	7	20	3	8	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	61.2^{a}	−2.3	92	30	36^{c}	4	39^{c}	1.85	+0.06	1.00	0	4	11	18	2	se.	N. P. Swenson.
McLeod	Ransom	1,075	11	65.2	−2.4	88	14	38	22†	39	1.12	−1.23	0.56	0	6	18	2	11	ne.	J. G. Carlson.
Maddock ††	Benson	1,604	8	61.5		92	30	32	24	50	1.31		0.36	0	10	6	17	8	nw.	A. T. Felland.
Mandan	Morton	1,644	9	64.8		90	30	41	22	37	1.15		0.80	0	5	13	12	6	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	61.0	−3.3	88	30	35	24	38	1.19	1.27	0.33	0	10	11	14	6	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14																	E. C. Niecum.
Mayville	Traill	975	27																	M. G. Sateren.
Melville	Foster	1,590	25	63.6^{c}	−2.8	88^{c}	30	37^{c}	21	35^{c}	1.67	−0.32	0.89	0	6				sw.	J. P. Kidder.
Minot	Ward	1,557	27	59.1	−6.0	95	30	33	1†	51	1.18	−1.02	0.37	0	8	8	23	0	e	W. I. Faris.
Minto	Walsh	820	30	62.6	−2.0	95	30	31	24	45	1.27	−1.14	0.23	0	14	11	18	2	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	64.3	−1.6	91	12	37	21	36	2.55	+0.91	0.96	0	7	12	8	11	se.	O. H. Opland.
Napoleon	Logan	1,955	31	62.6	−3.4	87	17†	33	22	44	1.04	−1.35	0.55	0	7	19	5	7	nw.	C. J. Hoof.
New England	Hettinger	2,400	29	64.4	−2.3	88	18†	39	22	40	1.44	−0.33	0.88	0	5	4	11	16	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	52.5	−1.2	91	30	40	1†	40	0.44	−1.23	0.12	0	7	15	14	2	nw.	J. Christiansen.
Park River	Walsh	998	19																	C. B. Wright.
Parshall	Mountrail		8																	J. A. Johnson.
Pembina	Pembina	789	49	61.7	−2.4	86	13†	31	24	41	1.67	−0.46	0.50	0	5	16	8	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	61.1^{b}	−1.3	86^{b}	17	30^{b}	24	46^{b}	2.15	−0.14	0.85	0	9				sw.	S. C. Shanks.
Power	Richland	1,020	29								1.73	−0.74	1.01	0	5					J. A. Power.
Powers Lake	Burke	2,205	9								1.35	−0.24	0.75	0	4	12	19	0	nw.	C. Frank.
Richardton	Stark	2,467	7	64.8		93	30	40	22	34	0.79		0.26	0	10	11	15	5	s.	Geo. Keim.
Skaar	McKenzie		3																	Conrad Brunsvold.
Steele	Kidder	1,857	27	65.2	−1.6	84	19†	38	22	37	2.73	+0.39	1.95	0	5	16	12	3	nw.	H. S. Wood.
Towner	McHenry	1,482	21	62.8	−1.6	92	30	36	1	36	1.31	−0.78	0.50	0	4	20	9	2	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	62.4		89	30	38	24	40	1.97		0.70	0	11	10	20	1	s.	A. T. Anderson.
Valley City	Barnes	1,245	18	64.6	−1.0	89	12	40	22	33	2.21	−0.04	1.47	0	10	6	24	1	nw.	H. Twito.
Wahpeton	Richland	962	29	67.0	+0.1	91	10	37	24	39	1.95	−0.95	0.78	0	7	22	1	8	nw.	C. G Luick.
Walhalla	Pembina	966	19	63.1	−1.3	93	30	32	24	41	2.55	+0.18	0.60	0	15	17	8	6	nw.	Wm. Campbell.
Washburn	McLean	1,731	22								1.87	+0.54	0.68	0	4					Karl Klein.
Westhope	Bottineau	1,508	17	62.0	−2.1	97	31	34	24	48	1.89	−0.34	0.86	0	10	23	4	4	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	64.2	−1.9	91	30	40	1	37	1.05	−0.26	0.40	0	7	12	12	7	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	54.6	−8.9	91	30	32	24	44	1.92	−0.16	0.62	0	9	10	17	4	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	63.9	−2.2	87	13	40	24	30	2.83	−0.27	1.40	0	8	7	11	13	n.	U. S. Weather Bureau.
Averages				63.0	−2.4	97	31	28	24	51	1.90	−0.38	2.90	0	8	11	12	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for August, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red			.05			1.30			T.		T.		.10			T.	.44	.04			.22				.05		T.	.06	.23			2.49
Amidon	Lit. Missouri	T.				1.59	.12	.63	.48							.21											.29						3.32
Arnegard	Missouri	T.			.05			.12	.06		.32			.98							.05						T.	.10					1.68
Ashley	Missouri		.15				.72									.12					.64	.30				.06							1.99
Beach	Lit. Missouri	.06					.11		.07							T.					T.				T.	T.							0.24
Berthold Agency	Missouri		T.		.15	.14		.03			.29			.80			T			T.	.22						.45	T.					2.08
Bismarck ***	Missouri	T.	T.		T.	.26			T.					T.						T	.15				T.	T.	.05	.17					0.63
Bottineau	Mouse	.16					1.56			2.90				.07				.16				.07							.06				4.98
Bowbells ‖	Mouse	.27					.04		.12	.55		.07									.04	.19		.09									1.37
Bowman	Grand							.41	.31							.05	.04										.30	.10			T.	T.	1.21
Cando	Devils Lake																																....
Carson	Heart					1.30						.10				.25									.48								2.13
Cooperstown	Sheyenne					.55								.18			.05		.01		.20				.15				.12			.20	1.45
Crosby	Mouse			.03		.06			.76		.07		.10				.08				.32				.03	.04		.01		.01		.04	1.55
Devils Lake ***	Devils Lake				T.	.26	.01	.01	T.		.13	.01		.32			.15	.06		T.	.09		.03		.11	.14	.64	.11		.13	.05		2.25
Dickinson ‖	Heart	T.	.03			.04	.12	.03	.02								T.					.10				.39		.03	.06				0.82
Donnybrook	Mouse				.05	T		.25	1.00		.20						.58				.10		.05		T.	T.	.16						2.39
Dunn Center ‖	Knife		.05		.10		T.		.42	.05		.38		.14								.54				.12	T.	.22	.08				2.10
Dunseith	Mouse																																....
Eckman	Mouse					.18		.05	.15		.25	.12					.11			.02	.09												0.97
Edgeley	James						.97															.51					.69						2.17
Ellendale***	James		.07			.52			T.	T.				T.		.01	.03			.08	.54				T.		.16	.02	.02				1.45
Energy	Missouri	T.			.06	.03		T.			.17			.37			.16				.38						.10	.14				T.	1.41
Epping	Missouri							.33	.18		.29						.02				.05						T.						0.87
Fessenden	James					.02				T.		.15		.45				.12	.07			.20					.07	.07	.03			.20	1.38
Finley	Red		T.			T.	.49							.18			.79	.22	.04	T.	.33			T.		.34		T.		.16			2.55
Forman	Sheyenne						.34					.72		.22					.23		.07	.82						.20					2.60
Foxholm	Mouse					.22		.13	.55		.15			.12			.18			T.	.06		T.		T.		T.	T.	T.			T.	1.41
Fryburg	Heart	.03			T.	.25	.12	T.								.10					.05				.01		T.	T.				T.	0.56
Fullerton	James		.03			.07	.98							.10						T.	T.	.78					.20	.12	.04				2.32
Garrison	Missouri				.20	.06	.09	.08	T.		.85			.32			.10			.10	.18				.08	.14							2.20
Grafton	Red					.07	.03		T.	.08		.22		.10				.48			.03		.03					1.03		.35			2.42
Grand Forks ***	Red				T.	.65				.01		.02		.10		T.	.39	1.41			.12		.03			.20		.10		.18	T.		3.21
Granville	Mouse																																....
Hannah	Pembina					.41	1.60		.96								.06	.09							.04		1.07	.16					4.39
Hansboro	Devils Lake					.40	.25		1.00	.80			.10			.16	.20	.45			.25		.07			.10		.44		.25			4.47
Hettinger	Grand	T.	.12					.35	.70	.05	.04					.33					.13				.25								1.97
Hillsboro	Red						.59							.10				.43			.21	.08				.26				.09		.17	2.03
Howard	Missouri		T.			.12		.03	.78		.06				T.	.03					.11						.12	T.	T.				0.95
Jamestown	James					1.50						.10		.10								.26					.03	1.40	.04				3.43
Lamoine	Missouri																																....
Langdon	Pembina	.06					1.03			1.60		.68		.06			.30	.07	.12			.20		.03		.04	.02		.14	.20			4.55
Larimore	Red						.80							.15			.10	.35	.15			.20					.50		.02	.10		.04	2.42
Linton	Missouri	T.	.07			.03	.51									.09	.01				.02	.17				.09	.26	.01				.22	1.48
Lisbon ‖	Sheyenne	T.		T.			.70					.47	.05				T.		.22			.14						.09	.04				1.71
McClusky	Missouri					.08					.17		.10				.05	.17		.04	.22			.02		.13		.14	.04				1.16
McHenry	James					.17								.14			.15				.16						1.36	.20	.03				2.21
McKinney	Mouse					T.		.45	1.00			.10				T.				.30	T.									T.		T.	1.85
McLeod	Sheyenne		T.				.56					.06		.01				.03				.31				T.	.15						1.12
Maddock	Sheyenne				.04	.36	.16	.05			.02			.35			.02				.20						T.	T.	.03	.08			1.31
Mandan ‖	Missouri		.01	.01	T.		.80															.10							.23				1.15
Manfred	James			.04					T.	.10				.33			.11	.04	.03	.01	.16				T.	.03	T.	T.				.34	1.19
Marmarth	Lit. Missouri																																....
Mayville	Red																																....
Melville	James					.89					.09		.09				T.	.10			.35					T.		.15	T.				1.67
Minot	Mouse								.05	.30		.20		.37				.02				.18					.05	.01					1.18
Minto	Red					.04	.08					.22		.09			.23	.08	.10		.04		.02			.01		.09	.08	.11	.08		1.27
Mott	Cannon Ball	T.				.41		.20		T.						.53					.06				.96	.03	.36						2.55
Napoleon ‖	Missouri						.55										.01					.10					.11	.08	.09	.10			1.04
New England	Cannon Ball					.31	T	.11	.88													T.			.10	.04	T.						1.44
New Salem	Heart	T.		T.	.02	.10			T.											.02	.10	.01			T.		T.	.07	.12				0.44
Park River	Red																																....
Parshall	Missouri																																....
Pembina ‖	Red	.22								.45		.20		T.			T.	T.				T.		T.				.50	.30	T.			1.67
Pettibone	James		T.			.85	.08				.25			.25						T.	.10	.14				.20	.03	.15					2.15
Power	Sheyenne	T.	T.			1.01				.17										.11						T.	.28			.16			1.73
Powers Lake	Missouri					.14		.34	.75	T.			.12									T.										T.	1.35
Richardton	Heart	T.	.01			.02	.01		.02											T.	.26	.01			.18		.20	.02	.06				0.79
Skaar	Yellowstone																																....
Steele	Missouri	T.	T.		T.		1.95				.10			.38						T	.22	T.						T.	T.	.08			2.73
Towner	Mouse						.50	.28			.38						T.										T			.15			1.31
Turtle Lake	Missouri				.05	.02					.22				.20		.33			.06	.31				.03	.04	.70	.01					1.97
Valley City	Sheyenne		T.				1.47				T.			.11			.05	.01		.02	.25					T.	.05	.16	.04	.05			2.21
Wahpeton	Red					.06	.05					.05		.10								.66						.78					1.95
Walhalla	Pembina	T.				.38	.28	T.		.60	T.	.25		.03			.09	.16	.04		.03	.13	T.	T.		.03	.14	.12	.26	.06			2.55
Washburn											.68			.64							.31								.24				1.87
Westhope	Mouse					.19	.06		.86	.13	.01						.19				.12							.06	.15	.12			1.89
Williston ***	Missouri		T.	.05		.01	T	.40	.08		.31		.10				T.				.10				T	T.		T.					1.05
Willow City	Mouse					.24	.42		.62	.10	T.			.10			.21				.05		T		T.			.04		.14			1.92
Moorhead, Minn ***	Red		T.			1.40		T.			T.			.06			.25		.01		.27					.05	.42			.37			2.83

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	72	71	82	75	76	75	76	77	83	87	80	81	87	77	77	84	86	80	78	76	63	73	73	74	72	80	81	70	78	86	76	77.6
	Minimum	53	46	53	41	41	53	50	49	53	55	57	49	57	54	53	54	59	43	48	45	42	36	39	35	38	48	47	48	45	52	55	48.4
Arnegard	Maximum	58	70	72	72	82	76	74	84	81	79	78	91	85	80	83	81	87	86	83	69	66	77	78	83	79	80	81	77	84	95	85	79.2
	Minimum	38	37	46	48	51	46	49	52	56	57	53	49	58	55	59	58	57	57	53	55	47	43	50	47	40	50	50	52	49	53	52	50.5
Ashley	Maximum	67	60	78	70	72	72	71	72	82	83	78	80	86	82	72	76	83	86	80	80	72	68	75	72	78	70	78	71	83	85	86	76.4
	Minimum	45	45	51	47	50	51	51	47	58	58	61	49	59	54	53	56	46	54	52	53	43	37	56	40	45	50	47	55	42	54	58	50.5
Beach	Maximum	56	68	67	67	80	72	75	80	81	80	80	92	86	83	68	75	86	90	82	74	73	78	79	86	77	75	80	74	85	94	89	78.5
	Minimum	42	42	42	42	46	46	52	52	48	54	46	53	56	56	50	49	52	54	60	50	42	43	43	52	47	50	47	47	46	50	43	48.5
Berthold Agency	Maximum	64	68	76	72	81	72	71	83	80	77	78	89	82	80	..	79	85	86	81	73	64	75	77	81	79	79	80	77	82	92	80	a78.1
	Minimum	38	38	41	47	54	51	53	57	54	56	50	46	57	..	56	58	52	50	48	52	46	40	45	46	47	44	44	42	46	53	54	a48.8
Bismarck	Maximum	59	61	77	69	76	74	72	75	78	84	79	83	84	81	70	76	85	86	81	77	64	74	76	77	80	77	82	74	83	89	84	77.0
	Minimum	46	50	52	53	58	56	54	55	57	59	58	52	61	54	59	57	56	57	56	56	46	43	51	46	51	53	45	55	53	59	60	53.8
Bottineau §§	Maximum	70	69	69	68	65	70	69	75	74	75	75	80	79	77	75	76	80	76	76	65	66	76	70	69	79	75	79	71	75	89	74	73.7
	Minimum	35	35	39	34	36	49	45	46	52	53	50	45	56	49	50	52	54	51	49	52	37	37	42	37	39	50	49	48	46	49	50	45.7
Bowbells §§	Maximum	66	71	66	73	82	71	69	68	74	76	77	83	83	81	81	77	86	83	76	69	66	74	75	71	80	79	82	71	82	84	75	75.8
	Minimum	39	41	40	39	44	50	45	49	52	52	54	47	56	51	57	55	51	52	45	41	37	41	43	44	47	51	49	46	45	45	49	47.0
Bowman	Maximum	56	68	78	68	76	73	74	78	76	78	81	84	88	88	71	70	82	90	82	73	62	72	76	74	78	71	78	74	80	90	88	77.0
	Minimum	46	45	42	49	49	46	51	52	53	56	54	54	56	55	56	55	50	55	54	53	50	46	43	51	50	50	48	48	42	54	53	50.5
Cando	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Carson	Maximum	65	60	80	60	75	80	70	75	80	80	86	80	85	85	65	65	85	82	82	80	70	73	70	80	75	80	75	80	85	90	90	77.0
	Minimum	44	44	43	46	50	50	52	52	55	65	66	50	56	50	50	52	55	52	55	50	45	40	50	48	50	45	45	50	45	60	40	50.2
Crosby	Maximum	64	68	64	72	81	70	70	76	79	78	76	87	82	78	82	76	86	82	78	70	68	75	75	75	78	80	74	71	83	94	89	76.9
	Minimum	40	43	44	40	48	50	49	54	58	58	53	53	56	52	54	51	52	54	46	52	46	49	46	48	58	50	59	45	49	54	54	50.6
Devils Lake	Maximum	65	68	78	72	76	69	71	79	75	80	77	80	82	75	77	75	83	78	75	68	62	71	70	69	76	77	80	69	73	90	75	74.7
	Minimum	43	42	50	41	48	49	46	52	57	51	56	48	62	53	51	60	55	54	46	48	40	45	43	36	49	51	48	50	49	56	50	49.3
Dickinson §§	Maximum	52	62	77	73	79	72	76	79	78	84	80	88	86	82	66	75	92	90	90	71	63	75	80	83	76	74	80	75	83	94	85	78.2
	Minimum	43	42	42	41	43	48	51	51	48	56	50	49	53	51	52	47	50	48	51	53	48	35	37	46	44	50	48	55	45	56	52	48.0
Donnybrook	Maximum	67	71	75	80	81	70	70	70	79	78	78	..	..	89	83	75	88	78	82	78	68	76	76	75	79	83	79	78	84	94	85	b78.2
	Minimum	46	44	38	40	40	51	40	48	55	50	55	..	..	45	52	59	57	48	45	47	40	40	40	38	45	50	55	53	47	52	49	b47.2
Dunn Center §§	Maximum	58	65	76	70	78	73	70	79	79	77	77	88	82	80	75	76	85	86	81	69	62	72	70	80	77	76	78	75	81	91	80	76.3
	Minimum	38	42	40	48	49	45	51	51	51	54	53	47	55	53	58	53	51	54	50	53	50	41	46	41	46	49	48	50	45	49	51	48.8
Dunseith	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Edgeley	Maximum	70	68	77	73	75	68	70	73	80	84	82	80	87	81	74	77	85	87	76	78	65	70	73	71	76	77	80	75	80	83	77	76.5
	Minimum	46	44	42	43	51	52	50	45	55	54	63	50	56	54	64	56	59	55	47	50	42	37	52	36	42	47	48	54	50	53	56	50.1
Ellendale	Maximum	65	60	77	67	73	74	70	73	81	86	79	79	87	79	65	76	83	86	77	82	63	68	73	71	77	75	78	70	82	84	84	75.6
	Minimum	49	47	55	47	53	54	53	49	59	57	60	54	58	54	55	58	59	57	51	55	45	40	49	39	48	49	51	52	50	54	55	52.1
Fessenden §§	Maximum	68	68	81	77	80	75	75	82	82	82	81	86	85	80	78	76	83	84	80	70	63	73	72	71	81	78	83	78	84	92	78	78.4
	Minimum	46	45	50	48	56	55	50	53	55	54	57	50	62	59	57	60	58	54	50	50	45	45	47	41	50	50	46	55	51	53	55	51.8
Foxholm	Maximum	64	69	70	71	78	68	68	71	71	79	74	82	80	77	78	73	82	80	71	61	61	74	72	71	76	73	80	73	75	90	77	73.9
	Minimum	38	41	49	40	47	50	47	50	55	51	52	47	61	55	54	58	56	55	47	47	40	41	42	42	48	51	52	49	50	56	48	49.0
Fullerton	Maximum	65	63	77	71	75	73	73	78	80	85	79	80	86	79	69	79	84	85	78	82	63	69	72	70	77	77	77	69	79	85	83	76.2
	Minimum	48	47	54	47	52	53	52	48	60	57	63	51	58	55	55	59	58	56	49	56	45	39	43	40	46	48	50	55	51	54	57	51.8
Garrison	Maximum	63	65	76	70	76	70	71	77	76	75	75	83	80	78	78	75	83	81	74	66	63	72	74	78	76	79	78	76	80	91	77	75.4
	Minimum	39	42	45	45	51	51	50	50	52	53	53	46	53	54	56	58	55	52	48	51	45	42	45	41	49	45	49	48	47	51	52	49.0
Grafton	Maximum	70	76	82	75	74	75	80	81	77	84	78	81	86	80	79	78	84	78	78	70	67	72	70	69	73	81	83	69	75	90	76	77.1
	Minimum	47	43	49	37	40	53	40	48	56	49	61	52	60	55	49	57	56	56	45	54	41	36	50	34	49	48	42	48	49	52	51	48.6
Grand Forks	Maximum	71	73	81	74	72	74	75	77	78	84	82	80	85	72	76	72	84	78	74	70	63	70	68	68	70	78	85	79	77	90	77	76.0
	Minimum	49	44	49	41	45	52	45	49	59	53	55	51	60	55	52	60	6	56	47	51	42	38	44	34	48	50	46	51	49	51	57	49.8
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hansboro	Maximum	81	80	78	75	76	71	78	78	75	76	75	76	76	76	80	82	80	74	74	71	70	72	74	72	74	74	76	84	85	87	90	77.2
	Minimum	36	36	31	34	36	47	49	45	40	45	40	40	45	48	45	42	50	45	45	40	34	35	38	28	35	35	45	42	43	43	43	40.7
Hettinger	Maximum	63	60	82	68	80	75	77	79	77	83	80	76	88	83	73	71	85	90	85	77	65	72	79	83	81	73	79	81	82	89	92	78.0
	Minimum	45	47	43	50	55	50	51	56	53	58	52	48	52	56	57	57	54	55	55	55	47	42	43	43	42	56	48	51	46	51	52	50.7
Hillsboro	Maximum	69	69	69	72	75	71	72	76	78	80	78	78	87	82	74	80	77	80	77	75	62	65	72	67	69	76	80	77	79	83	82	75.4
	Minimum	49	48	45	42	46	55	49	49	58	56	63	50	56	56	52	57	60	55	48	46	42	39	48	36	47	48	47	51	50	48	56	50.1
Howard	Maximum	64	67	69	70	80	80	70	77	76	77	80	80	81	81	82	76	86	83	78	76	70	74	75	73	81	79	76	73	79	92	80	77.1
	Minimum	34	37	36	38	45	45	48	48	46	48	48	47	48	47	47	56	43	56	50	47	44	38	48	48	50	45	47	45	44	43	52	45.7
Jamestown §§	Maximum	66	76	73	79	73	72	74	80	84	80	82	84	80	74	81	87	85	78	73	63	72	75	75	75	78	74	78	81	83	81	70	77.0
	Minimum	37	39	41	45	38	56	43	39	44	45	49	42	45	47	47	48	48	48	40	38	42	38	42	38	40	47	47	43	42	41	53	43.7
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Langdon§§	Maximum	69	72	78	71	68	67	74	80	70	77	71	77	79	69	77	73	81	73	73	65	59	67	66	68	76	71	81	71	70	86	76	70.5
	Minimum	39	39	44	35	42	53	45	51	55	50	55	47	54	51	50	54	54	52	49	51	38	33	44	32	45	50	45	46	48	51	46	46.9
Larimore §§	Maximum	70	75	80	75	71	73	78	76	82	79	81	85	74	77	72	82	80	78	70	64	70	72	69	70	78	83	70	75	92	72	82	76.0
	Minimum	45	42	50	52	56	55	45	49	56	50	62	50	51	55	50	57	58	55	50	45	40	34	44	34	47	48	48	47	45	42	52	48.9
Linton	Maximum	72	61	84	79	76	78	75	77	83	88	84	87	91	86	82	80	90	91	86	85	66	77	75	80	85	79	82	76	88	86	93	81.5
	Minimum	45	38	45	45	55	56	55	53	54	61	57	48	60	50	58	57	52	50	54	57	45	37	45	42	48	48	42	56	46	60	58	50.9
Lisbon §§	Maximum	69	65	79	72	80	76	74	78	84	92	81	80	87	82	72	82	87	83	74	78	64	71	72	75	78	81	83	73	85	87	83	78.4
	Minimum	49	42	50	44	50	54	53	46	55	52	64	51	52	55	52	54	60	54	50	47	45	35	45	37	46	52	48	54	45	45	58	49.8
McKinney	Maximum	66	71	66	72	77	72	67	67	74	78	75	82	81	81	80	82	84	80	75	75	65	75	72	70	72	76	78	82	90	92	85	76.2
	Minimum	41	50	54	36	38	40	41	42	55	52	45	46	45	50	50	52	50	50	45	60	40	49	40	45	46	48	..	..	..	46	45	c46.1
Maddock	Maximum	64	68	77	70	77	70	70	76	75	78	78	84	81	80	78	75	84	81	76	72	65	71	74	72	75	77	83	72	78	92	88	76.2
	Minimum	40	37	48	35	43	54	42	49	52	50	55	45	60	52	48	59	51	52	43	44	37	41	33	32	43	45	40	50	45	42	50	46.1
Melville	Maximum	68	67	76	72	..	75	71	71	75	80	78	79	83	78	82	80	85	82	..	75	62	72	72	70	75	..	80	68	78	88	82	c75.8
	Minimum	62	44	66	41	..	65	45	47	55	54	57	47	60	52	65	57	55	54	..	46	37	46	45	38	58	..	46	62	50	53	54	c52.0
Minot §§	Maximum	66	70	73	75	82	72	72	72	71	79	74	86	87	80	78	77	86	82	73	63	62	75	75	73	80	78	83	77	82	95	80	76.7
	Minimum	33	36	39	33	42	45	36	37	46	45	45	43	55	47	46	48	50	46	39	40	37	33	38	35	37	42	41	43	42	44	43	41.5
Mott	Maximum	72	77	80	76	78	72	78	80	86	84	90	91	85	78	72	77	88	88	82	80	74	75	77	78	76	73	78	80	84	82	83	79.8
	Minimum	43	44	46	43	43	47	51	55	57	52	58	60	54	52	47	44	53	56	52	47	37	40	41	47	45	45	47	51	52	50	53	48.8
Napoleon §§	Maximum	73	61	78	68	77	72	71	74	78	84	80	83	85	82	70	81	87	87	80	78	64	74	76	80	81	80	81	75	84	87	85	77.9
	Minimum	40	40	47	45	47	50	51	47	48	55	56	43	58	48	50	55	54	50	49	53	34	33	38	34	40	41	40	48	48	55	58	47.3
New Salem	Maximum	75	70	78	77	74	73	76	78	79	84	80	82	82	82	82	84	88	89	81	79	71	76	77	78	81	78	84	75	80	91	84	78.6
	Minimum	40	48	45	57	51	59	51	50	51	54	55	50	52	54	57	57	52	55	51	51	47	41	47	41	45	52	47	52	58	51	55	50.8
Pembina §§	Maximum	65	82	79	74	73	71	77	83	78	82	75	80	86	74	75	78	82	76	78	79	65	71	68	70	79	80	82	70	74	82	86	76.6
	Minimum	51	42	42	34	39	52	42	40	57	48	56	48	50	54	48	55	53	55	44	48	35	45	47	31	40	55	44	47	48	50	45	46.6
Steele	Maximum	59	63	76	69	77	78	71	77	71	81	77	80	81	78	78	74	83	83	84	72	74	70	73	76	78	79	81	71	81	84	74	75.9
	Minimum	40	44	45	45	55	57	52	55	55	58	57	49	58	51	51	55	70	66	68	65	56	38	47	39	46	45	68	56	61	54	57	54.4
Towner	Maximum	67	73	75	78	75	72	76	77	76	78	80	76	84	78	76	79	83	75	70	65	68	71	74	71	78	74	72	75	73	92	87	75.8
	Minimum	36	56	48	45	50	51	54	53	52	54	52	50	50	48	51	59	56	48	50	46	48	39	38	45	54	50	43	53	50	56	54	49.7
Valley City	Maximum	75	69	79	70	69	72	73	85	77	83	79	89	83	80	75	81	83	83	75	68	67	70	70	72	73	75	80	71	79	85	72	76.2
	Minimum	57	45	59	43	55	55	50	57	59	56	63	56	65	55	55	59	56	54	50	53	42	40	45	43	54	51	47	52	49	58	55	52.9
Wahpeton	Maximum	80	72	82	81	76	82	80	79	87	91	90	85	82	81	79	84	88	91	88	88	68	75	75	75	81	79	80	80	82	88	87	81.8
	Minimum	52	42	58	45	52	56	52	50	61	58	67	52	57	55	55	50	63	57	58	49	58	38	[illegible]	37	42	51	55	56	47	53	62	52.1
Walhalla	Maximum	70	79	84	75	77	73	80	82	76	80	81	81	86	83	77	77	84	78	79	69	67	72	74	70	76	79	80	76	74	93	88	78.3
	Minimum	41	45	53	40	39	54	41	51	58	45	57	52	60	55	46	50	55	56	44	49	33	35	47	32	43	48	46	47	50	52	48	47.9
Westhope	Maximum	67	72	67	72	73	72	72	72	80	78	77	83	82	83	79	79	85	80	80	65	68	69	73	72	79	78	85	76	77	92	97	76.8
	Minimum	39	39	45	38	41	46	43	48	50	53	55	45	58	50	48	60	53	55	55	50	39	45	38	31	48	44	45	50	45	48	41	47.2
Williston	Maximum	60	66	64	71	81	70	70	77	77	79	78	91	84	79	80	76	87	84	77	68	65	75	76	80	78	79	78	75	81	91	82	76.7
	Minimum	40	43	45	44	55	49	55	54	51	50	52	54	58	55	60	61	54	51	55	53	47	44	48	48	51	51	52	52	48	55	54	51.8
Moorhead, Minn	Maximum	69	66	79	70	72	74	71	75	80	83	79	77	87	74	74	80	82	87	75	67	64	69	71	66	75	71	79	68	70	85	74	74.7
	Minimum	50	48	56	47	52	56	52	53	62	58	63	51	57	59	55	58	62	59	51	49	4	49	49	40	52	51	51	52	49	56	61	53.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

ol. XXXII. Bismarck, N. D., September, 1923. No. 9

GENERAL SUMMARY.

The month opened with weather favorable for fall work. hock threshing of spring wheat, oats and barley was nearly ompleted during the first decade, and stack threshing was well nder way. Flax harvest was well advanced, with some early lax threshing done, the yields generally being good to excelent. During the second decade there was slight delay in hreshing by showers on the 16th and 17th; otherwise work ontinued uninterruptedly. Frosts and freezing temperatures ccurred in practically all parts of the State during this decade, ut owing to the advanced condition of vegetation little damage esulted. Showers were general during a considerable part of he third decade, interfering with threshing, but being very avorable for fall plowing and the seeding of winter rye. At the lose of the month there was an abundance of fall feed, livestock vere in good to excellent condition, and fall work was advanced o the average for this season of the year.

TEMPERATURE.

The mean temperature for the State was 60.1°, or 3.7° above ne normal, and 1.3° higher than the mean for September, 1922. he highest mean reported was 63.6° at Wahpeton, Richand County; the lowest was 54.0° at Hansboro, Towner ounty. The highest temperature reported was 99° at Arneard, McKenzie County, on the 3d; the lowest was 15° at Iansboro, Towner County, on the 13th. The greatest monthly nge of temperature was 78° at Bowbells, Renville County; the ast was 53° at Fullerton, Dickey County. The greatest daily nge was 64° at Walhalla, Pembina County, on the 15th.

PRECIPITATION.

The average precipitation for the State was 2.39 inches, or .75 inch above the normal, and 0.23 inch more than the verage for September, 1922. The greatest monthly amount reorted was 5.80 inches at New England, Hettinger County; the ast was 0.23 inch at Powers Lake, Burke County. The reatest amount recorded in any 24 consecutive hours was 3.32 ches at Fryburg, Billings County, on the 25th. No snowfall as reported. There was an average of 6 days with 0.01 inch more of precipitation.

AURORAS.

Auroras were observed at Eckman, Foxholm, Howard and Villiston on the 9th; at Howard on the 12th and 14th; at New ngland on the 15th; at Howard on the 20th; at Arnegard, ismarck, Fessenden, Finley, Grand Forks, Linton and Mooread on the 26th; at Bowman and Valley City on the 27th, d at Bismarck on the 29th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.99	30.40	13	29.41	25	57	6,390	8.9	26	n.	17
Devils Lake	29.95	30.38	13	29.40	25	44	7,133	9.9	35	sw.	5
Ellendale	30.00	30.38	13	29.57	25	56	9,422	13.1	40	se.	24
Grand Forks	29.93	30.36	13	29.43	25	90	....	......	30	se.	24
Williston	29.95	30.40	12	29.48	25	48	5,745	8.0	29	se.	5
Moorhead, Minn	29.97	30.40	13	29.54	25	58	6,027	8.4	30	nw.	6
Av'ges and extremes	29.96	30.40	12†	29.40	25	.....	....	9.7	40	se.	24

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	224.3	376.6	60	− 2	80	49	52	21	4
Devils Lake	194.2	377.2	51	− 7	85	54	58	22	15
Ellendale	277.9	376.0	74	......	89	52	....	28	21
Grand Forks	......	......	......	......	87	.....	58	.....	....
Williston	268.5	377.2	71	+11	75	44	44	17	1
Moorhead, Minn.	......	......	51	− 9	84	51	55	26	5
Averages and extremes	......	......	61	− 2	83	50	53	17	1

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919...	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920...	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921...	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.
1922...	59.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw.
1923...	60.1	+3.7	99	15	2.37	+0.75	6	14	8	8	nw.

Climatological Data for September, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	59.6	+2.3	87	3	21	13	47	1.55	−0.42	0.70	0	7	20	7	3	s.	E. T. Carley.
Amidon	Slope	...	9	60.8	...	98	3	29	13	43	5.00	...	2.46	0	7	15	11	4	s.	Charles Eastgate.
Arnegard ††	McKenzie	...	8	59.6	...	99	3	30	12	47	2.91	...	1.24	0	5	18	4	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	59.8^{a}	+2.5	88^{a}	5	31^{a}	13	43^{a}	2.88	+1.86	0.97	0	6	19	5	6	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	60.0	+3.7	98	3	31	12	47	4.52	+3.25	1.43	0	6	...	...	...	...	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	30	60.6	+3.6	98	4	28	18	55	2.19	+0.75	1.13	0	5	16	7	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	61.2	+3.1	94	3	34	13	39	2.83	+1.64	0.93	0	11	11	6	13	e	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	59.0	+3.5	91	14	22	13	57	1.05	−0.52	0.41	0	5	18	5	7	nw.	E. C. Evenson.
Bowbells	Burke	1,958	11	57.7	+4.9	97	3	19	12	47	1.11	−0.51	0.73	0	4	20	1	9	...	G. H. Phelps.
Bowman	Bowman	2,961	9	59.0	...	94	3	30	13	44	3.92	...	2.04	0	6	17	8	5	ne.	R. Love, Jr.
Cando	Towner	1,488	22	59.2	+3.6	90	3†	21	13	52	0.75	−0.68	0.31	0	5	8	10	12	nw.	A. J. Swanson.
Carson	Grant	2,500	11	60.2	+3.8	95	1	30	18	52	4.79	+3.06	1.50	0	8	15	11	4	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17	...	...	...	...	...	...	...	3.20	+1.54	1.10	0	5	19	5	6	nw.	S. Friswold.
Crosby	Divide	1,954	16	58.8	+5.1	95	3	24	12	46	1.80	+0.56	0.66	0	6	17	5	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	58.2	+2.6	90	1	25	13	38	1.63	+0.24	0.60	0	8	13	5	12	s.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	57.4	+0.9	98	3	30	13	54	4.20	+3.13	2.00	0	6	14	7	9	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	59.4	+5.4	99	3	24	12	50	1.25	−0.41	1.00	0	4	4	26	0	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	58.2	+1.1	98	3	32	13†	54	3.80	+2.68	1.79	0	7	15	2	13	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	60.2	+5.4	92	3	27	18	46	0.89	−0.68	0.38	0	6	14	7	9	sw.	J. G. Lamont.
Eckman	Bottineau	1,500	18	57.8^{a}	+2.3	98^{a}	3	23^{a}	12	57^{a}	1.33	+0.20	1.08	0	5	16	6	8	e.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	60.0	+2.5	87	5	31	13	45	1.03	−0.63	0.80	0	2	10	11	9	se.	O. A. Thompson.
Ellendale	Dickey	1,449	24	60.5	+2.1	90	5	34	13	45	1.11	−0.24	0.57	0	7	12	10	8	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	60.1	...	98	3	30	12	50	2.50	+0.96	1.22	0	7	13	11	6	nw.	H. S. Solenberger.
Epping ††	Williams	2,224	15	59.0	...	96	3	28	12	49	2.10	+0.64	1.37	0	5	7	18	5	n.	A. O. Wang.
Fessenden	Wells	1,610	11	60.7	+5.6	92	1	32	13	41	2.31	+0.59	0.60	0	8	13	7	10	nw.	T. D. Monsen.
Finley	Steele	1,461	...	59.4	...	85	3	27	13	34	2.64	...	0.96	0	4	14	7	9	nw.	G. J. Mustad.
Forman	Sargent	1,249	29	...	...	...	...	...	...	...	1.43	−0.39	0.55	0	5	20	4	6	s.	O. Enger.
Foxholm	Ward	1,657	2	58.9	...	95	3	24	12	46	1.47	...	1.00	0	5	13	8	9	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5	...	...	...	...	...	...	...	5.68	...	3.32	0	4	19	5	6	nw.	Verne King.
Fullerton	Dickey	1,439	25	60.4	+3.7	87	5	34	13	43	1.16	−0.91	0.70	0	3	18	5	7	s.	F. O. Alin.
Garrison	McLean	1,901	28	58.4	+1.6	94	3	27	12	43	2.98	+1.62	1.40	0	6	13	8	9	nw.	Wm. H. Robinson.
Grafton	Walsh	827	31	60.0	+4.1	87	3†	23	13	47	3.13	+1.31	1.45	0	4	19	2	9	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	59.0	+2.8	87	15	21	13	42	2.22	+0.36	0.76	0	7	14	2	14	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	59.2	+4.8	97	3	28	12	52	2.45	+1.20	1.46	0	7	9	13	8	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	29	...	...	...	...	...	...	...	1.19	−0.95	0.76	0	3	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	15	54.0^{f}	−0.1	92^{f}	3	15^{f}	13	49^{f}	0.75	−1.15	0.50	0	2	...	...	...	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	60.6	+2.6	94	3	31	12	49	3.74	+2.44	1.86	0	6	14	7	9	nw.	C. J. Downey.
Hillsboro	Traill	901	17	60.2^{a}	+1.2	84^{a}	2†	23^{a}	13	39^{a}	2.10	−0.39	0.82	0	4	13	7	10	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	57.2	+3.4	96	4	26	12	50	2.28	+0.91	0.65	0	5	14	7	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	57.8	+1.1	88	3	29	13	45	2.75	+1.22	0.50	0	9	12	3	15	se.	S. Calvelage.
Lamoine	Kidder	1,936	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. V. Virgin.
Langdon	Cavalier	1,615	27	57.0	+3.5	88	14	22	13	56	2.12	+0.13	1.12	0	7	19	5	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	57.8	+2.6	90	2	26	13	60	2.23	+0.34	1.00	0	6	18	3	9	s.	Reuben Gray.
Linton	Emmons	1,711	5	62.0	...	93	3	30	13	46	2.92	...	0.80	0	9	13	10	7	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	60.2	+2.5	91	3	22	13	52	1.21	−0.94	0.63	0	3	18	6	6	...	W. S. Adams.
McClusky	Sheridan	1,943	5	59.0	...	93	3	29	12	40	1.47	...	0.50	0	6	13	9	8	se.	Edw. Tapley.
McHenry	Foster	1,509	12	58.1	+3.7	85	1	23	13	41	3.14	+1.49	1.17	0	4	20	0	10	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	55.6^{c}	+1.5	92^{c}	15	24^{c}	12	49^{c}	2.30	+0.87	1.80	0	2	...	...	...	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	61.0	+4.1	85	2†	25	13	47	1.70	−0.84	1.02	0	5	19	1	10	nw.	J. G. Carlson.
Maddock ††	Benson	1,604	8	59.8	...	92	3	20	13	49	2.23	...	0.78	0	6	8	11	11	nw.	A. T. Felland.
Mandan	Morton	1,644	9	60.2	...	95	3	33	13	44	2.30	...	0.95	0	8	15	4	11	n.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	58.4	...	88	3	25	13	40	1.93	+0.58	0.45	0	6	14	6	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. C. Niccum.
Mayville	Traill	975	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	M. O. Sateren.
Melville	Foster	1,590	25	60.2^{b}	+2.8	90^{b}	1	28	12	39^{b}	2.70	+0.42	1.30	0	5	...	...	...	se.	J. P. Kidder.
Minot	Ward	1,557	27	56.4	−0.3	97	3	20	12	61	1.50	−0.08	0.85	0	6	16	10	4	w.	W. I. Faris.
Minto	Walsh	820	30	59.4	+3.0	88	3	22	13	47	3.31	+1.31	1.34	0	5	15	6	9	se.	C. M. Evans.
Mott	Hettinger	2,424	16	54.7	−1.6	91	2	28	18	41	3.87	+2.30	1.06	0	7	9	9	12	ne.	O. H. Opland.
Napoleon	Logan	1,955	31	58.4	+1.5	91	1†	27	13	51	2.06	+0.82	0.46	0	7	18	2	10	nw.	C. J. Hoof.
New England	Hettinger	2,400	29	57.4	+1.6	93	4	30	12	42	5.80	+4.68	3.22	0	4	8	13	9	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	60.8	+3.6	96	3	30	13	43	2.51	+1.16	1.60	0	8	16	8	6	nw.	J. Christiansen.
Park River	Walsh	998	19	59.2	+2.3	87	1†	26	13	49	4.19	+2.60	2.22	0	4	9	10	11	se.	C. B. Wright.
Parshall	Mountrail	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	49	56.7	+2.9	88	2	25	13	47	3.34	+1.65	1.10	0	4	15	10	5	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	58.6	+4.9	91	1	28	12†	44	2.26	+0.87	0.90	0	5	14	8	8	sw.	S. C. Shanks.
Power	Richland	1,020	29	...	...	...	...	...	...	...	1.84	−0.22	1.00	0	4	...	...	...	...	J. A. Power.
Powers Lake	Burke	2,205	9	...	...	...	...	...	...	...	0.23	−0.86	0.23	0	1	16	9	5	sw.	C. Frank.
Richardton	Stark	2,467	7	61.4	...	96	3	34	13	46	3.05	...	1.30	0	8	16	8	6	w.	Geo. Keim.
Skaar	McKenzie	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Conrad Brunsvold.
Stanton	Mercer	1,722	...	...	...	...	...	...	...	...	2.14	...	1.48	0	6	14	11	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	27	57.8	0.0	92	3	32	12†	44	2.38	+1.14	1.32	0	5	14	8	8	se.	H. S. Wood.
Towner	McHenry	1,482	21	61.1	+5.3	97	3	23	13	49	1.41	−0.24	0.48	0	4	18	7	5	nw.	B. Bagley.
Turtle Lake	McLean	1,899	8	58.4	...	94	3	30	12	42	1.40	...	0.78	0	4	6	10	14	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	61.0	+2.8	85	3	25	13	35	2.75	+1.11	0.95	0	4	14	10	6	nw.	H. Twito.
Wahpeton	Richland	962	29	63.6	+5.0	88	4	22	13	40	2.02	−0.20	1.35	0	6	23	0	7	se.	C. G. Luick.
Walhalla	Pembina	966	19	61.8^{b}	+5.9	96^{b}	15†	21^{b}	13	64^{b}	1.56	−0.26	0.55	0	6	10	12	8	nw.	T. R. Johnson.
Washburn	McLean	1,731	22	...	...	...	...	...	...	...	2.35	+1.16	0.98	0	6	...	...	...	...	Karl Klein.
Westhope ††	Bottineau	1,508	17	58.2	+3.4	97	3	22	20	51	1.31	+0.12	1.20	0	3	22	4	6	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	59.6	+3.0	97	3	27	12	42	2.60	−0.62	1.41	0	6	8	12	10	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	56.4	+2.1	88	1	18	13	53	2.19	+0.64	1.25	0	7	10	11	9	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	60.6	+2.4	84	23	27	13	38	1.68	−0.62	0.67	0	8	9	11	10	s.	U. S. Weather Bureau.
Averages	...	...	...	60.1	+3.7	99	3	15	13	64	2.39	+0.75	3.32	0	6	14	8	8	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for September, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red						.15	T.		T.								.22	.70							.11	.05			.10	.22		1.55
Amidon	Lit. Missouri					.07											.72	.15							T	2.46			.76	.65	.19		5.00
Arnegard	Missouri											.11													T.	1.24	.26		[illegible]	.85			2.91
Ashley	Missouri						.22										.97	.30								.61			.14		.64		2.88
Beach	Lit. Missouri					T.											.30	T.						T.	.30	.91			1.43	.44	1.14		4.52
Berthold Agency	Missouri					T.						.06					.35						T.	T.	T.	.55			.10	1.13			2.19
Bismarck ***	Missouri				T.	.85	.08			T.		.07					.04	.30	.02						.33	.29			.38	.41	.06		2.83
Bottineau	Mouse						.15																			.21	.27			.01	.41		1.05
Bowbells ‖	Mouse																									.09	.06			.23	.73		1.11
Bowman	Grand	T.					.10			T.							.55	.35							T.	2.04			.80	.08			3.92
Cando	Devils Lake		.04		.03		.21											.16							T.	.31							0.75
Carson	Heart						.32										.20	.62							.65	1.50			1.00	.42	.08		4.79
Cooperstown	Sheyenne					.80											.60	.50								.20				1.10			3.20
Crosby	Mouse					.01						T.													.50	.66	.03		T.	.54	.06		1.80
Devils Lake ***	Devils Lake	T.			.02	.42	.18										.01	.24							.04	.32			T	.40	T.		1.63
Dickinson ‖	Heart						.08					T.						.82	.02							2.00	.19			1.09	T.		4.20
Donnybrook	Mouse																.10									.05	.10				1.00		1.25
Dunn Center ‖	Knife						T.					.26						.45						.02		1.10	.10			1.79	.08		3.80
Dunseith	Mouse					.05												.08						.01	.13	.24				.38			0.89
Eckman	Mouse																T.	.01							.17	.05			T.	1.08	.02		1.33
Edgeley	James																	.80								.23			T.		T		1.03
Ellendale***	James				T.	T.	.09	T.				T.				T.	.13	.44							.15	.03			T.	.04	.23		1.11
Energy	Missouri					.44						.04					T	.44							.06	.24			.06	1.22	T.		2.50
Epping	Missouri										.05														.07	.47	.14			1.37	T.		2.10
Fessenden	James						.60				T.		T.					.25	.20							.54	.40		.02	.05	.25		2.31
Finley	Red				T.		.84			T.							T.	.65						T.	T.	.19			T.	.96			2.64
Forman	Sheyenne						.20									.10	.55	.20								.38							1.43
Foxholm	Mouse					T.											.12	.02							.21	.12			T.	1.00	T.		1.47
Fryburg	Heart	T.				T.											.78							.02		3.32				1.56	T.		5.68
Fullerton	James																.06	.70							.40	T.		T.		T.	T.		1.16
Garrison	Missouri					.28												.78							.05	.35			.12	1.40			2.98
Grafton	Red						1.36											1.45								.07				.25			3.13
Grand Forks ***	Red				.04	.35	.56											.76						T.	.06	.03				.42			2.22
Granville	Mouse				.01	.03												.38						T.	.10	.32				1.46	.15		2.45
Hannah	Pembina					.12									.76																.31		1.19
Hansboro	Devils Lake																									.25				.50			0.75
Hettinger	Grand																.56	.20							.08	1.86			.72	.32			3.74
Hillsboro	Red						.34						T.					.82								.16				.78			2.10
Howard	Missouri					T.				T.		T.				T.								T.	.65	.41	.11		*	1.11	T.		2.28
Jamestown	James	.02					.37										.45	.50	.45							.43	.40			.05	.08		2.75
Lamoine	Missouri																																
Langdon	Pembina				T.		.32											.11	.28						.06		1.12			.03	.20		2.12
Larimore	Red					1.00							.03					.40	.65								.05			.10			2.23
Linton	Missouri						.80				.02						.06	.46	.03						.01	.80			.16	.58			2.92
Lisbon ‖	Sheyenne						T.											.63	.40							.18				T.			1.21
McClusky	Missouri						.45											.22							.10	.18				.50	.02		1.47
McHenry	James					1.17												.60								.57				.80			3.14
McKinney	Mouse					T.																			T.	.50					1.80		2.30
McLeod	Sheyenne						.29					.26						1.02								.11				.02			1.70
Maddock	Sheyenne						.30											.25							.15	.74	.01			.78			2.23
Mandan ‖	Missouri						.47	T.				.07	.01					.13	.20							.46	.01			.95	T.		2.30
Manfred	James					.45	.37											.28							.17	.34				.32	T.		1.93
Marmarth	Lit. Missouri																																
Mayville	Red																																
Melville	James				.05	1.30						T.						.43							T.	.65			T.	.27			2.70
Minot	Mouse						.02																	.10		.20	.03			.30	.85		1.50
Minto	Red				.01		1.34						T.				.35	1.28												.33			3.31
Mott	Cannon Ball					.32											.17	.48							.38	1.06			.49	.97			3.87
Napoleon ‖	Missouri						.43				T.							.38	.26							.46	.11			.38	.04		2.06
New England	Cannon Ball						.10			T.		T.					T.	.88							T.	1.60				3.22			5.80
New Salem	Heart	T.				.04	.22	T.		T.								.24							.10	.19	.03		.09	1.60			2.51
Park River	Red						1.51											2.22								.03				.43			4.19
Parshall	Missouri																																
Pembina ‖	Red		T.		T.		1.00		T.				T.					1.10	.44							T.	.80						3.34
Pettibone	James				T.		.90			T							T.	.28					T.		.25	.58				.25			2.26
Power	Sheyenne						.30									T.		1.00								.17			.37				1.84
Powers Lake	Missouri				T.										T.													T.	T.	.23	T.		0.23
Richardton	Heart						.04			.02							.10	.45							.18	1.30			.28	.68			3.05
Saar	Yellowstone																																
Stanton	Missouri					.06					.05							.27							.12	.16				1.48			2.14
Steele	Missouri				T.		1.32	T.		T.	T.	.10						.45	T.						.20	.31	T.		T.	T.	T.		2.38
Towner	Mouse					T.												.30							.44	.19				.48			1.41
Turtle Lake	Missouri																	.30							.09	.78				.23	T.		1.40
Valley City	Sheyenne						.95				T.	T.						.86	T.					T.		.21			T.	.73	T		2.75
Wahpeton	Red						.12					.20					.12	1.35											.10	.13			2.02
Walhalla	Pembina						.31											.55							.20		.21			.11	.18		1.56
Washburn	Missouri					.38												.37							.21	.23			.18	.98			2.35
Westhope	Mouse					.06																								1.20	.05		1.31
Williston ***	Missouri			T.		T.				T.		.05					T.							T.	.20	1.39	.01		.37	.58	T.		2.60
Willow City	Mouse					.04												.21						.12	.20	.21	T.			1.25	.16		2.19
Moorhead, Minn ***	Red						.65	T.				.01	T.				.23	.55							.11	.04			.01	.08			1.68

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	82	82	87	84	85	75	65	70	69	66	66	46	64	82	83	78	55	74	74	77	84	84	83	80	68	78	71	77	68	70	....	74.2
	Minimum	56	59	46	49	43	43	51	48	50	36	40	32	21	35	43	44	51	37	37	40	43	46	46	55	58	50	44	44	53	53	....	45.1
Arnegard	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Ashley	Maximum	85	83	86	82	88	78	70	68	79	69	61	55	62	82	..	77	60	65	68	75	81	75	76	70	68	75	70	61	69	66	....	[a]72.6
	Minimum	47	58	50	56	45	55	45	47	38	45	45	38	31	42	..	48	49	35	43	42	51	53	45	58	51	45	47	50	56	48	....	[a]47.0
Beach	Maximum	93	95	98	82	83	70	80	83	87	67	63	64	78	85	85	68	55	70	78	85	87	87	67	68	61	69	62	71	61	63	....	75.3
	Minimum	52	52	58	57	53	40	39	45	56	41	43	31	33	42	46	49	35	33	35	40	45	40	42	49	49	45	47	45	51	51	....	41.8
Berthold Agency	Maximum	94	91	90	08	84	76	83	75	84	73	65	56	74	86	92	71	56	71	77	84	90	76	65	62	68	68	70	66	52	..	....	[a]76.1
	Minimum	52	51	55	58	49	47	38	47	49	37	45	31	36	39	37	45	48	28	36	35	51	47	45	46	47	53	51	49	52	52	....	45.2
Bismarck	Maximum	93	84	94	82	88	71	78	72	76	66	64	54	68	85	86	66	57	67	72	78	84	65	66	73	65	74	70	60	78	67	....	73.4
	Minimum	58	61	56	55	53	53	46	51	48	46	46	36	34	48	52	51	44	36	39	39	55	49	47	54	56	52	47	51	52	52	....	48.9
Bottineau §§	Maximum	89	81	90	77	80	67	71	69	73	69	61	61	67	91	90	89	59	72	85	82	89	77	70	70	64	62	70	68	66	65	....	74.2
	Minimum	51	54	54	55	50	45	42	45	43	38	33	29	22	34	43	53	49	25	33	42	46	46	40	49	53	53	49	39	48	52	....	43.8
Bowbells §§	Maximum	95	91	97	83	81	81	80	74	79	67	64	55	73	86	88	88	58	73	73	85	86	61	62	65	72	66	69	65	64	58	....	74.6
	Minimum	51	47	50	45	50	44	40	41	41	34	35	19	30	42	41	41	41	30	36	38	41	43	43	46	47	49	45	31	41	43	....	40.8
Bowman	Maximum	88	86	94	80	88	71	78	78	82	66	62	62	72	82	84	70	49	64	70	78	86	86	72	74	64	70	63	62	52	63	....	73.2
	Minimum	55	55	52	61	52	41	38	43	46	45	38	33	30	39	44	48	44	32	48	40	47	42	41	48	52	39	46	48	46	53	....	44.9
Cando	Maximum	89	81	90	90	82	73	72	70	70	75	62	59	64	83	88	78	69	68	75	77	88	82	64	74	73	62	67	63	57	60	....	73.5
	Minimum	37	59	50	57	46	52	46	49	41	42	37	34	21	45	42	52	49	30	40	37	50	47	41	46	56	54	46	39	54	47	....	44.9
Carson	Maximum	95	80	90	80	75	85	90	80	80	85	75	60	60	80	70	60	60	70	80	75	80	70	80	70	65	75	70	60	65	75	....	71.7
	Minimum	56	48	50	45	44	40	38	40	50	48	45	40	40	45	45	44	40	30	50	55	55	58	50	45	50	52	33	40	42	52	....	45.7
Crosby	Maximum	93	94	95	84	75	72	81	79	77	78	68	58	75	86	76	69	58	68	74	84	85	64	64	68	64	58	64	62	59	69	....	73.4
	Minimum	54	50	58	58	54	46	37	47	48	44	36	24	39	40	39	43	40	38	37	38	54	41	37	38	54	52	44	41	48	51	....	41.3
Devils Lake	Maximum	90	81	88	79	82	70	70	67	73	64	63	49	62	82	86	72	55	67	74	75	87	64	60	75	62	67	66	58	58	61	....	70.2
	Minimum	53	58	51	55	49	54	48	48	44	44	37	31	25	49	48	52	42	36	45	40	53	45	42	47	54	50	45	41	54	49	....	46.3
Dickinson §§	Maximum	92	86	98	82	88	71	82	77	86	76	63	60	73	84	88	55	53	68	73	80	88	64	66	72	62	70	68	55	64	64	....	71.5
	Minimum	46	48	46	56	50	45	37	50	50	40	44	34	30	42	34	40	40	33	34	36	50	44	42	47	53	46	45	42	47	48	....	43.3
Donnybrook	Maximum	97	89	99	86	80	70	82	79	80	79	78	54	72	89	92	78	60	74	77	81	71	85	84	69	80	79	68	71	65	65	....	77.8
	Minimum	49	51	56	55	47	46	41	45	45	38	36	24	27	40	44	41	40	27	41	33	45	35	36	41	35	35	53	48	32	40	....	41.0
Dunn Center §§	Maximum	92	85	98	81	82	69	82	76	82	65	62	56	72	83	89	56	56	68	75	82	76	64	64	67	60	68	69	58	63	..	....	[a]72.4
	Minimum	52	51	58	60	51	45	37	44	46	39	42	34	32	37	35	38	47	32	32	33	41	44	44	50	53	50	45	41	52	53	....	43.9
Dunseith	Maximum	85	83	92	75	82	72	80	77	78	70	62	52	62	82	87	77	66	70	73	80	87	78	66	71	70	60	67	70	63	69	....	73.2
	Minimum	52	57	64	56	60	52	44	55	48	40	37	29	44	45	41	53	46	27	29	44	51	45	44	48	54	53	50	44	51	50	....	47.1
Edgeley	Maximum	83	83	85	83	87	84	68	69	77	73	66	55	63	82	82	79	66	67	68	75	82	74	76	79	72	75	74	63	73	65	....	74.3
	Minimum	53	56	48	54	42	41	57	47	37	48	42	32	31	37	43	59	50	35	39	40	39	53	41	49	53	49	41	48	55	50	....	45.6
Ellendale	Maximum	83	84	87	85	90	72	69	69	78	67	62	51	62	81	82	75	57	66	68	75	82	79	80	79	65	78	71	63	74	62	....	73.3
	Minimum	56	57	51	51	45	53	50	45	37	49	45	36	34	39	41	56	48	37	40	44	45	47	44	61	52	48	50	63	59	54	....	47.7
Fessenden §§	Maximum	92	87	88	80	84	73	70	70	72	68	72	58	66	85	84	72	65	72	70	76	86	65	65	68	66	72	65	62	64	63	....	72.7
	Minimum	52	58	50	60	44	54	50	50	49	47	44	34	32	44	54	50	55	36	45	41	51	50	47	50	55	55	50	48	48	56	....	48.7
Foxholm	Maximum	91	84	95	80	83	70	79	72	76	69	64	53	67	82	88	71	52	69	73	82	86	72	66	63	66	67	70	65	55	59	....	72.3
	Minimum	48	52	58	52	51	46	43	45	49	39	40	24	33	48	51	47	46	32	42	36	55	46	40	44	53	53	50	37	51	53	....	45.5
Fullerton	Maximum	82	84	85	85	87	76	69	69	78	68	61	52	61	81	82	78	60	66	69	72	82	75	79	79	66	77	64	70	74	63	....	73.1
	Minimum	57	57	48	53	48	57	48	48	38	50	45	35	34	38	42	60	50	38	41	42	44	50	44	57	52	48	51	55	57	48	....	47.8
Garrison	Maximum	92	89	94	81	82	70	78	74	74	65	63	57	67	84	88	69	57	66	74	78	84	66	62	69	65	69	67	57	59	57	....	71.9
	Minimum	53	53	55	58	46	46	40	48	46	37	43	27	32	49	45	47	46	33	36	39	51	45	43	48	53	46	43	41	52	45	....	44.9
Grafton	Maximum	85	83	87	81	81	78	69	66	71	68	64	55	62	75	87	77	70	68	75	71	85	79	70	81	74	66	65	63	61	64	....	72.7
	Minimum	47	58	45	59	42	55	53	50	40	50	40	42	23	46	40	59	51	34	40	40	49	49	44	44	60	55	47	50	53	51	....	47.2
Grand Forks	Maximum	84	83	86	85	82	67	58	60	68	63	65	51	62	75	87	73	57	67	73	73	86	68	77	81	75	68	66	68	62	69	....	71.3
	Minimum	52	54	45	50	44	55	50	49	39	48	40	30	24	42	45	57	44	35	38	40	50	48	48	50	58	54	46	52	57	53	....	46.6
Granville	Maximum	93	84	97	80	85	70	80	72	77	65	65	52	67	85	91	80	67	72	76	80	87	64	68	67	66	60	68	63	58	64	....	73.5
	Minimum	49	55	51	54	46	57	43	47	40	40	40	28	32	50	42	45	40	32	42	37	54	45	43	44	43	52	48	36	54	54	....	44.8
Hansboro	Maximum	90	90	92	85	..	..	..	..	..	65	55	60	55	72	84	89	70	70	74	77	70	65	60	72	72	74	66	65	..	70	....	[f]72.6
	Minimum	43	43	44	44	..	..	..	..	..	32	28	24	15	28	45	45	35	23	27	28	40	34	35	40	35	48	42	34	..	35	....	[f]35.3
Hettinger	Maximum	92	88	94	83	91	76	79	78	85	80	64	62	72	85	89	76	50	66	71	89	86	72	72	75	68	71	69	50	58	66	....	75.3
	Minimum	57	55	58	60	54	48	39	46	48	43	45	31	33	40	40	47	47	34	35	50	46	45	47	51	52	41	46	49	45	46	....	45.9
Hillsboro	Maximum	..	84	83	81	80	79	65	70	73	70	62	60	58	78	80	80	74	65	74	74	84	79	81	78	76	71	71	64	64	67	....	[a]73.3
	Minimum	..	51	48	55	43	59	55	46	35	51	41	37	23	39	44	59	36	40	39	40	46	55	47	56	59	55	45	54	51	52	....	[a]47.0
Howard	Maximum	85	88	90	96	78	87	81	78	65	64	69	72	84	81	76	76	80	85	80	74	70	70	68	68	62	66	66	53	62	78	....	75.1
	Minimum	55	50	48	46	45	42	37	44	44	32	46	26	37	42	46	38	36	40	48	42	33	33	34	46	51	49	42	42	36	49	....	41.8
Jamestown §§	Maximum	85	79	88	85	71	74	80	78	67	64	51	66	72	85	77	55	68	72	76	79	78	69	77	64	78	68	63	72	60	65	....	72.2
	Minimum	51	56	51	52	45	46	39	42	39	40	44	34	29	40	39	46	54	35	37	40	43	41	35	37	44	55	41	47	42	55	....	43.3
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Langdon §§	Maximum	80	86	77	80	70	68	65	71	65	62	55	64	78	88	72	68	69	76	75	85	60	53	74	67	66	76	63	56	59	59	....	69.7
	Minimum	47	59	50	51	48	52	48	49	40	42	33	33	22	35	44	52	51	29	46	37	42	46	47	44	51	51	52	42	46	47	....	44.3
Larimore §§	Maximum	86	90	82	84	71	66	62	65	74	65	58	63	80	83	87	55	70	75	74	85	67	70	83	69	70	65	55	60	65	69	....	71.7
	Minimum	50	50	44	45	42	54	51	49	42	46	40	35	20	32	37	54	42	35	40	49	42	50	43	48	50	54	45	48	40	50	....	43.9
Linton	Maximum	92	88	93	88	91	86	77	81	76	66	60	68	68	86	89	80	60	68	74	78	88	79	78	75	69	78	68	61	69	69	....	76.8
	Minimum	58	55	53	57	51	53	43	46	46	46	36	34	30	40	43	51	49	33	41	37	57	50	42	60	53	47	47	52	54	51	....	47.2
Lisbon §§	Maximum	..	82	88	91	86	87	75	67	71	83	71	63	55	66	84	84	72	55	71	72	79	87	87	83	86	67	79	79	64	72	....	[a]76.1
	Minimum	55	49	45	51	42	51	47	46	31	31	47	33	22	29	45	55	51	36	39	44	42	49	47	45	53	46	46	50	52	46	....	44.2
McKinney	Maximum	..	..	..	84	85	74	81	80	80	69	65	50	69	84	92	89	60	72	76	76	84	62	66	65	71	68	71	65	66	65	....	[c]72.6
	Minimum	..	..	..	50	40	43	40	40	42	36	38	24	40	42	45	42	90	24	35	36	35	35	40	40	45	45	35	32	40	40	....	[c]38.7
Maddock	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Melville	Maximum	90	..	88	80	82	75	68	92	..	74	64	64	64	81	84	76	67	62	70	75	85	75	61	77	70	70	67	68	67	62	....	[b]74.0
	Minimum	51	..	60	60	56	53	45	47	..	47	40	28	29	49	50	47	48	35	42	34	53	47	38	45	53	53	44	43	53	52	....	[b]46.5
Minot §§	Maximum	95	87	97	82	84	70	80	75	78	67	65	55	70	88	91	65	51	72	79	85	91	61	67	63	68	68	70	62	56	62	....	73.4
	Minimum	43	43	45	47	40	42	35	38	40	32	33	20	23	35	37	40	47	22	36	28	30	40	44	50	50	51	54	45	50	45	....	39.5
Mott	Maximum	90	91	90	87	80	73	76	70	66	63	70	76	81	29	69	47	53	59	66	74	78	70	69	56	53	55	51	43	46	51	....	67.7
	Minimum	57	60	53	52	48	42	35	40	42	40	44	43	50	46	42	38	34	28	36	42	45	47	43	40	38	30	31	36	35	34	....	41.7
Napoleon §§	Maximum	91	85	91	84	89	71	73	70	80	67	65	55	65	85	86	71	54	67	75	77	83	58	76	75	67	75	67	63	70	65	....	73.4
	Minimum	53	54	48	50	45	45	42	43	40	41	39	33	27	31	45	47	48	32	34	38	50	50	41	41	50	46	41	44	48	49	....	43.4
New Salem	Maximum	95	85	96	84	89	81	82	78	84	80	79	56	71	86	88	72	69	67	70	76	85	74	72	72	57	75	70	61	67	65	....	76.2
	Minimum	55	55	56	59	47	49	49	40	41	39	43	35	30	48	55	45	46	36	38	38	53	45	42	48	45	50	42	42	52	45	....	45.5
Pembina §§	Maximum	88	82	87	82	81	72	72	66	73	64	64	50	64	74	82	81	52	58	85	75	78	75	74	84	75	69	64	63	74	78	....	73.0
	Minimum	46	50	45	49	42	43	42	41	39	43	31	33	25	27	39	41	44	34	41	33	36	37	38	37	44	45	50	43	46	46	....	40.4
Steele	Maximum	89	83	92	84	86	70	71	68	78	65	67	48	61	77	84	68	48	68	72	76	85	55	66	74	75	72	66	69	67	73	....	71.8
	Minimum	54	53	50	68	46	50	43	47	38	43	40	32	33	40	43	48	46	32	38	40	41	45	39	48	49	50	46	41	40	39	....	43.9
Towner	Maximum	95	85	97	93	85	78	78	74	78	70	72	70	57	89	92	83	64	70	74	79	73	71	79	70	67	70	70	68	68	69	....	76.0
	Minimum	50	56	56	50	44	45	46	42	46	42	38	27	23	44	42	47	49	53	55	48	52	51	40	46	53	53	46	38	53	50	....	46.2
Valley City	Maximum	84	84	85	82	82	75	66	66	74	68	61	51	60	80	82	75	65	66	76	74	83	74	76	79	72	73	63	63	66	61	....	72.3
	Minimum	56	57	62	60	59	57	49	49	44	49	42	30	25	45	49	63	51	37	47	43	53	49	45	48	58	55	46	49	55	54	....	49.8
Wahpeton	Maximum	85	87	86	88	86	85	73	73	76	77	70	62	62	79	82	80	66	68	69	75	82	85	87	86	80	76	78	73	70	68	....	77.1
	Minimum	69	60	48	56	46	62	49	46	40	56	42	36	22	42	46	60	51	42	44	44	48	60	50	62	62	50	47	50	59	55	....	50.1
Walhalla	Maximum	93	90	91	90	..	84	75	78	78	77	68	71	65	79	96	96	70	70	75	74	89	79	79	79	..	71	65	64	62	62	....	[b]77.5
	Minimum	41	61	47	60	..	39	52	49	46	48	24	34	21	47	32	55	48	31	48	39	58	48	39	58	..	54	51	45	43	49	....	[b]46.0
Westhope	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Williston	Maximum	93	86	97	80	80	71	83	77	80	64	61	56	73	85	83	63	59	71	76	85	85	59	63	67	59	67	67	62	59	60	....	72.5
	Minimum	60	53	65	52	57	48	43	49	49	41	42	27	41	43	44	45	38	34	37	46	47	43	47	49	53	50	46	43	52	55	....	46.6
Moorhead, Minn	Maximum	81	83	83	83	82	76	64	66	73	66	58	48	59	77	81	75	56	66	70	72	82	81	81	79	72	74	71	65	64	67	....	71.9
	Minimum	60	61	54	57	48	54	52	47	40	50	42	35	27	40	46	55	48	42	41	45	49	52	46	61	60	53	49	52	57	52	....	49.2

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

'ol. XXXII. Bismarck, N. D., October, 1923. No. 10

GENERAL SUMMARY.

Weather favorable for all fall work prevailed throughout the nonth, and rapid progress was made in all kinds of farm work. 'hreshing of grain, particularly flax, occupied the first and econd decades, this activity being practically finished during hose decades, except some stacked flax which was unthreshed t the end of the month. Fall plowing and the seeding of inter rye progressed during the entire month, but in each instance the total acreage was somewhat less than the average. otato digging was completed during the month with generally ir yields. Much shipping of livestock was accomplished iroughout the month. Road construction was active in all ections and the condition of the main highways was generally ood.

TEMPERATURE.

The mean temperature for the State was 44.0°, or 0.2° above e normal, and 1.7° less than the mean for October, 1922. he highest mean reported was 48.4° at Fessenden, Wells ounty; the lowest was 38.4° at Mott, Hettinger County. he highest temperature reported was 84° at Lisbon, Ransom ounty, on the 10th; the lowest was -8° at Dunseith, Rotte County, on the 30th. The greatest monthly range of temerature was 86° at Dunseith, Rolette County; the least was 4° at Fessenden, Wells County. The greatest daily range was 1° at Westhope, Bottineau County, on the 15th.

PRECIPITATION.

The average precipitation for the State was 0.88 inch, or 12 inch below the normal, and 0.31 inch greater than the verage for October, 1922. The greatest monthly amount reorted was 2.70 inches at Bowman, Bowman County; there was ut a trace at Hillsboro, Traill County. The greatest amount ecorded in any 24 consecutive hours was 1.75 inches at Donybrook, Ward County, on the 10th. The average number of ays with 0.01 inch or more of precipitation was 4. The averge depth of snowfall was 0.5 inch, the greatest fall being 5.0 iches at Hannah, Cavalier County.

AURORAS.

Auroras were observed at Foxholm on the 7th; at Bowman the 13th; Arnegard, Crosby, Devils Lake, Foxholm, McLeod d Williston on the 14th; at Arnegard, Crosby, Grand Forks, inton and Williston on the 15th; at Arnegard, Crosby, Foxolm, Howard, McLeod, Williston and Moorhead (Minn.) on e 16th; at Crosby, Howard and Williston on the 17th; at 'illiston on the 18th, and at Larimore on the 31st.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
						Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.			Average.	Highest.*	Direction.	Date.
Bismarck	30.16	30.66	24	29.34	16	57	6,331	8.5	36	s.	7
Devils Lake	30.11	30.58	24	29.28	16	44	7,008	9.4	35	n.	24
Ellendale	30.15	30.52	25	29.30	16	56	9,474	12.7	40	s.	22
Grand Forks	30.10	30.49	26	29.35	16	90	....	......	35	sw.	15
Williston	30.11	30.70	24	29.27	16	48	5,509	7.4	31	se.	7
Moorhead, Minn	30.12	30.53	29	29.38	16	58	5,166	6.9	25	sw.	16
Av'ges and extremes	30.12	30.70	24	29.27	16	.....	....	9.0	40	s.	22

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	206.2	336.9	61	+ 1	86	54	60	24	30
Devils Lake	191.8	335.6	57	+ 3	82	56	64	11	5
Ellendale	209.6	338.3	62	......	90	45	....	22	31
Grand Forks	......	......	......	......	88	.....	65	.....	....
Williston	211.5	335.6	63	+10	85	57	61	28	30
Moorhead, Minn	......	......	......	......	83	50	52	20	15
Averages and extremes	204.8	334.4	61	+ 4	86	52	60	11	5

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893...	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894...	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895...	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896...	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897...	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898...	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899...	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900...	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901...	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902...	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903...	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904...	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905...	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906...	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907...	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908...	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909...	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910...	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911...	42.5	1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912...	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913...	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914...	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915...	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916...	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917...	34.7	−9.1	82	4	0.77	−0.23	5	8	11	12	nw.
1918...	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919...	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920...	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921...	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922...	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.
1923...	44.0	+0.2	84	8	0.88	−0.12	4	14	7	10	nw.

Climatological Data for October, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	44.8	+0.5	79	9	6	29	53	0.28	−1.01	0.23	T.	2	16	13	2	n.	E. T. Carley.
Amidon	Slope		9	44.9		73	15	10	29	40	1.65		0.69	T.	4	13	10	8	nw.	Charles Eastgate.
Arnegard	McKenzie		8	43.9		73	15	13	30	40	0.52		0.39	T.	2	15	3	13	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	45.2	+1.5	75	9	11	30	37	0.76	−0.30	0.40	T.	3	18	4	9	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	43.4	−0.6	75	8	11	29†	40	0.41	−0.58	0.21	T.	2					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	45.0	+0.3	77	15	11	31	44	1.31	+0.45	0.58	0.5	5	16	5	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	45.6	+0.7	72	3	16	31	38	1.03	0.00	0.63	T.	5	14	3	14	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	43.5	+1.9	76	3	9	30	44	0.56	−0.43	0.39	0	5	17	5	9	nw.	E. C. Evenson.
Bowbells	Burke	1,958	11	45.2^{g}	+4.9	72^{g}	4	21^{g}	19	36^{g}	1.37	+0.62	1.13	0	3	22	0	9		G. H. Phelps.
Bowman	Bowman	2,961	9	43.0		70	15	8	29	40	2.70		1.50	1.2	5	10	8	13	nw.	R. Love, Jr.
Cando	Towner	1,488	22	43.6	−0.1	75	3	9	30	36	0.93	+0.21	0.38	0	6	10	8	13	ne.	A. J. Swanson.
Carson	Grant	2,500	11																	J. W. Evens.
Cooperstown	Griggs	1,428	17								0.20	−0.67	0.10	T.	2	10	16	5	nw.	S. Friswold.
Crosby	Divide	1,954	16	42.7	+1.2	74	1†	13	30†	42	0.64	−0.12	0.48	T.	3	13	10	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	26	42.8	+2.3	72	3	10	30	35	1.25	+0.02	0.49	1.4	7	13	8	10	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	43.0	−0.9	69	6	11	30	43	1.12	+0.34	0.35	0.8	6	18	6	7	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	45.8	+3.7	78	14	10	28	44	2.32	+1.34	1.75	T.	3	5	18	8	n.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	45.0^{a}	−0.6	77^{a}	4	12^{a}	31	43^{a}	1.07	+0.44	0.42	T.	4	18	2	11	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	42.0	+0.9	78	15	−8	30	50	0.47	−0.28	0.17	1.5	6	10	15	6	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	18	42.6^{b}	−0.1	76^{b}	3†	9^{b}	30	46^{b}	0.93	+0.08	0.60	T.	5	14	4	13	e.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	44.5	−1.4	79	9	7	29	42	0.45	−0.47	0.45	T.	1	12	8	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	44.9	−0.7	79	9	11	30	41	0.42	−0.62	0.24	0.2	6	14	6	11	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	44.2		78	21	11	31	48	1.26	+0.56	0.57	1.0	5	11	12	8	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	45.2		70	3	10	31	39	0.60	−0.29	0.46	T	3	7	19	5	n.	A. O. Wang.
Fessenden	Wells	1,610	11	48.4	+6.4	75	2	21	30	37	1.18	+0.40	0.40	1.5	5	17	6	8	nw.	T. D. Monsen.
Finley	Steele	1,461		44.2		72	3	11	29†	37	0.18		0.08	0.1	5	14	5	12	nw.	G. J. Mustad.
Forman	Sargent	1,249	29								0.40	−0.94	0.40	0	1	22	4	5	n.	O. Enger.
Foxholm	Ward	1,657	2	43.2		73	15	10	30	39	1.47		0.75	3.2	5	13	7	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								0.77		0.30	0.5	5	18	4	9	nw.	Verne King.
Fullerton	Dickey	1,439	25	44.9	+0.6	78	9	9	30	40	0.44	−0.85	0.30	T.	3	17	6	8	nw.	F. O. Alin.
Garrison	McLean	1,901	28	42.8	−1.0	70	3	13	30†	38	0.91	+0.01	0.33	0	4	12	8	11	nw.	Wm. H. Robinson.
Grafton	Walsh	827	31	45.9^{a}	+3.2	74^{a}	3†	13^{a}	30	39^{a}	0.72	−0.17	0.30	0	5				nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	44.2	+0.7	78	10	12	30	39	0.38	−0.78	0.12	0.8	6	12	5	14	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	16																	W. A. Christianson.
Hannah	Cavalier	1,568	29								1.14	+0.18	0.32	5.0	5					J. Moffatt.
Hansboro	Towner	1,597	15																	C. E. Blackorby.
Hettinger	Adams	2,675	16	43.3	−3.1	73	22	11	29	45	1.69	+1.05	0.72	T.	9	13	4	14	nw.	C. J. Downey.
Hillsboro	Traill	901	17	46.0^{c}	0.0	75^{c}	10	11^{c}	29†	38^{c}	T.	−1.02	T.	0	0	17	8	6	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	42.8	+1.4	71	16	15	25†	41	0.32	−0.49	0.18	T.	4	14	5	12	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	45.0	+0.2	73	1	13	31	47	0.77	−0.16	0.60	0	3	15	3	13	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	43.0^{b}	−0.1	71^{b}	3†	9^{b}	30	49^{b}	0.76	+0.18		T.	2				nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	42.0	+1.6	73	1	10	31	49	1.04	+0.10	0.38	2.0	5	19	5	7	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	43.9	+0.6	79	2	10	30	40	0.15	−1.08	0.12	0	2	10	6	15	n.	Reuben Gray.
Linton	Emmons	1,711	5	46.0		78	9	8	31	44	0.81		0.33	T.	7	16	3	12	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	42.0	−3.3	84	10	9	30	46	0.28	−0.74	0.28	T.	1	17	5	9	nw.	W. S. Adams.
McClusky	Sheridan	1,943	5	43.6		71	3	10	30	40	0.98		0.55	2.0	5	12	9	10	nw.	Edw. Tapley.
McHenry	Foster	1,509	12	43.6	+1.3	73	15	10	30	41	0.95	+0.04	0.34	1.5	5	17	2	12	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	43.2	+1.3	75	15	15	29	42	1.85	+1.01		1.0	4	11	9	11	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	45.8	+0.3	80	10	7	30	41	0.63	−0.43	0.46	0.3	4	19	4	8	sw.	J. G. Carlson.
Maddock	Benson	1,604	8	44.2		73	3	10	30	42	0.84		0.36	0	5	12	8	11	nw.	A. T. Felland.
Mandan	Morton	1,644	9	45.2		71	3†	14	31	39	0.55		0.25	0.1	5	20	3	8	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	42.6	−0.7	70	22	8	30	36	0.80	−0.01	0.27	1.0	5	20	3	8	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14																	E. C. Niceum.
Mayville	Traill	975	27																	M. G. Sateren.
Melville	Foster	1,590	25	43.0	−0.6	72	3	10	30	37	0.35	−0.52	0.15	T.	3	9	11	11	nw.	J. P. Kidder.
Minot	Ward	1,557	27	46.2	+2.6	75	4	9	30	38	1.52	+0.58	0.75	1.0	4	11	10	10	w.	W. I. Faris.
Minto	Walsh	820	30	44.4	+1.2	74	2†	11	30	50	1.18	+0.08	0.75	T.	5	16	5	10	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	38.4	−4.6	71	3	7	29	31	0.44	−0.65	0.29	0.2	3	9	11	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	43.3	+1.4	77	9	8	30†	49	0.67	−0.27	0.23	T.	5	17	2	12	w.	C. J. Hoof.
New England	Hettinger	2,400	29	42.0	−1.7	68	16†	11	29†	37	1.62	+0.97	0.70	1.0	6	13	7	11	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	44.4	+0.1	70	3†	12	29	40	1.16	+0.21	0.30	0	6	13	11	7	nw.	J. Christiansen.
Park River	Walsh	998	19	44.0	−0.3	73	3†	12	30	42	0.75	−0.36	0.40	T.	3	14	3	14	nw.	C. B. Wright.
Parshall ††	Mountrail		8								1.49		0.62	0	5					J. A. Johnson.
Pembina	Pembina	789	49	40.0	−0.9	78	1†	10	29	47	0.80	−0.54	0.45	0	2	12	1	18	n	C. W. Shumaker.
Pettibone	Kidder	1,856	14	42.6	+1.4	72	2†	4	30†	46	1.40	+0.75	0.60	0.2	5	20	2	9	ne.	S. C. Shanks.
Power	Richland	1,020	29																	J. A. Power.
Powers Lake	Burke	2,205	9								0.65	−0.17	0.35	1.0	3	7	12	12	nw.	C. Frank.
Richardton	Stark	2,467	7	44.8		73	15	13	30	40	1.32		0.38	0.5	6	13	8	10	nw.	Geo. Keim.
Skaar	McKenzie		3																	Conrad Brunsvold.
Stanton	Mercer	1,722									0.77		0.46	0.5	4	18	5	8	nw.	J. H. Giffey.
Steele	Kidder	1,857	27	42.6	−1.4	73	4	9	30	43	1.69	+0.81		T.	4	17	10	4	se.	H. S. Wood.
Towner	McHenry	1,482	21	45.0	+2.6	76	15	9	30	45	0.53	−0.37	0.25	0.5	4	20	9	2	sw.	B. Bagley.
Turtle Lake	McLean	1,899	8	43.8		69	3†	10	30	42	1.08		0.49	1.5	7	9	9	13	sw.	A. T. Anderson.
Valley City	Barnes	1,245	18	44.8	−0.4	75	10	10	30	37	0.06	−0.77	0.03	0.1	2	15	9	7	nw.	H. Twito.
Wahpeton	Richland	962	29	48.2	+2.3	80	9	10	30	39	0.76	−0.75	0.36	0	3	21	0	10	nw.	C. G. Luick.
Walhalla	Pembina	966	19	46.3	+3.3	80	15	10	30	46	0.87	−0.16	0.33	1.8	7	15	5	11	nw.	T. R. Johnson.
Washburn	McLean	1,731	22								0.66	−0.28	0.28	0.5	5					Karl Klein
Westhope	Bottineau	1,508	17	44.4	+3.0	80	15	10	30	61	1.25	+0.58	0.98	T.	4	20	3	8	n.	W. A. Meddaugh.
Williston	Williams	1,875	44	44.7	+1.3	71	15	15	30	34	0.79	+0.02	0.63	T.	4	10	11	10	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	42.0^{a}	+0.3	75^{a}	3†	4^{a}	30	46^{a}	0.70	0.00	0.30	4.0	7	7	15	9	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	45.2	+0.7	78	10	13	30	36	0.32	−1.75	0.15	0.2	6	12	5	14	nw.	U. S. Weather Bureau.
Averages				44.0	+0.2	84	10	−8	30	61	0.88	−0.12	1.75	0.5	4	14	7	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D. McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for October, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red										.23	.05	T.			T.															T.		0.28
Amidon	Lit Missouri	.69						T		.49	.14	.33					T.		T.	T.						T.	T.		T.				1.65
Arnegard	Missouri									T.	.39	.13													T.								0.52
Ashley	Missouri	.15								.21	T.														.40			T.					0.76
Beach	Lit. Missouri									.21		.20														T.		T.					0.41
Berthold Agency	Missouri								.03	.58	.44	.20	T				T.	T.								.06			T.				1.31
Bismarck ***	Missouri	.57						.07	T.	.17	.03	.19	T.													T.		T.	T.	T.			1.03
Bottineau	Mouse								.01		.39	.12	.02																.02				0.56
Bowbells ‖‖	Mouse											1.13	.15							.09													1.37
Bowman	Grand	1.50						T.		.85	.10	.20														.05							2.70
Cando	Devils Lake								.05	.38	.08	.12	.28													.02							0.93
Carson	Heart																																......
Cooperstown	Sheyenne									.10		.10														T.			T.				0.20
Crosby	Mouse										.48	.08					.08		T.										T.				0.64
Devils Lake ***	Devils Lake								T.	.46	.40	.19	.05				.02								T	.07		T.	.06	T.			1.25
Dickinson‖‖	Heart	.35						T.	.08	.15	.24	T.	.23												T		.07		T.	T.			1.12
Donnybrook	Mouse										1.75	.55	T.						.02							T.	T		T.				2.32
Dunn Center ‖‖	Knife								.16	.29	.42	.20														T.							1.07
Dunseith	Mouse								.04		.03	.08	.17																.10	.05			0.47
Eckman	Mouse								.03	T.	.60	.19	.03															.08	T.				0.93
Edgeley	James										.45						T.												T.				0.45
Ellendale***	James								T	T.	.03	.22					T.	.03							.11	.02		.01	T.	T.			0.42
Energy	Missouri								.16	.57	.24	.25														.04							1.26
Epping	Missouri								.04		.46	.10					T.									T.	T.		T.				0.60
Fessenden	James								.20	.33		.13	.40													.12							1.18
Finley	Red	.02										.02	.04				.08									.02			T.	T.			0.18
Forman	Sheyenne											.40																					0.40
Foxholm	Mouse								.07	.12	.75	.32	T.													T.		T.	.21				1.47
Fryburg	Heart	.30	T.					T.		.16	.12	.14	T.					T.							.05	T.							0.77
Fullerton	James											.30					.07	T.							.07			T.	T.	T.			0.44
Garrison	Missouri								.16	.28	.33	.14														T.		T.					0.91
Grafton	Red									.30			.22	.04			.09												.07				0.72
Grand Forks ***	Red	T.								T.		.12	.06				.12									.01			.05	.02			0.38
Granville	Mouse																																......
Hannah	Pembina						.21					.32	.11														.20		.30				1.14
Hansboro	Devils Lake																																......
Hettinger	Grand	.72	.16					.22	.01	.03	.24	.23	.06				T.	.02	T.							T.	T.						1.69
Hillsboro	Red	T.										T.																					T.
Howard	Missouri								.04		.18	.09					.01	T								T.			T.	T.			0.32
Jamestown	James									.12		.60	.05									T.											0.77
Lamoine	Missouri								T.		T.	*	.76													T.				T.			0.76
Langdon	Pembina										.38	.09	.37													.10			.10				1.04
Larimore	Red									.12							.03																0.15
Linton	Missouri	.13							.08	.04	.02	.33	.10												.11				T.				0.81
Lisbon ‖‖	Sheyenne										T.	.28																		T.			0.28
McClusky	Missouri								T.	.55	T.	.15	.10													.08			T.	.10			0.98
McHenry	James									.34	.28	.10					.03								T.	.20			T.				0.95
McKinney	Mouse										*	*	1.75															T.	.10	T.			1.85
McLeod	Sheyenne								.08			.46	T.				.06											T.	T.	.03			0.63
Maddock	Sheyenne								.12	.36		.10	.23													.03							0.84
Mandan‖‖	Missouri	.01	T.						.09	.25	T.	T.	.19														.01			T.			0.55
Manfred	James								.16	.27	T.	.09	.18													.10			T.				0.80
Marmarth	Lit. Missouri																																......
Mayville	Red																																......
Melville	James								T.	.10		.10	.15				T.									T.			T.				0.35
Minot	Mouse									.37	.75	.30																	.10				1.52
Minto	Red	.08								.75	.03		.12				.20								T.				T.				1.18
Mott	Cannon Ball								.12	.29	T.															.03			T.				0.44
Napoleon ‖‖	Missouri	.05						.20	.23			.04	.15																T.				0.67
New England	Cannon Ball	.30						T.	.12	.70	.20	.20															.10						1.62
New Salem	Heart	.26							.26	.30	.04	.22	.08																				1.16
Park River	Red									.40			.28				.07									T.			T.				0.75
Parshall	Missouri								.02	.62	.45	.15						T.								.25							1.49
Pembina ‖‖	Red										.45	T.	.35														T.						0.80
Pettibone	James								.40	.60		.20	.18													.02							1.40
Power	Sheyenne								.37																				T.	T.			0.37
Powers Lake	Missouri									.35	T.	.20	T.					T.	T.										.10	T.			0.65
Richardton	Heart	.28							.11	.32	.38	.18														.05							1.32
Skaar	Yellowstone																																......
Stanton	Missouri							.14		.46	T.	.15							T.							.02							0.77
Steele	Missouri								.22	*	*	1.47													T.	T.		T.	T.				1.69
Towner	Mouse									.25		.11	.12													.05				T.			0.53
Turtle Lake	Missouri								.20	.49	.03	.12	.16													.06			.02				1.08
Valley City	Sheyenne	T.										.03	.03				T.												T.				0.06
Wahpeton	Red								.36			.10					.30																0.76
Walhalla	Pembina									.33	.03	T.	.30				.04									.10			.02	.05			0.87
Washburn	Missouri								.12	.28	.05	.16														.05							0.66
Westhope	Mouse										.98	.17														.03				.07			1.25
Williston ***	Missouri							.06		.01	.63	.09					T.		T.									T.	T.				0.79
Willow City	Mouse								.05	.06	.03	.08	.08													.10			.30				0.70
Moorhead, Minn ***	Red								.02		.02	.07	.04				.15	T.								T.			.02	T.			0.32

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	76	74	56	67	69	62	70	76	79	65	53	57	57	74	70	65	67	68	64	64	62	70	68	68	56	40	40	38	28	16	41	60.0
	Minimum ...	36	38	31	26	28	26	30	45	46	46	42	28	21	32	31	40	44	25	27	26	21	28	32	28	30	30	23	22	6	9	11	29.5
Arnegard	Maximum...	65	70	71	67	62	70	60	70	64	55	52	43	55	68	73	59	48	54	53	68	70	52	46	35	34	38	39	37	36	42	52	55.1
	Minimum ...	53	45	43	42	37	40	45	51	47	49	42	29	25	28	36	36	36	30	23	30	34	42	27	19	19	19	19	20	17	13	17	32.7
Ashley	Maximum...	65	70	68	65	65	65	65	60	75	66	60	50	58	60	70	66	60	63	43	52	61	67	62	56	40	40	40	36	30	41	49	57.0
	Minimum ...	50	49	45	40	29	30	42	46	54	55	50	40	25	25	36	45	42	26	25	20	27	30	38	32	25	20	22	25	16	11	13	33.3
Beach	Maximum...	59	67	68	69	70	70	58	75	60	56	52	47	42	71	55	50	51	45	47	54	62	72	58	37	38	36	41	36	30	41	51	53.9
	Minimum ...	47	40	40	39	42	43	46	48	45	51	40	34	33	40	34	35	30	31	27	21	34	33	32	31	22	21	18	27	11	12	11	32.8
Berthold Agency	Maximum...	68	71	74	67	68	69	67	63	58	56	55	45	55	71	77	65	56	54	46	55	69	69	60	47	37	43	44	38	29	44	54	57.2
	Minimum ...	52	38	36	36	34	37	45	52	51	51	42	37	22	27	38	38	36	21	26	22	31	33	36	33	20	24	25	24	20	15	11	32.8
Bismarck	Maximum...	68	69	72	66	66	67	68	58	63	59	58	47	56	66	72	66	58	53	44	53	65	69	63	15	35	41	44	37	32	44	53	56.7
	Minimum ...	53	48	41	42	31	38	46	51	54	53	42	30	28	28	39	46	37	31	27	26	30	38	41	35	21	18	19	22	20	17	16	34.5
Bottineau §§	Maximum...	71	72	76	68	69	67	70	59	66	60	56	41	53	62	75	66	56	48	46	51	65	69	62	47	38	41	46	41	22	37	52	56.6
	Minimum ...	53	39	39	40	33	36	39	41	48	49	41	35	24	25	31	37	29	21	20	25	26	35	33	32	22	26	19	13	13	9	11	30.4
Bowbells §§	Maximum...	58	70	72	72	66	67	52	54	66	51	49	49	36	52	63	66	41	42	51	35	43	62	69	46	..	..	..	..	..	..	..	[g]55.5
	Minimum ...	48	39	42	36	34	33	34	37	45	41	46	35	26	28	40	40	34	26	21	23	24	40	38	31	..	..	..	..	..	..	..	[g]35.0
Bowman	Maximum...	58	62	64	64	68	66	54	58	54	67	53	44	56	64	70	60	52	68	46	50	64	71	53	38	37	33	39	37	30	39	51	53.9
	Minimum ...	48	42	40	38	36	40	45	48	52	53	38	31	26	29	35	37	35	28	30	19	28	32	38	30	20	22	19	21	8	11	16	32.2
Cando	Maximum...	68	68	75	64	65	65	70	59	58	59	59	56	53	58	72	64	56	49	43	53	64	66	63	49	37	34	41	35	20	36	48	55.2
	Minimum ...	51	40	38	32	32	28	34	46	50	50	50	37	30	25	36	45	37	23	22	20	29	31	38	32	26	29	21	20	14	9	13	31.9
Carson	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Crosby	Maximum...	74	73	74	70	69	68	69	69	63	58	52	42	48	62	70	58	43	54	44	51	64	74	49	41	38	38	42	34	28	42	50	55.3
	Minimum ...	49	38	39	37	37	37	41	39	40	40	42	30	24	28	28	33	32	30	24	20	30	36	31	27	15	20	19	19	15	13	13	30.1
Devils Lake	Maximum...	66	69	72	61	64	64	69	54	56	62	58	44	52	58	72	63	54	47	42	52	56	67	61	38	32	36	42	33	21	36	49	53.3
	Minimum ...	48	41	41	34	29	32	39	47	49	52	40	35	30	30	41	47	34	24	23	20	32	33	38	31	26	26	26	13	13	10	15	32.2
Dickinson §§	Maximum...	61	65	68	65	67	69	60	63	55	55	55	45	55	68	64	61	55	55	56	51	63	68	49	40	38	35	42	31	32	42	53	54.4
	Minimum ...	52	39	38	37	35	35	42	48	50	52	48	34	26	25	31	36	33	26	24	24	25	26	36	28	22	25	22	23	13	11	14	31.6
Donnybrook	Maximum...	59	70	74	70	73	73	70	65	65	68	65	59	68	78	73	65	49	54	49	59	70	71	70	56	41	41	40	35	40	45	50	60.2
	Minimum ...	49	37	40	40	30	33	33	37	38	40	39	34	24	38	38	39	30	28	23	26	46	42	38	27	19	20	22	10	17	24	16	31.5
Dunn Center §§	Maximum...	64	68	72	77	68	69	63	64	58	55	55	46	54	68	74	60	..	54	46	62	68	67	55	45	35	39	43	39	30	45	53	[a]56.5
	Minimum ...	40	43	40	38	32	37	56	53	51	52	43	38	25	25	32	37	..	29	25	20	26	29	38	33	19	34	21	22	18	23	12	[a]33.4
Dunseith	Maximum...	68	70	73	68	65	67	75	67	64	60	58	43	51	60	78	66	59	46	40	56	65	70	58	48	39	37	47	37	25	40	50	56.5
	Minimum ...	43	40	40	40	27	30	41	45	48	50	41	31	23	23	31	40	30	17	21	26	24	35	35	10	12	25	13	12	0	−8	0	27.5
Edgeley	Maximum...	67	70	72	64	65	67	67	62	79	74	62	51	59	59	68	69	63	55	47	53	61	66	64	53	36	43	43	39	30	44	53	55.3
	Minimum ...	46	39	40	32	25	25	35	48	52	48	52	38	23	23	33	46	42	25	23	20	25	31	37	34	27	17	15	22	7	9	14	30.7
Ellendale	Maximum...	69	69	71	64	65	68	67	64	79	75	60	50	58	58	68	69	63	54	45	51	60	66	63	45	36	41	38	39	30	43	52	57.4
	Minimum ...	46	44	43	35	28	27	42	49	57	52	44	30	24	26	34	48	35	28	25	22	19	36	41	35	24	21	24	23	14	11	17	32.4
Fessenden §§	Maximum...	68	75	66	65	64	62	60	62	62	60	60	57	61	62	58	47	55	53	56	63	60	58	51	50	52	49	49	47	45	52	55	57.6
	Minimum ...	55	48	49	41	42	40	46	47	46	57	55	54	37	35	37	35	30	30	32	26	40	39	40	40	37	34	32	35	30	21	24	39.2
Foxholm	Maximum...	67	68	71	64	65	66	69	62	59	56	52	43	50	66	73	61	53	51	45	51	64	69	57	44	36	40	43	36	23	41	48	51.6
	Minimum ...	48	37	41	34	34	31	32	49	48	46	41	33	28	27	40	43	38	26	22	28	32	37	41	31	20	23	21	18	15	10	16	31.9
Fullerton	Maximum...	69	68	71	64	63	67	68	62	78	76	68	55	58	57	67	67	63	54	44	50	58	66	62	52	37	42	40	39	29	42	51	57.6
	Minimum ...	45	40	40	36	28	27	38	49	53	50	48	35	24	25	35	47	44	27	28	19	26	33	38	37	29	21	23	24	12	9	14	32.2
Garrison	Maximum...	59	67	70	67	67	66	68	66	63	56	57	42	53	65	69	65	53	54	42	53	65	67	55	44	32	41	41	33	27	42	49	54.9
	Minimum ...	44	38	36	39	31	33	38	38	37	46	41	35	25	27	37	38	35	27	23	24	30	32	36	31	21	19	21	23	18	13	13	30.6
Grafton	Maximum...	70	73	74	70	67	65	71	61	57	71	69	55	54	54	74	60	60	50	45	51	64	69	70	48	40	41	47	40	25	36	..	[a]57.7
	Minimum ...	51	39	40	32	31	31	34	44	50	52	53	40	32	23	35	48	40	27	25	22	25	31	40	34	37	35	26	21	17	13	..	[a]34.1
Grand Forks	Maximum...	68	71	73	61	64	66	67	58	60	78	65	47	57	52	73	62	62	48	45	47	60	69	66	45	39	38	45	34	28	37	52	56.0
	Minimum ...	43	37	41	30	30	31	40	40	54	53	46	37	26	22	38	47	40	24	22	19	24	33	43	31	31	32	29	20	17	12	13	32.5
Granville	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hansboro	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Hettinger	Maximum...	51	63	66	66	68	68	59	59	58	58	53	46	58	68	69	63	57	58	47	51	50	73	61	51	38	36	41	36	34	36	54	54.7
	Minimum ...	47	42	39	37	38	42	47	51	51	27	40	35	25	29	31	40	37	30	27	21	20	28	21	31	28	23	20	24	11	16	28	31.9
Hillsboro	Maximum...	74	70	72	70	61	66	65	64	70	75	71	58	55	..	70	65	61	50	45	47	60	56	64	63	..	..	44	34	26	38	50	[c]58.6
	Minimum ...	36	36	40	32	27	29	36	41	50	50	56	40	21	..	34	49	43	22	24	21	22	31	40	35	..	..	26	25	11	11	44	[c]33.3
Howard	Maximum...	66	68	69	69	67	69	67	69	62	52	50	41	49	66	79	71	54	55	45	62	62	70	40	45	36	40	42	35	37	41	40	55.4
	Minimum ...	42	40	49	38	36	38	38	41	40	44	41	25	25	29	35	34	32	27	24	21	22	37	39	24	15	15	15	17	15	19	17	30.1
Jamestown §§	Maximum...	73	71	62	67	68	69	68	69	73	63	50	57	59	71	67	61	63	41	62	63	68	70	49	38	42	46	37	30	43	53	58	58.4
	Minimum ...	46	42	39	37	29	29	29	41	48	47	50	40	29	25	26	34	45	30	27	21	21	37	33	36	28	26	22	20	19	14	13	31.7
Lamoine	Maximum...	..	..	71	62	67	65	67	68	61	67	61	56	55	60	60	70	60	52	50	51	62	71	61	60	50	40	43	42	40	42	51	[b]57.4
	Minimum ...	..	..	37	34	30	32	30	30	48	52	48	38	23	23	34	35	39	23	23	18	25	22	37	35	22	16	18	18	16	9	12	[b]28.5
Langdon §§	Maximum...	73	71	60	66	65	72	68	54	58	57	49	54	50	70	63	57	46	41	51	67	65	64	44	37	37	43	25	27	32	44	45	53.2
	Minimum ...	51	39	38	31	30	34	36	43	49	47	49	35	29	21	28	31	35	22	20	18	26	34	41	30	26	26	22	25	15	16	10	30.8
Larimore §§	Maximum...	69	79	75	69	65	70	60	60	58	73	65	57	60	55	75	65	62	50	52	51	52	58	67	35	35	45	41	25	30	33	51	56.2
	Minimum ...	50	40	40	30	29	30	35	37	43	45	53	45	22	19	44	46	45	22	24	21	24	20	35	30	23	27	23	20	15	10	22	31.6
Linton	Maximum...	69	70	72	68	70	69	67	61	78	73	60	51	60	63	72	70	61	55	47	54	62	65	63	55	38	40	44	34	32	45	52	58.7
	Minimum ...	52	40	34	42	32	38	44	50	58	54	50	37	23	22	36	45	43	24	24	17	21	37	40	34	27	21	21	25	20	10	8	33.2
Lisbon §§	Maximum...	73	74	72	68	64	74	72	64	82	84	79	68	50	52	41	40	46	45	42	40	50	56	48	36	40	42	50	38	30	41	51	55.3
	Minimum ...	39	37	34	38	22	28	42	36	46	48	56	49	42	26	28	24	23	20	23	21	15	16	28	26	29	23	17	19	15	9	10	28.6
McKinney	Maximum...	68	70	72	65	67	65	70	63	60	60	60	50	52	65	75	65	55	45	55	70	70	60	45	42	40	43	45	40	30	60	46	57.2
	Minimum ...	49	42	35	33	32	30	29	45	40	40	40	34	27	32	32	36	24	20	23	28	28	32	23	20	18	18	19	20	15	25	22	29.1
Maddock	Maximum...	64	69	73	70	64	63	69	65	57	61	60	52	54	59	72	71	64	50	45	53	59	70	67	49	45	28	45	44	27	40	51	57.0
	Minimum ...	50	38	35	34	28	30	34	46	48	51	49	37	28	27	38	44	40	22	22	19	28	28	37	32	26	27	21	22	15	10	12	31.5
Melville	Maximum...	60	68	72	63	64	65	68	67	60	68	64	50	52	58	57	65	55	50	49	35	50	68	65	51	42	42	42	35	23	42	40	51.6
	Minimum ...	43	37	38	32	31	33	33	35	51	50	48	37	26	26	34	45	42	23	23	20	30	31	37	33	25	23	21	23	15	10	15	31.3
Minot §§	Maximum...	70	70	74	75	68	68	72	62	68	68	55	48	54	68	71	68	57	55	45	55	68	68	51	45	49	41	46	35	35	26	53	57.9
	Minimum ...	57	53	55	51	35	30	35	40	45	43	40	40	38	31	35	35	38	25	23	26	32	34	44	35	26	34	32	17	15	9	15	34.5
Mott	Maximum...	60	62	71	70	68	62	57	58	54	53	48	50	60	63	55	50	45	40	37	42	45	45	40	38	32	38	29	27	18	21	28	47.1
	Minimum ...	35	37	40	43	46	45	43	45	44	41	26	27	32	38	37	33	29	27	28	18	22	25	22	29	23	27	23	13	7	8	12	29.7
Napoleon §§	Maximum...	68	70	71	66	67	67	61	68	77	70	60	47	57	61	73	68	65	54	46	51	68	70	71	36	37	43	45	35	30	43	51	57.9
	Minimum ...	45	36	34	35	24	26	43	46	45	49	48	36	22	20	30	40	38	20	21	15	19	35	37	35	20	15	15	16	10	8	8	28.7
New Salem	Maximum...	65	51	70	65	57	68	65	62	59	55	62	54	58	66	68	67	60	56	56	50	65	70	60	52	48	45	41	40	32	42	52	56.7
	Minimum ...	51	41	40	40	30	31	40	40	50	51	43	32	26	28	42	40	36	28	28	24	39	30	32	30	25	16	19	23	12	13	15	32.1
Pembina §§	Maximum...	78	76	78	72	64	68	65	70	71	55	61	56	51	52	47	52	53	53	47	48	42	50	40	52	53	40	35	38	37	43	41	51.1
	Minimum ...	46	34	38	25	26	29	30	32	31	45	48	38	21	26	25	23	31	28	21	23	18	25	20	18	15	17	16	14	10	18	20	26.0
Steele	Maximum...	69	64	72	73	71	69	67	68	71	68	61	56	56	59	69	65	61	51	41	51	53	69	62	39	[illegible]	41	35	33	39	33	38	55.6
	Minimum ...	39	42	36	32	28	36	32	39	32	32	50	48	29	22	55	45	35	23	25	19	25	25	39	31	22	18	19	11	11	9	10	29.7
Towner	Maximum...	71	72	75	72	72	61	72	62	58	58	58	45	54	63	76	66	57	52	57	55	67	74	62	49	39	49	46	39	22	32	53	57.2
	Minimum ...	52	46	48	50	27	31	38	47	47	49	44	38	26	24	48	39	38	31	26	21	27	37	35	34	29	22	19	21	16	9	16	32.7
Valley City	Maximum...	64	68	71	69	61	62	66	56	71	75	67	54	53	55	69	61	63	51	42	45	59	70	65	45	31	38	40	35	26	39	49	55.9
	Minimum ...	45	38	38	36	33	35	49	46	48	51	53	41	28	24	40	48	46	22	25	17	27	40	47	33	30	30	22	25	14	10	12	33.7
Wahpeton	Maximum...	71	73	74	71	68	67	68	66	80	79	74	62	58	56	71	66	67	63	58	58	69	68	69	65	48	42	41	42	38	42	[illegible]	[illegible]
	Minimum ...	37	38	37	33	30	35	48	46	50	55	59	44	29	29	40	51	45	28	24	22	21	45	45	31	31	35	23	22	19	10	12	34.6
Walhalla	Maximum...	70	74	73	72	68	74	76	78	67	60	61	58	53	58	80	74	69	54	46	53	65	66	67	61	45	37	47	44	30	37	54	61.4
	Minimum ...	52	36	40	26	26	33	34	36	49	43	50	42	33	22	44	47	43	26	22	19	29	31	40	30	28	28	27	20	15	10	18	32.2
Westhope	Maximum...	70	76	77	76	76	78	70	68	68	65	65	64	63	70	80	60	57	63	53	64	70	74	63	61	30	51	32	32	26	26	60	60.9
	Minimum ...	34	35	33	31	28	30	35	35	35	45	42	34	30	23	19	34	36	23	20	21	35	32	33	20	19	24	15	19	15	11	14	27.7
Williston	Maximum...	68	70	71	67	68	69	62	69	66	54	52	43	53	67	71	59	49	54	47	53	69	69	48	41	36	35	42	41	28	45	51	55.1
	Minimum ...	54	43	43	45	40	41	46	50	47	50	42	25	28	35	41	39	35	33	28	23	35	39	38	24	19	22	22	20	18	15	18	34.0
Moorhead, Minn	Maximum...	68	69	71	61	63	65	67	57	77	78	61	51	51	54	71	62	63	50	43	45	58	67	63	44	37	40	40	37	27	28	40	55.1
	Minimum ...	42	39	40	35	34	36	45	47	54	54	54	36	34	25	37	50	41	29	24	22	22	34	41	35	31	33	28	22	14	13	14	34.2

§§ Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

ol. XXXII. Bismarck, N. D., November, 1923. No. 11

GENERAL SUMMARY.

Exceptionally favorable weather for farm and other outdoor ork prevailed throughout the State during the month. The emperature, with but a single exception (1917) was the highst of record for the State for the month. Late threshing and all plowing were generally completed during the month, and auch progress was made in corn husking. Livestock ranged reely on ranges and harvested fields, and at the close of the nonth were in fine condition.

TEMPERATURE.

The mean temperature for the State was 36.5°, or 9.9° above e normal, and 4.7° higher than the mean for November, 1922. he highest mean reported was 48.4° at Carson, Grant ounty; the lowest was 29.2° at Bowbells, Burke County. he highest temperature reported was 72° at Westhope, Bottieau County, on the 5th and 8th; the lowest was -5° at Eping, Williams County, on the 30th. The greatest monthly range f temperature was 69° at Eckman, Bottineau County; the least as 45° at Carson, Grant County. The greatest daily range was 4° at Grand Forks, Grand Forks County, on the 8th.

PRECIPITATION.

The average precipitation for the State was 0.50 inch, or .08 inch below the normal, and 1.83 inches less than the verage for November, 1922. The greatest monthly amount reorted was 1.42 inches at Lisbon, Ransom County; the least was .04 inch at Bowman, Bowman County. The greatest amount ecorded in any 24 consecutive hours was 0.78 inch at Lisbon, ansom County, on the 12th. The average snowfall was 0.6 ch. The average number of days with 0.01 inch or more of recipitation was 3.

AURORAS.

Auroras were observed at Crosby and Foxholm on the 2d; at oxholm on the 3d; at Foxholm and Howard on the 8th; at ew England on the 16th, 21st and 27th; at Eckman and oward on the 28th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.05	30.52	16	29.55	24	57	5,774	8.0	35	nw.	25
Devils Lake	29.99	30.39	16	29.44	20	44	6,610	9.2	32	nw.	25
Ellendale	30.02	30.43	16	29.50	24	56	9,122	12.3	46	nw.	25
Grand Forks	29.96	30.34	16	29.44	25	90	....	......	30	nw.	22†
Williston	30.00	30.47	16	29.49	24	48	5,123	7.1	34	w.	24
Moorhead, Minn	30.01	30.39	16	29.47	20	58	3,711	5.2	27	nw.	28
Av'ges and extremes	30.00	30.52	16	29.44	20†	.....	....	8.4	46	nw.	25

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	181.8	281.1	65	+12	84	59	63	31	17
Devils Lake	146.8	278.2	53	+ 6	81	65	72	33	11
Ellendale	158.4	284.1	56	......	85	55	....	27	10
Grand Forks	......	......	......	......	91	......	79	......	....
Williston	170.0	278.2	61	+15	84	59	63	85	6†
Moorhead, Minn	151.8	281.1	54	+ 1	78	64	66	38	11
Averages and extremes	161.8	280.5	58	+ 8	84	60	69	27	10

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1891	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901	26.8	+.02	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911	16.7	9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918	28.9	+2.3	71	18	1.04	+0.46	4	13	6	11	nw.
1919	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921	21.0	−5.6	69	−30	0.68	+0.10	5	7	8	15	nw.
1922	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.
1923	36.5	+9.9	72	− 5	0.50	−0.08	3	13	8	9	nw.

Climatological Data for November, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	33.7	+6.4	62	19	6	21	46	0.28	−0.26	0.20	2.0	2	22	6	2	n.	E. T. Carley.
Amidon	Slope		9	39.4		61	2†	12	21	36	0.20		0.18	0.2	2	13	14	3	w.	Charles Eastgate.
Arnegard	McKenzie		8	38.0		64	8	10	21	34	0.22		0.10		3	18	8	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	37.8^{b}	+10.1	62^{b}	2†	5^{b}	27	35^{b}	0.27	−0.27	0.22	0	2	20	5	5	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	36.2	+4.8	63	10	4	29	36	0.78	+0.24	0.48	3.0	2					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	38.2	+9.4	64	8	8	27	42	0.34	−0.14	0.14	0.3	3	17	8	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	38.8	+10.3	63	2	8	27	36	0.29	−0.39	0.16	T.	4	10	8	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	33.4	+9.8	64	5	2	27	44	0.27	−0.27	0.17	0	3	10	12	8	nw.	E. C. Evenson.
Bowbells	Burke	1,958	11	29.2	+4.4	62	5†	4	26	46	0.23	−0.28	0.19	0	2	21	0	9		G. H. Phelps.
Bowman	Bowman	2,961	9	36.8		60	2†	12	27	37	0.04		0.02	T.	2	16	8	6	nw.	R. Love, Jr.
Cando	Towner	1,488	22	35.7^{b}	+9.2	61^{b}	5	3^{b}	27	39^{b}	0.52	+0.01	0.29	0	3				nw.	A. J. Swanson.
Carson	Grant	2,500	11	43.4	+12.7	65	29	20	26	29	0.55	−0.01	0.50	T.	2	15	11	4	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17								0.70	+0.16	0.40	T.	2	18	5	7	nw.	S. Friswold.
Crosby	Divide	1,954	16	35.8	+8.0	64	6	10	21†	39	0.68	−0.08	0.32	2.5	4	11	13	6	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	35.6	+13.0	61	8	9	27	36	0.47	−0.24	0.26	0.2	6	12	6	12	sw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	36.7	+8.1	62	8	12	21	43	0.31	−0.17	0.15	0	5	19	6	5	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24	39.4^{c}	+10.6	65^{c}	8	2^{c}	27	40^{c}	0.24	−0.35	0.12	0	3				nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	38.2	+9.8	63	8	11	21†	44	0.30	−0.32	0.20	0	2	11	6	10	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27																	J. G. Lamont.
Eckman	Bottineau	1,500	18	36.8^{c}	+10.5	63^{c}	9	−1^{c}	27	47^{c}	0.19	−0.35	0.10	T.	3	18	7	5	w.	J. Nussbaum.
Edgeley	LaMoure	1,468	22	38.2	+7.8	67	9	9	21	44	0.46	+0.12	0.42	0	2	7	14	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	37.5	+11.4	64	9	13	21	41	0.23	−0.55	0.19	T.	3	9	7	14	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	38.4		65	19	5	27	41	0.85	+0.59	0.65	0.5	4	13	14	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	30.4		51	23	−5	30	41	0.24	−0.18	0.10	0.5	5	11	12	7	s.	A. O. Wang.
Fessenden	Wells	1,610	11	37.4	+10.4	68	7	12	20	39	0.78	+0.14	0.36	0	6	13	9	8	nw.	T. D. Monsen.
Finley	Steele	1,461		37.1		62	9	9	21†	40	0.53		0.41	T.	3	14	4	12	sw.	G. J. Mustad.
Forman	Sargent	1,249	29								0.63	+0.07	0.45	0	2	15	7	8	s.	O. Enger.
Foxholm	Ward	1,657	2	36.7		65	5	2	27	37	0.50		0.28	1.0	4	9	13	8	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								0.34		0.25	T.	3	18	8	4	nw.	Verne King.
Fullerton	Dickey	1,439	25	37.8	+8.1	64	9	12	21	42	0.90	+0.17	0.75	0	2	11	9	10	nw.	F. O. Alin.
Garrison	McLean	1,901	28	37.0	+10.0	64	5	7	27	40	0.70	+0.12	0.53	0	3	16	9	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	31	36.0	+12.0	64	5	9	21	49	0.67	+0.01	0.44	0	2	15	6	9	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	35.6	+9.5	66	8	7	21	54	0.65	−0.05	0.39	1.2	8	7	13	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16																	W. A. Christianson.
Hannah	Cavalier	1,568	29								0.29	−0.39	0.20	2.0	2					J. Moffatt.
Hansboro	Towner	1,597	15	33.5	+7.6	66	5	7	26	40	0.75	+0.29		T.		10	5	15	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	38.4	+5.0	63	2†	11	1	40	0.46	+0.14	0.36	0	3	13	2	15	nw.	C. J. Downey.
Hillsboro	Traill	901	17	34.8^{b}	+6.0	60^{b}	8†	7^{b}	21	49^{b}	0.63	−0.18	0.30	0	3	16	6	8	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	34.8	+7.1	62	8	9	21	36	1.04	+0.53	0.42	2.2	3	11	7	12	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	36.7	+9.1	62	2†	12	9†	47	0.27	−0.46	0.12	2.2	3	11	5	14	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	36.4	+9.4	61	2†	−1	27	40	0.63	+0.09	0.43	2.0	5	20	4	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	32.2	+6.7	59	4	3	21	42	1.07	+0.37	0.55	T.	4	15	4	11	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	36.1	+10.3	63	2†	7	21	48	0.72	+0.04	0.50	0.2	4	11	9	10	w.	Reuben Gray.
Linton	Emmons	1,711	5	33.6		57	24†	2	27	31	0.16		0.10	0	3	15	4	11	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	35.2	+5.0	68	11	8	21	53	1.42	+0.80	0.78	0	3	17	5	8		W. S. Adams.
McClusky	Sheridan	1,943	5	36.3		61	5	1	27	40	0.38		0.15	0.5	4	13	10	7	sw.	Edw. Tapley.
McHenry	Foster	1,509	12	36.6	+10.1	63	2†	6	21	40	0.69	+0.20	0.36	2.0	3	13	0	17	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	36.8	+12.2	65	8	−1	27	43	0.35	−0.24	0.20	0.5	3	7	17	6	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	38.6	+8.9	62	9	11	8	45	0.68	+0.09	0.46	1.0	4	19	4	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	37.6		62	5†	3	27	40	0.41		0.19	0	3	6	10	14	nw.	A. T. Felland.
Mandan	Morton	1,644	9	37.6		63	2	6	27	41	0.28		0.20	0.5	3	16	5	9	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	36.4	+7.4	60	8	2	27	37	0.54	−0.20	0.22	T.	4	11	9	10	sw.	P. B. Anderson.
Marmarth	Slope	2,714	14																	E. C. Niccum.
Mayville	Traill	975	27																	M. G. Sateren.
Melville	Foster	1,590	25	37.6	+8.6	64	4†	6	27	35	0.42	−0.11	0.30	T.	2	14	5	11	sw.	J. P. Kidder.
Minot	Ward	1,557	27	36.8^{d}	+7.1	64	5	3^{d}	27	39	0.55	−0.13	0.40	1.0	3	11	13	6	nw.	W. I. Faris.
Minto	Walsh	820	30	35.4	+10.9	64	5	6	21	48	0.61	−0.04	0.43	T.	2	17	6	7	se.	C. M. Evans.
Mott	Hettinger	2,424	16	36.2	+5.0	65	6	12	26	37	0.37	−0.09	0.37	0	1	10	11	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	31	35.4	+8.8	62	9	−2	27	41	0.26	−0.33	0.07	0	5	17	1	12	sw.	C. J. Hoof.
New England	Hettinger	2,400	29	35.5	+5.3	62	2	6	30	37	0.25	−0.24	0.07	T.	4	7	21	2	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	39.7	+9.0	64	2†	11	21	41	0.61	+0.26	0.61	0	1	17	11	2	nw.	J. Christiansen.
Park River	Walsh	998	19	36.8	+8.8	62	5	7	21	43	0.55	−0.21	0.46	0	3	11	9	10	nw.	C. B. Wright.
Parshall	Mountrail		8								0.17		0.10	1.5	3					J. A. Johnson.
Pembina	Pembina	789	49	33.8	+11.1	65	7	5	21†	51	0.20	−0.48	0.20	0	1	13	12	5	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	35.0	+8.1	61	5†	−2	27	42	0.93	+0.38	0.38	3.5	3	12	7	11	nw.	S. C. Shanks.
Power	Richland	1,020	29								0.88	+0.26		2.5	5					J. A. Power.
Powers Lake	Burke	2,205	9								0.20	−0.36	0.20	2.0	1	8	16	6	sw.	C. Frank.
Richardton	Stark	2,467	7	38.8		60	2†	13	21†	31	0.40		0.31	0	3	13	10	7	sw.	Geo. Keim.
Skaar	McKenzie		3																	Conrad Brunsvold.
Stanton	Mercer	1,722									0.65		0.52	0.7	4	13	10	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	27	33.3	+4.9	56	6	−4	27	38	0.27	−0.32	0.20	0.5	2	12	11	7	sw.	H. S. Wood.
Towner	McHenry	1,482	21	34.8	+9.8	64	5	−2	27	41	0.35	−0.13	0.35	0	1	17	4	9	sw.	B. Bagley.
Turtle Lake	McLean	1,899	8	37.2		62	8	10	21	38	0.54		0.33	1.0	5	8	9	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	36.6	+6.9	63	9	9	21	42	0.60	−0.02	0.28	1.0	4	10	10	10	nw.	H. Twito.
Wahpeton	Richland	962	29	38.4	+10.1	68	9	9	21	43	0.37	−0.32	0.15	0.5	4	18	0	12	nw.	C. G. Luick.
Walhalla	Pembina	966	19	42.4^{j}	+15.3	68^{j}	8	3^{j}	21	49^{j}	0.83	+0.16	0.53	T.	2					T. R. Johnson.
Washburn	McLean	1,731	22								0.61	−0.03	0.41	0	5					Karl Klein.
Westhope	Bottineau	1,508	17	39.6	+12.8	72	5†	5	28	50	0.48	−0.10	0.22	2.2	4	17	10	3	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	37.4	+10.2	64	8	11	30	40	0.78	+0.18	0.44	0.3	7	7	7	16	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	33.8	+11.7	64	5†	−3	27	48	0.47	−0.04	0.23	0	4	12	6	12	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	35.8	+8.7	60	9	10	21	40	0.30	−0.68	0.10	1.3	7	15	2	13	s.	U. S. Weather Bureau
Averages				36.5	+9.9	72	5†	−5	30	54	0.50	−0.08	0.78	0.6	3	13	8	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for November, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amonia ‖‖	Red													T.	.08									.20									0.28
Amidon	Lit. Missouri											T.	T.	.18									.02		T					T.			0.20
Arnegard	Missouri												.07	.10										T.						.05			0.22
Ashley	Missouri				T.								.05	.22																			0.27
Beach	Lit. Missouri												.48	.30																			0.78
Berthold Agency	Missouri												.09	.14										T.							.11		0.34
Bismarck ***	Missouri			T.								.01	.16	.02	T.								T.	T.		T.				T.	.10		0.29
Bottineau	Mouse												.08	.17	.02																		0.27
Bowbells ‖ ‖	Mouse													.19	.04																		0.23
Bowman	Grand												.02	T.									T.	T.	.02								0.04
Cando	Devils Lake												.13	.29	.10																		0.52
Carson	Heart												.05	.50									T.										0.55
Cooperstown	Sheyenne												.30	.40												T							0.70
Crosby	Mouse												.32	.05	.02											.04				T.	.25		0.68
Devils Lake ***	Devils Lake				T.								.11	.22	.04	T.					T.				T.	T	.01			.06	.03		0.47
Dickinson ‖ ‖	Heart												.09	.15	.04										T.	.02				.01			0.31
Donnybrook	Mouse												.10	.12	T.															.02			0.24
Dunn Center ‖‖	Knife												.20	.10												T.				T.			0.30
Dunseith	Mouse												.03	.15													.14						0.26
Eckman	Mouse												.07	.10												T.				.02	T		0.19
Edgeley	James												.42	.04										T.		T.							0.46
Ellendale***	James				T.								.19	.02	T.	T.					T.				T.	T.	T.	T			.02		0.23
Energy	Missouri												T.	.65	.10															.05	.05		0.85
Epping	Missouri												.03	.05	.01										T.	.10				T.	.05		0.24
Fessenden	James				.06								.15	.36	.17	.02															.02		0.78
Finley	Red												.09	.41	.03									T.	T	T.	T.	T.		T.	T.		0.53
Forman	Sheyenne												.45	.18																			0.63
Foxholm	Mouse												.12	.28	T.											T.				.01	.09		0.50
Fryburg	Heart												.25	.04								T.			T.					.05			0.34
Fullerton	James												.75	.15	T.	T.																	0.90
Garrison	Missouri													.53												.02				.15	T.		0.70
Grafton	Red													.44	.23																		0.67
Grand Forks ***	Red												.03	.39	.11						.01		T.			.01	.01	.02		T.	.07		0.65
Granville	Mouse																																......
Hannah	Pembina										.20											.09											0.29
Hansboro	Devils Lake																																0.75
Hettinger	Grand												.36	.04											.06								0.46
Hillsboro	Red												.26	.30	.07																		0.63
Howard	Missouri												.42	.37							T.				T.	T.			T.	T.	.25		1.04
Jamestown	James											.05											.10								.12		0.27
Lamoine	Missouri												*	*	.43								*	.20									0.63
Langdon	Pembina													.55	.40	.06	T.									.06	T.						1.07
Larimore	Red												.15	.50	.05																.02		0.72
Linton	Missouri				.02								.10	.04	T.									T.		T.							0.16
Lisbon ‖	Sheyenne												.78	.52	.12																		1.42
McClusky	Missouri												.15	.10			T.						.05							.08			0.38
McHenry	James												T.	.36	T.												T.			.08	.25		0.69
McKinney	Mouse												.10	.20												T.				T.	.05		0.35
McLeod	Sheyenne												.10	.02	.46									.10		T.							0.68
Maddock	Sheyenne													.19	.16															.06			0.41
Mandan ‖	Missouri				T.								.03	.20	T.															T.	.05		0.28
Manfred	James				.05								.06	.21	.22								T.		T.					T.			0.54
Marmarth	Lit. Missouri																																
Mayville	Red																																......
Melville	James												.12	.30	T.												T.			T.			0.42
Minot	Mouse												.05	.40																	.10		0.55
Minto	Red													.43	.18											T.	T.			T.	T.		0.61
Mott	Cannon Ball												.37												T.								0.37
Napoleon ‖‖	Missouri			.05									.06	.07	.06											.02							0.26
New England	Cannon Ball												.06	.06			.06								.07								0.25
New Salem	Heart													.61									T.	T.									0.61
Park River	Red												.03	.46	.06																		0.55
Parshall	Missouri																			.02			.05								.10		0.17
Pembina ‖	Red		T											T.	.20	T.										T.					T.		0.20
Pettibone	James												.20	.38	T.								.35										0.93
Power	Sheyenne										*	*	.63											.20							.05		0.88
Powers Lake	Missouri																									T.				T.	.20		0.20
Richardton	Heart												.06	.31																.03			0.40
Skaar	Yellowstone																																......
Stanton	Missouri			T.								T.	.07	.52									.01			T.				.05			0.65
Steele	Missouri											T.	T.	T.	.20							T.	T.		T.	T		T.			.07		0.27
Towner	Mouse												.35																				0.35
Turtle Lake	Missouri												.04	.33	.04	T.														.10	.03		0.54
Valley City	Sheyenne												.18	.28	.03								.11			T.		T.					0.60
Wahpeton	Red												.12	.15	.05									.05									0.37
Walhalla	Pembina												T.	.53	.30	T.					T.												0.83
Washburn	Missouri											.03	.41	.05	.02																.16		0.61
Westhope	Mouse												.05	.12	.09																.22		0.48
Williston ***	Missouri											.05	.39	.19										T.	.03	.04			T.	.04	.04		0.78
Willow City	Mouse												.15	.23	.07															.02			0.47
Moorhead, Minn ***	Red												.08	.04	.04	T.							.07	.03	.01	T.	T.			T.	.03		0.30

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	53	58	56	52	60	51	36	25	36	60	58	46	48	46	36	40	60	62	54	60	48	50	40	42	46	40	47	38	39	36	....	47.4
	Minimum	15	24	23	20	19	23	21	11	13	14	14	13	21	38	36	30	28	28	27	27	6	10	17	20	16	24	17	20	12	14	....	20.0
Arnegard	Maximum	50	56	48	52	61	54	61	64	60	57	60	47	38	45	47	57	54	52	49	46	36	41	39	55	43	33	43	42	45	32	....	48.8
	Minimum	25	32	27	25	29	31	32	30	31	25	30	37	35	30	30	37	32	30	29	19	10	30	15	33	23	14	17	32	27	22	....	27.3
Ashley	Maximum	60	62	50	55	56	56	61	55	..	..	62	53	45	44	47	43	54	50	54	50	33	40	34	59	50	30	32	45	60	38	....	[b]49.2
	Minimum	28	30	30	29	28	30	28	20	..	..	28	41	40	36	21	29	32	29	25	31	11	20	21	27	28	12	5	21	30	27	....	[b]26.3
Beach	Maximum	51	49	50	46	36	50	54	56	58	63	52	50	40	42	46	53	57	60	52	50	49	41	50	40	39	36	46	40	34	36	....	47.5
	Minimum	28	27	29	30	28	27	29	31	28	27	32	34	27	28	27	28	26	30	24	20	23	25	30	16	15	17	30	18	4	11	....	25.0
Berthold Agency	Maximum	51	61	55	51	63	61	55	64	56	61	58	52	50	48	48	56	59	52	56	49	37	42	40	54	51	34	46	47	55	37	....	51.6
	Minimum	20	25	25	24	23	26	24	22	22	21	27	45	38	33	24	29	31	30	24	30	9	23	12	29	28	13	8	30	28	25	....	24.9
Bismarck	Maximum	52	63	51	52	62	59	52	61	62	61	57	53	45	42	49	52	60	50	56	48	35	40	38	59	48	26	41	47	53	36	....	50.3
	Minimum	26	31	30	28	26	31	28	26	29	25	30	44	40	33	23	32	36	31	29	22	14	26	17	34	22	13	8	30	30	26	....	27.3
Bottineau §§	Maximum	44	52	49	52	64	56	49	62	55	59	49	44	46	45	43	50	52	47	48	41	34	45	35	43	42	31	35	43	45	35	....	46.5
	Minimum	19	24	25	26	20	29	28	22	25	22	29	27	42	33	29	28	25	22	30	20	9	13	9	12	10	5	2	12	10	6	....	20.4
Bowbells §§	Maximum	38	30	56	62	62	62	35	45	42	41	50	41	40	31	29	38	32	34	34	34	29	22	23	33	31	28	32	36	34	20	....	37.5
	Minimum	18	18	10	21	22	21	20	21	21	21	20	35	37	31	25	24	27	27	29	31	9	12	10	10	20	4	16	21	25	20	....	20.9
Bowman	Maximum	50	60	50	51	59	58	60	60	54	59	48	46	34	46	48	55	56	54	53	41	38	42	39	56	43	30	40	47	48	44	....	49.0
	Minimum	20	27	27	22	24	26	27	23	26	22	29	33	33	26	29	27	35	26	25	27	14	22	12	33	20	17	12	25	24	22	....	24.5
Cando	Maximum	46	55	48	50	61	53	43	60	54	52	57	45	46	40	42	43	57	45	..	45	33	51	35	42	39	30	32	47	..	43	....	[b]46.2
	Minimum	26	28	27	29	29	30	24	21	26	21	21	36	43	36	31	31	33	25	..	22	9	20	20	24	28	15	3	28	..	21	....	[b]25.2
Carson	Maximum	60	60	55	60	58	60	55	60	58	60	50	55	48	60	45	50	60	55	60	50	45	48	45	50	48	45	50	48	65	55	....	53.9
	Minimum	31	35	40	38	35	40	40	40	38	32	30	36	34	36	32	34	32	34	32	30	28	30	22	33	30	20	24	30	40	30	....	32.9
Crosby	Maximum	46	55	48	55	56	64	58	59	52	58	54	46	38	54	41	54	58	50	49	46	34	39	34	46	45	25	41	46	45	36	....	47.7
	Minimum	25	28	26	25	28	33	23	27	26	19	28	35	34	28	27	28	34	30	28	16	10	18	12	28	18	10	10	28	23	12	....	23.9
Devils Lake	Maximum	47	57	47	50	61	53	40	61	56	53	58	47	45	42	41	41	53	45	47	42	32	39	30	43	40	21	33	46	46	30	....	44.9
	Minimum	29	30	28	33	32	30	25	25	31	24	26	38	42	33	30	31	33	26	32	12	9	23	22	26	21	15	9	29	29	20	....	26.4
Dickinson §§	Maximum	51	60	54	51	60	60	60	62	57	60	58	46	37	47	47	54	58	52	57	54	38	43	40	60	45	31	43	40	50	36	....	50.4
	Minimum	19	29	22	28	22	24	28	19	23	18	25	40	34	29	25	31	32	28	22	29	12	13	13	17	34	14	15	16	13	16	....	23.0
Donnybrook	Maximum	54	55	54	49	59	63	58	65	60	60	61	59	58	62	57	58	58	56	60	53	41	..	..	40	50	38	31	48	46	..	....	[c]53.8
	Minimum	23	20	25	29	30	38	22	26	26	24	21	35	36	24	19	30	29	30	34	32	12	..	..	10	30	10	2	28	31	..	....	[c]25.0
Dunn Center §§	Maximum	50	60	52	51	61	61	58	63	57	60	59	53	49	48	48	56	59	56	51	39	37	42	40	55	49	36	45	45	50	34	....	51.1
	Minimum	23	28	28	26	25	27	28	19	24	19	26	43	37	31	29	29	39	30	22	28	11	19	14	28	30	11	12	30	29	22	....	25.2
Dunseith	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Edgeley	Maximum	54	64	55	50	59	58	49	60	67	60	58	56	48	46	47	45	59	52	53	52	36	42	39	52	48	33	37	49	46	32	....	50.2
	Minimum	18	29	32	32	27	33	28	16	23	26	20	41	40	38	29	32	34	32	24	35	9	20	23	26	31	13	11	19	25	18	....	26.1
Ellendale	Maximum	53	60	52	48	58	57	49	56	64	60	59	54	47	43	48	45	60	52	56	54	32	39	35	55	50	26	34	48	44	33	....	49.0
	Minimum	17	26	32	30	23	31	22	20	23	29	21	44	43	31	31	33	33	26	23	26	13	19	25	30	25	16	15	20	31	22	....	26.0
Fessenden §§	Maximum	67	52	50	48	50	48	68	62	60	58	46	45	46	44	46	54	52	50	45	44	40	38	44	38	36	38	45	46	38	36	....	47.8
	Minimum	35	38	30	36	28	29	29	26	29	28	29	32	33	35	33	35	36	33	32	12	20	18	18	20	18	16	17	20	25	18	....	26.9
Foxholm	Maximum	47	55	50	48	65	56	50	62	53	55	57	50	45	41	44	51	56	48	51	44	34	45	37	51	46	22	39	46	44	31	....	47.4
	Minimum	28	31	26	23	35	31	22	29	34	26	28	37	41	33	23	28	37	30	29	25	9	20	10	30	22	7	2	30	29	24	....	26.0
Fullerton	Maximum	52	60	51	47	57	57	48	57	64	57	58	53	47	46	47	43	60	50	53	52	33	41	48	53	45	35	34	47	43	38	....	49.2
	Minimum	18	25	34	33	23	31	26	19	22	20	28	42	42	39	30	32	32	31	23	32	12	18	25	25	33	16	15	20	29	14	....	26.3
Garrison	Maximum	48	60	51	51	64	57	54	61	54	58	61	53	52	57	48	52	55	49	49	41	36	36	38	53	41	25	43	44	48	34	....	49.1
	Minimum	21	29	28	22	26	29	24	21	28	21	24	43	40	34	23	29	30	29	28	25	10	23	12	30	22	9	7	29	30	24	....	25.0
Grafton	Maximum	51	59	52	54	64	54	47	63	61	59	58	49	49	46	39	41	55	46	47	44	33	40	32	48	39	33	30	47	41	39	....	47.3
	Minimum	15	24	34	19	25	35	21	14	26	25	18	33	44	36	35	32	33	29	29	25	9	17	13	23	20	20	17	24	25	23	....	21.8
Grand Forks	Maximum	51	60	49	52	60	53	41	66	64	60	58	49	47	44	38	40	50	46	49	43	34	38	32	46	35	26	28	48	43	34	....	46.1
	Minimum	22	29	28	24	23	24	16	12	26	25	18	39	44	34	35	33	30	27	31	14	7	20	24	27	26	20	19	25	25	27	....	25.1
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Hansboro	Maximum	48	62	49	55	66	56	46	56	60	60	59	44	45	43	40	43	55	45	42	40	38	49	35	37	34	37	38	40	37	40	....	46.6
	Minimum	20	22	24	20	29	25	20	18	28	24	19	26	38	28	22	27	28	30	27	14	14	24	14	12	10	7	10	9	14	10	....	20.4
Hettinger	Maximum	51	63	52	52	60	61	61	60	60	59	52	51	39	49	49	56	61	54	50	47	38	36	42	63	47	34	50	56	51	42	...	51.0
	Minimum	11	31	25	27	22	27	26	20	26	25	23	36	33	27	28	30	34	30	28	31	16	24	16	32	32	16	18	21	30	13	....	25.3
Hillsboro	Maximum	52	57	50	53	..	..	47	60	60	58	59	49	48	43	39	40	55	47	50	48	39	32	33	34	36	32	30	48	40	38	....	[b]45.6
	Minimum	20	27	22	24	..	..	22	11	21	23	16	30	35	39	34	32	25	27	29	37	7	12	21	23	28	20	16	21	27	20	....	[b]23.9
Howard	Maximum	41	44	45	59	60	60	61	62	57	56	54	45	48	51	40	44	44	49	47	42	32	40	42	52	40	22	39	45	43	30	...	46.5
	Minimum	11	16	24	26	22	23	26	26	27	21	28	37	39	25	26	27	26	29	30	22	9	21	11	25	21	10	19	28	24	10	....	23.0
Jamestown §§	Maximum	61	62	55	61	56	48	60	50	59	62	58	60	42	47	49	60	50	53	49	37	42	43	47	41	31	37	46	48	30	39	....	49.4
	Minimum	18	22	25	25	27	28	29	17	12	20	30	31	29	30	34	34	36	21	27	28	12	12	24	24	33	16	14	13	29	21	....	21.0
Lamoine	Maximum	41	61	55	52	61	56	48	61	57	56	58	51	48	45	46	46	48	54	57	44	35	35	33	48	48	46	37	45	48	39	....	48.6
	Minimum	22	27	27	24	25	28	25	21	28	23	20	42	40	34	25	27	28	32	28	23	6	20	16	16	28	9	−1	26	27	22	....	24.1
Langdon §§	Maximum	53	46	51	59	49	42	59	55	56	57	45	43	40	38	36	48	43	45	38	30	40	30	44	30	24	30	45	38	30	26	....	42.3
	Minimum	11	24	26	22	25	26	18	18	22	20	25	23	40	35	30	29	29	29	28	29	3	9	18	18	24	15	11	10	20	24	....	22.0
Larimore §§	Maximum	49	63	53	55	63	55	43	63	60	59	55	49	43	46	43	41	53	49	50	43	35	35	30	43	34	30	29	43	43	32	....	46.3
	Minimum	23	32	25	23	27	33	20	15	33	28	27	30	35	33	33	31	31	29	27	31	7	26	20	22	21	20	15	25	30	25	....	25.9
Linton	Maximum	50	50	50	39	46	46	43	43	43	43	52	52	45	43	45	45	43	43	41	41	34	33	35	57	57	29	33	36	36	32	....	42.8
	Minimum	23	21	30	28	21	22	22	20	28	17	25	44	41	31	20	32	26	26	24	34	11	23	21	30	29	11	2	24	29	15	....	24.3
Lisbon §§	Maximum	58	65	60	51	54	63	58	62	60	63	68	54	47	43	43	48	45	52	54	50	38	32	28	34	34	29	34	32	36	32	....	47.6
	Minimum	27	19	28	31	12	23	30	18	20	28	15	38	35	41	33	28	34	31	25	32	8	14	16	12	14	10	16	14	12	17	....	22.7
McKinney	Maximum	45	55	50	63	62	63	48	65	59	59	60	55	45	42	45	55	55	50	51	52	38	45	32	52	47	22	41	46	42	34	....	49.3
	Minimum	20	25	26	32	29	28	28	22	29	25	20	33	32	33	20	28	34	30	34	30	10	15	8	28	19	8	−1	30	28	18	....	24.2
Maddock	Maximum	52	55	51	54	62	60	47	62	62	59	59	49	47	45	44	44	55	49	50	46	40	40	38	45	43	40	36	47	47	40	....	48.9
	Minimum	25	35	27	30	29	28	25	31	28	19	19	38	43	34	29	30	34	27	30	31	9	20	20	26	29	9	3	28	28	23	....	26.2
Melville	Maximum	47	62	49	64	60	55	47	60	64	58	57	52	48	45	42	42	55	48	50	45	35	40	33	45	46	31	45	35	48	34	...	48.1
	Minimum	35	28	28	29	29	30	25	23	33	26	23	39	42	36	30	30	34	28	28	35	10	22	20	25	30	10	6	27	28	25	....	27.1
Minot §§	Maximum	45	60	41	53	64	40	38	48	52	60	58	48	48	46	40	55	60	50	53	45	36	35	38	58	45	34	36	34	32	34	....	46.2
	Minimum	35	33	27	22	27	32	32	36	32	21	27	40	46	..	..	..	..	..	..	..	..	..	12	32	18	9	3	31	29	29	....	[i]27.3
Mott	Maximum	33	40	51	60	62	65	63	60	55	53	48	46	40	41	42	44	41	45	43	41	36	36	46	55	38	35	38	42	38	36	....	45.8
	Minimum	14	20	28	30	30	28	27	29	32	35	31	30	27	23	23	28	30	34	35	30	23	22	33	33	32	12	20	27	18	16	....	26.7
Napoleon §§	Maximum	50	60	50	53	60	57	52	58	62	58	57	52	46	38	48	45	59	50	53	50	33	41	40	57	38	28	38	48	55	33	....	49.0
	Minimum	15	23	25	25	24	23	23	17	23	18	19	35	38	35	20	25	28	25	25	33	4	10	18	28	30	9	−2	22	25	14	....	21.9
New Salem	Maximum	45	64	54	51	61	60	53	60	60	60	57	52	47	45	49	55	60	56	56	53	52	46	42	60	52	40	41	45	53	36	....	52.3
	Minimum	20	30	27	26	26	30	28	27	33	30	24	43	36	32	28	29	35	31	30	26	11	30	15	32	27	12	13	29	30	24	....	27.1
Pembina §§	Maximum	55	48	53	63	55	38	65	63	58	56	57	53	46	48	35	38	42	50	45	38	28	40	32	45	32	20	33	48	38	38	....	45.2
	Minimum	25	25	19	25	26	12	14	18	21	18	18	25	32	34	33	31	31	32	30	29	5	5	25	17	22	20	15	15	25	25	....	22.4
Steele	Maximum	49	54	45	43	54	56	44	49	41	53	45	51	47	44	41	48	51	47	51	46	34	31	35	51	31	24	34	44	31	21	....	43.2
	Minimum	20	23	22	26	24	28	25	19	19	30	40	45	40	31	21	30	31	27	27	34	8	21	19	31	21	4	−4	14	21	5	....	23.4
Towner	Maximum	47	56	49	50	64	56	50	54	56	62	55	50	46	42	45	49	55	49	52	44	35	43	42	40	42	26	36	34	28	45	...	46.7
	Minimum	24	25	21	23	23	26	24	22	24	21	21	41	42	33	33	43	31	32	30	10	8	18	20	18	26	7	−2	0	20	23	....	22.9
Valley City	Maximum	52	58	49	51	59	53	43	59	63	54	58	49	48	45	38	40	55	47	47	42	38	37	32	39	42	32	30	45	41	33	....	46.0
	Minimum	25	27	32	33	27	34	23	17	28	24	28	27	42	38	33	32	34	24	34	37	9	25	20	21	31	18	14	26	30	26	....	27.3
Wahpeton	Maximum	57	61	57	54	59	58	50	54	68	61	62	58	58	46	42	43	58	57	52	50	43	35	30	38	40	35	27	42	42	40	....	49.2
	Minimum	22	30	37	25	30	20	20	15	25	20	25	40	40	40	38	32	32	25	28	36	9	20	25	32	32	24	19	26	30	25	....	27.5
Walhalla	Maximum	57	60	53	55	65	61	47	68	66	64	62	59	54	51	40	47	50	56	54	..	57	..	..	..	..	..	..	..	..	..	....	56.3
	Minimum	31	34	34	20	34	36	21	19	26	29	30	29	36	34	32	31	30	32	29	..	3	..	..	..	..	..	..	..	..	..	....	28.5
Westhope	Maximum	65	60	62	63	72	70	64	72	63	70	68	48	44	42	53	49	64	61	60	52	40	52	48	46	50	50	50	39	54	40	....	55.7
	Minimum	23	25	25	22	25	25	23	21	24	20	32	38	42	38	26	30	26	26	23	14	8	18	18	20	18	19	18	5	32	20	....	23.5
Williston	Maximum	47	54	47	53	62	61	59	64	55	57	60	44	40	48	46	51	57	50	53	46	35	39	41	50	40	25	43	45	45	33	...	48.3
	Minimum	26	32	26	26	30	28	28	24	29	24	32	38	34	28	29	30	36	33	30	16	16	20	18	34	20	14	24	33	29	11	....	26.6
Moorhead, Minn	Maximum	53	56	48	51	58	52	39	54	60	55	59	49	48	45	39	38	55	44	50	50	29	31	27	38	43	27	25	46	40	31	...	44.8
	Minimum	21	30	36	27	24	32	20	14	25	25	21	45	14	38	36	33	34	28	29	19	10	23	24	27	27	20	18	20	28	27	....	26.8

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXII. BISMARCK, N. D., DECEMBER, 1923. No. 12

GENERAL SUMMARY.

The weather during the month was exceptionally mild and pleasant up to and including the 26th, and only during the last four days did seasonable weather prevail. As a result of the mild weather during the greater portion of the month, rapid progress was made in farm work, all kinds being practically completed, except some corn husking and marketing of grain. More road construction work was accomplished than ever of record in the State for this month. Livestock grazed on harvested fields and ranges, thus saving an immense amount of feed to the farmers of the State. The mean temperature for State was, with but a single exception (1913) the highest of record for December.

TEMPERATURE.

The mean temperature for the State was 22.2°, or 9.2° above he normal, and 13.7° higher than the mean for December, 1922. The highest mean reported was 27.4° at Amidon, Slope County; the lowest was 17.1° at Bowbells, Burke County. The highest temperature reported was 62° at Amenia, Cass County, on the 17th; the lowest was -36° at Dunseith on the 30th. The greatest monthly range of temperature was 88° at Dunseith, Rolette County; the least was 68° at Lisbon, Ransom County, and at Valley City, Barnes County. The greatest daily ange was 49° at Dickinson, Stark County, on the 9th.

PRECIPITATION.

The average precipitation for the State was 0.32 inch, or .22 inch below the normal, and 0.35 inch less than the verage for December, 1922. The greatest monthly amount reported was 0.96 inch at Grand Forks, Grand Forks County; here was only a trace at Garrison, McLean County. The reatest amount recorded in any 24 consecutive hours was 0.40 inch at Hettinger, Adams County, on the 29th, and at Wahpeton, Richland County, on the 27th. The average snowfall for he State was 3.6 inches. The average number of days with .01 inch or more of precipitation was 3.

AURORAS.

Auroras were observed at Linton on the 4th, at Foxholm on the 9th, 13th and 27th, and at Williston on the 18th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.08	30.64	10	29.13	7	57	5,828	7.8	46	nw.	12
Devils Lake	30.00	30.55	10	29.04	7	44	7,330	9.9	44	nw.	12
Ellendale	30.04	30.60	10	29.14	7	56	10,100	13.6	56	nw.	12
Grand Forks	29.98	30.48	10	29.08	7	90	....	......	42	w.	12
Williston	30.01	30.59	30	29.02	7	48	5,828	7.8	43	w.	12
Moorhead, Minn	30.03	30.60	10	29.14	7	58	4,846	6.5	36	nw.	12
Av'ges and extremes	30.02	30.64	10	29.02	7	.....	....	9.1	56	nw.	12

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	181.8	265.8	68	+19	77	62	60	17	11
Devils Lake	129.1	262.1	49	+ 4	83	70	74	27	11
Ellendale	184.9	269.6	69	......	83	56	....	25	11
Grand Forks	......	......	......	......	89	.....	78	.....	....
Williston	189.0	262.1	72	+29	83	60	64	29	11
Moorhead, Minn	156.0	......	......	......	78	64	68	27	11
Averages and extremes	......	......	64	......	82	62	69	17	11

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1891	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	uw.
1899	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921	16.5	+3.5	59	−33	0.41	−0.13	4	14	7	10	nw.
1922	8.5	4.5	55	−34	0.67	+0.13	5	11	8	12	nw.
1923	22.2	+9.2	62	−36	0.32	−0.22	3	16	8	7	nw.

Climatological Data for December, 1923.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	27	20.0	+ 7.3	62	17	-22	31	47	0.56	+0.05	0.32	7.0	3	21	10	0	nw.	E. T. Carley.
Amidon	Slope		9	27.4		60	11	22	31	37	0.35		0.24	3.5	4	13	13	5	w.	Charles Eastgate.
Arnegard	McKenzie		8	24.4		53	18	-26	30	36	0.30		0.10	3.0	5	22	6	3	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	27	23.8	+10.3	58	18	17	30	37	0.60	+0.09	0.24	7.0	3	25	3	3	nw.	R. C. Miles.
Beach	Golden Valley	2,579	17	26.0[a]	+ 9.5	55[a]	19	-24[a]	31	33[a]	0.11	-0.40	0.06	1.1	3					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	30	24.6	+ 8.9	57	11	-20	31	39	0.10	-0.30	0.10	2.3	1	20	8	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	48	25.4	+10.7	56	11	-17	31	36	0.22	-0.40	0.21	3.7	2	13	11	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	31	18.5	+10.8	49	8	-29	30	40	0.17	-0.32	0.14	1.7	3	13	10	8	nw.	E. C. Evenson.
Bowbells	Burke	1,958	11	17.1	+ 6.4	42	16	-28	30	38	0.16	-0.28	0.16	2.0	1	19	2	10		G. H. Phelps.
Bowman	Bowman	2,961	9	24.8		56	18	22	31	39	0.08		0.08	1.5	2	18	5	8	nw.	R. Love, Jr.
Cando	Towner	1,488	22	19.8[a]	+12.6	49[a]	19	-27[b]	30	30[a]	0.31	-0.05	0.31	3.5	1	12	12	7	w.	A. J. Swanson.
Carson	Grant	2,500	11	25.7	+ 9.7	60	7	-21	31	36	0.40	-0.14	0.20	4.0	3	22	6	3	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	17								0.55	-0.02	0.20	2.5	4	16	7	8	w.	S. Friswold.
Crosby	Divide	1,954	16	19.9	+ 7.6	46	19	-25	30	34	0.22	-0.29	0.15	2.2	3	16	13	2	sw.	John Jensen.
Devils Lake	Ramsey	1,478	26	20.4	+12.4	51	18	-27	30	28	0.23	-0.16	0.12	2.0	6	13	8	10	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	31	22.8	+ 5.5	60	9	-21	31	49	0.18	-0.24	0.10	3.0	2	16	3	12	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	24																	E. H. Wolsey.
Dunn Center	Dunn	2,191	24	25.2	+ 4.7	57	18	-22	31	40	0.10	-0.46	0.10	1.0	1	18	3	10	nw.	W. H. Moede.
Dunseith	Rolette	1,682	27	19.9	+11.6	52	19	-36	30	38	0.16	-0.25	0.10	2.2	4	11	16	4	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	18																	J. Nussbaum.
Edgeley	LaMoure	1,468	22	24.2	+ 7.7	56	17	-17	31	41	0.30	-0.09	0.30	3.0	1	12	12	7	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	24	23.7	+ 6.9	54	17	-20	31	36	0.24	-0.09	0.19	2.8	2	9	11	11	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	11	23.7		55	11	-20	31	41	0.15	-0.20	0.08	2.5	3	15	13	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	15	17.4		43	21	-31	31	41	0.12	-0.31	0.08	1.5	2	19	9	3	sw.	A. O. Wang.
Fessenden	Wells	1,610	11								0.29	-0.44	0.14	3.3	4	15	8	8	sw.	T. D. Monsen.
Finley	Steele	1,461		22.8		49	18	-22	30†	30	0.43		0.22	3.8	4	18	4	9	nw.	G. J. Mustad.
Forman	Sargent	1,249	29								0.16	-0.38	0.16	2.0	1	20	7	4	sw.	O. Enger.
Foxholm	Ward	1,657	2	22.5		50	18	-25	31	33	0.63		0.19	7.5	5	14	13	4	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	5								0.33		0.17	4.0	3	20	8	3	nw.	Verne King.
Fullerton	Dickey	1,439	25	24.1	+10.4	52	5†	15	31	33	0.44	-0.40	0.32	3.2	2	17	10	4	nw.	F. O. Alin.
Garrison	McLean	1,901	28	23.0	+ 9.4	53	15†	-23	31	33	T.	-0.57	T.	T.	0	18	8	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	31	22.0	+14.3	48	18	21	30	34	0.22	-0.32	0.15	2.5	2	19	6	6	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	32	19.9	+ 9.3	49	11	-25	31	38	0.96	+0.33	0.34	9.5	8	10	4	17	sw.	U. S. Weather Bureau.
Granville	McHenry	1,504	16	21.8	+ 9.4	52	12†	-30	30	32	0.32	-0.23	0.24	4.0	2	24	3	4	w.	W. A. Christianson.
Hannah	Cavalier	1,568	29								0.40	-0.23	0.24	5.0	2					J. Moffatt.
Hansboro	Towner	1,597	15	17.6[c]	+10.3	50[c]	18	-26[c]	31	38[c]									nw.	C. E. Blackorby.
Hettinger	Adams	2,675	16	26.6	+10.8	60	18	-18	31	45	0.60	+0.26	0.40	6.0	2	22	5	4	nw.	C. J. Downey.
Hillsboro	Traill	901	17	21.0[b]	+ 8.4	47[b]	11	-22[b]	31	38[b]	0.65	-0.25	0.30	6.5	3	15	10	6	sw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	16	21.4	+ 9.6	52	17	-30	30	33	0.36	-0.46	0.32	4.4	2	24	6	1	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	31	23.3	+ 9.7	55	18	-17	30	39	0.47	-0.28	0.35	4.7	3	19	3	9	nw.	S. Calvelage.
Lamoine	Kidder	1,936	18	22.3	+11.1	56	18	-22	31	39	0.16	-0.34		2.0	2	22	4	5	sw.	E. V. Virgin.
Langdon	Cavalier	1,615	27	17.7	+10.4	45	18	-24	30	36	0.36	-0.37	0.18	4.0	2	20	6	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	29	22.2	+11.4	50	11	-25	31	30	0.24	-0.30	0.16	3.0	2	14	6	11	n.	Reuben Gray.
Linton	Emmons	1,711	5	21.6		56	18	-17	31	39	0.40		0.25	4.0	3	19	7	5	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	19	21.8	+ 7.7	48	6	-20	31	33	0.40	-0.01	0.24	5.0	2	17	9	5		W. S. Adams.
McClusky	Sheridan	1,943	5	22.2		53	11	-23	31	38	0.42		0.20	4.2	4	18	7	6	se.	Edw. Tapley.
McHenry	Foster	1,509	12	17.2	+ 7.5	48	4	28	30	37	0.36	-0.56	0.33	4.5	2	27	0	4	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	29	20.7	+10.0	48	4†	-26	30	40	0.48	+0.04	0.16	6.0	4	11	18	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	11	23.2	+ 8.9	50	15†	-19	31	35	0.13	-0.32	0.13	1.3	1	21	2	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	8	21.8		55	18	-27	30	37	0.19		0.09	2.1	4	8	14	9	sw.	A. T. Felland.
Mandan	Morton	1,644	9	24.0		59	11	-18	31	45	0.14		0.14	3.0	1	15	7	9	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	20	21.5	+10.2	50	11†	-26	30	37	0.45	-0.31	0.20	5.5	4	16	8	7	nw.	P. B. Anderson.
Marmarth	Slope	2,714	14								0.30	-0.04	0.17	6.0	4					E. C. Niccum.
Mayville	Traill	975	27																	M. G. Sateren.
Melville	Foster	1,590	25	23.7[a]	+11.9	55[a]	18	-25[a]	30	33[a]	0.29	-0.17	0.16	3.5	3	12	13	6	sw.	J. P. Kidder.
Minot	Ward	1,557	27	22.1	+ 9.7	53	18†	-22	30	35	0.35	-0.16	0.15	3.5	3	8	19	4	w.	W. I. Faris.
Minto	Walsh	820	30	20.6	+ 9.7	51	11	-24	31	36	0.21	-0.27	0.12	2.0	3	18	7	6	ne.	C. M. Evans.
Mott	Hettinger	2,424	16	24.6	+10.5	53	11	-25	31	31	0.40	-0.18	0.21	4.0	2	14	10	7	w.	O. H. Opland.
Napoleon	Logan	1,955	31	21.7	+ 9.3	58	18	-23	30	43	0.25	-0.23	0.15	4.0	2	22	4	5	sw.	C. J. Hoof.
New England	Hettinger	2,400	29	23.8	+ 6.4	58	11	-20	31	45	0.10	-0.31	0.10	1.0	1	14	5	12	nw.	W. C. McKenzie.
New Salem	Morton	2,163	19	26.7	+11.8	55	15	-21	31	35	0.23	-0.30	0.10	2.5	3	15	14	2	nw.	J. Christiansen.
Park River	Walsh	998	19	21.7	+10.6	54	18	-22	31	30	0.26	-0.27	0.20	3.2	2	14	9	8	nw.	C. B. Wright.
Parshall	Mountrail		8								0.16		0.12	2.0	2					J. A. Johnson.
Pembina	Pembina	789	49	19.3	+13.3	48	18	-22	31	33	0.20	-0.56	0.10	2.0	2	7	13	11	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	14	19.8	+ 9.4	57	18	-25	31	48	0.54	-0.14	0.30	6.0	3	16	12	3	sw.	S. C. Shanks.
Power	Richland	1,020	29								0.50	-0.04		4.0	3					J. A. Power.
Powers Lake	Burke	2,205	9								0.35	-0.28	0.15	3.5	3	15	14	2	sw.	C. Frank.
Richardton	Stark	2,467	7	26.4		60	11	-22	31	38	0.24		0.23	2.4	3	17	7	7	w.	Geo. Keim.
Skaar	McKenzie		3																	Conrad Brunsvold.
Stanton	Mercer	1,722									0.12		0.10	2.0	2	15	12	4	nw.	J. H. Giffey.
Steele	Kidder	1,857	27	20.9	+ 7.3	55	17	-26	31	44	0.14	-0.39	0.08	2.0	3	18	7	6	sw.	H. S. Wood.
Towner	McHenry	1,482	21	18.4	+ 8.4	50	15†	-32	29	38	0.80	+0.39		10.0	3	12	10	9	sw.	B. Bagley.
Turtle Lake	McLean	1,899	8	22.8		53	11	-22	31	38	0.37		0.11	5.7	5	8	7	16	nw.	A. T. Anderson.
Valley City	Barnes	1,245	18	22.2	+ 8.5	48	11†	-20	30	30	0.36	-0.19	0.10	3.5	5	9	19	3	sw.	H. Twito.
Wahpeton	Richland	962	29	26.6	+11.9	52	18	-17	31	32	0.40	-0.05	0.40	4.0	1	19	0	12	nw.	C. G Luick.
Walhalla	Pembina	966	19																	T. R. Johnson.
Washburn	McLean	1,731	22								0.27	-0.07	0.23	2.7	2					Karl Klein.
Westhope	Bottineau	1,508	17	22.3[a]	+13.3	50[a]	5†	-24[a]	30	45[a]	0.14	-0.23	0.08	1.8	2	11	11	9	nw.	W. A. Meddaugh.
Williston	Williams	1,875	44	24.2	+10.4	52	17	-24	31	30	0.18	-0.48	0.09	1.2	7	8	10	13	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	31	17.6	+ 9.1	47	11†	-35	30	47	0.64	+0.10	0.32	8.0	3	13	10	8	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	42	22.4	+10.9	50	18	-21	31	29	0.51	-0.23	0.27	3.2	6	13	8	10	w.	U. S. Weather Bureau.
Averages				22.2	+9.2	62	17	-36	30	49	0.32	-0.22	0.43	3.6	3	16	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for December, 1923.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red		T.										T.															.32	.16	.08			0.56
Amidon	Lit. Missouri																								T.		T.	.11		*	*	.24	0.35
Arnegard	Missouri	T.													T.									.06	.04	.02			.10	T.	.08		0.30
Ashley	Missouri																										.18	.18		.24			0.60
Beach	Lit. Missouri																									T.	.03		.06	.02			0.11
Berthold Agency	Missouri	T.																									T.	.10	T.				0.10
Bismarck ***	Missouri												T.												T.		.17	.05	T.	T.			0.22
Bottineau	Mouse																								.01			.14	.02				0.17
Bowbells ‖	Mouse																											.16					0.16
Bowman	Grand																										.02			.06			0.08
Cando	Devils Lake												T.	T.														.31		T.			0.31
Carson	Heart																										.20	.10		.10			0.40
Cooperstown	Sheyenne	.20					.10																				.20	.05					0.55
Crosby	Mouse												T.											.02			.15	.05					0.22
Devils Lake ***	Devils Lake	.09						.02					.01	T.													.06	.03	.02				0.23
Dickinson ‖	Heart	T.											T.											T.	T.			.10	T.	.08			0.18
Donnybrook	Mouse																																
Dunn Center ‖	Knife																										T.	.10					0.10
Dunseith	Mouse	.10											.02												.02		.02						0.16
Eckman	Mouse																																
Edgeley	James																											.30					0.30
Ellendale ***	James	T.						T.					T.												T.		.19	T.	T.	.05			0.24
Energy	Missouri																										.04	.08	.03				0.15
Epping	Missouri																										T.	.08	.04				0.12
Fessenden	James	.08										T.															.02	.14	.05				0.29
Finley	Red	.22						.04					T.	T.													T.	.13	.04	T.			0.43
Forman	Sheyenne																											.16					0.16
Foxholm	Mouse	.19											T.											.01			.13	.14	.16				0.63
Fryburg	Heart	T.											T.											T.	T.	T.	.07	T.	.09	.17			0.33
Fullerton	James	.12						T.					T.												T.		.32	T.		T.	T.		0.44
Garrison	Missouri	T.																									T.						T.
Grafton	Red	.15						T.																				.07					0.22
Grand Forks ***	Red	.34						.01					.04	.03	T.										.06		.23	.19	.06				0.96
Granville	Mouse																										T.	.24		.08			0.32
Hannah	Pembina												.24													T.		.16					0.40
Hansboro	Devils Lake											T.																					
Hettinger	Grand																										.20			.40			0.60
Hillsboro	Red	.20																									T.	.30	.15				0.65
Howard	Missouri																							.04	T.	.32							0.36
Jamestown	James	.10						.02																				.35					0.47
Lamoine	Missouri																										*	.16					0.16
Langdon	Pembina	.18													T.													.18	T.				0.36
Larimore	Red																											.16	.08				0.24
Linton	Missouri	.05											T.														.25			.10			0.40
Lisbon ‖	Sheyenne	T.																									.16	.24		T.			0.40
McClusky	Missouri	.10													T.												.02	.20	.10				0.42
McHenry	James							.03																			T.	.33					0.36
McKinney	Mouse	.16											T.											T.			.16	.08	.08				0.48
McLeod	Sheyenne													T.														.13	T.				0.13
Maddock	Sheyenne		.02	.03																								.05	.09				0.19
Mandan ‖	Missouri																								T.			.14	T.	T.	T.		0.14
Manfred	James	.20											T.														T.	.10	.10	.05			0.45
Marmarth	Lit. Missouri	T.										T.													T.		.05	.03		.17	.05		0.30
Mayville	Red																																
Melville	James	.05						T.																				.16	.08	T.			0.29
Minot	Mouse																										.05	.15	.15				0.35
Minto	Red	.12						T.					T.		T.													.06	.03				0.21
Mott	Cannon Ball																										.21			.19			0.40
Napoleon ‖	Missouri	.10																									.15						0.25
New England	Cannon Ball	T.											T.																	.10			0.10
New Salem	Heart	.08											T.														.10	.05					0.23
Park River	Red	.20													T.													.06					0.26
Parshall	Missouri																										T.	.04	.12				0.16
Pembina ‖	Red	.10																								.10							0.20
Pettibone	James	.30											T.														.08	.16	T.				0.54
Power	Sheyenne												T.	T.					.18								*	.32					0.50
Powers Lake	Missouri	T.											.10												T.		.10	.15					0.35
Richardton	Heart	T.																							.01			.23					0.24
Skaar	Yellowstone																																
Stanton	Missouri												T											T.				.10	.02				0.12
Steele	Missouri	T.		T.									T.														.04	.08	.02	T.			0.14
Towner	Mouse	.32											T.															*	.48				0.80
Turtle Lake	Missouri	.10																									.03	.11	.09	.04			0.37
Valley City	Sheyenne	.05						.01					T	T.													.10	.10	.10				0.36
Wahpeton	Red																											.40					0.40
Walhalla	Pembina																																
Washburn	Missouri																											.23	.04				0.27
Westhope	Mouse																										.08		.06				0.14
Williston ***	Missouri												.01											.01	T.	.01	.08	.01	.05	.01			0.18
Willow City	Mouse	.32											T.												T.		T.	.24	.08				0.64
Moorhead, Minn ***	Red	.14																		.03	.03				T.		.16	.11	.04				0.51

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for December, 1923.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	20	31	35	36	42	48	52	37	40	38	36	27	16	42	56	60	62	48	52	22	32	30	32	37	30	17	18	12	4	−9	−18	31.8
	Minimum	9	4	13	12	14	16	19	17	8	12	12	23	−2	5	12	13	16	17	14	13	12	14	12	10	12	12	4	−14	−12	−20	−22	8.2
Arnegard	Maximum	24	42	38	45	45	43	48	32	36	41	51	41	33	47	52	50	52	53	44	38	35	37	33	34	34	30	27	29	12	−13	−18	35.3
	Minimum	2	16	18	17	27	20	28	17	12	13	25	15	10	17	19	24	23	25	19	22	17	12	18	22	11	2	9	12	−4	−26	−24	13.5
Ashley	Maximum	30	40	35	45	48	44	40	38	35	36	50	37	29	35	50	47	56	58	40	40	41	35	38	36	39	27	20	34	−8	−4	−9	34.9
	Minimum	8	3	20	14	23	20	38	16	12	11	19	20	8	20	20	28	32	32	12	16	16	10	15	17	12	12	0	2	−15	−17	−16	12.8
Beach	Maximum	40	45	43	47	49	50	47	33	32	42	32	27	34	44	32	38	38	53	55	43	38	41	38	36	36	28	....	34	25	−12	−15	[a]35.8
	Minimum	15	18	22	26	24	22	22	21	13	22	22	11	10	17	26	27	25	20	23	18	16	16	20	21	10	10	....	20	10	−18	−24	[a]16.2
Berthold Agency	Maximum	32	42	38	44	48	45	53	40	37	42	57	49	34	49	53	48	55	51	52	44	41	43	35	39	36	38	17	28	12	−5	−11	38.3
	Minimum	3	8	15	9	22	17	38	13	8	6	19	22	11	14	18	20	16	16	14	24	19	4	5	19	16	7	−1	−2	−7	−17	−20	10.8
Bismarck	Maximum	30	47	41	42	52	45	47	39	39	43	56	38	34	43	55	46	53	55	49	39	42	39	37	40	36	27	16	32	5	−9	−10	37.0
	Minimum	9	11	21	16	27	20	30	19	10	12	26	16	13	16	25	23	22	20	13	22	18	10	18	20	21	7	−1	4	−11	−13	−17	13.8
Bottineau §§	Maximum	32	39	42	42	36	42	29	49	39	44	37	27	32	45	38	40	45	46	38	38	34	32	34	30	26	10	10	2	−11	−14	5	30.3
	Minimum	6	13	15	2	15	6	29	12	10	4	15	3	2	10	11	15	17	22	18	22	15	6	9	4	12	2	0	−16	−13	−29	−28	6.7
Bowbells §§	Maximum	37	33	28	38	40	39	34	22	30	30	29	19	27	39	31	42	34	32	34	20	18	24	26	22	31	12	14	13	−5	−12	−16	24,6
	Minimum	−4	−5	17	10	26	12	19	14	10	10	10	19	8	9	21	19	22	28	27	17	16	10	.15	16	17	5	−2	−6	−5	−28	−23	9.8
Bowman	Maximum	30	42	35	42	45	42	47	38	33	42	58	36	32	48	52	52	55	56	48	35	38	41	36	36	36	29	27	22	21	−7	−4	37.2
	Minimum	7	13	18	12	22	18	23	20	11	11	19	12	7	13	17	26	28	19	20	22	15	8	15	15	10	13	4	11	−8	−15	−22	12.4
Cando	Maximum	22	....	33	34	40	37	40	37	32	34	43	39	20	30	44	40	36	45	46	42	37	35	35	35	34	25	7	9	6	−6	−14	[a]29.9
	Minimum	7	....	−5	4	20	12	26	16	10	7	21	15	3	9	16	19	20	23	22	25	18	8	16	21	22	2	2	−9	−10	−27	−26	[a]9.6
Carson	Maximum	36	40	48	45	50	40	60	50	45	40	40	50	40	35	30	45	30	55	40	40	40	40	35	40	42	32	30	30	5	−5	−15	36.7
	Minimum	26	28	26	24	28	30	32	20	10	22	15	20	4	10	20	30	30	29	28	13	12	6	12	12	10	12	−5	0	−8	−19	−21	14.7
Crosby	Maximum	24	35	28	31	37	40	45	30	29	35	37	39	28	43	45	43	45	45	46	39	31	36	32	36	33	23	18	13	−8	−11	−11	30.2
	Minimum	−10	9	16	10	21	11	29	16	10	10	16	9	8	15	19	18	22	19	22	17	13	8	13	16	15	8	0	1	−14	−25	−24	9.6
Devils Lake	Maximum	22	34	32	36	43	38	44	28	34	37	49	34	22	36	48	35	41	51	50	33	38	36	37	38	28	9	7	9	−4	−12	−14	29.6
	Minimum	1	8	17	10	27	17	28	20	13	11	26	8	6	14	20	18	23	26	26	23	17	11	19	21	9	2	−5	−5	−18	−27	−23	11.1
Dickinson §§	Maximum	27	47	38	46	48	42	55	46	60	31	55	25	27	25	52	49	52	51	51	37	40	43	32	30	20	19	25	21	3	−12	−13	34.6
	Minimum	5	11	19	12	12	15	23	16	11	8	18	21	7	10	18	23	23	15	15	12	18	3	7	16	11	18	3	5	2	−14	−21	11.0
Donnybrook	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Dunn Center §§	Maximum	32	44	40	45	45	51	48	35	41	41	51	47	33	49	53	49	56	57	51	41	40	42	30	36	36	32	17	32	17	−6	−11	38.0
	Minimum	4	12	17	13	14	31	22	8	15	19	19	22	9	12	25	23	21	23	21	23	15	2	17	18	12	9	5	−3	−6	−16	−22	12.4
Dunseith	Maximum	27	36	36	34	47	43	46	46	34	37	42	46	26	31	43	43	43	42	52	47	37	33	36	35	34	30	16	12	4	−8	−8	33.0
	Minimum	3	9	10	5	22	5	29	13	0	6	14	11	2	0	13	23	20	22	29	25	12	8	14	5	9	11	10	−23	−25	−36	−35	6.8
Edgeley	Maximum	30	40	43	47	52	43	47	41	39	39	43	38	33	46	54	47	56	51	40	40	40	40	40	41	37	24	13	30	13	−8	−8	36.5
	Minimum	5	0	19	15	22	20	25	16	12	14	23	19	19	5	26	25	22	20	13	16	19	11	15	14	7	8	0	0	−11	−16	−17	11.8
Ellendale	Maximum	31	40	41	46	53	43	47	42	38	38	49	36	33	39	53	44	54	45	40	41	39	38	39	40	38	.26	15	31	1	−7	−9	35.6
	Minimum	6	4	24	15	22	20	30	18	12	17	14	15	5	4	29	27	19	18	12	19	20	9	6	14	17	9	−5	−1	−7	−13	−20	11.6
Fessenden §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Foxholm	Maximum	31	38	34	37	42	38	44	35	33	38	47	42	28	44	47	42	47	50	48	40	37	38	33	35	29	22	10	9	5	−12	−14	32.2
	Minimum	−1	5	17	12	29	15	33	15	12	12	29	15	9	15	24	23	25	27	30	19	20	12	24	22	16	2	−1	−2	−12	−24	−25	12.8
Fullerton	Maximum	32	38	41	45	52	41	47	41	39	39	47	35	33	35	52	47	49	45	40	40	37	36	39	40	36	25	14	30	22	−4	−7	35.7
	Minimum	11	5	21	15	23	21	29	19	12	13	17	20	7	6	27	23	20	20	13	18	20	12	10	15	18	10	4	−5	−6	−14	−15	12.5
Garrison	Maximum	30	37	39	38	43	42	43	33	37	40	51	42	33	42	53	46	49	51	53	33	41	37	33	36	35	26	18	16	4	−10	−11	34.2
	Minimum	1	7	13	8	23	17	32	17	13	11	24	16	10	15	20	21	21	22	22	24	19	8	19	18	13	5	2	−3	−12	−20	−23	11.7
Grafton	Maximum	26	30	36	36	45	40	44	39	38	36	49	41	21	29	45	42	40	48	43	37	47	40	41	39	36	21	10	11	11	−4	−8	32.5
	Minimum	10	−3	17	32	28	21	27	18	9	8	25	14	1	6	11	20	20	20	19	19	14	10	11	23	20	2	3	8	−11	−21	−20	11.6
Grand Forks	Maximum	32	34	39	39	46	38	44	28	38	40	49	34	21	35	42	37	40	44	36	36	36	39	38	36	32	12	10	8	−3	−5	−10	30.5
	Minimum	−5	−4	16	10	28	19	26	16	10	10	26	5	2	8	16	21	24	23	16	19	19	12	11	25	12	3	−9	−9	−16	−22	−25	9.3
Granville	Maximum	34	40	35	37	35	38	35	45	35	28	24	52	35	30	34	28	40	42	48	42	48	52	46	39	38	15	10	10	10	−8	−14	31.2
	Minimum	5	18	18	15	15	18	....	20	18	15	14	20	18	20	22	20	28	24	30	22	28	30	15	18	28	5	−14	−18	−22	−30	−27	[a]12.4
Hansboro	Maximum	12	34	40	37	32	35	46	36	37	35	24	22	20	30	40	40	35	50	40	36	40	30	25	30	....	....	....	20	10	0	17	[c]29.2
	Minimum	0	7	15	0	4	0	8	4	5	9	0	2	6	10	20	18	15	25	17	16	12	10	6	12	....	....	....	0	−5	−25	−26	[c]5.9
Hettinger	Maximum	36	42	38	46	50	43	47	40	37	44	58	42	36	50	56	53	57	60	50	48	42	41	48	39	35	38	25	34	25	−4	−11	40.2
	Minimum	18	16	20	13	28	18	27	20	11	10	21	12	8	15	22	24	20	15	15	11	16	5	10	10	24	13	3	14	−4	−13	−18	13.1
Hillsboro	Maximum	....	31	39	36	40	40	40	36	36	33	47	36	34	29	....	40	40	45	37	39	37	39	39	40	37	25	11	10	5	−4	−9	[b]31.3
	Minimum	....	−7	19	7	16	19	26	19	12	13	21	16	1	6	....	17	24	27	9	19	20	20	12	24	20	5	5	−11	−11	−20	−22	[b]10.7
Howard	Maximum	20	46	32	35	37	40	43	35	37	39	43	37	37	44	45	45	52	50	43	36	32	39	32	33	29	20	10	25	10	−10	−15	31.8
	Minimum	−5	13	14	14	14	20	28	13	13	15	27	15	16	18	18	22	22	26	23	15	13	9	21	8	8	4	5	5	16	−30	−29	10.7
Jamestown §§	Maximum	31	39	45	49	42	45	36	36	38	39	40	38	40	46	43	48	55	38	38	37	26	40	40	38	22	14	20	3	12	−10	−4	33.0
	Minimum	17	0	14	15	15	22	22	20	15	14	14	23	10	8	9	24	24	21	17	12	20	14	12	20	22	12	14	−1	−10	−17	−15	12.5
Lamoine	Maximum	30	36	36	35	38	41	37	35	35	40	52	38	30	37	51	42	53	56	51	37	40	35	37	37	35	28	21	25	13	−10	−4	31.4
	Minimum	4	−3	28	11	24	15	10	20	28	9	19	6	2	10	18	18	23	20	20	25	15	18	7	15	15	2	−5	−5	−10	−20	−22	10.2
Langdon§§	Maximum	31	30	32	37	36	39	27	30	31	39	31	20	30	40	40	36	37	45	36	38	36	34	36	28	21	6	6	3	5	−6	−8	27.4
	Minimum	9	8	9	15	10	11	11	15	15	3	12	19	−3	5	10	11	21	22	25	25	15	9	9	20	21	−2	−3	−12	−16	−24	−23	8.0
Larimore §§	Maximum	25	29	40	38	47	38	45	35	33	34	50	30	25	35	46	42	41	48	35	35	42	40	41	40	30	24	10	7	−5	−10	−8	31.0
	Minimum	10	1	10	20	27	23	30	20	15	15	25	20	2	9	20	23	24	27	20	25	20	23	22	24	16	4	3	−6	−15	−21	−25	13.3
Linton	Maximum	32	37	37	32	38	38	36	32	23	29	37	37	24	32	53	48	53	56	45	40	42	40	39	41	40	32	18	35	27	−5	−9	34.2
	Minimum	11	4	13	9	23	16	32	11	6	4	16	21	6	11	14	18	17	17	9	9	23	2	11	10	9	8	−9	−2	−5	−15	−17	9.1
Lisbon §§	Maximum	31	38	40	39	42	48	42	40	34	38	40	42	39	40	41	39	42	37	40	39	39	35	37	30	24	18	19	14	16	12	−1	33.5
	Minimum	15	5	20	12	14	15	26	12	10	14	12	18	12	8	12	15	13	16	12	14	10	12	10	16	18	10	2	4	−6	−16	−20	10.2
McKinney	Maximum	25	40	35	48	40	40	47	38	32	38	48	40	30	45	48	40	43	48	45	40	32	32	32	34	30	25	10	10	0	−10	−15	31.9
	Minimum	−2	0	18	8	30	12	20	15	11	11	30	10	10	12	20	18	18	13	20	18	14	4	20	20	19	4	−9	−12	−10	−26	−23	9.5
Maddock	Maximum	28	35	35	36	42	38	42	40	35	35	50	45	40	36	49	48	43	55	49	43	38	37	38	39	36	23	9	9	8	−5	−13	33.8
	Minimum	5	−2	17	4	25	12	30	18	12	10	25	15	7	8	20	15	21	23	19	22	15	6	18	20	16	3	0	−12	−15	−27	−24	9.9
Melville	Maximum	30	35	37	39	45	40	49	39	35	36	....	52	28	37	48	45	45	55	48	39	40	39	35	39	41	22	8	15	8	−7	5	[a]33.9
	Minimum	7	2	32	34	17	26	29	27	12	12	....	18	6	12	22	21	26	25	23	20	20	11	18	18	17	4	2	−4	−7	−25	−21	[a]13.5
Minot §§	Maximum	25	40	35	40	40	39	30	33	36	41	50	43	33	38	50	44	50	53	53	37	40	41	34	33	35	25	13	10	−1	−14	−11	32.7
	Minimum	1	5	11	11	14	15	30	15	14	14	28	14	10	19	22	21	22	25	21	21	21	11	20	19	20	5	−8	−10	−16	22	18	11.5
Mott	Maximum	37	39	35	35	38	36	38	23	34	26	53	44	43	38	45	37	53	52	48	43	40	42	37	34	26	20	23	26	14	−1	−14	33.7
	Minimum	23	24	20	20	25	22	19	11	12	3	22	19	15	21	23	20	30	28	25	21	23	23	22	21	17	11	12	14	−1	−15	−25	16.3
Napoleon §§	Maximum	20	40	40	45	52	45	47	40	37	40	48	27	33	40	52	49	55	58	42	40	42	40	35	40	37	15	17	32	15	−10	−11	35.6
	Minimum	8	−2	15	8	14	15	25	12	15	5	13	22	5	8	20	15	15	18	8	10	14	4	14	11	12	10	−10	−11	−7	−23	−20	7.8
New Salem	Maximum	26	44	45	51	50	45	46	41	45	43	54	34	36	46	55	51	53	50	50	40	38	40	37	37	40	28	18	35	28	29	−9	39.2
	Minimum	11	14	20	15	29	18	34	18	17	10	22	14	19	11	21	23	22	27	20	22	18	7	20	22	18	8	−3	3	−3	−17	21	14.2
Pembina §§	Maximum	38	28	28	38	42	38	40	28	40	36	46	33	20	33	33	35	38	48	43	33	39	40	38	34	28	11	7	10	5	−11	−9	29.4
	Minimum	15	−5	22	15	24	20	18	12	15	8	24	9	−3	5	10	18	20	23	19	20	10	6	14	23	5	0	−2	−8	−11	−21	−22	9.2
Steele	Maximum	21	34	37	41	41	36	31	30	34	35	30	30	36	35	54	47	55	52	47	35	35	34	34	37	34	18	15	28	10	−8	−12	31.8
	Minimum	5	−10	−8	9	16	21	17	16	18	15	23	15	2	−5	18	22	22	18	20	22	18	19	14	19	18	9	0	10	−8	−18	−26	10.0
Towner	Maximum	23	23	30	34	44	40	47	38	37	34	49	38	28	42	50	36	42	50	48	38	37	37	34	37	33	25	6	0	−12	−17	−15	30.2
	Minimum	−5	−3	4	8	6	8	15	17	16	17	27	10	10	12	12	16	19	17	18	22	15	4	16	17	17	4	−8	−12	−32	−29	−30	6.7
Valley City	Maximum	30	31	36	40	47	38	43	37	35	35	48	39	25	34	47	41	45	48	38	37	36	34	37	39	32	25	10	12	7	−5	−13	31.9
	Minimum	5	1	16	26	29	20	29	19	11	19	24	17	5	13	21	20	23	23	16	16	22	10	15	18	17	5	−1	−7	−10	−20	−19	12.5
Wahpeton	Maximum	35	40	41	45	50	45	48	42	42	39	51	42	32	35	48	48	50	52	49	49	40	40	38	40	38	38	28	25	19	−5	5	38.4
	Minimum	19	10	19	16	26	18	30	18	11	11	22	20	5	12	24	18	20	20	22	29	20	8	15	26	19	22	7	11	−10	−15	−17	14.7
Walhalla	Maximum	....	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Westhope	Maximum	21	39	36	40	50	42	47	38	35	38	38	26	36	46	49	35	38	50	50	36	34	36	35	30	29	26	25	9	−4	−10	....	[a]33.3
	Minimum	−3	0	11	5	5	11	20	15	10	7	18	8	10	8	25	25	20	25	30	20	19	19	17	19	19	20	2	7	−15	−24	....	[a]11.3
Williston	Maximum	27	42	40	43	44	44	49	34	32	42	45	42	31	48	51	48	52	49	43	33	35	39	36	38	32	24	18	26	6	−13	−12	34.5
	Minimum	3	24	20	19	23	22	24	20	16	13	25	17	13	20	24	23	24	24	19	20	13	9	21	21	16	7	7	6	−13	23	24	14.0
Moorhead, Minn	Maximum	34	35	38	40	47	38	45	36	36	33	44	36	25	33	46	38	44	50	46	33	36	38	38	38	33	22	14	13	−5	−8	−12	31.9
	Minimum	6	6	24	17	25	22	29	17	12	14	20	10	5	10	26	27	27	23	20	24	24	14	12	23	20	14	−6	−11	−11	−18	−21	13.0

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXII. Bismarck, N. D., Annual, 1923. No. 13

GENERAL SUMMARY.

Taken as a whole, the weather during 1923 was favorable for crops. Comparatively mild temperature prevailed during January, but during February, March and April the temperature was below normal. During these four months the average precipitation was nearly the normal. Practically no spring work on farms was accomplished until the latter part of April, and pastures, ranges and meadows were very backward. During both May and June exceptionally favorable weather prevailed, and prospects for excellent crops were general. During July, however, heavy precipitation and high temperature caused serious damage to spring wheat from black stem rust, reducing what promised to be an abundant yield in this crop to only fair. During the remainder of the year exceptionally favorable weather prevailed, especially during November and December.

The mean annual temperature was 40.7°, or 1.9° above the normal, and 1.0° higher than the mean for 1922. The highest mean annual temperature reported was 44.4° at Wahpeton, Richland County; the lowest was 36.5° at Bottineau, Bottineau County. The highest temperature reported was 103° at Pembina, Pembina County, on July 9th; the lowest was −40° at Westhope and Willow City, both in Bottineau County, on February 3d. The temperature averaged above the normal during all months of the year, except February, March, April and August. The highest mean annual temperature ever recorded in the State was 42.0° in 1921; the lowest was 35.8° in 1893. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was −56° at Goodall, McKenzie County, on January 12, 1916.

The average precipitation for the State was 17.76 inches, or 0.18 inch below the normal, and 1.99 inches less than the average for 1922. The greatest annual precipitation reported was 25.50 inches at Fullerton, Dickey County; the least was 11.03 inches at Berthold Agency, McLean County. The greatest monthly amount reported was 10.27 inches at Power, Richland County, in June; there was none at Parshall, Mountrail County, in January. The precipitation averaged above the normal four months, and below the normal eight months.The heaviest annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.92 inches in 1917. The average snowfall for the State was 30.1 inches. The average number of days with 0.01 inch or more of precipitation was 64. There were 160 clear days, 110 partly cloudy, and 95 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

January.—Changeable weather characterized the first decade, but was generally favorable for outdoor work, for livestock and for winter rye. The second decade was milder; during this period the snow covering was considerably reduced, allowing livestock to graze on ranges and harvested fields. The third decade was considerably colder, with general snows from the 27th to 30th, inclusive. Winter rye was well covered, and livestock in good condition at the close of the month.

February.—Cold and disagreeable weather prevailed, with more than the average snowfall and wind movement, causing much delay to railway traffic, and stopping highway traffic, except with sleds. One of the most severe storms in the climatological history of the State occurred during the second decade. Somewhat improved conditions prevailed during the last decade. Winter rye was sufficiently covered at the close of the month.

March.—Practically no spring work on farms was performed during the month, owing to cold and cloudy weather, especially during the second and third decades. The precipitation was quite evenly distributed, both geographically and throughout the month. Winter rye was in good condition. Considerable yard-feeding of livestock was necessary.

April.—The weather was cold and unfavorable for farm work, for highway work, and for germination. The month opened with the ground frozen in all parts of the State, a condition that continued until the close of the second decade. Some seeding was done during the second decade, and during the third decade seeding made rapid progress. Winter rye generally came through the winter in good condition. Ranges and pastures were backward, necessitating considerable feeding of livestock..

May.—Farm work made rapid progress during the month. Much seeding was done during the first decade, some of the early sown being up to good stand. During the second decade corn planting was general. Frosts and freezing temperatures were general during this decade, but no serious damage occurred. Crops were in good condition at the close of the month. Reports indicated an increase in both corn and flax acreage.

June.—Weather was favorable at the beginning of the month, although rain was needed in some parts of the State. Only light precipitation occurred during the first decade, and in the first part of the second decade, but highly beneficial rains occurred during the latter part of the month, greatly relieving droughty conditions. In many instances this moisture came too late to be of benefit, except for corn and pastures. Spring

[Continued on page 53.]

Climatological Data for the Year 1923.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	28	40.1	94	July 19	−31	Feb. 3	28	18.01	3.47	May	0.28	Oct.†	46.0	62	201	125	39	n.
Amidon	Slope	......	10	44.1	100	July 19	−27	Feb. 14	10	19.80	5.00	Sept.	0.16	Mar.	......	58	170	135	60	w.
Arnegard	McKenzie	......	9	41.8	96	July 7	−30	Feb. 14†	9	15.61	4.53	June	0.15	Jan.	24.2	62	214	67	84	nw.
Ashley	McIntosh	2,001	28	42.1	92	July 19†	−25	Feb. 3	28	23.43	6.62	June	0.27	Nov.	35.5	55	......	......	......	nw.
Beach	Golden Valley	2,579	18	42.1	99	July 19	−24	Dec. 31	18	15.66	4.52	Sept.	0.11	Mar.†	......	66	......	......	......	......
Berthold Agency	McLean	2,082	31	42.3	98	Sept. 4	−32	Feb. 6	31	11.03	2.19	Sept.	T.	Feb.	8.6	37	230	65	70	nw.
Bismarck	Burleigh	1,674	49	42.9	94	July 8†	−28	Feb. 4	49	15.81	4.77	July	0.22	Dec.	25.7	79	111	119	135	nw.
Bottineau	Bottineau	1,638	32	36.5	95	June 22	−37	Feb. 3	32	19.46	5.83	June	0.16	Mar.	......	56	199	92	74	nw.
Bowbells	Burke	1,958	12	37.8	97	Sept. 3	−30	Feb. 3†	12	17.53	4.99	June	0.16	Dec.	......	51	231	23	111	......
Bowman	Bowman	2,961	9	42.5	96	July 19	−27	Feb. 14	9	17.96	4.78	June	0.04	Nov.	......	69	167	110	88	nw.
Cando	Towner	1,488	23	......	96	June 14	−35	Feb. 3	23	......	......	......	......	......	......	......	......	......	......	......
Carson	Grant	2,500	12	......	97	July 18	−27	Feb. 3†	12	22.88	5.82	July	0.16	Feb.	19.7	60	......	......	......	nw.
Cooperstown	Griggs	1,428	......	......	......	......	......	......	9	16.67	3.45	July	T.	Mar.	......	44	200	95	70	nw.
Crosby	Divide	1,954	17	39.9	95	Sept. 3	−31	Feb. 3†	17	18.67	5.72	June	0.17	Mar.	28.8	76	136	145	84	sw.
Devils Lake	Ramsey	1,478	19	40.3	97	July 18	−30	Feb. 3	19	14.75	2.25	Aug.	0.23	Dec.	39.1	108	144	99	122	nw.
Dickinson	Stark	2,543	32	41.2	98	Sept. 3	−28	Feb. 14	32	19.67	4.67	July	0.18	Dec.	......	78	180	69	116	nw.
Donnybrook	Ward	1,760	20	......	99	Sept. 3	−30	Feb. 6†	20	19.00	3.23	July	0.24	Nov.	......	55	......	......	......	nw.
Dunn Center	Dunn	2,191	20	......	98	Sept. 3	−32	Feb. 14	20	20.25	3.82	Apr.†	0.10	Dec.	28.0	59	......	......	......	nw.
Dunseith	Rolette	1,682	27	......	100	June 16	−39	Feb. 3	27	......	4.21	June	0.16	Dec.	35.5	......	......	......	......	nw.
Eckman	Bottineau	......	19	......	98	Sept. 3	−35	Feb. 3	19	13.27	3.42	June	0.19	Nov.	31.0	60	......	......	......	......
Edgeley	LaMoure	1,468	23	42.0	91	July 19	−27	Feb. 14	23	20.49	6.43	June	0.20	Mar.	18.7	41	81	173	111	nw.
Ellendale	Dickey	1,449	21	42.0	92	July 19	−23	Feb. 4	21	18.42	6.86	June	0.23	Nov.	22.9	83	101	131	133	nw.
Energy	McLean	1,750	2	42.4	98	Sept. 3	−32	Feb. 6	11	14.45	3.32	July	0.15	Dec.	28.0	62	......	......	......	nw.
Epping	Williams	2,224	2	39.4	96	Sept. 3	−31	Feb. 14†	16	14.77	6.31	June	0.12	Dec.	34.5	59	194	119	52	n.
Fessenden	Wells	1,610	12	......	99	July 19	−35	Feb. 14	12	14.19	2.65	July	0.29	Dec.	31.1	......	......	......	......	nw.
Finley	Steele	1,461	2	......	91	July 8†	......	......	2	......	5.59	July	......	......	......	......	......	......	......	......
Forman	Sargent	......	......	......	......	......	......	......	30	21.18	5.49	June	0.16	Dec.	35.0	48	......	......	......	s.
Foxholm	Ward	......	3	39.9	95	Sept. 3	−28	Feb. 3†	3	16.51	3.50	July	0.25	Feb.	46.4	80	117	159	89	nw.
Fryburg	Billings	2,790	......	......	......	......	......	......	5	21.60	5.16	July	0.33	Dec.	29.5	65	175	117	73	nw.
Fullerton	Dickey	1,439	26	42.2	93	June 3	−24	Feb. 14	26	25.50	8.37	June	0.44	Oct.†	50.3	64	161	111	93	nw.
Garrison	McLean	1,901	29	40.6	94	Sept. 3	−29	Feb. 3	29	16.82	3.95	July	T.	Dec.	17.3	62	167	120	78	nw.
Grafton	Walsh	827	32	40.5	96	July 18	−32	Jan. 18†	32	16.01	3.13	Sept.	0.22	Dec.	35.3	64	......	......	......	nw.
Grand Forks	Grand Forks	830	33	40.0	96	June 17	−31	Feb. 3	33	18.88	3.46	July	0.28	Jan.	37.6	109	152	77	136	se.
Granville	McHenry	1,504	17	40.0	98	July 7	−30	Feb. 3†	17	14.19	2.45	Sept.	0.22	Nov.	37.7	65	129	152	84	nw.
Hannah	Cavalier	1,568	......	......	......	......	......	......	17	17.93	4.39	Aug.	0.29	Nov.	52.0	48	......	......	......	......
Hansboro	Towner	1,597	16	......	100	June 22†	−36	Feb. 3	16	......	6.10	June	......	......	......	......	......	......	......	......
Hettinger	Adams	2,253	16	44.0	96	July 12†	−25	Feb. 14	16	19.53	5.83	June	0.01	Mar.	......	52	191	77	97	nw.
Hillsboro	Traill	901	18	40.5	94	July 19	−30	Feb. 3	18	16.56	4.00	June	T.	Mar.†	12.8	50	......	......	......	n.
Howard	Williams	2,275	17	38.1	96	Sept. 4	−35	Feb. 14	17	18.44	4.08	June	0.32	Oct.	51.8	63	152	123	90	nw.
Jamestown	Stutsman	1,390	32	40.4	94	June 2†	−24	Feb. 3†	32	21.51	3.92	June	0.27	Nov.	33.6	74	174	50	141	nw.
Lamoine	Kidder	1,936	18	......	97	July 7	−30	Feb. 3	18	......	4.14	July	......	......	28.0	......	......	......	......	nw.
Langdon	Cavalier	1,615	28	36.7	96	July 17	−37	Feb. 3	28	14.57	4.55	Aug.	0.05	Jan.	24.0	59	249	46	70	sw.
Larimore	Grand Forks	1,134	30	39.1	95	June 15†	−35	Feb. 3	30	23.27	6.52	June	0.15	Oct.	26.2	63	154	89	122	s.
Linton	Emmons	1,711	7	42.8	97	July 19	−30	Feb. 3†	7	18.29	4.58	June	0.16	Nov.	20.3	85	......	......	......	nw.
Lisbon	Ransom	1,091	20	41.2	98	July 19	−28	Feb. 3	20	23.27	6.98	June	0.05	Mar.	22.2	60	202	83	80	nw.
McClusky	Sheridan	1,943	2	40.6	97	July 7	−28	Feb. 3	6	13.40	1.89	May	0.38	Nov.	51.7	73	189	115	61	nw.
McHenry	Foster	......	14	40.1	99	July 8	−30	Feb. 3	14	22.79	4.57	July	0.24	Jan.	34.0	59	......	......	......	nw.
McKinney	Renville	1.640	30	39.1	92	Aug. 30†	−32	Feb. 4	30	16.82	3.10	June	0.16	Feb.	23.2	44	......	......	......	nw.
McLeod	Ransom	1,075	11	42.6	95	July 19	−31	Feb. 3	11	24.67	9.54	June	0.13	Dec.	28.5	69	203	42	120	nw.
Maddock	Benson	1,604	10	40.0	97	July 18	−32	Feb. 3	10	14.48	3.32	July	0.19	Dec.	18.0	68	93	171	101	nw.
Mandan	Morton	1,644	10	42.0	97	July 8†	−29	Feb. 3	10	14.41	4.12	July	0.14	Dec.	......	77	171	74	120	nw.
Manfred	Wells	1,605	21	39.9	100	July 19	−30	Feb. 3	21	14.00	2.46	July	0.45	Dec.	31.3	84	160	107	98	nw.
Marmarth	Slope	2,714	11	......	......	......	......	......	11	......	......	......	......	......	......	......	......	......	......	......
Mayville	Traill	975	28	......	......	......	......	......	28	......	......	......	......	......	......	......	......	......	......	......
Melville	Foster	1,590	26	40.4	95	July 18	−30	Feb. 15	26	13.95	2.70	Sept.	0.12	Feb.	20.0	43	......	......	......	nw.
Minot	Ward	1,557	25	38.5	98	July 7	−34	Feb. 3	25	14.44	3.01	June	0.15	Jan.	21.5	58	148	165	52	w.
Minto	Walsh	820	31	39.8	95	July 18†	−35	Feb. 3	31	15.56	3.31	Sept.	0.21	Dec.	......	75	155	132	78	ne.
Mott	Hettinger	2,424	17	40.5	96	July 19	−29	Feb. 14	17	19.21	3,87	Sept.	0.23	Feb.	23.8	67	133	102	130	se.
Napoleon	Logan	1.955	32	39.6	93	July 18	−31	Feb. 3	32	18.21	5.85	June	0.15	Feb.†	22.5	72	189	50	126	nw.
New England	Hettinger	2,400	30	41.3	94	July 19	−27	Feb. 14	30	19.55	5.80	Sept.	0.10	Dec.	24.0	59	......	......	......	nw.
New Salem	Morton	2,163	20	41.0	100	May 26	−28	Feb. 14	20	16.02	3.14	July	0.23	Dec.	......	77	171	139	55	nw.
Park River	Walsh	998	20	......	95	July 18	−31	Feb. 3	20	......	4.19	Sept.	0.20	Feb.	......	......	......	......	......	nw.
Parshall	Mountrail	......	......	......	......	......	......	......	8	13.60	2.97	Sept.	0.00	Jan.	......	40	......	......	......	......
Pembina	Pembina	789	43	37.2	103	July 9	−36	Feb. 3	43	15.37	3.70	June	T.	Apr.	20.0	37	177	84	104	s.
Pettibone	Kidder	1,856	14	38.9	96	July 18	−34	Feb. 6	14	16.09	3.33	June	0.10	Feb.	21.8	69	......	......	......	sw.
Power	Richland	1,020	......	......	......	......	......	......	30	......	10.27	June	......	......	......	......	......	......	......	......
Powers Lake	Burke	2,205	......	......	......	......	......	......	10	16.03	5.47	June	0.20	Nov.	49.0	48	120	164	81	nw.
Richardton	Stark	2,467	8	42.9	96	Sept. 3	−28	Feb. 14	8	18.62	3.76	July	0.24	Dec.	34.0	76	152	118	95	nw.
Skaar	McKenzie	......	3	......	......	......	......	......	3	......	......	......	......	......	......	......	......	......	......	......
Stanton	Mercer	......	1	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
Steele	Kidder	1.857	27	39.6	95	July 7	−31	Feb. 14	27	21.15	6.04	July	0.14	Dec.	19.3	52	154	138	73	se.
Towner	McHenry	1,482	22	40.3	98	July 7	−33	Feb. 1	22	12.42	1.98	June	0.24	Jan.†	44.5	38	190	105	70	se.
Turtle Lake	McLean	1,899	9	40.2	96	July 7	−29	Feb. 3	9	16.25	5.37	June	0.26	Jan.	39.3	72	100	123	142	nw.
Valley City	Barnes	1,245	19	41.2	92	July 19	−29	Feb. 3	19	20.72	5.90	June	0.06	Oct.	16.5	79	103	186	76	nw.
Wahpeton	Richland	962	30	44.4	98	July 22	−28	Feb. 4	30	18.74	6.95	June	0.18	Jan.	......	60	233	6	126	nw.
Walhalla	Pembina	966	16	......	101	July 18†	−32	Feb. 3	16	......	2.55	Aug.	......	......	......	......	......	......	......	nw.
Washburn	McLean	1,731	24	......	......	......	......	......	24	17.40	6.16	July	0.26	Mar.	......	63	......	......	......	......
Westhope	Bottineau	1,508	18	39.2	97	July 7†	−40	Feb. 3	18	......	4.01	July	0.14	Dec.	......	......	......	......	......	nw.
Williston	Williams	1,875	45	41.6	97	Sept. 3	−30	Feb. 14	45	17.00	5.93	July	0.18	Dec.	42.6	103	85	130	150	se.
Willow City	Bottineau	1,471	32	36.9	93	July 7	−40	Feb. 3	32	14.95	2.61	June	0.47	Nov.	50.0	71	141	138	86	nw.
Moorhead, Minn.	Clay	935	43	41.4	93	July 19	−24	Feb. 3	43	19.05	6.73	June	0.29	Mar.	25.7	96	113	103	149	n.

† Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1923, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	0.72	+0.22	1.74	+1.34	0.30	-0.27	0.72	-1.16	3.47	+0.63	3.29	-0.58	2.61	-0.40	2.49	-0.23	1.55	-0.42	0.28	-1.01	0.28	-0.26	0.56	+0.05	18.01	-2.09
Amidon	0.43	......	0.20	......	0.16	......	1.35	......	2.20	......	2.70	......	2.24	......	3.32	......	5.00	......	1.65	......	0.20	......	0.35	......	19.80	......
Arnegard	0.15	......	0.42	......	0.33	......	2.47	......	0.79	......	4.53	......	1.29	......	1.68	......	2.91	......	0.52	......	0.22	......	0.30	......	15.61	......
Ashley	0.84	+0.29	0.64	+0.17	0.70	-0.49	1.18	-0.79	3.20	+0.74	6.62	+3.13	3.75	+1.09	1.99	-0.21	2.88	+1.86	0.76	-0.30	0.27	-0.27	0.60	+0.09	23.43	+5.31
Beach	0.87	+0.24	0.42	-0.09	0.11	0.67	1.41	-0.01	0.90	-1.91	3.70	+0.22	2.19	+0.39	0.24	-1.81	4.52	+3.25	0.41	-0.58	0.78	+0.24	0.11	0.40	15.66	1.13
Berthold Agency	0.06	-0.34	T.	-0.55	0.05	-0.79	0.40	-0.76	0.50	-1.96	2.04	-1.84	1.96	-0.01	2.08	+0.31	2.19	+0.75	1.31	+0.45	0.34	0.14	0.10	0.30	11.03	-5.18
Bismarck	0.29	-0.25	0.46	0.04	0.28	-0.76	2.01	+0.13	1.01	1.49	1.99	-1.55	4.77	+2.63	0.63	1.35	2.83	+1.64	1.03	0.00	0.29	0.39	0.22	0.40	15.81	-1.83
Bottineau	0.33	-0.13	0.50	+0.13	0.16	-0.64	0.85	-0.02	1.32	-0.72	5.83	+2.69	3.44	+1.16	4.98	+2.77	1.05	0.52	0.56	-0.43	0.27	0.27	0.17	0.32	19.46	+3.70
Bowbells	0.59	-0.08	1.40	+1.03	0.31	-0.22	1.84	+0.58	1.02	-1.29	4.99	+1.90	3.14	+1.00	1.37	-0.83	1.11	-0.51	1.37	+0.62	0.23	0.28	0.16	-0.28	17.53	+1.64
Bowman	0.64	......	0.03	......	0.12	......	0.50	......	1.91	......	4.78	......	2.00	......	1.21	......	3.92	......	2.70	......	0.04	......	0.08	......	17.96	......
Cando	0.90	+0.50	0.67	+0.44	0.51	-0.12	1.02	+0.13	2.19	-0.21	1.93	1.95	......	......	......	......	0.75	-0.68	0.93	+0.21	0.52	+0.01	0.31	-0.05	......	......
Carson	0.22	-0.12	0.16	0.14	0.32	-0.34	2.10	+0.55	0.30	-2.34	5.34	+1.47	5.82	+3.88	2.13	+0.73	4.79	+3.06	0.75	-0.13	0.55	0.01	0.40	-0.11	22.88	+6.47
Cooperstown	0.50	0.00	0.30	-0.01	T.	-0.54	1.05	0.00	2.15	-0.06	3.12	-0.52	3.45	+0.72	1.45	-1.21	3.20	+1.54	0.20	-0.67	0.70	+0.16	0.55	-0.02	16.67	-0.61
Crosby	0.52	-0.03	0.38	+0.12	0.17	-0.49	1.76	+0.74	0.75	-1.27	5.72	+2.76	4.48	+2.50	1.55	-0.66	1.80	+0.56	0.64	-0.12	0.68	-0.08	0.22	0.29	18.67	+3.74
Devils Lake	0.42	-0.18	0.73	+0.20	0.76	-0.25	1.44	-0.59	2.04	-0.16	1.46	-2.07	2.07	-1.71	2.25	-0.51	1.63	+0.24	1.25	+0.02	0.47	-0.24	0.23	0.16	14.75	-5.41
Dickinson	0.30	-0.12	0.20	-0.23	0.37	-0.47	1.55	+0.32	1.46	-0.97	4.49	+1.45	4.67	+2.35	0.82	-1.13	4.20	+3.13	1.12	+0.34	0.31	-0.17	0.18	-0.24	19.67	+4.26
Donnybrook	0.59	+0.20	0.62	+0.11	0.40	-0.37	3.14	+2.09	1.23	-1.01	3.08	+0.22	3.23	+0.60	2.39	+0.25	1.25	-0.41	2.32	+1.34	0.24	0.35	0.51	+0.03	19.00	+2.70
Dunn Center	0.43	-0.08	0.50	-0.06	0.70	-0.41	3.82	+2.50	1.38	-1.16	2.23	-2.07	3.82	+1.77	2.10	+0.53	3.80	+2.68	1.07	+0.44	0.30	-0.32	0.10	0.46	20.25	+3.36
Dunseith	0.35	-0.12	1.27	+0.85	0.40	-0.37	0.67	-0.16	0.90	-0.80	4.21	+1.25	3.99	+1.65	......	......	0.89	0.68	0.47	-0.28	......	......	0.16	-0.25	......	......
Eckman	0.40	-0.16	0.71	+0.36	0.47	-0.03	1.49	+0.44	1.28	-0.90	3.42	+0.66	1.88	-0.56	0.97	-1.35	1.33	+0.20	0.93	+0.08	0.19	-0.35	0.20	0.42	13.27	-2.03
Edgeley	0.72	+0.43	0.38	+0.06	0.20	-0.60	0.79	1.09	4.46	+1.79	6.43	+3.07	3.10	+0.30	2.17	+0.03	1.03	-0.63	0.45	-0.47	0.46	+0.12	0.30	-0.09	20.49	-2.92
Ellendale	0.59	+0.19	0.47	-0.01	0.26	-0.94	1.38	0.45	1.79	-1.22	6.86	+3.86	3.62	+0.72	1.45	-0.81	1.11	-0.24	0.42	-0.62	0.23	-0.55	0.24	0.09	18.42	-0.16
Energy	0.47	+0.18	0.43	+0.17	0.35	-0.32	1.36	+0.22	1.44	-0.76	0.91	-2.70	3.32	+1.14	1.41	-0.54	2.50	+0.96	1.26	+0.56	0.85	+0.59	0.15	-0.20	14.45	-0.70
Epping	0.52	-0.04	0.75	+0.40	0.20	-0.36	0.86	-0.29	0.24	-2.07	6.31	+2.97	1.96	+0.04	0.87	-1.28	2.10	+0.64	0.60	-0.29	0.24	-0.18	0.12	0.31	14.77	-0.77
Fessenden	0.45	-0.15	1.40	+1.07	0.53	-0.19	0.82	-0.72	1.08	-1.20	1.32	-2.73	2.65	+0.18	1.38	-1.00	2.31	+0.59	1.18	+0.40	0.78	+0.14	0.29	0.44	14.19	-4.05
Finley	......	......	......	......	0.36	......	1.20	......	1.79	......	3.43	......	5.59	......	2.55	......	2.64	......	0.18	......	0.53	......	0.43	......	......	......
Forman	1.36	+0.83	0.40	-0.13	0.20	-0.70	2.43	+0.24	2.20	-0.78	5.49	+1.88	3.88	+0.85	2.60	-0.11	1.43	-0.39	0.40	-0.94	0.63	+0.07	0.16	-0.38	21.18	+0.44
Foxholm	0.76	......	0.25	......	0.78	......	2.29	......	0.86	......	2.59	......	3.50	......	1.41	......	1.47	......	1.47	......	0.50	......	0.63	......	16.51	......
Fryburg	0.43	......	0.66	......	0.50	......	1.50	......	1.44	......	4.23	......	5.16	......	0.56	......	5.68	......	0.77	......	0.34	......	0.33	......	21.60	......
Fullerton	1.34	+0.59	2.10	+1.29	0.79	-0.43	1.82	-0.18	2.93	-0.31	8.37	+5.09	2.89	-0.43	2.32	-0.21	1.16	-0.91	0.44	-0.85	0.90	+0.17	0.44	-0.40	25.50	+3.42
Garrison	0.29	-0.14	0.21	-0.32	0.21	-0.83	1.40	+0.20	2.04	-0.13	1.93	-1.39	3.95	+1.85	2.20	+0.20	2.98	+1.62	0.91	+0.01	0.70	+0.12	T.	-0.57	16.82	+0.62
Grafton	0.49	-0.11	1.11	+0.53	0.43	-0.26	0.60	-0.88	1.68	-0.43	2.42	-0.82	2.12	-0.36	2.42	-0.17	3.13	+1.31	0.72	-0.17	0.67	+0.01	0.22	-0.32	16.01	-1.67
Grand Forks	0.28	-0.30	0.76	+0.23	0.65	-0.06	1.26	-0.67	2.78	+0.24	2.27	-1.12	3.46	+0.71	3.21	+0.75	2.22	+0.36	0.38	-0.78	0.65	-0.05	0.96	+0.33	18.88	-0.36
Granville	0.46	-0.05	1.31	+0.93	0.42	-0.15	2.09	+1.13	0.72	-1.12	2.15	-0.60	1.63	-0.44	1.54	-0.55	2.45	+1.20	0.88	0.00	0.22	-0.39	0.32	-0.23	14.19	-0.27
Hannah	0.64	-0.08	1.40	+0.84	0.88	+0.22	1.10	-0.16	2.16	+0.06	2.11	-1.33	2.23	-0.23	4.39	+2.54	1.19	-0.95	1.14	+0.18	0.29	-0.39	0.40	-0.23	17.93	+0.47
Hansboro	1.05	+0.10	1.09	+0.61	1.68	+1.02	1.85	+0.56	2.16	+0.08	6.10	+3.41	3.42	+1.44	4.47	+2.25	0.75	-1.15	......	......	0.75	+0.29	......	......	......	......
Hettinger	0.70	+0.38	0.20	-0.08	0.01	-0.75	0.37	-0.79	0.79	-1.13	5.83	+2.59	3.17	+0.38	1.97	+0.72	3.74	+2.44	1.69	+1.05	0.46	+0.14	0.60	+0.26	19.53	+5.01
Hillsboro	0.35	-0.39	0.20	-0.48	T.	-0.74	1.18	-0.83	2.07	-1.45	4.00	+0.65	3.35	+0.72	2.03	-0.91	2.10	-0.39	T.	-1.02	0.63	-0.18	0.65	-0.25	16.56	-5.27
Howard	1.20	+0.45	0.85	+0.16	1.21	+0.07	1.19	-0.21	2.33	+0.15	4.08	+1.49	2.63	+1.03	0.95	-0.94	2.28	+0.91	0.32	-0.49	1.04	+0.53	0.36	-0.46	18.44	+2.69
Jamestown	0.96	+0.32	0.78	+0.20	0.33	-0.67	0.86	-0.88	3.89	+1.20	3.92	+0.11	3.08	+0.33	3.43	+0.69	2.75	+1.22	0.77	-0.16	0.27	-0.46	0.47	-0.28	21.51	+1.65
Lamoine	0.64	+0.03	0.33	-0.06	0.40	-0.37	1.56	+0.59	......	......	1.00	-2.32	4.14	+1.59	1.49	-0.49	......	......	0.76	+0.18	0.63	+0.09	0.16	-0.34	......	......
Langdon	0.05	-0.60	0.62	-0.03	0.60	-0.24	0.71	-0.62	0.77	-1.48	1.98	-1.52	0.70	-1.86	4.55	+1.90	2.12	+0.13	1.04	+0.10	1.07	+0.37	0.36	-0.37	14.57	-4.22
Larimore	0.40	-0.31	0.48	+0.01	0.44	-0.25	1.79	+0.17	4.63	+2.16	6.52	+3.02	3.25	+0.26	2.42	-0.18	2.23	+0.34	0.15	-1.08	0.72	+0.04	0.24	-0.30	23.27	+3.88
Linton	0.56	......	0.38	......	0.20	......	1.44	......	2.01	......	4.58	......	3.35	......	1.48	......	2.92	......	0.81	......	0.16	......	0.40	......	18.29	......
Lisbon	0.52	-0.18	0.60	0.13	0.05	-0.51	1.50	-0.39	4.62	+1.43	6.98	+2.69	3.98	+0.45	1.71	-0.55	1.21	-0.94	0.28	-0.74	1.42	+0.80	0.40	-0.01	23.27	+1.92
McClusky	0.48	......	1.02	......	1.10	......	1.70	......	1.89	......	0.98	......	1.82	......	1.16	......	1.47	......	0.98	......	0.38	......	0.42	......	13.40	......
McHenry	0.24	-0.45	2.10	+1.59	0.33	-0.26	3.81	+2.26	2.00	-0.49	2.39	-0.83	4.57	+1.38	2.21	-0.97	3.14	+1.49	0.95	+0.04	0.69	+0.20	0.36	-0.56	22.79	+3.40
McKinney	0.37	0.00	0.16	-0.12	0.20	-0.53	2.16	+1.27	1.00	-0.96	3.10	-0.12	3.00	+0.94	1.85	+0.06	2.30	+0.87	1.85	+1.01	0.35	-0.24	0.48	+0.01	16.82	+2.22
McLeod	1.29	+0.62	1.07	+0.49	0.17	-0.46	1.99	-0.40	2.86	-0.92	9.54	+5.34	3.49	+0.06	1.12	-1.23	1.70	-0.84	0.63	-0.43	0.68	+0.09	0.13	-0.32	24.67	+2.00
Maddock	0.21	......	0.95	......	0.27	......	0.99	......	2.54	......	1.22	......	3.32	......	1.31	......	2.23	......	0.84	......	0.41	......	0.19	......	14.48	......
Mandan	0.36	......	0.38	......	0.16	......	1.21	......	1.82	......	1.94	......	4.12	......	1.15	......	2.30	......	0.55	......	0.28	......	0.14	......	14.41	......
Manfred	0.62	-0.03	0.68	+0.25	0.54	-0.24	1.83	+0.56	1.36	-1.00	1.60	-1.98	2.46	+0.16	1.19	-1.27	1.93	+0.58	0.80	-0.01	0.54	-0.20	0.45	-0.31	14.00	-3.49
Marmarth	0.38	+0.08	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	0.30	-0.04	......	......
Mayville	0.30	-0.19	0.80	+0.41	0.75	+0.04	1.90	+0.15	......	......	2.26	-1.25	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Melville	0.28	-0.10	0.12	-0.21	0.60	-0.08	1.26	+0.15	1.80	-0.87	2.46	-1.05	2.00	-0.74	1.67	-0.32	2.70	+1.32	0.35	-0.52	0.42	-0.11	0.29	-0.17	13.95	-2.70
Minot	0.15	-0.30	0.40	-0.06	0.40	-0.37	1.66	+0.34	1.39	-0.58	3.01	-0.25	2.33	+0.48	1.18	-1.02	1.50	-0.08	1.52	+0.58	0.55	-0.13	0.35	-0.16	14.44	-1.55
Minto	0.34	-0.15	0.93	+0.45	0.36	-0.46	0.79	-0.78	1.57	-0.77	2.51	-0.79	2.58	-0.18	1.27	-1.14	3.31	+1.31	1.18	+0.08	0.61	-0.04	0.21	-0.27	15.56	2.72
Mott	0.80	-0.08	0.23	-0.34	0.30	-0.74	1.33	-0.17	2.30	-0.06	3.50	+0.10	3.12	+0.75	2.55	+0.91	3.87	+2.30	0.44	-0.65	0.37	-0.09	0.40	-0.18	19.21	+1.75
Napoleon	0.90	+0.45	0.15	-0.25	0.15	-0.78	1.32	-0.35	1.55	-0.85	5.85	+2.23	4.01	+1.53	1.04	-1.35	2.06	+0.82	0.67	-0.27	0.26	-0.33	0.25	-0.23	18.21	+0.62
New England	0.68	+0.26	0.56	+0.02	0.20	-0.67	1.27	+0.25	1.11	-1.04	3.28	+0.59	3.24	+1.23	1.44	-0.33	5.80	+4.68	1.62	+0.97	0.25	-0.24	0.10	-0.31	19.55	+5.41
New Salem	0.31	-0.32	1.19	+0.81	0.41	-0.55	2.04	+0.81	1.02	-1.35	2.96	-0.75	3.14	+1.04	0.44	-1.23	2.51	+1.16	1.16	+0.21	0.61	+0.26	0.23	-0.30	16.02	-0.21
Park River	0.28	-0.16	0.20	-0.24	0.39	-0.16	0.64	-0.67	2.40	+0.17	2.03	-1.30	3.59	+1.21	......	......	4.19	+2.60	0.75	-0.36	0.55	-0.21	0.26	-0.27	......	......
Parshall	0.00	......	0.50	......	T.	......	1.72	......	0.03	......	2.46	......	2.36	......	1.74	......	2.97	......	1.49	......	0.17	......	0.16	......	13.60	......
Pembina	0.26	-0.38	1.12	+0.41	0.08	-0.82	T.	-1.41	1.50	-0.72	3.70	+0.42	2.50	+0.12	1.67	-0.46	3.34	+1.65	0.80	-0.54	0.20	-0.48	0.20	-0.56	15.37	-2.77
Pettibone	0.40	-0.11	0.10	-0.26	0.30	-0.24	1.27	-0.13	2.33	-0.52	3.33	+0.11	1.08	-1.67	2.15	-0.14	2.26	+0.87	1.40	+0.75	0.93	+0.38	0.54	-0.14	16.09	-1.10
Power	......	......	......	......	0.50	-0.20	1.44	-0.39	1.76	-1.13	10.27	+6.31	3.26	-0.12	1.73	-0.74	1.84	-0.22	......	......	0.88	+0.26	0.50	-0.04	......	......
Powers Lake	0.85	+0.07	1.05	+0.57	0.60	-0.28	1.85	+0.29	0.75	-1.05	5.47	+2.61	2.68	+0.90	1.35	-0.24	0.23	-0.86	0.65	-0.17	0.20	-0.36	0.35	-0.28	16.03	+1.20
Richardton	0.55	......	0.60	......	0.81	......	1.47	......	1.86	......	3.75	......	3.76	......	0.79	......	3.05	......	1.32	......	0.40	......	0.24	......	18.62	......
Skaar	0.80	......	0.15	......	0.50	......	2.15	......	2.15	......	4.28	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Stanton	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2.14	......	0.77	......	0.65	......	0.12	......	......	......
Steele	0.47	-0.05	0.48	+0.03	0.15	-0.78	1.20	+0.09	2.36	-0.13	3.24	-0.09	6.04	+3.16	2.73	+0.39	2.38	+1.14	1.69	+0.81	0.27	-0.32	0.14	-0.39	21.15	+3.86
Towner	0.24	-0.25	1.16	+0.78	0.21	-0.66	1.40	+0.30	1.64	-0.68	1.98	-1.10	1.36	-0.87	1.31	-0.78	1.41	-0.24	0.53	-0.37	0.35	-0.13	0.80	+0.39	12.42	-3.61
Turtle Lake	0.26	......	0.67	......	0.31	......	1.31	......	1.52	......	1.45	......	5.37	......	1.97	......	1.40	......	1.08	......	0.54	......	0.37	......	16.25	......
Valley City	0.41	-0.25	0.27	-0.08	0.23	-0.27	1.06	0.53	2.36	-0.77	5.90	+2.59	4.51	+1.67	2.21	-0.04	2.75	+1.11	0.06	-0.77	0.60	-0.02	0.36	-0.19	20.72	+2.45
Wahpeton	0.18	-0.33	0.44	-0.09	0.20	-0.71	1.78	-0.45	1.94	-0.87	6.95	+3.00	1.75	-2.05	1.95	-0.95	2.02	-0.20	0.76	-0.75	0.37	-0.32	0.40	-0.05	18.74	-3.77
Walhalla	0.48	-0.36	1.30	+0.79	1.04	+0.37	0.84	-0.47	1.13	-1.52	1.53	-1.34	2.18	-0.76	2.55	+0.18	1.56	-0.26	0.87	-0.16	0.83	+0.16	......	......	......	......
Washburn	0.36	-0.03	0.46	+0.07	0.26	-0.39	1.28	+0.18	1.77	-0.61	1.35	-2.20	6.16	+3.86	1.87	+0.54	2.35	+1.16	0.66	-0.28	0.61	-0.03	0.27	-0.07	17.40	+2.20
Westhope	0.53	-0.03	0.56	+0.37	0.20	-0.29	......	......	0.87	-1.17	3.53	+0.59	4.01	+2.06	1.89	-0.34	1.31	+0.12	1.25	+0.58	0.48	-0.10	0.14	-0.23	......	......
Williston	0.56	-0.02	0.76	+0.29	0.44	-0.24	2.03	+0.80	0.50	-1.76	5.93	+2.36	1.38	-0.65	1.05	-0.26	2.60	+1.69	0.79	+0.02	0.78	+0.18	0.18	-0.48	17.00	+1.93
Willow City	0.64	+0.06	0.88	+0.42	0.94	+0.21	1.05	+0.10	1.43	-0.49	2.61	-0.57	1.48	-0.61	1.92	-0.16	2.19	+0.64	0.70	0.00	0.47	-0.04	0.64	+0.10	14.95	-0.34
Moorhead, Minn.	0.47	-0.24	0.45	-0.28	0.29	-0.85	1.28	-1.05	1.85	-1.10	6.73	+2.60	2.34	-1.40	2.83	-0.27	1.68	-0.62	0.32	-1.75	0.30	-0.68	0.51	-0.23	19.05	-5.87

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1923, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	10.4	+5.9	3.4	−3.6	17.0	−6.6	38.4	−3.9	^{b}52.6	−1.5	67.4	+3.9	71.4	+2.7	63.0	−3.3	59.6	+2.3	44.8	+0.5	33.7	+6.4	20.0	+7.3	40.1	+0.8
Amidon	19.6	.....	11.0	.....	26.8	.....	42.2	.....	54.6	.....	64.5	.....	72.6	.....	65.8	.....	60.8	.....	44.9	.....	39.4	.....	27.4	.....	44.1	.....
Arnegard	14.6	.....	7.0	.....	19.6	.....	39.4	.....	53.9	.....	65.0	.....	71.8	.....	61.8	.....	59.6	.....	43.9	.....	38.0	.....	24.4	.....	41.8	.....
Ashley	14.0	+6.5	7.0	−0.8	^{a}22.2	+0.2	40.5	−2.0	54.8	+2.1	65.0	+3.0	^{b}71.5	+3.1	63.4	−2.5	^{a}59.8	+2.5	45.2	+1.5	^{b}37.8	+10.1	23.8	+10.3	42.1	+2.9
Beach	17.6	+8.3	7.8	−5.8	23.8	−2.7	39.7	−2.8	^{a}52.2	+2.1	63.8	+2.7	71.4	+4.1	63.5	−1.5	60.0	+3.7	43.4	−0.6	36.2	+4.8	^{a}26.0	+ 9.5	42.1	+1.8
Berthold Agency	13.0	+5.5	5.6	−3.8	22.8	−1.9	40.4	−3.3	55.0	+1.3	67.0	+4.4	^{f}72.0	+3.1	^{a}63.4	−4.3	60.6	+3.6	45.0	+0.3	38.2	+9.4	24.6	+ 8.9	42.3	+1.9
Bismarck	12.3	+4.5	7.4	−0.9	21.3	−2.9	41.1	−1.2	56.2	+1.7	66.6	+2.9	73.3	+3.6	65.4	−1.9	61.2	+3.1	45.6	+0.7	38.8	+10.3	25.4	+10.7	42.9	+2.6
Bottineau	− 0.2	+0.5	− 4.1	−5.9	9.1	−8.6	32.2	−7.2	51.5	+0.2	66.0	+5.0	68.8	+3.0	59.7	−3.9	59.0	+3.5	43.5	+1.9	33.4	+9.8	18.5	+11.8	36.5	+0.9
Bowbells	6.5	+3.3	0.3	−5.5	13.8	−5.0	35.8	−2.6	52.7	+2.1	64.6	+4.4	69.2	+3.4	61.4	−2.5	57.7	+4.9	^{c}45.2	+4.9	29.2	+4.4	17.2	+ 6.5	37.8	+1.5
Bowman	19.7	.....	9.6	.....	26.7	.....	40.0	.....	52.6	.....	62.5	.....	71.3	.....	63.8	.....	59.0	.....	43.0	.....	36.8	.....	24.8	.....	42.5	.....
Cando	^{a} 6.2	+7.7	0.4	−2.4	^{a}13.8	−6.7	^{b}38.2	−2.4	^{a}54.2	+2.7	67.8	+6.6	71.6	+3.5	.....	.....	59.2	+3.6	43.6	−0.1	^{b}35.7	+9.2	^{a}19.8	+12.6	.....	.....
Carson	14.7	+4.8	8.0	−5.7	20.1	−4.4	36.8	−5.2	54.1	+1.8	64.2	+1.2	.....	.....	63.6	−4.0	60.2	+3.8	.....	.....	43.4	+12.7	25.7	+ 9.7	.....	.....
Crosby	8.6	+6.9	2.8	−4.3	^{a}18.7	−3.3	38.5	−2.1	53.2	+2.8	65.5	+4.9	70.2	+1.3	63.8	+0.1	58.8	+5.1	42.7	+1.2	35.8	+8.0	19.9	+ 7.6	39.9	+2.6
Devils Lake	6.0	+5.7	2.0	−2.5	12.4	−6.1	37.4	−0.8	54.5	+1.8	67.0	+4.4	71.8	+3.7	62.0	−3.1	58.2	+2.6	42.8	+2.3	35.6	+13.0	20.4	+12.4	40.3	+2.8
Dickinson	15.2	+4.9	6.9	−4.9	22.2	−2.2	39.1	−3.8	52.4	+0.2	65.3	+4.0	70.0	+2.0	63.1	−3.2	57.4	+0.9	43.0	−0.9	36.7	+8.1	22.8	+ 5.5	41.2	+0.9
Donnybrook	11.4	+8.0	4.6	−2.4	17.4	−5.0	38.8	−1.6	55.0	+4.9	67.6	+7.1	72.2	+6.4	^{b}62.7	−0.6	59.4	+5.4	45.8	+3.7	^{c}39.4	+10.6	.....	.....	.....	.....
Dunn Center	14.4	+0.6	7.6	−5.4	22.8	−1.3	38.7	−3.9	^{j}49.6	−3.7	.....	.....	^{a}70.9	+2.9	62.6	−4.0	58.2	+1.1	^{a}45.0	−0.6	38.2	+9.8	25.2	+ 4.7	.....	.....
Dunseith	5.4	+3.9	2.0	−1.4	12.2	−6.6	36.8	−3.6	53.8	+1.9	66.9	+5.7	68.0	+3.6	.....	.....	60.2	+5.4	42.0	+0.9	.....	.....	19.9	+11.6	.....	.....
Eckman	^{c} 5.6	+5.0	2.5	−3.9	^{g}12.5	−9.6	^{a}36.4	−5.2	53.6	+3.0	66.4	+5.1	^{a}72.2	+6.4	^{b}62.5	−0.8	^{a}57.8	+2.3	^{b}42.6	−0.1	^{c}36.8	+10.5	.....	.....	.....	.....
Edgeley	12.6	+4.8	7.2	−3.7	21.2	−5.3	40.9	−2.3	55.0	+1.5	65.5	+2.7	71.4	+2.9	63.3	−3.1	60.0	+2.5	44.5	−1.4	38.2	+7.8	24.2	+ 7.7	42.0	+1.2
Ellendale	13.4	+2.7	7.4	−3.3	20.7	−4.9	40.5	−3.1	54.6	−1.1	65.8	−0.2	71.6	+0.9	63.8	−5.0	60.5	+2.1	44.9	−0.7	37.5	+11.4	23.7	+ 6.9	42.0	+0.4
Energy	12.1	.....	8.4	.....	22.0	.....	^{a}40.2	.....	55.4	.....	67.8	.....	73.1	.....	63.6	.....	60.1	.....	44.2	.....	38.4	.....	27.3	.....	42.4	.....
Epping	10.8	.....	3.8	.....	19.4	.....	37.2	.....	52.4	.....	64.5	.....	69.9	.....	62.6	.....	59.0	.....	45.2	.....	30.4	.....	17.4	.....	39.4	.....
Fessenden	8.0	+4.8	0.8	−7.1	15.2	−6.2	39.4	−0.8	56.9	+5.4	69.4	+8.4	74.4	+7.3	65.1	+0.1	60.7	+5.6	48.4	+6.4	37.4	+10.4	.....	.....	.....	.....
Finley	.....	.....	.....	.....	^{i}13.5	.....	37.8	.....	54.8	.....	66.8	.....	71.2	.....	62.2	.....	59.4	.....	44.2	.....	37.1	.....	22.8	.....	.....	.....
Foxholm	8.6	.....	4.6	.....	16.3	.....	37.2	.....	53.4	.....	66.2	.....	69.7	.....	61.4	.....	58.9	.....	43.2	.....	36.7	.....	22.5	.....	39.9	.....
Fullerton	13.4	+5.6	7.6	−1.7	22.0	−3.2	41.2	−1.6	55.4	+2.1	66.2	+3.5	69.9	+1.5	64.0	−2.3	60.4	+3.7	44.9	+0.6	37.8	+8.1	24.1	+10.4	42.2	+2.2
Garrison	10.4	+3.9	5.1	−3.3	19.2	−2.5	38.1	−4.5	54.6	+2.0	65.6	+3.4	70.8	+2.7	62.2	−3.5	58.4	+1.6	42.8	−1.0	37.0	+10.0	23.0	+ 9.4	40.6	+1.5
Grafton	5.2	+4.3	4.4	−0.5	^{b}15.1	−4.1	38.4	−1.9	^{a}55.3	+2.4	68.2	+5.7	^{b}72.4	+4.9	62.8	−1.7	60.0	+4.1	^{a}45.9	+3.2	36.0	+12.0	22.0	+14.3	40.5	+3.6
Grand Forks	6.7	+3.1	3.9	−2.6	14.1	−8.3	38.4	−3.6	55.2	+1.8	67.9	+5.0	72.1	+4.7	62.9	−2.0	59.0	+2.8	44.2	+0.7	35.6	+9.5	19.9	+ 9.3	40.0	+1.7
Granville	9.3	+7.6	3.8	−4.6	15.8	−7.9	39.1	−3.4	54.8	+3.4	66.8	+3.7	71.2	+4.1	62.0	−1.9	59.2	+4.8	41.4	−2.7	34.8	+8.7	21.8	+ 9.4	40.0	+1.8
Hansboro	3.2	+5.5	−^{b}1.9	−1.8	11.8	−9.5	^{d}36.6	−3.3	53.4	+3.1	66.6	+6.2	70.4	+5.0	59.0	−3.8	^{f}54.0	−0.1	.....	.....	33.5	+7.6	^{c}17.6	+10.3	.....	.....
Hettinger	20.0	+7.5	11.8	−1.4	27.8	+0.2	40.0	−4.8	56.6	+3.8	64.9	+2.8	73.4	+3.9	64.4	−2.6	60.6	+2.6	43.3	−3.1	38.4	+5.0	26.6	+10.8	44.0	+2.1
Hillsboro	^{d} 7.7	+3.8	^{c} 2.8	−5.7	16.2	−8.5	^{i}40.0	−3.6	^{b}54.8	+1.6	67.6	+3.2	^{c}72.4	+2.9	62.8	−4.1	^{a}60.2	+1.2	^{c}46.0	0.0	^{b}34.8	+6.0	^{b}21.0	+ 8.4	40.5	+0.4
Howard	6.9	+5.4	0.2	−5.8	15.6	−5.2	36.0	−3.8	50.9	+1.5	63.3	+3.6	67.6	+2.1	61.4	−2.1	57.2	+3.4	42.8	+1.4	34.8	+7.1	21.2	+ 9.4	38.1	+1.4
Jamestown	11.4	+4.9	4.8	−3.1	16.8	−5.8	39.1	−3.4	54.8	+1.3	66.0	+2.9	68.4	−0.1	60.4	−5.8	57.8	+1.1	45.0	+0.2	36.7	+9.1	23.3	+ 9.7	40.4	+0.9
Lamoine	^{b} 9.6	+5.6	^{a} 3.3	−4.4	^{a}17.2	−5.8	^{b}39.8	−2.8	.....	.....	68.0	+7.5	71.5	+5.6	62.0	−1.9	58.2	+3.0	43.0	−0.1	36.4	+9.4	22.3	+11.1	.....	.....
Langdon	2.9	+5.6	− 1.0	−4.0	8.6	−10.4	34.2	−3.9	52.8	+2.0	65.4	+5.7	70.2	+5.7	58.7	−3.0	57.0	+3.5	42.0	+1.6	32.2	+6.5	17.7	+10.4	36.7	+1.6
Larimore	4.1	+1.5	3.9	−1.3	14.0	−7.0	37.9	−2.5	54.4	+2.0	67.4	+5.3	65.6	−1.1	62.4	−1.9	57.8	+2.6	43.9	+0.6	36.1	+10.3	22.2	+11.4	39.1	+1.6
Linton	13.6	.....	6.4	.....	24.0	.....	^{e}43.0	.....	57.4	.....	66.2	.....	74.0	.....	66.2	.....	62.0	.....	46.0	.....	33.6	.....	21.6	.....	42.8	.....
Lisbon	10.5	+4.6	6.0	−3.6	20.4	−6.2	40.3	−2.4	54.8	+1.9	67.4	+4.3	71.9	+3.7	64.1	−2.4	60.2	+2.5	42.0	−3.3	35.2	+5.0	21.8	+ 7.7	41.2	+1.0
McClusky	11.0	.....	3.0	.....	19.0	.....	38.5	.....	54.4	.....	66.2	.....	71.4	.....	62.3	.....	59.0	.....	43.6	.....	36.3	.....	22.2	.....	40.6	.....
McHenry	^{b} 6.5	+5.4	4.6	−0.8	13.7	−9.9	^{i}42.2	+0.9	54.2	+1.9	66.4	+4.4	71.2	+3.6	66.6	+1.9	58.1	+3.7	43.6	+1.3	36.6	+10.1	17.2	+ 7.5	40.1	+2.5
McKinney	^{a} 7.4	+4.2	^{a} 2.9	−2.2	15.9	−3.3	^{d}37.4	−3.6	53.8	+1.8	65.6	+4.9	68.4	+2.4	^{a}61.2	−2.3	^{c}55.6	+1.5	43.2	+1.5	35.8	+12.2	20.7	+10.0	39.1	+2.3
McLeod	10.8	+3.1	5.8	−5.6	21.4	−4.5	43.8	+0.5	54.9	+0.8	67.4	+2.4	73.4	+3.2	65.2	−2.4	61.0	+4.1	45.8	+0.3	38.6	+8.9	23.2	+ 8.9	42.6	+1.6
Maddock	7.4	.....	3.3	.....	16.5	.....	38.5	.....	54.1	.....	65.0	.....	70.6	.....	61.5	.....	59.8	.....	44.2	.....	37.6	.....	21.8	.....	40.0	.....
Mandan	10.0	.....	4.7	.....	19.7	.....	40.6	.....	56.4	.....	67.2	.....	73.4	.....	64.8	.....	60.2	.....	45.2	.....	37.6	.....	24.0	.....	42.0	.....
Manfred	7.9	+3.9	4.2	−2.6	16.4	−6.7	38.0	−3.8	54.5	+2.9	65.2	+4.7	71.5	+4.6	61.0	−3.3	58.4	+2.5	42.6	−0.7	36.4	+7.4	21.5	+10.2	39.9	+1.6
Marmarth	24.6	+14.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mayville	^{a} 7.6	+1.5	3.8	−3.9	17.0	−6.2	37.6	−5.6	.....	.....	66.2	+1.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Melville	8.8	+3.2	^{a} 3.6	−3.0	17.0	−5.3	^{a}37.4	−2.7	53.2	+0.7	^{c}61.9	+2.0	^{a}71.8	+3.9	^{c}63.9	−2.5	^{b}60.2	+3.8	43.0	−0.6	37.6	+8.6	^{a}23.7	+11.9	40.4	+1.6
Minot	6.0	+1.0	1.6	−6.3	14.4	−7.0	34.8	− 6.9	51.8	−0.5	64.6	+2.1	67.8	−0.3	59.1	−6.0	56.4	−0.3	46.2	+2.6	^{i}36.8	+7.1	22.1	+ 9.7	38.5	−0.4
Minto	5.8	+4.0	3.1	−2.8	14.7	−6.4	37.9	−2.7	54.2	+0.8	67.2	+3.3	71.9	+4.8	62.6	−2.0	59.4	+3.0	44.4	+1.2	35.1	+10.9	20.6	+ 9.7	39.8	+2.0
Mott	13.6	+6.1	5.6	−6.2	22.8	−3.8	36.8	−5.8	55.4	+3.8	63.8	+0.8	69.6	+0.5	64.3	−1.6	54.7	−1.6	38.4	−4.6	36.2	+5.0	25.0	+10.9	40.5	+0.3
Napoleon	8.8	+2.9	2.4	−4.4	16.8	−4.5	39.4	−2.1	53.4	+1.0	63.0	+0.8	69.6	+1.3	62.6	−3.4	58.4	+1.5	43.3	+1.4	35.4	+8.8	21.7	+ 9.3	39.6	+1.1
New England	^{b}17.8	+4.5	8.4	−3.7	18.8	−5.6	38.6	−4.5	52.5	+0.9	64.6	+2.6	71.8	+3.3	64.4	−2.3	57.4	+1.6	42.0	−1.7	35.5	+5.3	23.8	+ 6.4	41.3	+0.6
New Salem	11.8	+4.1	4.4	−6.2	19.2	−5.3	36.0	−6.5	49.8	−1.5	61.9	−0.9	72.0	+2.7	52.5	−1.2	60.8	+3.6	44.4	+0.1	39.7	+9.0	26.7	+11.8	41.0	+0.8
Park River	6.2	+4.4	^{c} 3.0	−2.7	14.4	−7.7	36.7	−4.8	55.0	+2.8	67.4	+4.2	71.2	+3.4	.....	.....	59.2	+2.3	44.0	−0.3	35.8	+8.8	21.7	+10.6	.....	.....
Pembina	1.2	+4.1	− 1.4	−2.8	7.4	−8.6	35.4	−2.5	54.0	+1.5	67.4	+4.8	70.6	+2.9	61.7	−2.4	56.7	+2.9	40.0	−0.9	33.8	+11.1	19.3	+13.3	37.2	+2.0
Pettibone	^{b} 8.2	+8.2	2.3	−2.3	13.8	−10.0	38.2	−3.7	^{a}53.8	+3.3	^{j}62.7	+2.5	70.4	+4.6	^{b}61.1	−1.3	58.6	+4.9	42.6	+1.4	35.0	+8.1	19.8	+ 9.4	38.9	+2.1
Richardton	15.6	.....	7.0	.....	23.1	.....	40.8	.....	54.6	.....	65.6	.....	71.4	.....	64.8	.....	61.4	.....	44.8	.....	38.8	.....	26.4	.....	42.9	.....
Skaar	^{a}14.8	.....	^{i} 1.2	.....	^{d}21.0	.....	39.9	.....	^{d}53.6	.....	^{c}64.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steele	7.6	0.0	2.6	−4.5	17.7	−4.4	38.4	−6.0	53.4	−0.4	64.0	+1.6	71.4	+2.0	65.0	−1.8	57.8	0.0	42.6	−1.4	33.3	+4.9	20.9	+ 7.3	39.6	−0.2
Towner	6.4	+3.8	0.4	−4.8	17.3	−1.9	39.4	−2.0	56.0	+3.7	68.7	+6.5	73.2	+6.1	62.8	−1.6	61.1	+5.3	45.0	+2.6	34.8	+9.8	18.4	+ 8.4	40.3	+3.0
Turtle Lake	8.2	.....	3.0	.....	16.5	.....	38.0	.....	54.4	.....	66.6	.....	70.8	.....	62.4	.....	58.4	.....	43.8	.....	37.2	.....	22.8	.....	40.2	.....
Valley City	9.0	+4.2	4.8	−4.8	17.2	−8.9	39.8	−4.0	55.8	+3.2	67.4	+4.2	71.8	+3.8	61.6	−1.0	61.0	+2.8	44.8	−0.4	36.6	+6.9	22.2	+ 8.5	41.2	+1.2
Wahpeton	11.4	+3.6	8.4	−1.5	22.8	−3.4	43.8	−0.5	57.4	+2.1	70.8	+6.0	74.4	+5.1	67.0	+0.1	63.6	+5.0	48.2	+2.3	38.4	+10.1	26.6	+11.9	44.4	+3.4
Walhalla	6.9	+7.1	5.6	+1.8	^{a}14.0	−5.9	38.4	−1.5	56.7	+6.6	68.0	+6.1	73.3	+6.6	63.1	−1.3	^{f}61.8	+5.5	46.3	+3.3	^{f}42.4	+15.3	.....	.....	.....	.....
Westhope	3.6	+5.0	^{c} 0.4	−2.9	11.4	−9.5	37.8	−1.9	53.0	+1.6	66.8	+5.2	70.8	+4.7	62.0	−2.1	58.2	+3.4	44.4	+3.0	39.6	+12.8	^{a}22.3	+13.3	39.2	+2.7
Williston	12.5	+6.0	5.5	−2.6	20.0	−2.9	40.2	−1.8	53.8	−0.2	66.0	+3.3	71.8	+2.9	64.2	−1.9	59.6	+3.0	44.7	+1.3	37.4	+10.2	24.2	+10.4	41.6	+2.5
Willow City	^{a} 3.6	+3.3	− 2.4	−5.1	9.6	−8.7	35.2	−5.0	52.6	+1.1	65.6	+4.6	69.0	+3.6	54.6	−8.9	56.4	+2.1	^{a}42.0	+0.3	33.8	+11.7	17.6	+ 9.1	36.9	+1.1
Moorhead, Minn.	11.0	+8.3	4.8	−3.3	17.3	−5.4	40.2	−0.4	55.8	+0.7	68.1	+3.7	72.5	+4.4	63.9	−2.2	60.6	+2.4	45.2	+0.7	35.8	+8.7	22.4	+10.9	41.4	+2.4

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49.]

ye was headed and ripening rapidly at the close of the month. pring wheat, where well planted, was generally in excellent ondition, but where stubbled in was fair to poor. Reports of lack stem rust were received at the close of the month.

JULY.—Heavy precipitation and high temperatures caused apid growth of all vegetation, but also caused rapid propagaion of black stem rust in spring wheat, the damage being exensive. The weather, however, was favorable for corn, which vas in good condition in all sections at the close of the month. mall grains ripened rapidly during the last decade, and some arly sown were harvested.

AUGUST.—Cool weather prevailed at the opening of the month nd continued generally until the close. In spite of the cool veather, black stem rust continued to cause deterioration in pring wheat, especially the late sown. Harvesting of rye, pring wheat, oats and barley was well advanced by the second lecade. Fall plowing, silo filling, potato digging and haying vere well under way at the close of the month.

SEPTEMBER.—During the first and second decades, weather avorable for threshing prevailed. Flax harvest also made exellent progress. Showers were prevalent during the third decde, and interfered considerably with threshing, but improved onditions for fall plowing, and for the seeding of winter rye. here was an abundance of fall feed, and livestock was in good o excellent condition.

OCTOBER.—Under favorable weather conditions, fall work nade rapid progress. Threshing was mostly completed during he month. Fall plowing and the seeding of winter rye coninued, the acreage sown to winter rye being somewhat below he average. Much shipping of livestock was done. Road contruction was active in all sections, and the condition of the nain highways was excellent.

NOVEMBER.—Mild and pleasant weather prevailed throughut the month, the mean temperature for the month being the ighest of record for November, with but one exception (1917). ate threshing and fall plowing were completed, and corn husking made rapid progress during the month. Livestock ranged freely on ranges and harvested fields, and were generally in fine condition.

DECEMBER.—The weather during the month, as during November, was mild and pleasant. Corn husking and marketing of grain were the main farm activities. Road work continued uninterruptedly throughout the month. Livestock grazed on harvested fields, thus saving much feed to the farmers of the State. The mean temperature was, with but one exception (1913) the highest in the climatological history of the State.

Climatological Summary, 1923.

Month.	Temperature in degrees Fahrenheit.				Precipitation, in inches.				Sky.			Prevailing direction of the wind.
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Snowfall.	Number of rainy days.	Clear.	Pt. cloudy.	Cloudy.	
anuary	10.1	+5.2	56	−35	0.53	−0.01	6.0	5	9	9	13	nw.
ebruary	4.1	−3.8	48	−40	0.65	+0.16	7.2	4	13	7	8	nw.
arch	18.3	−4.3	65	−35	0.41	−0.42	4.8	4	10	10	11	nw.
pril	38.7	−3.0	89	−15	1.45	+0.07	7.2	5	13	8	9	nw.
ay	54.1	+1.5	100	13	1.77	−0.78	0.2	6	15	10	6	nw.
une	66.1	+3.3	100	30	3.82	+0.32	0	8	13	12	5	se.
uly	71.2	+3.7	103	35	3.14	+0.53	0	8	16	11	4	se.
ugust	63.0	−2.4	97	28	1.90	−0.38	0	8	14	12	5	nw.
eptember	60.1	+3.7	99	15	2.39	+0.75	0	6	14	8	8	nw.
ctober	44.0	+0.2	84	− 8	0.88	−0.12	0.5	4	14	7	10	nw.
ovember	36.5	+9.9	72	− 5	0.50	−0.08	0.6	3	13	8	9	nw.
ecember	22.2	+9.2	62	−36	0.32	−0.22	3.6	3	16	8	7	nw.
Annual	40.7	+1.9	103	−40	17.76	−0.18	30.1	64	160	110	95	nw.

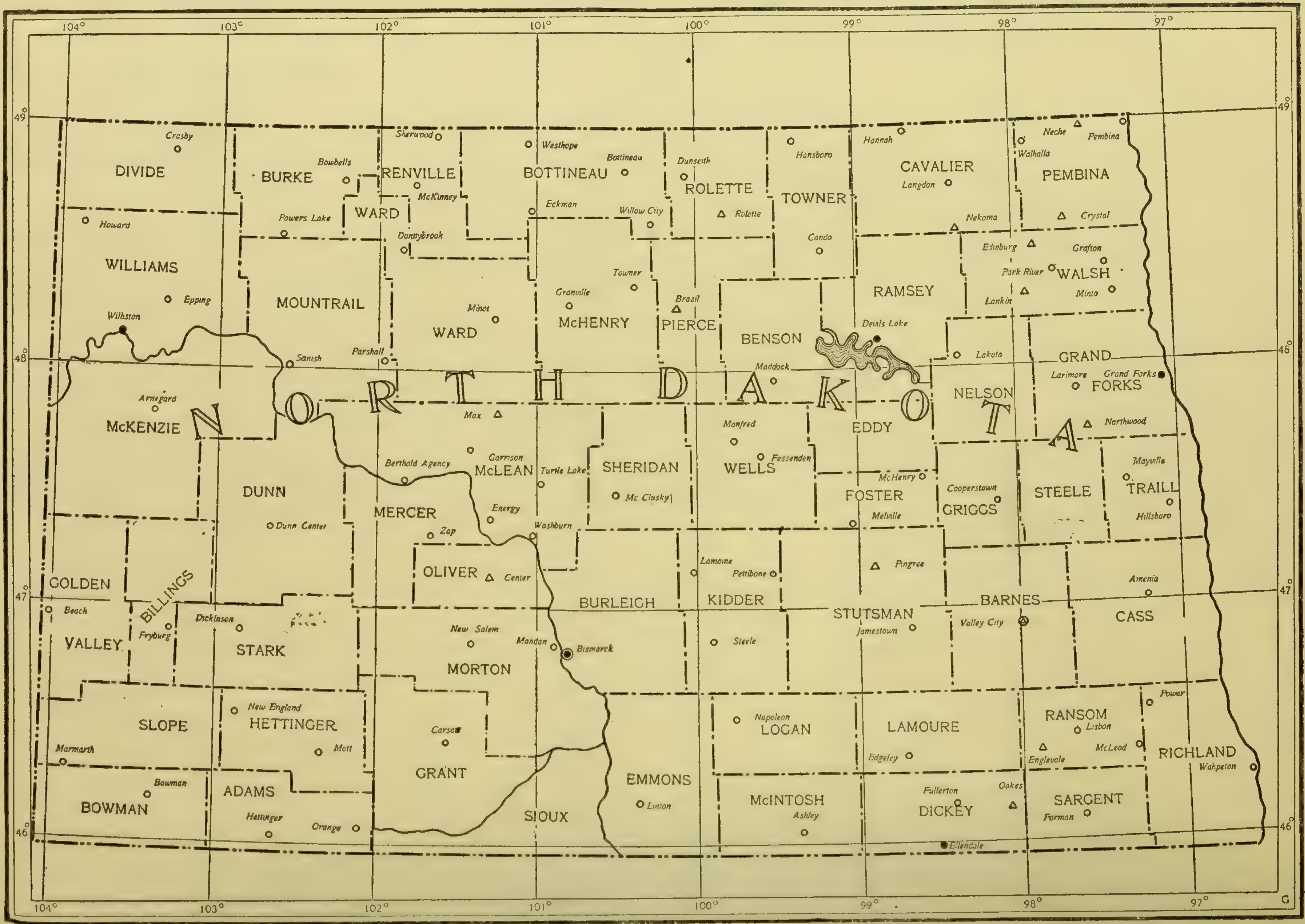
Killing Frosts.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	May 17	Sept. 13	Howard	May 16	Sept. 10
Amidon	" 16	" 13	Jamestown	" 16	" 13
Arnegard	" 16	Oct. 12	Langdon	" 20	" 13
Ashley	" 12	Sept. 13	Larimore	" 16	" 13
Beach	" 16	" 12	Linton	" 12	Oct. 13
Berthold Agency	" 16	" 12	Lisbon	" 17	Sept. 9
Bismarck	" 8	Oct. 13	McClusky	" 15	" 12
Bottineau	" 16	Sept. 12	McHenry	" 17	" 13
Bowbells	" 16	" 12	McKinney	" 16	" 12
Bowman	" 18	" 13	McLeod	" 16	" 13
Cando	" 16	" 13	Maddock	" 16	" 12
Carson	" 15	" 12	Mandan	" 15	Oct. 13
Crosby	" 23	" 12	Manfred	" 16	Sept. 12
Devils Lake	" 15	" 12	Melville	" 16	" 12
Dickinson	" 16	" 13	Minot	" 8	" 12
Donnybrook	" 15	" 12	Minto	" 20	Aug. 24
Dunn Center	" 16	" 13	Mott	" 9	Sept. 13
Dunseith	" 16	" 12	Napoleon	" 16	" 13
Eckman	" 16	" 12	New England	" 16	" 12
Edgeley	" 16	" 13	New Salem	" 15	" 13
Ellendale	" 10	Oct. 5	Park River	" 16	" 13
Energy	" 21	Sept. 12	Pembina	June 16	Aug. 24
Epping	" 16	" 12	Pettibone	May 15	Sept. 13
Fessenden	" 15	" 13	Richardton	" 15	Oct. 13
Finley	" 16	" 13	Steele	" 15	Sept. 12
Foxholm	" 15	" 12	Towner	" 16	" 12
Fryburg	" 16	" 12	Turtle Lake	" 15	" 12
Fullerton	" 12	Oct. 5	Valley City	" 13	" 12
Garrison	" 15	Sept. 12	Wahpeton	" 17	" 12
Grafton	" 16	" 13	Walhalla	" 21	" 13
Grand Forks	" 16	" 13	Washbprn	" 7	Oct. 12
Granville	" 16	" 12	Westhope	" 16	Sept. 12
Hansboro	June 6	Aug. 24	Williston	" 15	" 12
Hettinger	May 14	Sept. 12	Willow City	" 20	" 11
Hillsboro	" 16	" 13	Moorhead, Minn.	" 12	" 13

Comparative Annual State Data.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−1.0	108	−52	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	−2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	−48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	−44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60
1921	42.0	+3.2	110	−33	19.59	+1.65
1922	39.7	+0.9	115	−46	19.75	+1.81
1923	40.7	+1.9	103	−40	17.76	−0.18

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXIII. BISMARCK, N. D., JANUARY, 1924. No. 1

GENERAL SUMMARY.

The month opened with severe weather prevailing in all sections, effectively stopping farm work and road construction, and necessitating considerable feeding of livestock. This condition prevailed during the first and second decades, and the first few days of the third decade. The last week in the month, however, was generally mild and pleasant, allowing livestock to range on harvested fields and ranges. The month was devoid of severe storms, and there was more than the usual sunshine. The main farm activity consisted in the marketing of grain and livestock, and in the care of the latter.

TEMPERATURE.

The mean temperature for the State was 2.6°, or 2.3° below the normal, and 7.5° lower than the mean for January, 1923. The highest mean reported was 10.0° at Marmarth, Slope County; the lowest was -4.2° at Langdon, Cavalier County. The highest temperature reported was 61° at Berthold Agency, McLean County, on the 31st; the lowest was -42° at Dunseith, Rolette County, on the 1st and 2d. The greatest monthly range was 92° at Berthold Agency, McLean County; the least was 68° at Park River, Walsh County. The greatest daily range was 71° at Bottineau, Bottineau County, on the 5th.

PRECIPITATION.

The average precipitation for the State was 0.23 inch, or 0.31 inch below the normal, and 0.30 inch less than the average for January, 1923. The greatest monthly amount reported was 0.96 inch at Hannah, Cavalier County; there was none at Bowbells, Burke County, Forman, Sargent County, Lamoine, Kidder County, and Wahpeton, Richland County. The greatest amount recorded in any 24 consecutive hours was 0.50 inch at Towner, McHenry County, on the 24th. The average snowfall was 2.5 inches. The average number of days with 0.01 inch or more of precipitation was 3.

AURORAS.

Auroras were observed at Arnegard on the 6th; at Foxholm on the 15th; at Ashley, Epping, Howard and McHenry on the 28th; at Arnegard, Bowman, Devils Lake, Ellendale, Fessenden, Finley, Foxholm, Fryburg, Fullerton, Grand Forks, Hansboro, Larimore, Linton, McClusky, McKinney, McLeod, Marmarth, Minto, Napoleon, New England, Sharon, Stanton, Turtle Lake, Valley City, Williston and Moorhead on the 29th; at Bowman, Eckman, McKinney, Pettibone, Towner and Westhope on the 30th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	30.22	31.01	4	29.68	22	57	6,356	8.5	34	nw.	25
Devils Lake	30.14	30.93	4	29.62	14	44	7,364	9.9	32	w.	18
Ellendale	30.18	30.96	4	29.68	22	56	9,970	13.4	40	n.	9
Grand Forks	30.13	30.89	4	29.56	22	90	....	......	32	w.	18
Williston	30.16	30.97	4	29.64	14	48	6,033	8.1	33	w.	6
Moorhead, Minn	30.17	30.94	4	29.62	22	58	6,381	8.6	29	s.	5
Av'ges and extremes	30.17	31.01	4	29.56	22	.....	....	9.7	40	n.	9

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	162.7	279.2	58	+5	88	72	79	49	5†
Devils Lake	132.7	275.8	48	−2	88	83	87	62	26
Ellendale	181.0	282.9	64	......	84	74	....	50	29
Grand Forks	......	....	......	......	79	.....	86	.....	....
Williston	153.4	275.8	56	+5	90	75	81	62	4†
Moorhead, Minn	139.6	279.2	50	......	75	71	74	24	1
Averages and extremes	153.9	278.6	55	+3	84	75	81	24	1

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893	0.8	−4.1	49	−48	0.98	+0.44	7	11	11	9	nw.
1894	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898	14.6	+9.7	69	−32	0.11	−0.43	2	8	8	15	nw.
1899	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914	14.8	+9.9	62	−38	0.50	−0.04	4	16	8	7	nw.
1915	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921	15.9	+11.0	58	−31	0.24	−0.30	2	13	9	9	nw.
1922	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.
1923	10.1	+5.2	56	−35	0.53	−0.01	5	9	9	13	nw.
1924	2.6	−2.3	61	−42	0.23	−0.31	3	14	9	8	nw.

Climatological Data for January, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	-1.5	-6.0	38	27	-37	5	60	T.	-0.50	T.	T.	0	16	12	3	nw.	E. T. Carley.
Amidon	Slope	......	11	8.4	......	47	31	-28	17	49	0.02	......	0.02	2.0	1	21	9	1	sw.	Charles Eastgate.
Arnegard	McKenzie	......	10	3.4	......	49	31	-29	4	46	0.43	......	0.10	3.5	5	22	3	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	3.7^{a}	-3.8	44^{a}	30	-30^{a}	5	39^{a}	0.10	-0.45	0.10	1.0	1	19	8	4	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	7.6	-1.7	47	5	-26	4	56	T.	-0.63	T.	T.	0	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	9.1^{b}	+1.6	61^{b}	31	-31^{b}	17	54^{c}	T.	-0.40	T.	T.	0	......	......	......	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	6.2	-1.6	50	30	-29	5	49	0.04	-0.50	0.02	0.5	3	10	9	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	-0.8	-0.1	49	30	-38	16	71	0.18	-0.28	0.08	2.2	4	8	8	15	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	2.3	-0.9	45	31	-32	4†	63	0.00	-0.67	0.00	0	0	18	0	13	......	G. H. Phelps.
Bowman	Bowman	2,961	11	8.0	......	45	31	-29	1	53	0.08	......	0.08	1.0	1	18	4	9	nw.	R. Love, Jr.
Cando	Towner	1,488	24	-1.4	+0.1	35	28†	-38	25	46	0.50	+0.10	0.36	5.0	5	12	4	15	w.	A. J. Swanson.
Carson	Grant	2,500	13	4.0	-5.9	50	30	-33	4	50	0.06	-0.28	0.02	0.5	3	17	11	3	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19	......	......	......	......	......	......	......	0.25	-0.25	0.15	2.5	2	16	7	8	nw.	S. Friswold.
Crosby	Divide	1,954	18	1.4	-0.3	45	31	-32	4†	48	0.30	-0.25	0.16	3.7	4	12	14	5	nw.	John Jensen.
Devils Lake	Ramsey	1,478	28	-0.6	-0.9	38	28	-32	4	51	0.35	-0.25	0.26	1.1	5	12	8	11	w.	U. S. Weather Bureau.
Dickinson	Stark	2,543	33	5.8	-4.5	53	30	-27	1†	59	0.03	-0.39	0.03	0.5	1	14	4	13	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	4.0	+0.6	45	31	-32	4	51	0.36	-0.03	0.26	3.5	2	14	8	9	nw.	E. H. Wolsey.
Dunn Center	Dunn	2,191	26	9.5	-4.3	51	31	-28	4	52	0.17	-0.34	0.11	T.	2	15	5	11	w.	W. H. Moede.
Dunseith	Rolette	1,682	29	0.6	-0.9	40	29	-42	1†	50	0.26	-0.21	0.10	3.5	7	12	9	10	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	20	......	......	......	......	......	......	......	0.40	-0.16	0.24	5.0	3	......	......	......	......	J. Nussbaum.
Edgeley	LaMoure	1,468	24	6.6	-1.2	47	28	-31	5	46	T.	-0.29	T	T.	0	9	18	4	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	5.1	-5.6	50	28	-32	5	54	0.07	-0.33	0.03	0.7	4	11	10	10	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	13	7.0	......	48	30†	-30	2†	53	0.23	-0.06	0.10	2.5	3	14	15	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	17	-0.8	......	45	31	-37	17	58	0.35	-0.21	0.22	3.0	4	18	10	3	sw.	A. O. Wang.
Fessenden	Wells	1,610	13	2.7	-0.5	44	28	-33	4	47	0.41	-0.19	0.25	3.7	4	20	6	5	nw.	T. D. Monsen.
Finley	Steele	1,461	1	0.4	......	39	28	-31	5	42	0.45	......	0.16	4.7	7	13	6	12	nw.	G. J. Mustad.
Forman	Sargent	1,249	31	......	......	......	......	......	......	......	0.00	-0.53	0.00	0	0	8	14	9	nw.	O. Enger.
Foxholm	Ward	1,657	4	2.6	......	41	30†	-33	4	52	0.54	......	0.31	5.2	4	11	13	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7	......	......	......	......	......	......	......	0.23	......	0.08	3.0	5	14	12	5	nw.	Verne King.
Fullerton	Dickey	1,439	27	6.1	-1.7	48	28	-29	5	45	0.25	-0.50	0.25	2.5	1	15	8	8	nw.	F. O. Alin.
Garrison	McLean	1,901	30	3.4	-3.1	49	31	-31	4	51	T.	-0.43	T.	T.	0	19	5	7	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	-0.8	-1.7	42	29	-31	5	48	0.41	-0.19	0.30	5.8	4	15	7	9	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	34	-2.0	-5.5	38	29	-33	5	45	0.81	+0.23	0.35	9.2	11	11	8	12	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	18	1.6	-0.3	42	31	-33	5	53	0.32	-0.19	0.16	4.0	3	12	6	13	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	31	......	......	......	......	......	......	......	0.96	+0.24	0.40	12.0	5	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	17	-3.0^{c}	-0.7	40^{c}	29	-36^{c}	6	44^{c}	T.	-0.95	T.	T.	0	......	......	......	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	18	3.8^{a}	-8.7	46^{a}	30	-27^{a}	5	54^{a}	0.20	-0.12	0.20	2.0	1	21	4	6	nw.	U. J. Downey.
Hillsboro	Traill	901	19	-0.4^{e}	-4.3	37^{e}	29	-34^{e}	5	38^{e}	0.20	-0.54	0.10	2.0	2	......	......	......	s.	F. E. Mayall.
Howard‡‡	Williams	2,275	18	0.2	-1.3	40	30†	-33	4†	57	0.61	-0.14	0.30	4.5	3	16	7	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	6.0	-0.5	53	31	-28	4†	58	0.04	-0.60	0.02	0.5	2	19	4	8	n.	S. Calvelage.
Lamoine	Kidder	1,936	20	-0.3	-4.3	45	31	-31	4†	63	0.00	-0.61	0.00	0	0	20	4	7	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	29	-4.2	-1.5	37	28	-36	16	59^{a}	0.88	+0.13	0.40	11.0	5	20	8	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	0.1	-2.5	42	29	-33	16	39	0.62	-0.09	0.30	8.0	3	11	12	8	nw.	Reuben Gray.
Linton	Emmons	1,711	7	4.1	......	49	30	-38	5	50	0.30	......	0.10	2.5	7	17	3	11	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	3.4	-2.5	46	30	-34	5	50	T.	-0.70	T.	T.	0	22	9	0	......	W. S. Adams.
McClusky	Sheridan	1,943	7	1.4	......	43	30	-30	4†	51	0.10	......	0.10	1.0	1	16	10	5	nw.	Edw. Tapley.
McHenry	Foster	1,509	14	-0.9	-2.0	47	31	-34	5†	44	0.30	-0.39	0.30	3.0	1	19	0	12	nw.	F. D. Cannon.
McKinney‡‡	Renville	1,640	31	0.6	-2.6	43	31	-31	4	55	0.28	-0.09	0.28	3.5	1	11	16	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	13	4.6	-3.1	44	29	-35	5	44	0.13	-0.54	0.06	1.3	4	13	7	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	19	1.8	......	47	29	-33	4	42	0.16	......	0.08	1.8	2	13	11	7	nw.	A. T. Felland.
Mandan	Morton	1,644	11	4.2	......	49	30	-30	5	67	0.03	......	0.01	0.3	3	14	7	10	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	2.4	-1.6	40	30	-32	5	46	0.55	-0.10	0.20	5.4	6	14	9	8	sw.	P. B. Anderson.
Marmarth	Slope	2,714	16	10.0	-0.3	45	30	-29	1	54	0.22	-0.08	0.07	3.1	6	16	6	9	......	E. C. Niccum.
Mayville	Traill	975	29	-1.8^{k}	-7.8	40^{k}	29	-30^{k}	20	35^{k}	0.24	-0.25	0.24	3.0	1	......	......	......	......	R. Peterson.
Melville	Foster	1,590	27	3.0	-2.6	41	30	-30	4†	46	T.	-0.38	T.	T.	0	13	10	8	nw.	J. P. Kidder.
Minot	Ward	1,557	29	3.4	-1.6	45	30	-30	4	58	0.30	-0.15	0.20	3.0	2	12	17	2	w.	W. I. Faris.
Minto	Walsh	820	32	-1.6	-3.4	40	28†	-32	16	48	0.52	+0.03	0.20	6.4	6	15	5	11	ne.	C. M. Evans.
Mott	Hettinger	2,424	18	1.8	-5.7	45	31	-33	2	56	0.20	-0.68	0.10	2.0	3	11	11	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	33	2.0	-3.9	45	30	-37	5	50	T.	-0.45	T.	T.	0	17	6	8	nw.	C. J. Hoof.
New England	Hettinger	2,400	31	8.4	-4.9	51	31	-27	1	51	T.	-0.42	T.	T.	0	13	13	5	nw.	W. C. McKenzie.
New Salem	Morton	2,163	21	5.4	-2.3	49	30	-28	4†	47	0.20	-0.43	0.15	2.4	4	14	13	4	nw.	J. Christiansen.
Park River	Walsh	998	21	-1.1	-2.9	38	29	-30	4†	44	0.32	-0.12	0.21	4.8	3	10	7	14	nw.	C. B. Wright.
Parshall	Mountrail	......	10	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	51	-3.2	-0.3	39	29	-32	25	35	0.24	-0.40	0.16	3.0	2	14	13	4	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	0.8	+0.8	41	31	-39	5	55	0.25	-0.26	0.15	3.0	2	14	8	9	nw.	S. C. Shanks.
Power	Richland	1,020	31	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	11	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. Frank.
Richardton	Stark	2,467	9	8.8	......	50	31	-27	4	50	0.17	......	0.09	1.7	2	13	9	9	w.	Geo. Keim.
Sharon	Steele	1,516	......	......	......	......	......	......	......	......	0.31	......	0.18	4.1	6	13	13	5	w.	Nels O. Grefsheim.
Skaar	McKenzie	......	5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Conrad Brunsvold.
Stanton	Mercer	1,722	1	......	......	......	......	......	......	......	0.04	......	0.02	0.2	2	11	15	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	29	2.1	-5.5	44	29†	-38	5	53	T.	-0.52	T	T.	0	17	7	7	nw.	H. S. Wood.
Towner	McHenry	1,482	23	-0.7	-3.3	42	29	-36	16	50	0.50	+0.01	0.50	6.0	1	17	7	7	nw.	B. Bagley.
Turtle Lake	McLean	1,899	10	3.6	......	44	30	-31	4	44	0.04	......	0.03	1.2	2	11	5	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	20	1.4	-3.4	43	28	-31	5	40	0.13	-0.53	0.05	1.4	4	10	15	6	nw.	H. Twito.
Wahpeton	Richland	962	31	5.2	-2.6	46	28	-35	5	42	0.00	-0.51	0.00	0	0	17	0	14	nw.	C. G Luick.
Walhalla	Pembina	966	21	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	T. R. Johnson.
Washburn	McLean	1,731	24	......	......	......	......	......	......	......	0.12	-0.27	0.05	1.2	3	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	19	1.1^{d}	+2.5	43	31	-38^{b}	4	58^{b}	0.17	-0.39	0.17	1.7	1	9	19	3	nw.	W. A. Meddaugh.
Williston	Williams	1,875	46	5.0	-1.4	48	31	-28	17	41	0.38	-0.20	0.16	2.8	7	5	5	21	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	-2.2	-2.5	40	30	-36	2†	49	0.40	-0.18	0.30	5.0	2	17	4	10	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	1.4	-2.4	43	29	-35	5	45	0.16	-0.55	0.05	1.8	6	13	7	11	nw.	U. S. Weather Bureau.
Averages	......	......	......	2.6	-2.3	61	31	-42	1†	71	0.23	-0.31	0.50	2.5	3	14	9	8	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for January, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red														T.											T.							T.
Amidon	Lit. Missouri											T.				T.			T.					.02	T								0.02
Arnegard	Missouri									T.	T.	.05	T.			.10								.10	.10						.08		0.43
Ashley	Missouri									.10																							0.10
Beach	Lit. Missouri									T.								T.	T.				T.	T	T.								T.
Berthold Agency	Missouri												T.																		T.		T.
Bismarck ***	Missouri								T.	T.	T.	T.	.01		T.	.02		T.						T.	T.	T.					.01		0.04
Bottineau	Mouse														.08	.03								.02	.05								0.18
Bowbells ‖‖	Mouse																																0.00
Bowman	Grand												T.	T.		T.								.08	T								0.08
Cando	Devils Lake		T.	T.							T.	.06	.01	T.	.05	.02				T.					.36								0.50
Carson	Heart									.02						.02																.02	0.06
Cooperstown	Sheyenne												T.			.10								T.	.15								0.25
Crosby	Mouse													T.	.02	.08								.16	.04						T.		0.30
Devils Lake ***	Devils Lake		T.						T.		T.	.04	T.		.01	.02								.22	.06								0.35
Dickinson‖‖	Heart									T.	T.								.03							T.							0.03
Donnybrook	Mouse												T.			.10									.26								0.36
Dunn Center ‖‖	Knife																									T.					.06	.11	0.17
Dunseith	Mouse						.02				.02	.02			.04	.02								.10	.04							T.	0.26
Eckman	Mouse														.08	.08								.24									0.40
Edgeley	James															T.																	T.
Ellendale***	James									.01		T.	.03		T.	.02		T.	T.	T.				T.	.01						T.		0.07
Energy	Missouri												.05			.08								T.	.10								0.23
Epping	Missouri												T.	T.	.05									.05	.03					.22			0.35
Fessenden	James						T.					.04	.02			.10								.25									0.41
Finley	Red							T.	.02			.07	T.		.09	.04				T.	T.		T.	.05	.16	.02					T.		0.45
Forman	Sheyenne																																0.00
Foxholm	Mouse									T.	T.	T.	T.	T.	.03	.10				T.			T.	.31	.10								0.54
Fryburg	Heart									.03			.04			.08		.03					T.		.05								0.23
Fullerton	James									T.		T.	T.			.25				T.					T.								0.25
Garrison	Missouri																							T.								T.	T.
Grafton	Red											.05		.03		.03								*	.30								0.41
Grand Forks ***	Red			.02					T.			.11	T.	.04	.10	.07				.01	.01		.01	.35	.08			.01					0.81
Granville	Mouse										T.				T.	.08								.08	.16								0.32
Hannah	Pembina						.08							.16			.08							.40	.24								0.96
Hansboro	Devils Lake							T.	T.								T.															T.	T.
Hettinger	Grand																							.20	T.								0.20
Hillsboro	Red											.10				.10																	0.20
Howard	Missouri										T.			T.	T.	T.								.30	.20						.11		0.61
Jamestown	James											.02	.02																				0.04
Lamoine	Missouri																																0.00
Langdon	Pembina											.24	T.			.08							.08		.40	.08							0.88
Larimore	Red											.24			.08										.30								0.62
Linton	Missouri									.02		T.	.02	.04	T.	.04			.04						T.	.04						.10	0.30
Lisbon ‖‖	Sheyenne															T.																	T.
McClusky	Missouri																								.10						T.		0.10
McHenry	James						T.									T.								.30	T.								0.30
McKinney	Mouse						T.					T.	T.												.28								0.28
McLeod	Sheyenne										.02	.06	T.		T.		.03									.02							0.13
Maddock	Sheyenne															.08									.08								0.16
Mandan‖‖	Missouri				T.					T.		T.	T.		.01	T.	.01	T.	T.						.01	T.						T.	0.03
Manfred	James						T.					.05	.02		.03	.15								.10	.20								0.55
Marmarth	Lit. Missouri								T.	.03		.03				.03		.02					.07		.04								0.22
Mayville	Red																								.24								0.24
Melville	James											T.			T.	T.				T.				T.	T.								T.
Minot	Mouse																							.20	.10								0.30
Minto	Red											.07		.07	.02							.01		.15	.20								0.52
Mott	Cannon Ball									.10	.06	T.	.02			T.			.02	T.					T.								0.20
Napoleon ‖‖	Missouri																T.																T.
New England	Cannon Ball												T.			T.			T.					T.	T.								T
New Salem	Heart									.01	T.	T.	.02	T.	T.	.15		T.		T.				T.						T.	.02		0.20
Park River	Red											.08												.03	.21								0.32
Parshall	Missouri																																
Pembina ‖‖	Red															.08									.16								0.24
Pettibone	James						T.					.15	T.											.10							T.		0.25
Power	Sheyenne																																
Powers Lake	Missouri																																
Richardton	Heart									.08														T.	.09								0.17
Sharon	Red								.01			.05			.01	.05								.01	.18						T.		0.31
Skaar	Yellowstone																																
Stanton	Missouri												.02	T.	T.								T.								.02		0.04
Steele	Missouri							T.	T.			T.	T.		T.									T.	T.						T.	T.	T.
Towner	Mouse																								.50								0.50
Turtle Lake	Missouri								T.	T.			T.		.03	.01				T.				T.	T.	T.					T.		0.04
Valley City	Sheyenne							T.	T.	T.		.04	T.		T.	.03				T.					.05	.01							0.13
Wahpeton	Red																																0.00
Walhalla	Pembina																																
Washburn	Missouri												.02			.05									.05								0.12
Westhope	Mouse														T.									.17									0.17
Williston ***	Missouri			T.					T.	T.	T.	T.	.01	.01	.01	.02				T.				.16	.05						.12		0.38
Willow City	Mouse											T.	T.		T.	T.								.10	.30								0.40
Moorhead, Minn ***	Red									.02		.05	T.	.01	.01	.03				T.		T.		T.	.04			T.					0.16

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	-4	-7	-15	-22	13	29	36	22	0	16	6	0	7	7	6	-12	8	-3	10	12	20	32	19	-3	-4	33	38	36	33	29	36	12.2
	Minimum...	-30	-22	-26	-31	-37	-18	-1	12	-2	-22	-12	-20	-18	-15	2	-32	-31	-19	-30	-18	-16	-8	-12	-11	-28	-27	-3	-12	-3	8	12	-15.2
Arnegard	Maximum...	-19	-15	-15	-15	22	37	39	37	21	15	12	10	13	30	23	-17	-1	-10	-4	-2	23	25	10	-3	-4	4	33	34	36	41	49	13.1
	Minimum...	-23	-23	-23	-29	-24	20	22	14	0	-7	-3	-12	-22	12	-22	-27	-27	-21	-15	-21	-2	10	-3	-13	-27	-15	0	16	24	18	27	-6.3
Ashley	Maximum...	-10	-2	-12	-12	9	36	37	36	25	17	19	9	9	21	18	-5	0	0	-5	-5	24	30	25	20	-2	-5	30	43	40	41	....	[a]14.5
	Minimum...	-28	-20	-22	-25	-30	5	26	17	0	-15	-1	-12	-16	-10	-9	-23	-21	-13	-14	-21	-10	15	5	-6	-21	-12	-4	12	20	20	....	[a]-7.1
Beach	Maximum...	-18	-4	-9	-9	47	30	38	29	28	31	23	18	15	5	25	-10	-5	-6	14	20	30	29	27	4	0	30	38	40	38	45	46	19.0
	Minimum...	-25	-23	-25	-26	-9	20	8	4	1	-2	-1	-3	-6	-16	-20	-21	-22	-21	-20	-12	10	20	3	-10	-10	3	18	8	20	24	26	-3.8
Berthold Agency	Maximum...	0	-1	....	4	26	47	44	27	34	29	25	14	6	26	25	-7	-2	-5	0	-5	32	31	....	20	-4	44	48	42	48	55	61	[b]22.9
	Minimum...	-24	-30	-28	-26	-28	14	21	19	3	-8	4	-10	-21	4	-12	-24	-31	-17	-9	-20	15	9	....	-17	-22	-4	....	28	15	30	32	[b]-4.7
Bismarck	Maximum...	-2	1	-6	-11	20	40	42	25	15	16	21	10	4	20	19	-5	1	-3	1	4	33	30	22	19	-2	10	39	45	40	50	48	17.6
	Minimum...	-24	-23	-19	-25	-29	19	23	15	-5	-9	-4	-7	-18	4	-18	-20	-22	-13	-14	-17	-12	11	2	-10	-20	-11	2	14	26	18	28	-5.1
Bottineau §§	Maximum...	-11	-8	-9	-11	35	33	26	17	8	11	2	2	8	23	-12	-1	-11	-4	2	26	21	4	0	-10	3	20	37	37	34	49	46	11.8
	Minimum...	-22	-35	-32	-34	-36	11	15	11	12	-16	-6	-18	-38	8	-18	-38	-34	-32	-14	-32	25	-2	-7	-26	-33	-22	-8	6	19	7	27	-13.3
Bowbells §§	Maximum...	-9	-10	-12	0	31	33	33	33	6	33	13	5	13	24	-5	-11	-10	-7	-8	16	31	24	14	-22	14	18	29	39	39	42	45	14.2
	Minimum...	-24	-26	-23	-32	-32	16	21	13	0	-12	0	-13	-23	-11	-12	-30	-30	-27	-23	-24	-10	10	14	-31	-25	-24	-13	15	23	12	23	-9.6
Bowman	Maximum...	-2	-4	-4	-8	28	39	40	36	28	30	20	14	11	23	20	-10	-1	0	2	8	30	32	27	26	0	18	38	39	39	42	45	19.5
	Minimum...	-29	-23	-22	-22	-25	24	20	21	-1	-4	2	-1	-23	9	-17	-22	-20	-19	-17	-21	1	21	17	-10	-10	-10	2	14	17	18	25	-3.4
Cando	Maximum...	-7	-7	-9	13	12	30	25	21	13	10	6	2	2	9	6	-13	-11	-7	-4	-2	25	25	12	4	-9	4	22	35	35	30	31	9.8
	Minimum...	-24	-28	-28	-33	-29	-20	12	10	-10	-21	-3	-19	-20	-10	-14	-31	-27	-26	-15	-26	-19	11	-4	-18	-38	-21	-9	7	25	29	17	-12.6
Carson	Maximum...	-10	0	-12	-15	15	40	40	28	22	21	29	20	11	21	19	-7	5	-10	0	5	33	30	23	23	-3	5	42	44	34	50	44	18.0
	Minimum...	-29	-26	-27	-33	-32	-10	10	0	-2	5	-15	-14	-25	-5	-24	-28	-26	-23	-17	-24	-12	14	4	-12	-23	-15	-1	16	12	28	24	-10.1
Crosby	Maximum...	-8	-7	-7	-16	22	36	23	19	16	16	18	3	10	16	10	-10	-10	-8	-3	1	28	22	-3	-3	-5	7	34	37	39	42	45	11.7
	Minimum...	-27	-25	-23	-32	-26	19	3	-1	1	-1	-5	-12	-22	10	-10	-31	-32	-22	-12	-22	-12	-3	-7	-21	-24	-18	-1	15	25	13	30	-8.8
Devils Lake	Maximum...	-4	-3	-13	-20	23	33	22	18	6	6	7	3	1	22	22	-12	-9	-6	-4	-3	25	23	5	4	-8	5	26	38	37	35	37	10.2
	Minimum...	-23	-23	-26	-32	-28	17	12	6	-16	-19	-12	-18	-20	1	-24	-30	-21	-22	-22	-24	-14	-4	-4	-18	-28	-19	-6	13	23	12	20	-11.4
Dickinson §§	Maximum...	-6	-5	-10	-5	32	32	38	35	14	30	12	26	26	22	0	-5	2	-5	0	17	32	27	30	-2	0	22	43	42	41	53	50	19.0
	Minimum...	-27	-21	-25	-24	-27	-5	11	12	6	-8	11	-4	-23	-22	0	-24	-27	-22	-20	-21	-14	15	7	-7	-19	-17	-9	16	18	19	25	-7.3
Donnybrook	Maximum...	-8	-9	-9	-11	23	36	36	36	27	22	25	20	4	26	27	25	-18	-8	-6	0	25	26	24	5	-2	5	32	39	40	42	45	16.7
	Minimum...	-24	-24	-25	-32	-28	20	21	12	9	-15	-5	-12	-25	2	-23	-29	-31	-23	-12	-22	-15	4	-6	-12	-25	-17	-9	20	20	15	25	-8.6
Dunn Center §§	Maximum...	-2	-2	-6	-7	27	40	44	37	33	32	26	14	10	20	20	-11	0	-5	1	5	30	30	22	21	-1	12	38	43	39	49	51	19.7
	Minimum...	-23	-23	-22	-28	-25	24	17	15	7	19	2	3	8	5	-14	-26	-24	-18	-10	-18	-8	20	6	-12	-19	-13	24	24	24	36	26	-0.7
Dunseith	Maximum...	-7	-2	1	-22	7	35	32	28	16	7	14	3	5	11	21	11	22	-8	35	-1	25	27	11	2	-5	0	30	33	40	34	39	14.3
	Minimum...	-42	-42	-30	-32	-35	1	12	10	-8	-21	-3	-13	-24	-11	-16	-37	-33	-28	-15	-30	-20	13	-8	-17	-25	-20	-7	11	24	11	26	-13.2
Edgeley	Maximum...	7	9	9	-8	7	39	43	38	23	8	20	11	10	23	17	-5	8	3	1	1	26	33	24	20	3	14	34	47	44	46	45	19.4
	Minimum...	-24	-19	-21	-27	-31	2	26	19	0	-17	2	-12	-15	-11	-6	-22	-21	-12	-11	-22	20	20	-7	-5	-22	-14	-6	17	24	16	28	-6.2
Ellendale	Maximum...	-1	2	-7	-9	5	41	38	24	19	8	21	9	6	23	17	-4	8	1	1	1	32	33	22	21	-2	10	27	50	45	44	46	17.1
	Minimum...	-32	-12	-21	-26	-32	2	21	19	-8	-16	-5	-11	-11	-3	-17	-20	-27	-8	-16	-23	22	13	0	-8	-20	-11	-3	12	28	16	26	-6.9
Fessenden §§	Maximum...	-3	-3	-10	-16	15	35	33	26	18	14	20	9	4	17	18	-7	-4	-3	-4	-1	29	26	12	-3	-5	15	32	44	42	43	43	14.1
	Minimum...	-23	-27	-20	-33	-25	15	23	16	-6	-13	-4	-10	-18	-2	-18	-23	-32	-23	-12	-25	-18	10	-4	-14	-26	-16	-9	10	26	12	26	-8.7
Foxholm	Maximum...	-8	-6	-9	-9	24	35	33	28	17	17	20	10	5	19	25	-16	-10	-7	-3	0	27	26	12	3	-7	3	30	38	36	41	41	13.4
	Minimum...	-23	-24	-23	-33	-28	23	21	13	-10	-15	-5	-10	-22	1	-20	-27	-30	-21	-10	-21	-12	11	-5	-20	-24	-14	-7	18	23	16	26	-8.1
Fullerton	Maximum...	-1	2	-7	-8	0	41	37	34	24	7	21	10	10	22	17	-4	7	5	1	1	24	32	26	21	-1	10	27	48	45	43	45	17.4
	Minimum...	-28	-14	-19	-25	-27	-1	26	19	4	-15	-3	-12	-11	-4	-5	-20	-20	-10	-10	-22	21	18	-2	-4	-20	-12	-4	14	27	16	26	-5.2
Garrison	Maximum...	-4	-1	-7	-16	22	37	40	25	16	18	15	9	2	17	14	-9	3	-5	-2	0	29	26	17	10	-4	7	34	42	40	45	49	14.9
	Minimum...	-26	-25	-24	-31	-29	19	22	16	-8	-12	-5	-10	-21	0	-20	-27	-27	-19	-12	-23	-14	12	-5	-17	-23	-16	-2	13	18	20	29	-8.0
Grafton	Maximum...	-3	0	-4	-10	3	30	25	18	16	-2	4	2	-3	12	21	-6	-6	-4	-4	-2	23	25	7	5	-5	0	18	36	42	38	37	10.1
	Minimum...	-22	-20	-22	-28	-31	2	-3	12	-7	-18	-4	-19	-14	-15	-11	-29	-26	-21	-16	-28	-25	7	-10	-12	-30	-24	-8	4	26	11	19	-11.7
Grand Forks	Maximum...	-2	0	-8	-21	5	32	21	23	14	6	8	0	-1	16	18	-10	-6	-2	-1	-8	18	25	10	11	-7	2	21	35	38	29	35	9.7
	Minimum...	-26	-20	-25	-32	-33	5	5	14	-14	-21	-14	-20	-16	0	-25	-31	-22	-20	-25	-29	-27	-10	-10	-21	-27	-24	-8	5	23	9	16	-13.6
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Hansboro	Maximum...	10	12	17	0	-5	0	20	18	....	....	10	0	5	-8	10	10	-6	-1	0	-2	23	17	21	25	....	6	30	28	40	35	25	[c]12.2
	Minimum...	-10	-15	-15	-30	-34	-36	-15	-10	....	....	-25	-30	-27	-30	-28	-34	-35	-34	-26	-27	-15	-10	-1	-5	....	-20	-2	1	7	0	-3	[c]-18.2
Hettinger	Maximum...	-16	-14	-8	-18	27	30	32	32	18	20	7	18	3	19	24	-5	-7	-3	2	3	26	22	24	20	-5	5	38	36	40	46	....	[a]13.9
	Minimum...	-26	-25	-23	-22	-27	1	15	18	4	5	6	0	-21	-6	-14	-23	-18	-18	-21	-19	-8	10	17	-7	-10	-11	-2	4	21	21	....	-6.3
Hillsboro	Maximum...	-6	0	-7	-12	0	32	....	....	22	0	4	-3	3	13	9	-10	-6	-2	-5	16	....	25	....	....	-3	3	24	36	37	37	37	[e] 9.4
	Minimum...	-27	-18	-23	-27	-34	0	....	....	-4	-19	-3	-19	-13	-17	-13	-30	-27	-15	26	-22	....	12	....	....	-24	-16	3	16	29	18	32	[c]-10.3
Howard	Maximum...	-9	-14	-10	-11	24	35	35	28	28	28	23	4	5	26	25	-16	-16	-9	-8	0	23	21	0	0	-6	0	26	32	35	40	40	12.2
	Minimum...	-30	-26	-26	-33	-26	-22	15	15	-2	-7	-4	-10	-25	3	-25	-30	-33	-32	25	-25	-2	-3	-10	-26	-26	-17	-4	16	16	19	19	-11.7
Jamestown §§	Maximum...	-2	-8	-20	15	30	38	23	18	20	14	8	8	20	14	-5	8	-2	-10	-2	28	28	20	15	4	14	32	47	43	45	44	53	17.4
	Minimum...	-22	-25	-20	-28	-28	-20	8	18	8	-12	-14	-8	-10	-8	-12	-19	-16	-15	14	-10	-10	12	10	0	-10	-8	-2	10	26	27	26	-5.4
Lamoine	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Langdon§§	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Larimore §§	Maximum...	0	2	-10	-10	9	30	24	25	5	7	5	5	5	20	0	-7	-6	-3	0	0	26	26	6	-4	-10	-2	26	40	42	29	38	10.3
	Minimum...	-24	-20	-24	-29	-30	6	9	5	-7	-20	-12	-19	-3	-12	-10	-33	-28	-20	-18	-20	-12	2	-7	-12	-28	-22	-5	15	30	15	20	-10.1
Linton	Maximum...	0	0	-6	-9	7	34	28	32	21	14	18	11	10	18	17	-2	11	0	3	0	27	40	28	22	0	15	41	47	40	49	44	18.1
	Minimum...	-34	-30	-30	-25	-38	5	20	11	3	-17	-7	-16	-22	-6	-12	-21	-30	-15	-16	-25	-23	8	7	-8	-22	-17	0	-2	16	9	27	-9.9
Lisbon §§	Maximum...	-12	-9	-10	-18	-10	40	41	32	20	12	6	-6	3	21	16	-6	3	6	3	0	20	31	25	3	12	25	41	45	45	46	45	13.5
	Minimum...	-21	-22	-17	-28	-34	-10	13	12	6	-4	-14	-17	-18	6	-9	-25	-20	-15	25	-25	-22	9	-11	-21	-15	-10	12	20	18	15	15	-6.7
McKinney	Maximum...	-1	-5	-10	-10	25	36	35	30	12	5	0	0	8	20	20	-15	-15	-7	-7	0	30	25	10	0	-6	0	25	35	35	33	43	11.3
	Minimum...	-26	-25	-23	-31	-30	14	19	12	-5	-16	-4	-11	-21	5	-20	-26	-30	-22	-10	-21	-15	-10	-5	-27	-22	-14	-9	15	15	15	15	-10.1
Maddock	Maximum...	-5	-6	-5	-11	12	34	30	23	19	9	12	12	10	12	10	10	-7	-5	-2	0	26	29	29	8	-2	6	28	38	47	40	39	14.2
	Minimum...	-24	-28	-26	-33	-30	9	17	12	-8	-23	-3	-19	-23	-7	-14	-30	-27	-24	-11	-25	-19	14	-5	-19	-27	-20	-8	13	26	9	22	-10.7
Melville	Maximum...	0	-3	0	-22	10	36	35	28	21	26	21	7	7	16	20	-5	-5	0	-3	-3	25	20	20	5	-7	10	32	40	38	41	40	14.5
	Minimum...	-25	-22	-21	-30	-30	7	16	14	-4	-20	-3	-15	-16	-6	-11	-27	-27	-20	-11	-25	-17	17	-9	-16	-25	-16	-6	24	24	16	25	-8.4
Minot §§	Maximum...	-11	-5	-9	-11	30	37	37	27	13	22	22	9	4	2	22	-2	-6	-5	-4	2	28	25	13	-4	-4	8	33	41	40	45	44	14.3
	Minimum...	-18	-25	-23	-30	-28	27	18	15	-3	-5	-3	-10	-9	-20	-20	-28	-27	-20	-13	-20	-9	-10	10	-18	-21	-15	-6	20	27	14	21	-7.4
Mott	Maximum...	-7	-4	0	-17	24	38	40	34	21	30	19	12	6	14	2	-5	2	-5	-2	11	20	26	17	-8	-4	11	36	36	37	42	45	15.2
	Minimum...	-26	-33	-27	-25	-32	-3	6	-1	-11	-15	-11	-15	-22	-7	-15	-27	-22	-23	-21	-14	-5	-1	-8	-18	-23	-18	0	5	18	16	19	-11.6
Napoleon §§	Maximum...	-6	-3	-12	-20	5	38	40	35	6	5	10	8	3	20	19	-5	9	-3	0	5	30	30	23	-1	-4	12	35	42	40	45	44	14.7
	Minimum...	-30	-30	-26	-33	-37	0	25	10	0	-25	-18	-18	-25	-8	8	-30	-28	-18	-19	-28	-20	14	-5	-11	-26	-19	-7	15	21	15	18	-10.8
New Salem	Maximum...	-8	1	-8	-10	19	46	42	32	22	18	18	12	6	20	20	-3	-3	-3	3	6	33	30	21	10	-3	1	40	44	39	49	46	17.4
	Minimum...	-25	-23	-21	-28	-28	20	20	12	2	-15	0	-11	-22	-5	-15	-23	-25	-17	-17	-21	-12	13	3	-7	-25	-13	-3	20	20	21	20	-6.6
Pembina §§	Maximum...	2	-3	-9	-16	-2	25	15	15	12	3	5	8	2	10	15	-9	-5	0	0	-10	-15	20	2	0	-10	0	18	36	39	31	32	6.8
	Minimum...	-22	-22	-23	-28	-29	0	-7	10	-10	-10	-8	-20	-10	0	-18	-31	-26	-15	-22	-26	-25	-15	-10	-20	-32	-22	-8	6	18	12	18	-13.1
Steele	Maximum...	-6	0	-10	-15	15	38	40	30	30	15	10	15	0	20	18	-5	4	-5	0	-2	15	29	24	-4	-6	14	22	34	44	42	44	14.5
	Minimum...	-34	-26	-31	-32	-38	15	19	21	18	-15	-4	-10	-24	8	0	-29	-32	-24	-22	-24	-14	-2	-6	-16	-26	-22	-10	-14	14	20	22	-10.3
Towner	Maximum...	-10	-6	-9	-8	16	35	32	29	10	12	15	-1	-1	-8	21	-13	-11	-7	-3	0	27	23	12	-5	-9	-3	24	36	42	40	37	10.2
	Minimum...	-30	-32	-29	-32	-34	16	17	10	-3	-20	-3	-15	-28	-25	-20	-36	-31	-28	-16	-20	-21	10	-15	-11	-26	-21	-9	15	25	27	25	-11.6
Valley City	Maximum...	-2	-2	-6	-13	0	35	33	27	21	0	8	3	3	13	13	-10	-3	-3	-3	-5	20	25	17	10	-5	6	27	43	40	36	39	11.8
	Minimum...	-22	-16	-22	-30	-31	0	14	15	-5	-19	-2	-19	-15	-6	-14	-26	-24	-16	-12	-25	-20	-15	-12	-15	-24	-17	-8	12	27	16	24	-9.1
Wahpeton	Maximum...	2	2	-3	-9	-2	38	37	38	27	10	11	4	7	15	20	5	8	6	1	0	19	30	25	19	-1	8	30	46	45	44	43	16.9
	Minimum...	-25	-10	-25	-24	-35	-2	18	19	9	-14	0	-18	-4	-8	-2	-24	-22	-11	-11	-24	-23	-4	10	-5	-24	-18	-3	11	26	18	20	-6.6
Walhalla	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Westhope	Maximum...	0	-5	-6	-16	-20	-10	38	38	25	23	10	6	6	20	-6	-10	-10	-9	10	23	24	20	6	0	-8	20	30	40	41	42	43	11.8
	Minimum...	-26	-30	-30	-38	-23	-20	-20	-20	....	....	....	-5	....	....	....	....	....	-23	-23	-8	10	0	0	-24	-28	-8	3	25	25	7	20	[b]-9.6
Williston	Maximum...	-5	-3	-6	-13	22	40	39	36	13	31	17	14	20	29	14	-11	-11	-7	0	5	29	24	7	-6	-3	10	32	43	37	43	48	15.7
	Minimum...	-23	-21	-20	-28	-19	19	17	12	4	4	3	-12	-18	13	-18	-24	-28	-19	-19	-19	3	-1	-5	-16	-23	-15	0	16	20	18	26	-5.6
Moorhead, Minn	Maximum...	-6	-3	-8	-15	3	36	33	26	22	1	8	-1	1	13	17	-8	-2	0	-1	-8	22	27	14	17	-4	3	26	38	43	35	39	11.9
	Minimum...	-25	-13	-20	-29	-35	3	13	19	-5	-16	-9	-14	-12	-6	-18	-25	-23	-13	-22	-23	-23	-1	-7	-10	-23	-17	-5	12	29	20	20	-9.0

§§Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

ol. XXXIII. Bismarck, N. D., February, 1924. No. 2

GENERAL SUMMARY.

Unusually mild and pleasant weather prevailed throughout
e State during the month. The mean temperature (20.3°)
as the highest of record for the month in the climatological
istory of the State, the nearest approach being that for Febru-
ry, 1921, (19.9°). The month was free from severe storms,
ere was an abundance of sunshine, and the precipitation was
elow normal. As a result of the mild weather, livestock
nged freely on ranges and harvested fields, thus saving much
ed. The snow covering was reduced during the month, and
me apprehension was expressed in some sections as to the
ndition of winter rye.

TEMPERATURE.

The mean temperature for the State was 20.3°, or 12.4° above
e normal, and 16.2° higher than the mean for February, 1923.
he highest mean reported was 28.8° at Berthold Agency, Mc-
ean County; the lowest was 13.7° at Langdon, Cavalier County.
he highest temperature reported was 67° at Berthold Agency,
cLean County, on the 11th; the lowest was -27° at Hansboro,
owner County, and at Willow City, Bottineau County, on the
st. The greatest monthly range was 82° at Dunn Center,
unn County; the least was 58° at Hillsboro, Traill County.
he greatest daily range was 53° at Jamestown, Stutsman
ounty, on the 24th.

PRECIPITATION.

The average precipitation for the State was 0.41 inch, or
08 inch below the normal, and 0.24 inch less than the
erage for February, 1923. The greatest monthly amount re-
rted was 1.01 inches at Foxholm, Ward County; there was
ly a trace at Berthold Agency, McLean County, and at Han-
h, Cavalier County. The greatest amount recorded in any
consecutive hours was 1.00 inch at Towner, McHenry County,
the 17-18th. The average number of days with 0.01 inch
more of precipitation was 3. The average snowfall was 4.2
ches.

AURORAS.

Auroras were observed at Bowman on the 1st; at Finley,
xholm, Linton, McLeod and Pettibone on the 5th; at Mc-
eod and Pettibone on the 6th; at Arnegard on the 9th; at
xholm on the 10th and 24th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.25	30.74	20	29.65	2	57	5,930	8.5	29	nw.	9
Devils Lake	30.23	30.71	17	29.60	12	44	6,585	9.5	28	n.	3
Ellendale	30.23	30.65	17	29.60	2	56	9,477	13.6	52	n.	3
Grand Forks	30.22	30.67	17	29.66	2	90	....	......	34	nw.	9
Williston	30.18	30.78	20	29.65	28	48	5,591	8.0	30	w.	12
Moorhead, Minn	30.24	30.69	17	29.68	2	58	6,040	8.7	29	nw.	9
Av'ges and extremes	30.22	30.78	20	29.60	2†	....	....	9.7	52	n.	3

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c t.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	173.8	299.8	58	0	85	60	65	27	14
Devils Lake	160.9	297.9	54	− 2	88	78	83	47	10
Ellendale	200.2	301.4	66	......	88	63	....	42	13
Grand Forks	......	......	......	......	86	.....	65	.....	....
Williston	125.5	297.9	42	−11	86	71	71	41	5
Moorhead, Minn	178.8	299.8	60	......	78	72	76	45	10
Averages and extremes	167.8	299.4	56	......	85	69	76	27	14

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893...	− 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894...	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895...	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896...	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897...	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898...	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899...	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900...	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901...	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902...	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903...	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904...	− 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905...	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906...	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907...	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908...	13.9	+6.0	62	−34	1.07	+0.58	5	12	7	10	nw.
1909...	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910...	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911...	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912...	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913...	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914...	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915...	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw
1916...	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917...	− 0.7	−8.6	62	−48	0.66	+0.17	5	10	8	10	nw.
1918...	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919...	7.7	0.2	58	−40	0.66	+0.17	5	10	8	10	nw.
1920...	12.5	+4.6	53	−36	0.30	−0.19	3	11	9	9	nw.
1921...	19.9	+12.0	64	−33	0.39	−0.10	3	11	10	7	nw.
1922...	0.7	−7.2	45	−39	1.21	+0.72	5	13	6	9	nw.
1923...	4.1	−3.8	48	−40	0.65	+0.16	4	13	7	8	nw.
1924...	20.3	+12.4	67	−27	0.41	−0.08	3	14	6	9	nw.

Climatological Data for February, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days,				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	17.3	+10.3	48	14	−20	22	46	0.80	+0.40	0.40	8.0	3	16	11	2	n.	E. T. Carley.
Amidon	Slope		11	27.4		54	1	−12	20	42	0.25		0.17	3.0	4	11	13	5	nw.	Charles Eastgate.
Arnegard	McKenzie		10	28.1		54	1	−14	20	32	0.60		0.35	5.0	4	13	2	14	w.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	22.0^{c}	+14.2	56^{c}	28	−18^{c}	21	50^{c}	0.40	−0.07	0.40	4.0	1				nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	26.7^{f}	+13.1	53^{k}	1	−15	20	35^{k}	0.42	−0.09	0.27		2					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	28.8	+19.4	67	11	−14	21	49	T.	−0.55	T.	T.	0					C. L. Hall.
Bismarck	Burleigh	1,674	50	24.5	+14.2	63	12	−12	21	41	0.28	−0.24	0.17	2.6	4	10	7	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	17.8	+16.0	49	27	−15	21	40	0.07	−0.30	0.05	0.7	2	10	12	7	e.	E. C. Evenson.
Bowbells	Burke	1,958	13	20.0	+14.2	57	28	−15	21	42	0.13	−0.24	0.13		1	17	3	9		G. H. Phelps.
Bowman	Bowman	2,961	11	25.8		51	28	−9	20†	45	0.57		0.23		5	12	6	11	nw.	R. Love, Jr.
Cando	Towner	1,488	24	16.2^{l}	+13.4	44^{l}	2†	−20^{l}	21	39^{l}	0.31	+0.08	0.19		2				sw.	A. J. Swanson.
Carson	Grant	2,500	13	23.0	+9.3	60	1†	−15	21	48	0.30	0.00	0.10	2.7	4	16	6	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19								0.80	+0.49	0.50	8.0	3	23	4	2	ne.	S. Friswold.
Crosby	Divide	1,954	18	22.0	+14.9	54	12	−7	19†	32	0.37	+0.11	0.15	3.2	4	5	14	10	sw.	John Jensen.
Devils Lake	Ramsey	1,478	28	16.4	+11.9	46	1	−19	23	41	0.39	−0.17	0.27	7.0	3	13	6	10	se.	U. S. Weather Bureau.
Dickinson	Stark	2,543	33	23.4	+11.6	60	12	−17	21	44	0.19	−0.24	0.15	4.0	3	11	3	15	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	22.0	+15.0	56	12	−15	20	35	0.65	+0.14	0.50	3.0	2	14	3	12	sw.	H. Feldner.
Dunn Center	Dunn	2,191	26	25.7	+12.7	61	12	−21	21	50	0.20	−0.36	0.10	2.0	2	10	3	16	w.	W. H. Moede.
Dunseith	Rolette	1,682	29	21.4	+18.0	47	2	−12	4†	33	0.30	−0.12	0.20	3.0	2	17	4	8	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	20								0.16	−0.29	0.08	6.0	3	9	8	12	se.	C. E. Strock.
Edgeley	LaMoure	1,468	24	22.3	+11.4	60	28	−14	5	42	0.20	−0.12	0.20	2.0	1	10	9	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	21.2	+10.5	54	28	−13	21	42	0.38	−0.10	0.19	3.0	5	10	6	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	25.2		61	12	−18	21	46	0.37	+0.11	0.24	4.0	3	13	7	9	nw.	H. S. Solenberger.
Epping	Williams	2,224	17	20.4		45	2	−18	20	32	0.35	0.00	0.20	2.0	2	14	9	6	sw.	A. O. Wang.
Fessenden	Wells	1,610	13	20.5	+12.6	58	13	−18	23	43	0.45	+0.12	0.26	5.3	4	17	5	7	se.	T. D. Monsen.
Finley	Steele	1,461	1	18.2		45	10	−17	21	33	0.40		0.20	6.7	4	16	3	10	se.	G. J. Mustad.
Forman	Sargent	1,249	31								0.50	−0.03	0.30	5.0	2	16	7	6	s.	O. Enger.
Foxholm	Ward	1,657	4	19.8		57	12	−12	21	33	1.01		0.55	6.5	4	9	9	11	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7								0.61		0.24	5.0	4	14	7	8	nw.	Verne King.
Fullerton	Dickey	1,439	27	21.6	+12.3	54	28	−11	5	39	0.56	−0.25	0.20	3.8	3	15	8	6	nw.	F. O. Alin.
Garrison	McLean	1,901	30	22.9	+14.5	55	28	−15	21	39	0.41	−0.12	0.24	3.0	2	12	7	10	se.	Wm. H. Robinson.
Grafton	Walsh	827	33	16.2	+11.3	46	10†	−20	21†	44	0.14	−0.44	0.06	4.4	4				s.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	15.2	+8.7	44	13	−20	23	42	0.33	−0.20	0.17	4.2	5	16	4	9	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	18	21.4	+13.0	56	12	−21	21	42	0.66	+0.28	0.24	4.0	4	14	7	8	se.	W. A. Christianson.
Hannah	Cavalier	1,568	31								T.	−0.56	T.	T.	0					J. Moffatt.
Hansboro	Towner	1,597	17	14.2	+10.5	47	2	−27	21	40	0.60	+0.12	0.40	6.0	2	14	9	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	18	25.2	+12.0	54	28	−11	21	46	0.22	−0.06	0.20		2	16	3	10	nw.	C. J. Downey.
Hillsboro	Traill	901	19	20.2	+11.7	45	13	−13	21	30	0.40	−0.28	0.40	4.0	1	18	6	5	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	20.6	+14.6	50	1	−18	20	33	0.49	−0.20	0.18	2.0	3	11	3	15	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	20.6	+12.7	60	27	−10	5†	53	0.70	+0.14	0.65	7.0	2	19	3	7	w.	S. Calvelage.
Lamoine	Kidder	1,936	20								0.41	+0.02	0.25	4.0	3					E. V. Virgin.
Langdon	Cavalier	1,615	29	13.7	+10.7	46	2	−20	5	42	0.65	0.00	0.50	6.5	3	15	9	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	16.2	+11.0	47	2†	−19	5†	38	0.75	+0.28	0.40	7.0	3	14	6	9	s.	Reuben Gray.
Linton	Emmons	1,711	7	25.0		58	28	−20	27	46	0.61		0.21	2.5	5	13	6	10	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	23.0	+13.4	51	13†	−12	4	38	0.20	−0.53	0.20	2.0	1	18	10	1		W. S. Adams.
McClusky	Sheridan	1,943	7	22.2		50	1†	−14	21	31	0.48		0.30	4.0	3	12	11	6	nw.	Edw. Tapley.
McHenry	Foster	1,509	14	16.0	+10.6	46	10	22	21	35	0.89	+0.38	0.80	6.0	3	19	0	10	sw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	19.4	+14.3	57	12	−22	21	40	0.40	+0.12	0.30	3.0	2	23	0	6	sw.	N. P. Swenson.
McLeod	Ransom	1,075	13	20.6	+9.2	50	13	−20	21†	36	0.32	−0.26	0.20	3.2	3	19	2	8	n.	J. G. Carlson.
Maddock	Benson	1,604	19	20.2		48	1	−26	21	52	0.15		0.09		2	18	2	9	sw.	A. T. Felland.
Mandan	Morton	1,644	11	22.8		63	13	−16	21	37	0.19		0.12	3.0	4	12	5	12	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	19.2	+12.4	50	12	−22	21	38	0.63	+0.20	0.40	6.3	3	17	3	9	sw.	P. B. Anderson.
Marmarth	Slope	2,714	16	25.6	+12.5	54	12	−7	19	31	0.54	+0.15	0.23	5.7	6	11	7	11		S. P. Grane.
Mayville	Traill	975	29	17.6	+9.9	45	10	−21	23	43	0.40	+0.01	0.30	4.0	2	15	0	14	s.	R. Peterson.
Melville	Foster	1,590	27	20.7	+14.1	51	12	−17	23	37	0.60	+0.27	0.40	6.0	2				sw.	J. P. Kidder.
Minot	Ward	1,557	29	22.2	+14.3	59	12	−19	21	39	0.45	−0.01	0.30	4.0	3	18	1	10	w.	W. I. Faris.
Minto	Walsh	820	32	16.3	+10.4	46	6†	−23	22†	46	0.21	−0.29	0.11	3.0	4	16	5	8	se.	C. M. Evans.
Mott	Hettinger	2,424	18	20.2	+8.4	48	12†	−13	21	39	0.56	−0.01	0.28	4.5	6	11	8	10	se.	O. H. Opland.
Napoleon	Logan	1,955	33	20.4	+13.6	60	13	−21	5†	45	0.45	+0.05	0.20	4.0	3	16	3	10	nw.	C. J. Hoof.
New England	Hettinger	2,400	31	25.8	+13.7	60	12	−12	20†	47	0.15	−0.39	0.15	T.	1	11	13	5	sw	W. S. Jones.
New Salem	Morton	2,163	21	24.8	+14.2	62	12	−12	5	38	0.22	−0.16	0.12		4	15	8	6	se.	J. Christiansen.
Park River	Walsh	998	21	15.6^{b}	+9.9	48^{b}	2	−19^{b}	22	40^{b}	0.38	−0.06	0.20	6.0	3	18	3	8	nw.	C. B. Wright.
Parshall	Mountrail		10								0.10		0.05	1.0	2					J. A. Johnson.
Pembina	Pembina	789	51	14.5	+13.1	44	27	−20	5†	45	0.20	−0.51	0.10	2.0	2	20	5	4	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	18.8	+14.2	44	28	−20	21	38	0.51	+0.15	0.30	5.0	3	10	8	11	ne.	S. C. Shanks.
Power	Richland	1,020	31								0.55	−0.01	0.40	4.0	3					J. A. Power.
Powers Lake	Burke	2,205	11																	Geo. B. Gee.
Richardton	Stark	2,467	9	26.0		60	12	−10	20†	39	0.52		0.25	4.0	3	12	4	13	nw.	Geo. Keim.
Sharon	Steele	1,516									0.39		0.16	3.5	5	15	5	9	n.	Nels O. Grefsheim.
Skaar	McKenzie		5																	Conrad Brunsvold.
Stanton	Mercer	1,722	1								0.44		0.40	4.0	3	11	4	14	se.	J. H. Giffey.
Steele	Kidder	1,857	29	19.8	+12.7	54	13	−17	5	36	0.60	+0.15	0.25	5.0	4	13	9	7	se.	H. S. Wood.
Towner	McHenry	1,482	23	18.4	+13.1	50	12	−23	21	36	1.00	+0.62	1.00	10.0	2	14	9	6	sw.	B. Bagley.
Turtle Lake	McLean	1,899	10	22.5		55	12	−13	21	33	0.30		0.12	5.0	3	16	5	8	nw.	A. T. Anderson.
Valley City	Barnes	1,245	20	19.8	+10.2	48	10	−16	21	32	0.21	−0.14	0.09	2.0	4	13	10	6	ne.	H. Twito.
Wahpeton	Richland	962	31	22.4	+12.5	52	26	−17	21	45	0.04	−0.49	0.04		1	20	0	9	se.	C. G. Luick.
Walhalla	Pembina	966	21																	T. R. Johnson.
Washburn	McLean	1,731	24								0.23	−0.16	0.23	2.5	1					Karl Klein.
Westhope	Bottineau	1,508	19																	W. A. Meddaugh.
Williston	Williams	1,875	46	23.8	+15.5	58	12	−13	20	32	0.34	−0.15	0.22	3.6	7	4	3	22	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	15.8	+13.1	45	12	−27	21	43	0.50	+0.04	0.30	5.0	2	14	8	7	e.	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	17.8	+9.5	50	26	−17	21	36	0.35	−0.41	0.24	3.2	5	16	2	11	s.	U. S. Weather Bureau.
Averages				20.3	+12.4	67	11	−27	21	53	0.41	−0.08	1.00	4.2	3	14	6	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for February, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red																		.20	.20	.40												0.80
Amidon	Lit. Missouri		.17		T.					.03				T.			T.		.03	T.			.02							T.			0.25
Arnegard	Missouri							.05										.35		.10										.10			0.60
Ashley	Missouri																		.40											T.			0.40
Beach	Lit. Missouri		.15						T.					T.				.27	T.	T.								T.					0.42
Berthold Agency	Missouri																	T.															T.
Bismarck ***	Missouri		T.	T				T.	T.				T.	T.			T.	.08	.11	.03										.06			0.28
Bottineau	Mouse																		.05	.02										T.			0.07
Bowbells ‖	Mouse																			.13													0.13
Bowman	Grand		.20	T.			.02												.02				.23							.10			0.57
Cando	Devils Lake																		.19	.12	T.												0.31
Carson	Heart			.03														.10	.10				.05						.02				0.30
Cooperstown	Sheyenne			T.																.50	.15	.15											0.80
Crosby	Mouse			.02			.15											.05	.10											.05			0.37
Devils Lake ***	Devils Lake			T.					.02				T.			T.	T.		.25	.12										T.			0.39
Dickinson ‖	Heart			T.													T.		.15	T.			.02	.02						T.			0.19
Donnybrook	Mouse		.15						T.										.50														0.65
Dunn Center ‖	Knife							T.	T.									.10	.10											T.			0.20
Dunseith	Mouse																		.20	.10													0.30
Eckman	Mouse																		.08	.07										.01			0.16
Edgeley	James																			.20										T.			0.20
Ellendale***	James		T.	T.					T.	.02								T.	.12	.17	.01									.06			0.38
Energy	Missouri		T.																.24	.05										.08			0.37
Epping	Missouri								T.									.20												.15			0.35
Fessenden	James		T.						T.										.15	.26	.03									.01			0.45
Finley	Red		.01	T.						T.			T.			T.	T.		.11	.20	.08									T.			0.40
Forman	Sheyenne																		.20	.30													0.50
Foxholm	Mouse		.14	T.					T.										.55	.20										.12			1.01
Fryburg	Heart	.10																.24	T.				.16							.11			0.61
Fullerton	James			T.	T.					.18									.18	.20	T.									T.			0.56
Garrison	Missouri	T.	T.						T.									T.	.24											.17			0.41
Grafton	Red																		.03	*	.06									.05			0.14
Grand Forks ***	Red			.01					T.	.03			T.		T.		T.		.09	.17										.03			0.33
Granville	Mouse		.24						T.										.20	.20										.02			0.66
Hannah	Pembina												T.								T.												T.
Hansboro	Devils Lake																		.20	.40													0.60
Hettinger	Grand												T.				.02						.20										0.22
Hillsboro	Red																		T.	.40													0.40
Howard	Missouri		.11	T.			T.	T.	T.									.20					T.	T.						.18			0.49
Jamestown	James																		.05	.65													0.70
Lamoine	Missouri									T.									.25	.15										.01			0.41
Langdon	Pembina			.10											T.	T.	T		.05	.50													0.65
Larimore	Red																		.30	.40										.05			0.75
Linton	Missouri			.15														.02	.18	.05			T.							.21			0.61
Lisbon ‖	Sheyenne	T.																	T.	.20													0.20
McClusky	Missouri									T.								T.	.10	.30										.08			0.48
McHenry	James		T.	T.					.04				.05						.80											T.			0.89
McKinney	Mouse			T.					T.										.30	T.										.10			0.40
McLeod	Sheyenne											.02								.20	.10									T.			0.32
Maddock	Sheyenne		.06																.09														0.15
Mandan ‖	Missouri		T.					T.		T.									.12	.02	.01									.04			0.19
Manfred	James		.03							T.									.40	.20										T.			0.63
Marmarth	Lit. Missouri		.07			.03			T.									.07	.07	T.			.23						.07				0.54
Mayville	Red																		.10	.30													0.40
Melville	James																		.20	.40													0.60
Minot	Mouse		.05																.30	.10													0.45
Minto	Red			T.															.04	.11	.01									.05			0.21
Mott	Cannon Ball		*	.14														.28	*	.06				.08									0.56
Napoleon ‖	Missouri				T.					T.									.20		.20									.05			0.45
New England	Cannon Ball		.15																T.	T.	T.		T.							T.			0.15
New Salem	Heart		.02	T.				T.	T.	T.								.06	.12	.02			T.										0.22
Park River	Red			T.															.20	.15	.03												0.38
Parshall	Missouri																T.	.05	T.	.05		T.		T.									0.10
Pembina ‖	Red																	.10		.10													0.20
Pettibone	James		T.							T.									.30	.20										.01			0.51
Power	Sheyenne		T.					.15										T.	*	.40													0.55
Powers Lake	Missouri																																
Richardton	Heart		.12					T.									T.		.25					.15									0.52
Sharon	Red		.03	T.						.03									.14	.16	.03									T.			0.39
Skaar	Yellowstone																																
Stanton	Missouri								.02									.40												.02			0.44
Steele	Missouri								T.								T.	T.	.25	.15	.10	T.							.10	T			0.60
Towner	Mouse																	*	1.00		T									T.			1.00
Turtle Lake	Missouri																		.08	.12	T.									.10			0.30
Valley City	Sheyenne		T.	T.						.01							T.		.07	.09	.04												0.21
Wahpeton	Red																			.04													0.04
Walhalla	Pembina																																
Washburn	Missouri																		.23														0.23
Westhope	Mouse																																
Williston ***	Missouri		T.	T.	T.		.01	T.	.01								T.	.18	.05	T.			.04						.02	.03			0.34
Willow City	Mouse								T.										.30	.20										T.			0.50
Moorhead, Minn ***	Red			T.					.02	.01			T.						.18	.13	.01												0.35

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	40	42	32	30	16	11	16	30	40	38	36	36	48	35	36	42	22	30	20	12	20	17	20	22	36	38	40	39	37	....	....	30.4
	Minimum	18	20	12	-16	-9	-15	-11	-9	10	12	15	9	12	23	1	17	22	13	6	3	-18	-20	-18	-18	-6	13	11	17	28	....	....	4.2
Arnegard	Maximum	54	43	37	25	22	20	26	37	36	42	47	48	48	35	27	27	23	20	10	12	16	22	30	34	40	40	48	40	39	....	....	32.7
	Minimum	34	33	22	9	2	9	15	20	18	19	15	31	28	22	16	19	17	7	-10	-14	-10	12	12	12	10	14	23	32	33	....	....	15.5
Ashley	Maximum	....	....	....	24	15	21	22	35	36	45	37	55	48	40	32	32	30	22	22	12	32	20	25	30	48	51	50	56	41	....	....	[c]33.9
	Minimum	....	....	....	-10	-14	-12	7	12	21	14	22	17	32	28	5	16	12	12	5	-5	-18	12	-3	8	12	19	20	27	27	....	....	[c]10.2
Beach	Maximum	53	43	....	....	....	....	30	36	33	42	45	47	46	36	31	30	24	22	14	20	....	....	....	....	....	....	46	....	43	....	....	[k]35.6
	Minimum	34	30	24	18	14	19	20	20	25	25	34	32	30	28	26	24	20	9	-7	-15	-14	-8	-2	12	14	20	28	27	30	....	....	17.8
Berthold Agency	Maximum	44	47	51	63	41	21	28	40	45	52	67	65	64	42	38	32	38	23	24	18	26	25	25	38	42	50	53	58	52	....	....	41.8
	Minimum	28	30	32	36	-2	0	12	18	20	18	18	22	29	22	12	21	12	15	-3	-12	-14	10	12	-4	25	12	32	28	32	....	....	15.9
Bismarck	Maximum	57	52	35	13	17	17	27	38	37	45	43	63	50	35	22	31	21	25	13	9	25	22	27	40	47	47	55	59	41	....	....	34.9
	Minimum	30	34	12	-4	-9	-9	14	12	20	18	22	22	32	22	11	20	15	13	4	-7	-12	11	9	8	16	21	20	30	34	....	....	14.1
Bottineau §§	Maximum	46	45	40	13	13	20	21	31	33	42	40	42	42	36	10	20	12	18	18	11	11	18	26	36	44	40	49	41	40	....	....	29.6
	Minimum	19	20	10	-13	-14	-9	-3	11	16	14	12	12	24	10	1	6	5	-2	1	-6	-15	-2	-8	-3	4	11	15	24	30	....	....	5.9
Bowbells §§	Maximum	49	41	31	19	13	14	24	38	25	43	57	41	40	21	14	19	16	15	11	6	24	16	31	45	48	50	57	56	36	....	....	31.0
	Minimum	24	31	19	-9	-8	-3	-3	-4	14	14	15	24	20	21	2	3	1	7	-3	-11	-15	-1	-4	10	15	22	22	24	31	....	....	8.9
Bowman	Maximum	49	46	37	28	26	20	28	49	37	40	45	53	46	36	34	30	28	28	10	12	36	27	36	40	40	40	50	51	40	....	....	35.6
	Minimum	35	32	25	13	4	10	18	12	22	15	17	33	32	24	21	18	17	9	-3	-9	-9	20	10	0	10	13	15	30	32	....	....	16.1
Cando	Maximum	43	44	39	8	9	15	19	30	33	44	37	42	43	....	15	19	17	17	18	15	15	14	20	33	38	42	38	....	41	....	....	[b]27.7
	Minimum	19	27	5	-16	-15	-12	-10	4	18	24	21	18	25	....	-7	0	-4	3	13	-2	-20	-15	-19	4	10	13	15	....	25	....	....	[b]4.6
Carson	Maximum	60	50	36	22	11	27	24	42	37	44	38	60	50	38	30	30	20	14	12	5	33	20	30	48	40	38	46	36	42	....	....	33.9
	Minimum	30	31	18	-1	-11	-7	11	11	19	10	14	28	28	25	11	10	12	11	-5	-10	-15	11	9	4	10	18	24	28	29	....	....	12.2
Crosby	Maximum	49	41	30	19	21	20	23	36	36	40	46	54	43	28	18	18	19	18	9	27	25	20	25	30	37	43	47	52	41	....	....	31.6
	Minimum	29	30	13	1	3	-1	-3	19	15	21	19	28	17	15	3	5	4	7	-7	8	-7	3	8	10	19	19	21	28	31	....	....	12.3
Devils Lake	Maximum	46	46	24	2	9	16	19	33	33	44	34	45	42	27	11	20	15	18	21	9	15	11	22	35	38	43	30	42	33	....	....	27.1
	Minimum	19	24	-6	-15	-15	-12	-10	4	19	17	21	18	27	3	-1	8	-2	7	7	-12	-15	-8	19	11	12	14	16	23	31	....	....	5.7
Dickinson §§	Maximum	57	50	31	26	22	24	31	48	36	43	48	60	44	34	30	34	24	21	16	6	27	22	23	36	41	41	49	51	37	....	....	34.9
	Minimum	27	28	26	9	-2	2	8	16	19	16	15	17	30	28	17	16	18	16	-5	-12	-17	-11	10	-5	5	9	12	23	32	....	....	12.0
Donnybrook	Maximum	50	42	34	34	14	12	26	36	38	44	41	56	52	48	29	18	30	17	15	13	21	29	28	34	42	52	55	55	37	....	....	34.7
	Minimum	26	32	-1	-10	-8	-6	-3	11	12	21	17	27	28	15	3	10	8	9	-1	-15	12	-12	5	7	12	18	21	32	31	....	....	9.4
Dunn Center §§	Maximum	57	51	40	30	19	21	24	46	39	45	49	61	50	38	28	32	28	20	16	11	29	20	29	37	39	45	52	54	45	....	....	36.4
	Minimum	33	30	26	4	-4	4	14	23	19	20	17	30	30	26	15	19	21	14	-8	-14	-21	17	5	-5	24	8	24	30	34	....	....	15.0
Dunseith	Maximum	45	47	37	12	13	19	20	30	33	43	45	41	46	39	37	38	23	37	20	15	13	15	23	30	40	45	44	41	40	....	....	32.1
	Minimum	22	26	11	-12	-12	-9	-3	10	22	16	27	24	24	7	4	5	0	12	11	3	-9	-7	1	14	20	18	25	28	30	....	....	10.6
Edgeley	Maximum	54	48	43	14	12	21	22	35	32	50	43	49	51	40	31	30	26	22	21	17	17	20	29	37	48	49	52	60	44	....	....	35.1
	Minimum	23	30	13	-9	-14	-12	-6	4	29	15	23	14	31	27	2	13	9	14	7	-2	-13	2	-13	9	20	13	14	19	22	....	....	9.5
Ellendale	Maximum	53	48	35	9	10	20	22	35	36	46	41	53	51	38	20	29	23	24	20	16	17	19	28	32	49	49	53	54	41	....	....	33.5
	Minimum	21	30	4	-6	-11	-8	-1	8	17	10	23	16	32	12	5	20	9	17	10	-4	-13	-1	-7	1	7	10	13	33	23	....	....	9.0
Fessenden §§	Maximum	52	43	30	7	10	20	25	38	34	48	38	56	58	32	23	25	22	20	20	16	20	16	25	35	44	46	50	52	35	....	....	32.4
	Minimum	23	30	5	-11	-14	-10	-4	7	19	16	22	19	30	20	3	12	4	10	10	-10	-20	-5	-18	7	10	17	19	28	31	....	....	8.6
Foxholm	Maximum	48	41	35	11	11	13	26	34	33	44	40	57	48	34	15	17	17	17	15	9	11	11	25	29	36	31	42	43	39	....	....	28.9
	Minimum	28	34	10	-10	-10	-8	0	16	15	21	20	25	28	15	3	10	4	9	3	-11	-12	0	-8	12	14	18	21	32	30	....	....	10.7
Fullerton	Maximum	52	48	38	14	10	20	21	37	35	46	40	50	50	40	28	29	20	26	22	20	19	18	28	33	47	48	50	54	40	....	....	33.9
	Minimum	21	29	13	-6	-11	-10	-3	4	19	12	15	13	32	28	4	15	9	16	1	5	-8	9	-10	4	8	11	15	23	25	....	....	9.2
Garrison	Maximum	53	45	35	15	17	17	27	39	36	46	41	59	54	40	24	29	19	27	17	10	24	23	25	35	43	45	53	55	44	....	....	34.4
	Minimum	29	34	15	-9	-10	-7	5	13	18	17	16	24	29	24	8	16	12	12	1	-13	-15	7	4	-4	10	13	20	30	32	....	....	11.4
Grafton	Maximum	35	44	40	0	5	12	17	28	31	46	42	32	46	40	10	29	15	20	21	19	10	16	22	36	41	39	43	40	39	....	....	28.2
	Minimum	28	20	0	-14	-15	-11	-9	-1	9	10	23	10	23	10	-10	6	-3	4	18	0	-20	20	-20	0	10	11	19	24	20	....	....	4.2
Grand Forks	Maximum	32	40	29	0	2	12	17	29	32	41	35	33	44	29	15	23	15	21	22	16	9	15	22	34	39	39	41	38	33	....	....	26.1
	Minimum	27	20	-6	-14	-17	-14	-13	0	14	9	16	11	21	2	-3	8	-2	10	16	-10	-19	17	-20	3	9	13	20	27	30	....	....	4.2
Granville	Maximum	48	45	32	12	12	16	27	35	35	47	45	56	44	40	20	25	18	20	20	10	15	18	28	40	40	45	47	52	37	....	....	32.0
	Minimum	34	32	10	-8	7	-11	0	11	16	20	25	25	24	12	5	12	8	10	8	-12	-21	4	14	10	14	24	18	28	32	....	....	10.9
Hansboro	Maximum	40	47	20	12	7	10	18	35	33	39	40	42	44	32	20	20	15	30	20	24	13	23	29	39	40	35	39	32	35	....	....	28.7
	Minimum	0	8	-5	-10	-17	-22	-8	12	12	2	10	12	23	-2	-8	-5	-1	-3	7	1	-27	-3	0	3	10	3	7	-2	7	....	....	-0.3
Hettinger	Maximum	47	50	38	38	22	28	31	30	45	43	47	46	37	37	52	28	24	18	19	18	35	25	28	36	40	46	50	54	24	....	....	35.7
	Minimum	25	31	24	11	7	11	16	18	12	17	16	20	25	21	18	14	10	12	9	-9	-11	10	8	9	11	7	24	30	26	....	....	14.6
Hillsboro	Maximum	32	39	34	8	6	13	20	32	32	40	42	36	45	42	22	24	24	20	20	12	12	16	20	35	40	42	44	40	39	....	....	28.7
	Minimum	19	22	8	-10	-13	-6	-6	11	23	28	29	19	22	20	16	16	0	16	12	6	-13	-10	10	13	20	24	20	23	33	....	....	11.8
Howard	Maximum	50	39	32	20	13	19	23	35	35	38	37	42	45	30	20	20	20	20	5	8	24	19	24	32	36	42	42	40	36	....	....	29.2
	Minimum	32	32	20	13	3	3	8	18	16	13	18	24	26	14	10	10	10	5	-9	-18	-8	7	8	7	8	9	18	22	28	....	....	12.0
Jamestown §§	Maximum	47	26	12	10	20	24	40	34	50	40	53	48	35	20	28	20	22	20	10	20	15	25	37	43	48	50	60	47	46	....	....	32.6
	Minimum	31	26	15	-5	-10	-10	-6	-2	13	14	18	17	18	26	5	4	10	7	5	0	-4	-2	-10	-10	10	18	18	23	27	....	....	8.5
Lamoine	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Langdon §§	Maximum	46	19	19	4	14	20	29	29	38	28	36	41	26	19	16	12	17	20	18	20	16	20	32	37	45	42	37	32	39	....	....	26.6
	Minimum	15	19	0	-21	-20	-18	-15	-9	-10	10	18	10	19	13	-8	8	-5	0	8	-2	-17	-16	-15	-10	-3	7	15	22	27	....	....	0.8
Larimore §§	Maximum	40	47	10	0	0	10	20	30	35	45	35	40	45	30	10	23	20	22	23	13	13	14	20	35	40	41	43	37	34	....	....	26.7
	Minimum	18	22	5	-15	-18	-14	-7	0	15	22	22	18	23	14	-5	6	-2	10	8	-3	-15	-16	-18	0	10	15	18	23	27	....	....	5.6
Linton	Maximum	56	51	44	18	13	21	24	39	38	44	43	60	50	41	34	32	29	27	22	10	26	25	33	38	49	48	55	58	57	....	....	37.4
	Minimum	24	30	18	-6	-11	-11	13	12	23	8	18	28	33	29	10	18	17	15	5	2	20	13	0	8	5	21	16	24	29	....	....	12.7
Lisbon §§	Maximum	49	48	22	12	14	14	18	16	19	47	41	45	51	44	40	34	29	25	23	26	30	28	36	40	46	51	51	45	42	....	....	34.0
	Minimum	24	22	12	-12	-6	-4	4	6	10	16	23	20	31	20	18	12	10	6	-2	6	4	9	12	9	12	13	19	28	25	....	....	12.0
McKinney	Maximum	50	45	38	11	12	14	27	37	34	45	42	57	35	30	15	15	18	18	12	4	10	12	32	40	42	46	50	50	43	....	....	30.5
	Minimum	20	32	10	-10	-9	-5	0	28	15	20	20	20	25	15	2	2	0	10	2	-10	-22	-1	-15	0	15	12	15	15	31	....	....	8.2
Maddock	Maximum	48	47	41	40	11	18	23	36	35	42	41	47	45	40	38	23	21	20	19	17	18	16	23	35	43	45	45	46	44	....	....	33.3
	Minimum	20	30	10	-12	-14	-11	-9	8	19	17	21	18	27	20	0	9	-2	9	14	-11	-26	-10	22	6	12	10	15	25	31	....	....	7.0
Melville	Maximum	50	49	41	6	7	18	20	39	32	45	38	51	48	42	27	32	30	21	20	20	20	17	20	34	41	45	45	51	55	....	....	33.2
	Minimum	24	32	9	-12	-15	-12	-5	10	5	16	22	17	27	23	0	7	2	10	10	-10	-14	-6	-17	10	15	15	20	27	28	....	....	8.2
Minot §§	Maximum	51	48	34	13	13	15	30	33	38	47	45	59	50	38	22	20	20	22	18	10	20	18	30	25	43	48	53	53	43	....	....	33.1
	Minimum	20	30	8	-8	-9	-8	2	23	23	21	18	28	30	16	8	15	10	11	5	-11	-19	1	13	10	9	18	18	30	20	....	....	11.4
Mott	Maximum	46	38	34	16	14	22	32	37	37	38	40	48	46	37	29	27	24	20	11	6	11	16	23	34	35	42	46	48	40	....	....	30.9
	Minimum	27	22	11	5	0	8	10	5	8	11	18	22	25	16	17	15	17	9	-5	-13	10	-8	0	-5	-2	3	17	24	29	....	....	9.5
Napoleon §§	Maximum	55	50	28	10	15	22	28	40	38	45	43	60	50	40	22	33	21	24	13	8	22	21	32	33	43	51	51	56	50	....	....	34.6
	Minimum	42	28	12	-13	-21	-21	-10	7	15	12	17	15	22	22	3	2	3	9	1	-7	-21	-7	-12	-9	8	13	15	25	30	....	....	6.2
New Salem	Maximum	57	58	32	13	17	16	20	42	40	43	44	62	50	35	28	30	25	21	15	16	28	22	38	40	45	46	53	59	43	....	....	35.8
	Minimum	32	32	3	-5	12	-8	10	11	21	18	17	32	31	25	22	10	15	12	-3	-7	-10	10	18	7	18	18	21	31	30	....	....	13.8
Pembina §§	Maximum	32	39	32	10	1	8	16	28	30	41	41	31	45	35	7	12	10	20	20	18	12	12	25	35	40	42	44	40	37	....	....	26.2
	Minimum	25	15	10	-18	-20	-15	-15	4	10	10	12	10	17	-2	-7	7	-10	-2	12	-2	-20	-15	-20	8	10	15	17	25	28	....	....	2.8
Steele	Maximum	46	52	24	12	10	15	27	42	37	40	38	50	54	28	16	20	22	21	22	7	24	24	22	32	37	45	47	49	48	....	....	31.4
	Minimum	15	24	14	-12	-17	-17	-4	14	20	4	18	14	28	12	0	12	10	12	5	-7	7	0	-8	5	8	15	12	24	30	....	....	8.2
Towner	Maximum	46	44	41	22	10	15	23	32	38	44	38	50	45	41	20	22	22	20	8	10	10	8	26	28	36	42	38	42	42	....	....	29.8
	Minimum	18	28	10	-12	-13	-15	-5	10	15	14	20	26	20	17	4	2	8	6	-6	-13	-23	-5	3	5	0	8	22	27	31	....	....	7.0
Valley City	Maximum	42	44	33	9	6	16	17	40	39	48	39	43	45	35	14	24	24	19	20	18	14	13	23	35	39	47	45	42	39	....	....	30.4
	Minimum	24	31	9	-10	-14	-11	-9	8	24	17	22	23	29	10	0	14	0	2	16	0	-16	-10	-6	8	13	24	22	28	30	....	....	9.5
Wahpeton	Maximum	42	45	45	24	15	15	23	34	35	47	47	36	51	48	36	28	26	23	24	17	28	25	29	33	40	52	50	48	45	....	....	34.9
	Minimum	19	25	15	-5	-12	13	-9	0	22	12	28	15	28	26	4	16	4	17	16	5	-17	10	-15	-1	7	15	21	27	31	....	....	10.0
Walhalla	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Williston	Maximum	53	43	33	19	21	21	27	37	37	41	47	58	44	32	25	25	22	20	9	6	23	21	29	32	40	41	48	49	38	....	....	32.4
	Minimum	85	30	17	8	6	10	15	23	20	19	19	29	30	18	13	19	18	4	-6	-13	-9	12	13	14	8	15	19	29	29	....	....	15.3
Moorhead, Minn	Maximum	36	40	34	2	3	10	19	33	31	45	36	31	47	33	15	22	18	20	21	18	9	18	21	29	38	50	45	42	36	....	....	27.8
	Minimum	20	25	2	-10	-15	-10	-7	4	19	14	27	13	27	4	-1	13	3	15	18	-3	17	-4	-12	0	8	14	23	27	31	....	....	7.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXIII. Bismarck, N. D., March, 1924. No. 3

GENERAL SUMMARY.

Unusually mild weather prevailed in all sections of the State at the opening of the month, which rapidly reduced the snow covering. This condition generally prevailed during the first and second decades. During this period spring work on farms was begun, considerable spring wheat was planted in the central and southeast portions, and some spring plowing accomplished. There was, however, a deficiency of precipitation during the period. During the last decade farm work was considerably delayed, due to frozen ground in the east portion, and by snow and low temperature in the west and central portions. During the second decade wild and tame grasses and winter rye were well started.

TEMPERATURE.

The mean temperature for the State was 25.5°, or 2.9° above the normal, and 7.2° higher than the mean for March, 1923. The highest mean reported was 30.0° at Wahpeton, Richland County; the lowest was 19.8° at Hansboro, Towner County. The highest temperature reported was 58° at Amidon, Slope County, on the 1st; the lowest was -20° at Westhope, Bottineau County, on the 6th. The greatest monthly range was 70° at Westhope, Bottineau County; the least was 40° at Hillsboro, Traill County, and Park River, Walsh County. The greatest daily range was 41° at Carson, Grant County, on the 31st, and at Westhope, Bottineau County, on the 14th.

MAY

PRECIPITATION.

The average precipitation for the State was 0.45 inch, or 0.38 inch below the normal, and 0.03 inch more than the average for March, 1923. The greatest monthly amount reported was 1.45 inches at Fryburg, Billings County; there were only traces at Hansboro, Lisbon, Wahpeton and Westhope. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Hettinger, Adams County, and at Amidon, Slope County, on the 28th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 4.4 inches.

AURORAS.

Auroras were observed at Finley, Foxholm, McLeod, Williston and Moorhead on the 2d; at Pettibone on the 5th; at Crosby on the 29th, and at Crosby and Howard on the 30th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour.			
								Average.	Highest.*	Direction.	Date.
Bismarck	30.13	30.52	8	29.59	26	57	6,541	8.8	32	nw.	5
Devils Lake	30.10	30.41	8	29.48	26	44	6,902	9.3	42	n.	5
Ellendale	30.09	30.47	8	29.55	26	56	9,689	13.0	44	ne.	29
Grand Forks	30.07	30.37	8	29.48	26	90	....	......	38	ne.	28
Williston	30.07	30.53	8	29.56	26	48	6,071	8.2	27	e.	28
Moorhead, Minn	30.08	30.40	8	29.52	26	58	5,613	7.5	33	nw.	6
Av'ges and extremes	30.09	30.53	8	29.48	26	.....	....	9.4	44	ne.	29

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent.			Lowest observed.	Date.
					7 a. m.	Mean noon.	7 p. m.		
Bismarck	173.6	369.9	47	......	87	56	60	.....	....
Devils Lake	154.5	369.7	42	−14	83	74	80	38	22
Ellendale	223.8	370.0	60	......	85	52	....	27	16
Grand Forks	......	......	......	......	86	.....	73	.....	....
Williston	200.1	369.7	54	− 2	86	63	64	35	22
Moorhead, Minn	191.3	369.9	52	......	79	63	69	33	29
Averages and extremes	188.7	369.9	51	......	84	62	69	27	16

† And other dates.

COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893...	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894...	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895...	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896...	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897...	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898...	21.3	−1.3	79	−24	0.79	−0.04	5	13	8	10	nw.
1899...	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900...	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901...	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902...	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903...	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904...	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905...	32.5	+0.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906...	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907...	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908...	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909...	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910...	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911...	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912...	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913...	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914...	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915...	23.3	+0.7	63	−23	0.22	−0.71	2	16	6	9	nw.
1916...	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917...	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918...	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919...	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920...	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921...	25.2	+2.6	75	−22	1.00	+0.17	6	9	12	10	nw.
1922...	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.
1923...	18.3	−4.3	65	−35	0.41	−0.42	4	10	10	11	nw.
1924...	25.5	+2.9	58	−20	0.45	−0.28	4	10	9	12	nw.

Climatological Data for March, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	24.9	+1.3	53	23	3	31	39	0.16	−0.41	0.08	2.0	2	11	12	8	nw.	E. T. Carley.
Amidon	Slope		11	25.6		58	1	−1	7	35	1.20		0.80	12.0	5	5	17	9	se.	Charles Eastgate.
Arnegard	McKenzie		10	25.9		45	24†	−3	8	32	1.02		0.30	9.5	7	8	10	13	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	25.1	+3.1	50	26	0	8†	32	0.59	−0.60	0.32	5.0	3	9	9	13	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	25.0[e]	−1.5	47[e]	24	0[e]	31	36[e]	0.61	−0.17	0.21	6.1	5					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	26.8[d]	+2.1	56[c]	1	−4[e]	7†	36[e]	0.20	−0.64	0.08	5.0	4	21	2	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	26.8	+2.6	51	24	2	10	31	0.58	−0.46	0.36	5.2	4	5	10	16	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	24.7	+7.0	45	24	−10	7	36	0.23	−0.57	0.11		3	6	13	12	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	24.0	+5.2	46	2†	−3	7†	28	0.14	−0.39	0.07		3	20	1	10		G. H. Phelps.
Bowman	Bowman	2,961	11	24.6		47	1	−1	31	38	0.21		0.10		5	11	9	11	nw.	R. Love, Jr.
Cando	Towner	1,488	24																	A. J. Swanson.
Carson	Grant	2,500	13	24.6	+0.1	50	1	−6	31	41	1.05	+0.39	0.40	13.2	6	12	12	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19								0.40	−0.14	0.20	4.0	2	19	9	3	nw.	S. Friswold.
Crosby	Divide	1,954	18	25.8	+3.8	47	19	3	8	37	0.19	−0.47	0.11	1.7	4	7	11	13	nw.	John Jensen.
Devils Lake	Ramsey	1,478	28	24.2	+5.7	46	26	−1	10	26	0.42	−0.59	0.19	5.6	8	5	7	19	ne.	U. S. Weather Bureau.
Dickinson	Stark	2,543	33	24.7	+0.3	49	1†	−4	31	36	1.11	+0.27	0.57	10.9	6	15	2	14	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	24.1	+1.7	46	26	−5	7	34	0.18	−0.59	0.09	1.7	3	13	5	13	s.	H. Feldner.
Dunn Center	Dunn	2,191	26	25.8	+1.7	49	1	−6	8	38	0.72	−0.39	0.48	9.0	3	12	4	15	e	W. H. Moede.
Dunseith	Rolette	1,682	29	24.4	+5.6	47	25†	−5	6†	37	0.14	−0.63	0.10	1.8	2	14	7	10	e.	J. G. Lamont.
Eckman	Bottineau	1,500	20								0.04	−0.46	0.04	1.0	1	3	7	21	se.	C. E. Strock.
Edgeley	LaMoure	1,468	24	25.7	−0.8	53	26	0	12	39	0.36	−0.44	0.20	3.5	3	1	13	17	ne.	O. A. Thompson.
Ellendale	Dickey	1,449	26	26.8	+1.2	53	26	4	8	30	0.76	−0.44	0.31	6.3	8	4	8	19	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	26.0		50	24	−1	9	33	0.26	−0.41	0.10	3.0	3	8	17	6	se.	H. S. Solenberger.
Epping	Williams	2,224	17	24.4		44	25	−5	9	30	1.06	+0.50	0.73	2.0	7	12	17	2	se.	A. O. Wang.
Fessenden	Wells	1,610	13	26.2	+4.8	50	26	−2	10	34	0.25	−0.47	0.10	2.0	5	7	13	11	ne.	T. D. Monsen.
Finley	Steele	1,461	1	25.7		44	24	2	7	27	0.49		0.15	4.5	6	7	7	17	ne.	G. J. Mustad.
Forman	Sargent	1,249	31								0.59	−0.31	0.27	4.0	3	10	8	13	e.	O. Enger.
Foxholm	Ward	1,657	4	24.2		45	26	0	7†	36	0.11		0.09	0.5	2	4	14	13	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	7								1.45		0.70	12.0	6	5	17	9	se.	Verne King.
Fullerton	Dickey	1,439	27	26.8	−1.6	52	26	2	8	32	0.97	−0.25	0.31	7.5	4	8	13	10	ne.	F. O. Alin.
Garrison	McLean	1,901	30	25.6	+3.9	50	24	−4	7	34	0.72	−0.32	0.16		7	9	11	11	se.	Wm. H. Robinson.
Grafton	Walsh	827	33	27.8	+8.6	48	23	5	30	32	0.18	−0.51	0.10	2.2	5	12	8	11	ne.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	26.8	+4.4	47	23	3	10	31	0.31	−3.40	0.14	5.4	7	13	9	9	ne.	U. S. Weather Bureau.
Granville	McHenry	1,504	18																	W. A. Christianson.
Hannah	Cavalier	1,568	31								0.32	−0.34	0.16	4.0	3					J. Moffatt.
Hansboro	Towner	1,597	17	19.8	−1.5	50	29	−5	1	37	T.	−0.66	T.	T.	0	18	7	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	18	24.8	−2.8	51	1	1	7†	27	1.12	+0.36	0.80	11.2	3	5	22	4	nw.	U. J. Downey.
Hillsboro	Traill	901	19	29.0	+4.3	48	23†	8	7	22	0.05	−0.69	0.05	0.5	1	10	14	7	ne.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	22.6	+1.8	42	1†	−9	8	30	1.00	−0.14	0.30	9.2	5	9	6	16	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	28.4	+5.8	51	21	8	6	32	0.18	−0.82	0.08	1.8	3	12	4	15	nw.	S. Calvelage.
Lamoine	Kidder	1,936	20	23.6	+0.6	48	2†	−5	7†	32	0.23	−0.54	0.10	2.5	3				nw.	E. V. Virgin.
Langdon	Cavalier	1,615	29	23.2	+4.2	42	24†	−4	10	39	0.56	−0.28	0.24	7.0	4	21	7	3	ne.	R. T. Burke.
Larimore	Grand Forks	1,134	31	26.7	+5.7	47	22†	4	10	35	0.46	−0.23	0.24	5.8	5	6	12	13	n.	Reuben Gray.
Linton	Emmons	1,711	7	27.8		52	24†	0	8†	37	0.88		0.48	9.5	8	9	4	18	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	27.8	+1.2	48	1†	5	6†	34	T.	−0.56	T.	T.	0	18	6	7		W. S. Adams.
McClusky	Sheridan	1,943	7	24.4		48	24	−5	10	31	0.50		0.20	4.5	5	11	8	12	nw.	Edw. Tapley.
McHenry	Foster	1,509	14	26.0	+2.4	48	25	5	10	29	0.13	−0.46	0.08	2.0	2	15	0	16	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	23.8	+4.6	48	26	−7	14	39	0.14	−0.59	0.10	0.5	2	7	14	10	nw.	N. P. Swenson.
McLeod	Ransom	1,075	13	28.8	+2.9	54	26	3	31	38	0.11	−0.52	0.05	1.1	4	13	4	14	e.	J. G. Carlson.
Maddock	Benson	1,604	19	27.0		47	26	−4	10	31	0.08		0.04	0.9	2	5	14	12	ne.	A. T. Felland.
Mandan	Morton	1,644	11	26.4		50	26	3	8†	31	0.34		0.07	4.0	9	12	6	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	24.5	+1.4	47	26	−1	9†	29	0.28	−0.50	0.10	2.0	5	7	8	16	ne.	P. B. Anderson.
Marmarth	Slope	2,714	16	25.0	−1.0	50	1	−3	6	32	1.36	+0.91	0.55	12.5	9	5	10	16		S. P. Grane.
Mayville	Traill	975	29	26.1	+2.9	47	25	1	10	34	0.52	−0.19	0.24	6.3	4	12	3	16	n.	R. Peterson.
Melville	Foster	1,590	27	24.5	+2.2	46	26	−3	7	29	0.28	−0.40	0.16	3.5	2	6	11	14	nw.	J. P. Kidder.
Minot	Ward	1,557	29	26.4	+5.0	50	25	1	9†	31	0.05	−0.72	0.05		1	6	9	16	e.	W. I. Faris.
Minto	Walsh	820	32	26.6	+5.5	49	23	3	31	38	0.16	−0.66	0.07		4	10	12	9	ne.	C. M. Evans.
Mott	Hettinger	2,424	18	21.8	−4.8	46	3	−6	31	31	0.58	−0.46	0.38	6.2	5	6	8	17	e.	O. H. Opland.
Napoleon	Logan	1,955	33	23.4	+2.1	52	24†	−8	10	40	0.83	−0.10	0.50	7.0	3	9	2	20	se.	C. J. Hoof.
New England	Hettinger	2,400	31	24.6	+0.2	48	1	−2	31	35	..80	−0.07	0.64	10.0	4	10	13	8	se.	W. S. Jones.
New Salem	Morton	2,163	21	24.2	−0.3	52	1	0	7†	35	0.96	0.00	0.60		5	8	14	9	se.	J. Christiansen.
Park River	Walsh	998	21	26.2[e]	+4.1	45[e]	23†	5[e]	31	26[e]	0.09	−0.46	0.05	3.0	2				nw.	C. B. Wright.
Parshall	Mountrail		10																	J. A. Johnson.
Pembina	Pembina	789	51	26.2	+10.2	49	25	5	8†	29	0.18	−0.72	0.10	2.0	2	14	12	5	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	23.5[a]	−0.3	49[a]	26	−7[a]	10	39[a]	0.58	+0.04	0.20	6.5	5	12	9	10	ne.	S. C. Shanks.
Power	Richland	1,020	31								0.29	−0.41	0.17	1.5	3					J. A. Power.
Powers Lake	Burke	2,205	11																	Geo. B. Gee.
Richardton	Stark	2,467	9	25.4		49	1	0	8	30	0.75		0.38	3.7	6	6	9	16	se.	Geo. Keim.
Sharon	Steele	1,516									0.29		0.11	3.1	4	9	8	14	ne.	Nels O. Grefsheim.
Stanton	Mercer	1,722	1								0.25		0.25	3.5	1	9	8	14	se.	J. H. Giffey.
Steele	Kidder	1,857	29	26.3	+4.2	48	2	−2	8	30	0.15	−0.78	0.15	1.0	1	11	13	7	ne.	H. S. Wood.
Towner	McHenry	1,482	23	29.7	−10.5	50	26	0	7	23	0.10	−0.80	0.10	1.0	1	10	10	11	sw.	B. Bagley.
Turtle Lake	McLean	1,899	10	25.4		49	1	−3	7	30	0.87		0.80	2.0	3	9	9	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	20	26.9	+0.8	48	25	2	7†	29	0.24	−0.26	0.10	0.9	6	10	6	15	n.	H. Twito.
Wahpeton	Richland	962	31	30.0	+3.8	55	26	3	31	31	T.	−0.91	T.	T.	0	13	3	15	ne.	C. G Luick.
Walhalla	Pembina	966	21																	T. R. Johnson.
Washburn	McLean	1,731	24								0.40	−0.25	0.14		4					Karl Klein.
Westhope	Bottineau	1,508	19	24.0	+3.1	50	26	−20	6	41	T.	−0.49	T.	T.	0	6	17	8	nw.	W. A. Meddaugh.
Williston	Williams	1,875	46	26.4	+3.5	46	24	−2	8	29	0.68	0.00	0.31	6.4	9	5	11	15	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	24.1	+5.8	47	26	−7	7	34	0.52	−0.21	0.30	5.0	4	9	12	10	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	27.4	+4.7	50	26	5	10	30	0.25	−0.89	0.11	1.4	7	10	11	10	n.	U. S. Weather Bureau.
Averages				25.5	+2.9	58	1	−20	6	41	0.45	−0.38	0.80	4.4	4	10	9	12	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for March, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red						.08	T.	.08	T				T.													T.						0.16
Amidon	Lit. Missouri				T.	T.	.10						T.			T.	T.	T.	T.		.10			.10		.10		T.	.80				1.20
Arnegard	Missouri					.05							.15	.07							.15			.25		.05			.30				1.02
Ashley	Missouri					T.															.10					.17			.32				0.59
Beach	Lit. Missouri											T.								T.		T.		.11	T.	.17	.08	T.	.21	.04			0.61
Berthold Agency	Missouri					.06														T.	T.			.05		.01			.08				0.20
Bismarck ***	Missouri					T.	T.		T.				T.		T.					T.	.07		T.	.03		.12		T.	.36				0.58
Bottineau ‖	Mouse				T.	.10	T.							T.	T.						.02	T.				T.	.11						0.23
Bowbells ‖	Mouse						.07																		.02		.05						0.14
Bowman	Grand			T.		T.			T.									T.		.02	T.		.03			.10		T.	.04	.02			0.21
Cando	Devils Lake																																
Carson	Heart								.01				T.										.04	.04		.16			.40	.40			1.05
Cooperstown	Sheyenne					.20		T.	.20																								0.40
Crosby	Mouse					.02		T.				.02								T.	T.	T.		.02	.01	.11	.01	T.					0.19
Devils Lake ***	Devils Lake		T.		.01	.10	T	.03	.06				T.	T.					T.		.02	.01			T.	.13	.06	T.					0.42
Dickinson ‖	Heart					T.	T.		T.				T.								T.			.05		.15	.13	.08	.13	.57			1.11
Donnybrook	Mouse					.09																.05				.04							0.18
Dunn Center ‖‖	Knife					T.							.08											T.		T.			.48	.16			0.72
Dunseith	Mouse					.10			.04										T.		T.				T.		T.						0.14
Eckman	Mouse					.04																											0.04
Edgeley	James									.05												.11							.20				0.36
Ellendale***	James	T.				.03	T.		.02	.04		T.		T.	.02					.02	.05					.31	T.		.27				0.76
Energy	Missouri								T.															.06		.10			.10				0.26
Epping	Missouri		T.		T.	.10						.10	T.	.02	T.						T.		.06	.73		.03			.02				1.06
Fessenden ‖	James	.01			T.	.06			.10			T.		T.	T.						.07					T.	.01	T.					0.25
Finley	Red		T.		T.	.15	.09	.04	.07		T.	T.	T.	.04							T.				T.		.10						0.49
Forman	Sheyenne																				.16						.27			.16			0.59
Foxholm	Mouse	T.				.02	T.		T.												T.	T.		T.		T.	.09						0.11
Fryburg	Heart			.10	.09							T.	T.		T.				T.	T.	T.	T.	T.	.10	T.	.24	T.		.70	.22			1.45
Fullerton	James					T.				.14				T.	T.						.27					.22			.34				0.97
Garrison	Missouri					.14	.08														.08			.06		.16	.08		.12				0.72
Grafton	Red					*	.10		.05					.01											.02								0.18
Grand Forks ***	Red		T.		.02	.14		.06			T.	T.	.03	.02											.01	T.	.03						0.31
Granville	Mouse																																
Hannah	Pembina		T.																.08					T.		.16	.08						0.32
Hansboro	Devils Lake				T.			T.						T.																			T.
Hettinger	Grand					T.														T.			.10			.22			.80				1.12
Hillsboro	Red					.05																					T.						0.05
Howard	Missouri				.30							.10	T.					T.			T.	T.	.10		*	.50		T.			T.		1.00
Jamestown ‖	James					.08	T.			.02											.08												0.18
Lamoure	Missouri					.08								T.	T.	T.										.10	.05	T.	T.				0.23
Langdon ‖	Pembina						.24		.08																	.16	.08						0.56
Larimore	Red					.02	.24	.02	.16				.02																				0.46
Linton	Missouri	.02				T.	.02		.02	.08			T.	.08	T.						.08					.10			.48				0.88
Lisbon ‖‖	Sheyenne												T.	T.																			T.
McClusky	Missouri				T.	.20			.05						.05						.05					T.	.15		T.				0.50
McHenry	James					T.	.05														.08				T.								0.13
McKinney	Mouse					.04														T.	T.			T.	T.	.10							0.14
McLeod	Sheyenne	.01	T.			.05	T.	T.		T.					.01											.04	T.	T.	T.				0.11
Maddock	Sheyenne					T.	T.		.04												.04					T.		T.					0.08
Mandan ‖	Missouri	.06				T.	.01	T.	.01					T.	T.	T.					.04	.01		.07		T.	.07		.03	.04			0.34
Manfred	James	.02				.10	T.		.10					T.	T.						.02						.04						0.28
Marmarth	Lit. Missouri				.08	.08		.02				.04						.01		T.				.40		.16	T.	.02		.55			1.36
Mayville	Red					.24		.12						.06													.10						0.52
Melville	James	T.				.16			T.					T.	T.						.12												0.28
Minot ‖	Mouse																									.05							0.05
Minto	Red					.03	.04	.07	T.																T.			T.	.02				0.16
Mott	Cannon Ball					T.	.02		T.	T.											.03		.04			.11			.38				0.58
Napoleon ‖‖	Missouri						T.			.10				T.							T.						.23		.50				0.83
New England	Cannon Ball					T.							T.							T.	.08		T.			.08		*	.64				0.80
New Salem	Heart					T.	T.		T.											.02				.12		.12			.60	.10			0.96
Park River	Red				T.	.05	T.	T.	.04					T.																			0.09
Parshall	Missouri																																
Pembina ‖	Red							08																	T.			.10					0.18
Pettibone	James	.04				.16	T.		.08					T.							.20						.10						0.58
Power	Sheyenne						T.	T.	.08				T.													.17	.04						0.29
Powers Lake	Missouri																																
Richardton	Heart					.02			.02	.01			T.											.12		.20		T.		.38			0.75
Sharon	Red	T.	T.		T.	.11	T.	T.	.09				T.	.02							T						.07	T.					0.29
Stanton	Missouri							T.	T.											T	T.	T.				T.			.25				0.25
Steele	Missouri					T.	T.		T.					T.	T.						T.	T.				T.	.15	T.	T.	T.			0.15
Towner	Mouse				T.		T.														T.					T.	.10						0.10
Turtle Lake	Missouri					.80	T.														T.						.04	.03					0.87
Valley City	Sheyenne	T.			T.	.10	.01	T.	.01	T.	T.	T.	T.	.02		T.				T.	.01						.09						0.24
Wahpeton	Red																									T.	T.						T.
Walhalla	Pembina																																
Washburn	Missouri	.07																			.07			.12			.14						0.40
Westhope	Mouse					T.															T.												T.
Williston ***	Missouri				T	.05	T.	T.				.03	T.	T.				T.	T.	.05	.07	T.	.03	.31	.03	.06	T.		.05				0.68
Willow City	Mouse				T.	.30			.10					T.	T.					.02	T.						.10	T.					0.52
Moorhead, Minn ***	Red				T.	.05	T.	T.				.03	T.	T.				T.	T.	.05	.07	T.	.03	.31	.03	.06	T.		.05				0.68

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	42	40	45	38	32	23	22	21	19	21	30	23	33	30	28	34	33	38	40	46	49	46	53	48	51	48	38	32	20	17	42	34.9
	Minimum ...	20	16	22	18	19	17	4	6	7	5	9	12	13	11	9	16	10	12	15	19	16	18	20	26	28	24	23	17	15	12	3	14.9
Arnegard	Maximum...	44	42	42	32	29	16	18	20	33	35	37	38	28	34	33	32	37	35	38	34	37	39	36	45	38	45	37	28	25	34	37	34.1
	Minimum ...	25	28	25	26	10	-1	-1	-3	1	8	12	17	15	12	17	22	33	23	19	25	21	23	30	25	32	37	22	18	13	9	11	17.7
Ashley	Maximum...	42	41	45	38	36	20	20	18	25	28	31	36	30	27	36	34	39	37	39	35	40	42	46	48	36	50	45	35	22	25	30	34.7
	Minimum ...	30	31	22	18	18	6	6	0	5	0	3	4	16	16	12	9	22	15	21	22	18	23	26	21	31	22	25	17	10	5	5	15.5
Beach	Maximum...	....	....	....	26	....	....	28	34	31	30	33	36	36	32	32	32	33	37	36	32	32	34	36	47	35	41	38	30	16	28	36	[c]33.1
	Minimum ...	....	....	....	3	....	....	4	6	10	12	15	15	24	24	20	21	22	17	17	25	20	20	30	27	29	22	29	16	12	5	0	[c]16.8
Berthold Agency	Maximum...	56	50	43	36	34	37	19	25	30	36	40	37	40	35	....	39	37	39	43	35	36	38	48	50	47	50	....	....	24	25	37	[c]38.1
	Minimum ...	32	30	18	22	19	17	-4	-4	-2	8	4	12	16	10	17	20	....	....	....	23	18	14	28	27	28	22	....	....	13	9	5	[c]15.5
Bismarck	Maximum...	47	46	43	38	34	17	19	20	28	32	35	34	32	32	35	39	38	39	41	35	38	41	47	51	40	50	39	27	25	26	32	35.5
	Minimum ...	32	29	22	24	15	9	5	4	6	2	4	13	20	20	14	18	23	19	25	24	20	25	30	26	29	24	25	19	15	10	6	18.0
Bottineau §§	Maximum...	41	39	34	26	18	20	26	31	33	32	31	28	28	35	36	39	37	40	37	40	40	43	41	45	44	44	35	22	28	40	38	34.5
	Minimum ...	29	24	19	12	12	-6	-10	5	6	5	6	10	14	12	13	14	22	19	24	26	19	24	27	30	29	16	23	17	8	4	10	14.9
Bowbells §§	Maximum...	36	46	42	40	20	21	17	17	23	29	31	36	34	31	33	36	38	41	37	40	36	36	41	36	45	40	46	31	28	22	29	33.5
	Minimum ...	21	28	20	17	7	-1	-3	-3	-2	5	15	14	9	11	5	18	17	16	20	20	20	22	25	29	30	22	21	21	9	5	9	14.4
Bowman	Maximum...	47	42	42	34	30	20	20	20	29	34	32	30	36	31	30	32	33	39	37	32	30	32	36	44	35	43	37	31	17	21	37	32.7
	Minimum ...	23	15	26	26	18	3	0	6	1	12	19	9	17	15	20	22	19	13	14	26	24	25	29	23	29	24	24	16	10	7	-1	16.6
Cando	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Carson	Maximum...	50	47	45	47	31	22	21	31	36	34	37	36	28	27	35	36	36	37	40	32	36	35	43	44	36	47	44	34	20	21	35	35.5
	Minimum ...	20	25	19	25	16	3	-4	-1	-2	4	5	16	11	16	9	18	16	17	16	21	17	21	27	23	25	19	20	15	10	2	-6	13.6
Crosby	Maximum...	45	45	37	31	27	19	19	25	29	37	37	35	38	35	37	35	39	37	47	37	37	43	35	45	37	37	32	30	25	32	42	35.0
	Minimum ...	28	27	22	20	12	2	4	-3	0	10	12	17	15	10	18	20	21	16	22	21	22	23	25	28	29	28	22	17	13	9	5	16.6
Devils Lake	Maximum...	39	39	38	29	28	16	16	21	24	25	26	27	26	31	32	36	33	37	40	36	38	40	43	43	44	46	33	24	24	26	37	32.2
	Minimum ...	30	29	24	21	5	2	0	9	3	-1	3	18	12	7	6	15	20	23	28	27	25	25	24	30	31	24	21	16	9	5	14	16.3
Dickinson §§	Maximum...	49	43	41	36	35	18	21	20	30	31	38	38	35	32	33	35	36	37	42	32	35	35	39	49	35	46	39	28	12	23	32	34.0
	Minimum ...	23	25	21	24	24	5	0	0	4	9	9	12	19	13	18	18	19	14	15	18	21	21	28	23	27	16	22	18	12	4	-4	15.4
Donnybrook	Maximum...	45	42	40	31	26	25	15	22	33	33	37	34	33	30	32	34	35	38	38	40	35	41	38	45	44	46	40	36	28	27	43	35.0
	Minimum ...	17	29	22	15	-2	-3	-5	3	1	0	3	13	4	13	10	17	15	20	16	19	18	24	26	28	28	21	22	8	10	5	12	13.2
Dunn Center §§	Maximum...	49	42	42	36	29	20	18	22	30	35	39	35	30	35	35	35	37	37	44	36	36	39	39	48	43	48	42	31	22	23	34	35.2
	Minimum ...	39	36	19	24	19	5	-3	-6	-2	2	9	22	16	14	18	13	19	15	12	22	17	26	31	25	28	25	24	18	16	5	-4	16.3
Dunseith	Maximum...	43	38	38	38	29	17	20	26	27	29	29	28	27	29	33	35	36	41	41	39	40	44	45	44	47	47	43	46	31	29	40	35.5
	Minimum ...	18	20	21	16	15	-5	-5	-5	-2	5	8	10	10	12	16	18	20	24	26	17	18	20	24	22	29	20	20	15	5	1	3	13.4
Edgeley	Maximum...	40	46	47	42	40	25	26	20	26	32	30	39	29	29	39	39	41	40	42	34	42	48	48	48	42	53	45	34	26	28	35	37.3
	Minimum ...	31	24	20	17	9	6	2	1	5	2	2	0	9	15	14	5	22	13	13	21	24	20	21	24	31	23	25	18	13	5	3	14.1
Ellendale	Maximum...	38	45	45	40	39	19	25	19	27	31	30	35	33	30	38	39	39	40	40	34	42	48	46	48	39	53	44	27	24	27	34	36.1
	Minimum ...	27	26	24	21	12	10	6	4	9	7	5	5	16	19	19	9	19	16	25	26	24	24	30	23	33	25	27	20	13	8	6	17.4
Fessenden §§	Maximum...	43	41	41	33	32	22	22	23	28	32	31	33	28	28	35	40	35	39	40	36	39	45	47	49	46	50	41	28	26	27	41	35.5
	Minimum ...	30	30	24	21	13	11	11	10	2	-2	1	4	15	15	9	11	22	21	23	27	24	25	23	31	25	23	27	18	12	7	7	16.8
Foxholm	Maximum...	39	35	34	32	24	16	16	21	26	29	35	32	29	31	32	35	35	37	38	35	36	41	39	42	43	45	38	27	23	24	40	32.5
	Minimum ...	29	29	23	19	15	4	0	0	0	5	6	12	9	11	15	18	20	19	25	20	21	24	26	30	29	23	22	20	9	4	4	15.8
Fullerton	Maximum...	38	45	44	40	39	20	24	20	26	30	28	33	33	32	37	40	40	41	44	36	42	47	48	50	40	52	43	30	25	27	34	36.4
	Minimum ...	32	25	22	19	17	7	5	2	9	5	10	5	16	18	18	8	23	18	15	27	26	23	27	21	32	25	26	20	15	8	6	17.1
Garrison	Maximum...	44	43	42	33	29	18	19	20	27	33	36	35	31	30	37	36	37	36	40	38	38	43	41	50	40	48	38	30	24	28	36	34.8
	Minimum ...	30	29	22	22	16	4	-4	-3	-3	-1	3	12	17	14	16	18	22	18	20	23	20	25	27	26	26	21	21	18	11	12	11	16.3
Grafton	Maximum...	42	39	42	37	28	19	18	25	29	28	28	30	32	36	39	40	40	41	41	41	47	46	48	45	46	46	44	29	28	30	40	36.4
	Minimum ...	30	30	27	22	14	7	9	9	11	9	17	21	19	12	14	15	21	19	25	32	28	21	23	28	32	31	20	21	11	5	8	19.1
Grand Forks	Maximum...	38	39	40	30	30	19	18	23	29	26	28	29	31	33	35	36	37	39	42	38	43	42	47	42	46	45	39	31	25	27	37	34.3
	Minimum ...	31	30	28	22	13	8	9	10	10	3	19	21	21	10	14	17	24	22	28	30	27	23	25	32	31	31	18	16	14	7	6	19.4
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hansboro	Maximum...	35	30	38	36	37	19	32	20	20	27	30	32	27	27	30	30	37	35	30	32	33	40	35	28	39	30	45	46	58	45	35	33.5
	Minimum ...	-5	0	10	10	7	-4	0	-3	-2	0	5	5	19	-2	3	0	0	3	9	3	10	5	10	5	15	9	15	15	17	15	10	6.1
Hettinger	Maximum...	51	46	50	49	31	20	21	18	32	36	34	31	28	26	33	33	33	37	40	32	33	34	38	45	30	37	28	21	16	32	37	33.3
	Minimum ...	26	21	21	22	19	4	1	1	5	10	10	11	8	12	20	23	18	11	16	26	25	25	30	25	30	20	16	11	10	8	11	16.2
Hillsboro	Maximum...	41	39	41	40	33	30	21	18	27	25	22	32	29	34	34	37	37	40	44	40	44	43	48	46	48	46	45	31	29	28	38	35.8
	Minimum ...	33	32	20	22	25	13	8	14	18	16	17	22	22	13	15	26	25	22	28	27	27	29	27	31	30	29	25	19	16	17	16	22.1
Howard	Maximum...	42	42	38	30	20	18	18	21	25	31	34	32	29	33	30	33	35	35	40	35	33	37	34	40	35	37	29	25	22	28	40	31.6
	Minimum ...	24	25	20	16	0	-3	-7	-9	-1	5	9	8	16	12	15	20	16	15	16	20	20	20	26	27	27	19	21	17	9	8	14	13.7
Jamestown §§	Maximum...	43	42	40	38	27	20	22	25	28	34	34	35	31	37	41	38	41	44	42	40	51	46	48	45	50	38	29	27	28	28	44	36.6
	Minimum ...	30	27	24	24	21	8	10	11	10	9	21	12	20	17	22	16	20	17	25	21	19	31	30	33	34	26	29	20	15	10	15	20.3
Lamoine	Maximum...	36	48	40	42	26	27	17	20	26	25	29	31	27	25	32	38	34	35	38	35	36	48	43	47	41	47	40	28	27	26	36	33.9
	Minimum ...	13	16	20	19	12	1	-5	2	3	-5	-1	7	16	16	17	10	21	18	18	25	22	21	27	31	25	18	23	12	1	4	7	13.4
Langdon§§	Maximum...	37	38	32	27	18	15	20	25	27	27	28	38	32	32	38	34	40	38	38	40	41	40	40	42	42	32	26	22	24	40	40	32.7
	Minimum ...	27	26	22	17	15	3	-3	8	2	-4	0	6	4	6	8	14	16	19	25	22	22	22	22	28	29	24	18	10	4	1	10	13.6
Larimore §§	Maximum...	42	40	41	35	34	25	20	25	26	28	28	28	30	35	38	35	37	40	42	36	42	47	47	42	44	47	40	30	27	29	40	35.5
	Minimum ...	25	30	25	20	18	7	5	10	10	4	15	22	20	6	10	15	20	22	22	29	27	25	23	28	29	30	24	15	10	5	5	17.9
Linton	Maximum...	45	46	46	40	35	22	24	20	28	33	39	39	35	32	39	40	39	41	40	36	41	42	49	52	46	52	47	40	25	27	32	37.8
	Minimum ...	33	30	21	20	19	12	2	0	7	0	2	11	20	21	14	14	24	17	23	26	21	28	31	26	33	20	24	18	15	8	9	17.7
Lisbon §§	Maximum...	48	45	43	43	40	20	25	26	30	33	29	29	31	38	48	46	36	43	45	46	45	43	40	37	38	36	35	27	30	38	40	37.2
	Minimum ...	26	29	26	26	23	5	5	5	6	10	11	20	15	22	14	22	30	16	29	26	25	28	24	19	21	19	17	12	7	8	25	18.4
McKinney	Maximum...	45	43	40	36	27	21	19	25	30	32	36	35	31	33	35	33	39	40	41	40	37	40	40	42	46	48	35	30	25	25	44	35.3
	Minimum ...	28	20	23	17	18	4	-1	-2	-4	-1	0	2	-3	-7	5	2	0	20	20	20	19	26	28	28	28	22	22	20	10	7	10	12.3
Maddock	Maximum...	39	40	39	38	29	20	20	21	27	27	28	29	28	29	33	37	35	37	40	39	40	40	45	44	46	47	45	30	28	26	38	37.5
	Minimum ...	31	29	24	21	15	2	-1	9	-1	-4	0	9	19	15	11	11	19	22	26	27	25	24	24	30	29	22	21	18	10	7	10	16.4
Melville	Maximum...	37	40	39	38	32	17	18	20	23	25	23	30	28	28	32	37	35	39	38	35	39	41	44	45	45	46	37	29	25	27	37	33.2
	Minimum ...	31	28	20	20	15	0	-3	9	3	3	3	3	16	9	7	12	22	19	25	27	25	24	25	30	26	22	26	17	11	7	8	15.8
Minot §§	Maximum...	44	43	42	33	23	20	20	23	30	33	38	35	24	33	38	38	38	43	38	41	43	48	48	48	50	40	38	32	24	28	43	36.4
	Minimum ...	21	31	21	20	16	8	3	3	1	1	7	13	12	10	20	18	23	23	22	21	23	25	23	28	22	20	21	20	12	6	13	16.5
Mott	Maximum...	45	43	46	35	29	25	14	17	12	28	26	22	27	32	35	33	36	37	35	30	31	32	36	37	29	34	41	24	16	15	25	29.9
	Minimum ...	32	32	30	16	7	4	-3	-2	-4	7	4	5	10	14	18	18	12	12	15	18	20	24	23	25	20	22	18	14	10	6	-6	13.6
Napoleon §§	Maximum...	42	45	44	40	35	18	25	20	25	31	35	40	34	28	38	40	38	41	42	38	40	45	47	52	38	52	38	22	24	26	32	36.0
	Minimum ...	30	28	17	16	15	4	0	-6	0	-8	-5	0	7	15	7	5	10	10	15	19	17	21	22	18	23	18	19	14	9	-3	-2	10.8
New Salem	Maximum...	52	49	40	37	32	21	21	19	26	31	35	32	30	30	35	28	30	32	34	36	38	38	40	49	49	49	40	29	20	21	21	33.7
	Minimum ...	28	27	21	22	20	3	0	0	0	1	0	11	12	19	10	15	20	20	24	24	20	22	24	22	26	21	20	16	10	1	1	14.8
Pembina §§	Maximum...	40	38	38	38	28	15	15	27	28	28	29	28	32	38	36	40	37	41	38	44	45	43	41	42	49	45	40	30	28	30	42	35.3
	Minimum ...	28	28	30	18	15	8	7	5	5	5	15	24	15	9	5	12	18	25	20	38	25	18	20	26	29	25	18	9	9	5	13	17.0
Steele	Maximum...	40	48	46	34	24	20	24	19	26	29	34	35	35	27	33	35	37	38	39	31	30	45	42	46	42	42	45	24	22	24	32	37.0
	Minimum ...	30	30	20	18	9	5	0	-2	0	12	13	5	13	15	10	20	25	20	15	20	21	20	26	29	25	24	22	18	12	5	4	15.6
Towner	Maximum...	42	42	40	38	28	26	19	23	28	31	30	31	33	36	40	36	38	42	40	38	40	41	40	45	46	50	48	46	34	36	43	37.1
	Minimum ...	32	28	27	24	17	3	0	9	12	15	14	15	18	20	23	24	27	26	26	28	24	25	28	32	31	38	26	26	22	21	27	22.3
Valley City	Maximum...	39	40	41	34	34	23	20	22	24	25	24	26	28	30	35	37	35	38	42	37	43	44	46	44	48	44	42	39	26	27	37	34.6
	Minimum ...	32	32	23	20	22	6	2	11	10	2	13	21	21	14	12	16	24	20	24	26	28	26	26	28	30	23	24	26	20	6	8	19.2
Wahpeton	Maximum...	38	45	46	43	42	34	26	28	28	30	32	33	34	39	38	42	45	44	46	43	47	49	49	49	48	55	50	39	31	31	32	39.9
	Minimum ...	31	29	23	20	23	11	6	13	15	5	14	21	25	22	14	11	16	20	25	28	28	23	26	32	34	28	27	23	18	5	3	20.0
Walhalla	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Westhope	Maximum...	46	40	32	33	25	3	19	22	24	29	36	21	26	31	40	40	39	40	44	37	39	43	43	48	46	50	46	40	27	30	28	34.4
	Minimum ...	26	20	15	16	12	-20	-2	3	4	3	5	11	6	-10	12	14	13	22	26	25	21	26	25	32	29	22	24	25	9	5	7	13.7
Williston	Maximum...	45	43	42	31	29	18	20	21	28	36	37	34	29	34	33	35	37	37	42	34	36	40	37	46	35	45	33	27	22	27	38	33.9
	Minimum ...	26	27	24	26	9	4	3	-2	-1	14	15	16	20	18	19	26	23	21	23	26	25	29	30	30	26	25	26	20	15	12	13	19.0
Moorhead, Minn	Maximum...	36	38	42	33	34	17	19	19	24	26	27	31	30	34	35	39	38	38	43	39	44	44	47	46	46	50	34	32	26	26	37	34.6
	Minimum ...	30	30	25	24	14	8	7	12	11	5	14	21	22	14	18	20	25	22	28	30	25	23	27	32	34	28	23	21	15	8	7	20.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXIII. Bismarck, N. D., April, 1924. No. 4

GENERAL SUMMARY.

The month opened with weather favorable for outdoor work, and seeding, spring plowing and highway work made rapid progress during the first decade. The second decade, however, was not so favorable, considerable delay being caused by snows and wet ground, especially in the north and west portions. Work in the south and east portions made fair progress. The third decade opened rather favorable, a condition that prevailed for three days, when heavy precipitation occurred in nearly all parts of the State, effectively stopping farm work. Winter rye came through in fair condition, being winter-killed in some sections. Pastures and ranges were excellent, and livestock were in good condition at the close of the month.

TEMPERATURE.

The mean temperature for the State was 39.3°, or 2.4° below the normal, and 0.6° higher than the mean for April, 1923. The highest mean reported was 46.8° at Towner, McHenry County; the lowest was 35.8° at Willow City, Bottineau County. The highest temperature reported was 84° at Lisbon, Ransom County, on the 24th; the lowest was 6° at Pettibone, Kidder County, on the 3d. The greatest monthly range was 75° at Wahpeton, Richland County; the least was 47° at Howard, Williams County. The greatest daily range was 58° at Steele, Kidder County, on the 12th.

PRECIPITATION.

The average precipitation for the State was 2.55 inches, or 1.17 inches above the normal, and 1.10 inches more than the average for April, 1923. The greatest monthly amount reported was 5.91 inches at Park River, Walsh County; the least was 0.50 inch at Bottineau, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 2.74 inches at Hannah, Cavalier County, on the 26-27th. The average number of days with 0.01 inch or more of precipitation was 9. The average snowfall was 7.5 inches.

AURORAS.

Auroras were observed at Crosby on the 7th; Williston on the 13th, and at New England on the 24th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	29.93	30.31	25	29.57	12	57	8,237	11.4	44	nw.	24
Devils Lake	29.88	30.28	25	29.47	15	44	8,732	12.1	44	n.	24
Ellendale	29.90	30.28	1	29.32	15	56	12,323	17.1	60	nw.	24
Grand Forks	29.85	30.15	10	29.37	15	90	....	......	36	se.	24
Williston	29.91	30.43	25	29.44	12	48	6,376	8.9	37	w.	6
Moorhead, Minn	29.87	30.26	1	29.29	15	58	7,668	10.6	40	se.	15
Av'ges and extremes	29.89	30.43	25	29.29	15	.....	....	12.0	60	nw.	24

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	156.1	408.5	38	−20	86	56	60	24	23
Devils Lake	155.5	410.5	38	−20	83	66	68	29	2
Ellendale	240.2	407.2	59	......	87	52	....	18	23
Grand Forks	......	......	......	......	85	.....	65	.....	....
Williston	187.8	410.5	46	−11	84	55	56	18	22
Moorhead, Minn	213.1	408.5	52	......	77	58	60	25	23
Averages and extremes	190.5	409.0	47	......	84	57	62	18	22†

† And other dates.

COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922	42.3	+0.6	89	− 2	0.92	−0.46	6	10	9	11	se.
1923	38.7	−3.0	89	−15	1.45	+0.07	5	13	8	9	nw.
1924	39.3	−2.4	84	6	2.55	+1.19	9	8	9	13	nw.

Climatological Data for April, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	40.4	−1.9	78	23	7	11	48	2.23	+0.35	1.15		11	5	14	11	n.	E. T. Carley.
Amidon	Slope		11	40.1		69	23	18	1	36	0.71		0.26	8.0	4	7	14	9	w.	Charles Eastgate.
Arnegard	McKenzie		10	38.4		68	7	18	10	35	1.27		0.37	9.5	8	10	7	13	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	40.8	−1.7	72	22	15	1†	42	2.37	+0.40	0.78		7	11	9	10	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	39.4	−3.1	71	23	18	1	43	1.01	−0.41	0.55		5					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	40.4^{a}	−3.3	75^{a}	23	16^{a}	10	45^{a}	0.71	−0.45	0.34	6.0	7	12	10	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	41.0	−1.1	74	23	17	1	40	1.90	+0.02	0.55	13.4	11	4	7	19	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	36.6	−2.8	64	23	16	12†	40	0.50	−0.37	0.10		10	10	6	14	e.	E. C. Evenson.
Bowbells	Burke	1,958	13	36.7	−1.7	71	23	12	11	42	1.41	+0.15	0.44		10	12	3	15		G. H. Phelps.
Bowman	Bowman	2,961	11	39.4		70	23	8	25	42	0.94		0.27		8	13	9	8	nw.	R. Love, Jr.
Cando	Towner	1,488	24	37.6^{a}	−3.0	63^{a}	23	17^{a}	12	39^{c}	3.38	+2.49	1.84		10	2	17	11	nw.	A. J. Swanson.
Carson	Grant	2,500	13	38.0	−4.0	75	23	11	10	49	0.96	−0.59	0.40	9.8	8	10	10	10	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19								4.85	+3.80	1.80		8	12	9	9	nw.	S. Friswold.
Crosby	Divide	1,954	18	38.0	−2.6	67	22†	18	10	40	1.82	+0.80	0.40	8.6	11	6	6	18	nw.	John Jensen.
Devils Lake	Ramsey	1,478	28	37.1	−1.1	63	22	15	12	36	4.96	+2.93	1.79	9.1	13	6	8	16	nw.	U. S. Weather Bureau.
Dickinson	Stark	2,543	33	38.4	−4.5	70	23	15	1	39	1.03	−0.20	0.31	10.0	10	16	0	14	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	37.6	−2.8	68	23	14	10	41	2.91	+1.86	1.25	10.5	9	6	12	12	nw.	H. Feldner.
Dunn Center	Dunn	2,191	26	39.3	−3.3	73	22	14	1	46	1.45	+0.13	0.38	6.0	9	11	5	14	nw.	W. H. Moede.
Dunseith	Rolette	1,682	29	36.9	−3.5	71	2	15	12†	47	0.81	−0.02	0.40	8.0	7	8	9	13	n.	J. G. Lamont.
Eckman	Bottineau	1,500	20								0.68	−0.37	0.24		6	0	22	8	se.	C. E. Strock.
Edgeley	LaMoure	1,468	24	41.5	−1.7	76	24	10	10	49	3.71	+1.93	1.85	5.0	7	1	14	15	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	42.1	−1.5	79	24	12	1	45	2.65	+0.82	1.42	1.9	13	4	10	16	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	13	40.7		75	23	17	10	40	1.23	+0.09	0.50	15.5	8	5	19	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	17	37.9		62	30	19	10	32	1.77	+0.62	0.51		10	14	10	6	w.	A. O. Wang.
Fessenden	Wells	1,610	13	39.4	−0.8	72	22	15	9	41	4.18	+2.64	1.15	4.8	11	5	6	19	ne.	T. D. Monsen.
Finley	Steele	1,461	1	38.9		70	23	11	12	37	3.45		1.53	1.4	12	9	5	16	nw.	G. J. Mustad.
Forman	Sargent	1,249	31								4.12	+1.93	1.82		7	7	15	8	n.	O. Enger.
Foxholm	Ward	1,657	4	37.2		65	22	16	10	37	2.00		0.54	11.8	9	4	15	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7								2.01		0.59	13.5	10	9	7	14	nw.	Verne King.
Fullerton	Dickey	1,439	27	42.5	−0.3	82	24	13	1	45	3.66	+1.66	1.85	3.6	8	8	11	11	nw.	F. O. Alin.
Garrison	McLean	1,901	30	40.3	−2.3	74	23	17	10	40	1.70	+0.50	0.48		11	9	12	9	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	38.5^{a}	−1.8	65^{a}	2†	11^{a}	10	47^{a}	4.39	+2.91	1.96		9	13	5	12	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	34	38.8	−3.2	68	23	14	12	38	3.95	+2.02	1.12	3.2	14	6	9	15	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	18																	W. A. Christianson.
Hannah	Cavalier	1,568	31								3.64	+2.38	2.74	11.0	6					J. Moffatt.
Hansboro	Towner	1,597	17																	C. E. Blackorby.
Hettinger	Adams	2,675	18	37.4^{a}	−7.4	64^{a}	23	10^{a}	8	34^{a}	1.39	+0.23	0.60	6.8	5	12	7	11	nw.	U. J. Downey.
Hillsboro	Traill	901	19	43.0^{a}	−0.6	73^{a}	23	18^{a}	10	24^{a}	3.09	+1.08	1.40	1.5	6				n.	F. E. Mayall.
Howard‡‡	Williams	2,275	18	36.0	−3.8	65	22†	18	10	37	1.85	+0.45	0.49	9.4	6	5	7	18	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	41.2	−1.3	77	22†	15	1	47	4.93	+3.19	1.60	T.	11	14	1	15		S. Calvelage.
Lamoine	Kidder	1,936	20																	E. V. Virgin.
Langdon	Cavalier	1,615	29	34.8	−3.3	59	1	9	12	48	4.80	+3.47	1.55		11	13	4	13	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	38.2	−2.2	70	22	15	11†	44	4.85	+3.23	1.24		14	5	5	20	nw.	Reuben Gray.
Linton	Emmons	1,711	7																	W. C. Wolverton.
Lisbon	Ransom	1,091	21	42.0	−0.7	84	24	15	1	44	4.25	+2.36	1.52	1.0	11	11	13	6		W. S. Adams.
McClusky	Sheridan	1,943	7	39.2		71	23	15	10	40	1.81		0.45	11.0	6	10	10	10	nw.	Edw. Tapley.
McHenry	Foster	1,509	14	39.6	−1.7	69	23	15	12	42	4.91	+3.36		6.0	9	9	0	21	nw.	F. D. Cannon.
McKinney‡‡	Renville	1,640	31	35.9	−5.1	67	30	16	10	46	2.03	+1.14	0.70	5.5	9	3	16	11	nw.	N. P. Swenson.
McLeod	Ransom	1,075	13	44.1	+0.8	81	24	10	11	54	3.69	+1.30	1.82	2.3	7	10	5	15	nw.	J. G. Carlson.
Maddock	Benson	1,604	9	39.2		70	23	17	9†	40	3.14		1.57		9	0	16	14	nw.	A. T. Felland.
Mandan	Morton	1,644	11	40.8		75	23	13	1	42	1.68		0.55		8	8	5	17	nw.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	22	39.0	−2.8	70	22†	16	9	39	2.40	+1.13	0.68	10.5	8	9	11	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	16	40.8^{a}	−2.0	70^{a}	22	20^{a}	10	35^{a}	1.82	+0.69	0.37	9.2	11	6	5	19		S. P. Grane.
Mayville	Traill	975	29	38.6	−4.6	71	23	10	11	41	3.32	+1.57	1.10	3.9	9	7	4	19	n.	R. Peterson.
Melville	Foster	1,590	27	38.9	−1.2	70	22†	15	11	37	4.41	+3.30	1.75	6.0	8	5	14	11	nw.	J. P. Kidder.
Minot	Ward	1,557	29	38.8	−2.9	70	22	18	10†	43	1.45	+0.13	0.65	8.5	8	7	7	16	w.	W. I. Faris.
Minto	Walsh	820	32	38.1	−2.5	68	23	10	12	45	3.63	+2.06	1.17		15	9	11	10	ne.	C. M. Evans.
Mott	Hettinger	2,424	18	38.8	−3.8	66	6†	12	1	29	1.08	−0.42	0.43	9.0	7	6	7	17	nw.	O. H. Opland.
Napoleon	Logan	1,955	33	38.0	−3.5	75	23	9	10	48	2.57	+0.90	0.80	8.5	11	5	4	21	se.	C. J. Hoof.
New England	Hettinger	2,400	31	39.6	−3.5	70	23	12	1	35	1.22	+0.20	0.70		4	11	10	9	nw.	W. S. Jones.
New Salem	Morton	2,163	21	41.0	−1.5	76	7	15	10	45	1.50	+0.27	0.60		7	10	5	15	nw.	J. Christiansen.
Park River	Walsh	998	21	37.8	−3.7	63	2†	12	12	40	5.91	+4.60	2.73	2.3	13	5	7	18	nw.	C. B. Wright.
Parshall	Mountrail		10								1.02		0.40	9.0	4					J. A. Johnson.
Pembina	Pembina	789	51	36.6	−1.3	67	22	10	10	44	5.65	+4.24	2.50		9	10	10	10	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	37.4^{b}	−4.5	72^{b}	22†	6^{b}	10	47^{b}	2.83	+1.43	1.10	7.0	13	7	11	12	nw.	S. C. Shanks.
Power	Richland	1,020	31								3.08	+1.25	1.69	1.0	9					J. A. Power.
Powers Lake	Burke	2,205	11																	Geo. B. Gee.
Richardton	Stark	2,467	9	39.6		70	23	19	1†	38	1.65		0.92	19.2	9	10	7	13	nw.	Geo. Keim.
Sharon	Steele	1,516									3.72		1.55	2.5	12	5	11	14	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	1								1.52		1.02	14.0	6	10	15	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	29	37.2	−7.2	72	23	10	10†	58	2.12	+1.01	1.10	9.0	5	6	15	9	nw.	H. S. Wood.
Towner	McHenry	1,482	23	46.8	+5.4	73	23	26	8	35	1.64	+0.54	0.80	14.0	3	7	12	11	nw.	B. Bagley.
Turtle Lake	McLean	1,899	10	40.0		73	23	17	10	42	1.38		0.40	7.2	10	10	5	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	20	41.2	−2.6	78	24	14	11	43	2.08	+0.49	0.90	0.8	13	6	14	10	nw.	H. Twito.
Wahpeton	Richland	962	31	44.3	0.0	78	24	13	11	43	3.64	+1.41	2.52		10	14	0	15	nw.	C. G. Luick.
Walhalla	Pembina	966	21																	T. R. Johnson.
Washburn	McLean	1,731	24								3.18	+2.08	1.08		11					Karl Klein.
Westhope	Bottineau	1,508	19	41.2^{g}	+1.5	67	30	22^{g}	1	40^{g}	1.10	+0.04	0.42		6	8	9	13	ne.	W. A. Meddaugh.
Williston	Williams	1,875	46	39.7	−2.3	69	23	21	10	37	1.40	+0.17	0.45	8.2	10	3	11	16	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	35.8^{a}	−4.4	66^{a}	23	17^{a}	12	39^{a}	1.86	+0.91	1.00	15.5	8	5	12	13	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	41.0	+0.7	76	23	12	1	40	4.01	+1.68	1.89	2.1	14	5	15	10	nw.	U. S. Weather Bureau.
Averages				39.3	−2.4	84	24	6	10	58	2.55	+1.17	2.74	7.5	9	8	9	13	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for April, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red					.03							T.			.22	.12		.10	.10	.12	.06					1.15	.17	.10	.06			2.23
Amidon	Lit. Missouri					T.		T.	T.	T.	T.		T.	T.	.20	T.		T.	T.	T.	.14					.11	.26			T.			0.71
Arnegard	Missouri								T.						T.	.37	.05	T.	.17	.05	.25				.04		.14	.20					1.27
Ashley	Missouri														.19		.78				.20	.26				.32	.48	.14					2.37
Beach	Lit. Missouri				T.						T.			.03	T.	T.	.55	T.	T.	T	.14				T.	T.	.12	.17					1.01
Berthold Agency	Missouri					T.		T.	T.	.01	T.		.01		.01	.02			.20		.12			T.	T.		.34						0.71
Bismarck ***	Missouri				T.	T.			.04	T.	T.	.02	T.		.10	.10	.14	T.	.20	.07	.24	.01				.49	.49			T.			1.90
Bottineau‖‖	Mouse					.02			T.			.05	.03	.04		.06	.08	.02					T.				.06	.10	T.	.04			0.50
Bowbells ‖‖	Mouse				.02							.12	.04	.01		.44	.14			.03						.05	.23	.33					1.41
Bowman	Grand										.02				.10	.02		.02	T.	T.	.04					.22	.27	.25					0.94
Cando	Devils Lake				.05			T.	T.			.02	T.		T.	.01	.66	.03							.04	.53	1.84	.08	.12				3.38
Carson	Heart								.02		.02					.05	.05			.02	.10					.40	.30						0.96
Cooperstown	Sheyenne											.15	.20			1.80	.20			.25					.40	1.70			.15				4.85
Crosby	Mouse			.06	.45					.20	.01	T.	.20		.40	.10			.04	T.	T.				.11		.06	.19					1.82
Devils Lake ***	Devils Lake				.03		T.	T.	T.		T.	.08	.16		T.	1.02	.83			.02		.02			.74	.65	1.35	.01	.02	.03			4.96
Dickinson‖‖	Heart									T.	T.	.05	.06	T.	.10	T.	.04		T.	.05	.10	.12	.01			T.	.19	.31		T.			1.03
Donnybrook	Mouse		T.						T.	.03			.03		.29	1.15				.06	.04	03			.03	1.25							2.91
Dunn Center ‖‖	Knife														.09	.06	.10			.17	.12	.08			.10		.38	.35					1.45
Dunseith	Mouse											.02	.02		.05		.30								.01		.40		.01				0.81
Eckman	Mouse											.01	.01		.17	.09	.24								T.		.16						0.68
Edgeley	James									T.					.25		.55			T.		.28				.42	1.85	28		.08			3.71
Ellendale***	James				.02	T.				.01	.01	T.	.01		.04	.37	.01		T.	.04	.20	.06		T.		.88	.97			.03			2.65
Energy	Missouri								T.	T.			.04		T.	.06	.18		.03	.02	.10					.30	.50						1.23
Epping	Missouri									.05			T.		.51	.19	.05		.10		.13				.23	.04	.10	.37					1.77
Fessenden‖‖	James							T.				.02	.08	.13			.46	.75		.05	.06					.30	1.10	1.15	T.	.08			4.18
Finley	Red				.20		.02	T.	T.		T.	T	.14	.05	T.	T.	.77			.03		T.			.06	.37	1.53	.09	.14	.05			3.45
Forman	Sheyenne					.23									.08		.38					.35			1.08	.18	1.82						4.12
Foxholm	Mouse				T.	T.	T.			.06		T.	.20		.25	.08	.03			T.	T.	T			.06	.54	.52	.26					2.00
Fryburg	Heart					T.			T.	T.	T.	T.		.14	.08	.11	.06	.04	T.	.06	.12	T.			T.	.36	.45	.59	T.	T.			2.01
Fullerton	James				.28	T.				.04	T.				.18		.62			.18		.32			T.	.19	1.85						3.66
Garrison	Missouri							T.	.09	.02			.04		.03	.16	.08		.14	.10	.18				T.	.38	.48						1.70
Grafton	Red																																
Grand Forks ***	Red				.29		.02	.19	.02	T.		.12	.20		T.	.10	.81	T.		T.		T.		.04	.41	.32	1.12		.22	.09			3.95
Granville	Mouse																																
Hannah	Pembina			.30				.12			.10					*	.20									T.	*	2.74		.18			3.64
Hansboro	Devils Lake																																
Hettinger	Grand										T.				.07	.15					.07						.60	.50					1.39
Hillsboro	Red					.23	T						.15				1.05							.05			1.40		.21				3.09
Howard	Missouri			T.	.22	T.	T.		T.	T.	T.	T.	.15	T.	T.	T.	.20	T.	.39	T.	T.	T.			.40			.49	T.	T.			1.85
Jamestown‖‖	James									T.			.01	.31	.27		1.09	.10			.02	.04				.47	1.60	.72		.30			4.93
Lamoine	Missouri																																
Langdon‖‖	Pembina					.32			.03			T.	.03	.02			1.55	.15					T.		.10	.86	.32	1.20		.22			4.80
Larimore	Red					.15		.02	.03			.10		.18			1.24	.26			.05				.02	.60	1.00	1.00	.10	.10			4.85
Linton	Missouri								T.	T.	T.	.02			.22	T.	.25			.05	.10	.25				.19	.55	.17		.02			1.82
Lisbon ‖‖	Sheyenne					T.		T.	T.				T.	.08	.15	.06	.50	T.		T.		.10	.20		.18	.65	1.52	.78		.03			4.25
McClusky	Missouri									T.	T.	T.	T.	.18		.03	.40			.45	T.					*	.75						1.81
McHenry	James				T.			T.	T.			.07	.15			1.30	.30			.09		T.			*	*	2.73		.27				4.91
McKinney	Mouse				.05		T.			.10			.10		.33	.30	.10			T.	T.				.05	.70		.30					2.03
McLeod	Sheyenne				T.	T.	T.				T.	T.	.03		.40		.30			.11		.20				.83	1.82		T.				3.69
Maddock	Sheyenne				T.							.03	.01			T.	.39	.02	T.	.07					T.	.63	1.57	.24	T.	.18			3.14
Mandan‖‖	Missouri				T.				T.	T.	T.	T.	.01	T.	.12		.15			.24	.02	.16	T.				.55	.43		T.			1.68
Manfred	James						T.					T.	.15	.07		T.	.45			.15						.68	.60	.20	T.	.10			2.40
Marmarth	Lit. Missouri				T.						.06			.30	T	.30			.06	.01	.26				.10	.20	.37	.10	.06				1.82
Mayville	Red					.01						.08	.30			.30	1.10									.20	1.03	.10	.20				3.32
Melville	James				T.							T.	.05	T.	T.		.50			.68		T.			.20	.80	1.75	.15	T.	.28			4.41
Minot‖‖	Mouse											.02	.02			.05	.10	.10								.01	.65	.50					1.45
Minto	Red				.03	.11	.02	.05	.09			.04	.02			.07	1.08			.02					.43	.30	1.17	.07	.13				3.63
Mott	Cannon Ball									T.	.02					.20			.02	.03	.04					.43	.34						1.08
Napoleon ‖‖	Missouri										.05		.08		.15		.15	.60		.05	.02	.12				.05	.80	.50					2.57
New England	Cannon Ball																																1.22
New Salem	Heart							T.	T.	T.	T.	.02				.10	.05			.18	.20	T.				.60	.35						1.50
Park River	Red				.06	T.		.03	.04			.08	.03			.18	2.73								.73	.77	1.04	.10	.06	.06			5.91
Parshall	Missouri							T.	T.	T.		T.	T.						.12				.10			.40	.40						1.02
Pembina‖‖	Red					.25	T.	.20	.10			T.			T.	2.50	.50								1.00		.90		.10	.10			5.65
Pettibone	James							T.	T.	.10		.10	.10	.02	.02	.10	.20			.15		.20			.01	.42	1.10	.25		.06			2.83
Power	Sheyenne					.05		.02			T.		.12	.10	.04		.58							.48		*	1.69		T.				3.08
Powers Lake	Missouri																																
Richardton	Heart								T.		.02	.05			.20	.07			T.	.05	.24	.02			.08	T.	T.	.92		T.			1.65
Sharon	Red				.05		T.		T.			T.	.10	.02	T.	.04	.74			.06	T.				.24	.59	1.55	.14	.14	.05			3.72
Stanton	Missouri													.08			.12				.30					*	*	1.02					1.52
Steele	Missouri								T.	T.	T.	T.	T.		T.	T.	.40			.22	T.	T.	T.			.20	.20	1.10		T.			2.12
Towner	Mouse				T.				T.							T	.80									T.	.60			.24			1.64
Turtle Lake	Missouri								.02	.02			T.	T.		.10	.14			.40	.04	.07			T.	.08	.39	.12					1.38
Valley City	Sheyenne				.15	T.	T.	.03	.01		T.	.08	.05		T.	T.	.52			.04		.01				.09	.90	.10	.05	.05			2.08
Wahpeton	Red							.02						.10	.10		.35			.09		.12				.27	2.52	.01	.06				3.64
Walhalla	Pembina																																
Washburn	Missouri								.08	.05			.04		.08	.05	.73			.14	.11					1.08	.48	.34					3.18
Westhope	Mouse														.08	.12	.10									.20	.42	.18					1.10
Williston ***	Missouri		T.		.01	.03			T.	T.	T.	T.	T.		.21	.27			.12	.03	.12	T.		T.	.16	T.	.27	.18					1.40
Willow City	Mouse				T.			T.				.10	.20	.12	T.	T.	.20						T.	T.	T.	.05	1.00	.11		.08			1.91
Moorhead, Minn ***	Red				.02		.01	.01	T.			.01	.18		T.	.50	.34			.10	T.	.08			.37	.42	1.74		.22	.01			4.01

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	52	58	69	60	56	61	55	51	54	38	45	44	52	44	65	47	48	44	45	47	48	65	78	75	51	52	50	46	58	59	....	53.9
	Minimum	8	13	22	28	29	28	33	33	20	14	7	13	17	29	32	35	29	23	28	22	31	27	30	37	37	36	35	38	39	30	....	26.8
Arnegard	Maximum	47	42	50	43	53	65	68	42	37	35	38	52	49	53	42	45	48	47	43	33	45	53	57	50	34	37	37	47	54	65	....	47.0
	Minimum	24	32	34	33	27	33	33	30	25	18	25	29	35	36	33	28	29	29	27	25	20	26	37	32	24	30	32	33	39	33	....	29.7
Ashley	Maximum	44	59	56	65	57	65	70	62	42	35	37	62	61	59	52	35	43	50	45	42	40	72	70	68	60	35	46	59	49	50	....	53.0
	Minimum	15	25	32	30	27	26	36	30	20	15	20	24	34	31	32	28	24	28	32	20	29	30	37	32	32	32	30	29	39	36	....	28.5
Beach	Maximum	44	46	52	46	50	64	66	40	37	40	34	62	47	58	40	36	43	40	45	41	[illegible]	69	71	63	43	36	40	56	55	62	....	49.2
	Minimum	18	30	28	30	30	32	34	27	24	24	27	29	33	34	30	25	28	29	27	25	28	30	48	20	23	28	30	32	37	45	....	29.5
Berthold Agency	Maximum	50	58	53	..	54	68	70	46	40	37	40	65	60	57	50	43	48	51	47	41	50	70	75	66	37	33	43	57	56	64	....	[a]52.7
	Minimum	18	27	33	26	..	23	34	27	22	16	25	28	36	36	31	31	21	28	32	22	29	26	35	32	27	30	31	33	31	27	....	[a]28.2
Bismarck	Maximum	48	61	57	55	53	68	73	46	40	37	38	65	50	53	37	38	46	50	46	39	48	72	74	58	36	34	45	61	53	63	....	51.5
	Minimum	17	27	37	35	30	30	39	27	22	18	28	29	36	36	31	28	24	30	31	26	29	32	43	35	29	31	32	32	38	32	....	30.4
Bottineau §§	Maximum	53	60	50	36	48	59	54	42	37	40	37	48	51	42	36	33	45	48	48	46	49	60	64	58	37	39	40	56	56	63	....	47.8
	Minimum	18	20	25	27	26	24	31	26	18	19	18	16	17	32	29	28	22	22	24	16	27	23	32	43	29	28	29	31	36	24	....	25.3
Bowbells §§	Maximum	54	60	50	38	60	62	61	41	35	39	35	59	50	37	35	37	44	47	44	35	50	66	71	38	41	47	40	54	57	66	....	48.4
	Minimum	21	26	32	26	22	24	26	28	19	15	12	20	22	18	18	28	18	28	22	25	22	30	29	38	21	25	26	29	40	41	....	25.0
Bowman	Maximum	43	54	52	47	51	64	68	53	37	38	40	61	56	56	55	44	46	50	47	43	55	68	70	60	32	28	44	58	50	59	....	51.0
	Minimum	11	24	33	34	27	30	35	30	24	20	27	27	30	31	31	27	28	27	31	24	24	28	38	32	8	26	26	31	37	31	....	27.7
Cando	Maximum	54	62	56	41	48	55	53	45	35	35	34	44	..	42	36	34	43	49	46	44	49	58	63	56	44	38	44	44	53	60	....	[a]47.1
	Minimum	20	23	37	26	30	29	32	29	20	20	18	17	..	28	32	29	21	26	29	22	30	29	30	43	31	31	34	33	39	30	....	[a]28.2
Carson	Maximum	44	56	48	44	54	60	66	45	40	38	40	50	60	55	42	43	40	50	40	55	48	74	75	60	36	38	48	60	52	60	....	50.7
	Minimum	14	26	31	30	26	32	34	30	10	11	20	22	34	36	26	23	20	22	25	19	18	25	42	28	24	23	24	28	29	24	....	25.2
Crosby	Maximum	54	57	42	38	47	62	58	43	33	39	39	59	59	45	34	43	47	42	38	42	48	67	67	49	40	38	40	57	55	65	....	48.2
	Minimum	22	28	31	28	28	29	34	27	23	18	22	24	32	32	30	28	27	27	27	23	27	27	30	29	22	31	32	33	32	31	....	27.8
Devils Lake	Maximum	51	62	57	44	48	58	53	39	35	34	34	39	47	37	35	32	42	46	45	42	46	63	63	57	34	42	45	44	51	59	....	46.1
	Minimum	22	28	30	27	30	30	32	26	18	18	16	15	32	31	32	28	22	27	29	24	30	32	33	34	31	32	34	33	36	31	....	28.1
Dickinson §§	Maximum	40	50	52	49	52	64	68	44	37	32	39	61	42	56	33	43	45	49	40	32	48	66	70	41	34	32	41	54	50	60	....	47.5
	Minimum	15	27	28	32	30	30	32	31	23	21	28	29	31	34	33	30	29	27	33	23	20	27	36	40	25	28	30	34	34	36	....	29.2
Donnybrook	Maximum	54	60	46	42	45	63	65	51	34	38	36	60	62	51	35	35	41	47	45	43	46	67	68	56	53	33	38	56	56	66	....	49.7
	Minimum	25	25	32	28	27	26	32	26	19	14	20	21	22	30	27	27	18	25	25	20	26	28	27	30	23	28	30	28	33	25	....	25.6
Dunn Center §§	Maximum	53	51	48	51	66	68	43	38	33	35	62	49	55	35	47	48	49	43	35	50	67	73	45	38	35	43	55	53	63	63	....	49.8
	Minimum	14	14	33	35	31	29	31	30	23	17	23	30	36	35	33	30	33	26	30	23	28	27	35	38	25	29	32	32	33	28	....	28.8
Dunseith	Maximum	61	71	59	40	45	63	65	42	37	33	35	45	49	63	54	34	43	42	46	44	49	65	65	70	40	36	36	41	46	46	....	48.5
	Minimum	18	24	29	20	25	26	34	27	18	16	17	15	32	29	29	27	26	22	25	15	18	23	32	33	29	28	28	29	36	30	....	25.3
Edgeley	Maximum	52	60	56	60	55	68	73	66	43	38	45	68	52	49	64	39	49	52	47	40	45	72	75	76	49	44	49	57	55	60	....	55.3
	Minimum	15	18	30	37	27	25	36	30	15	10	16	19	30	33	34	30	25	30	31	20	28	32	31	36	32	32	32	29	38	30	....	27.7
Ellendale	Maximum	44	55	65	68	53	68	72	51	42	36	45	66	53	58	67	40	48	51	46	44	43	73	77	79	37	45	51	55	55	58	....	54.8
	Minimum	12	21	28	32	33	28	40	29	20	17	24	23	35	35	35	32	28	32	31	22	31	28	37	37	33	33	32	31	38	32	....	29.6
Fessenden §§	Maximum	54	63	60	51	52	66	60	43	36	42	40	49	50	49	39	33	45	52	48	42	48	72	70	65	59	51	46	51	53	62	....	51.7
	Minimum	17	24	33	30	27	26	32	26	15	18	18	18	19	32	32	30	20	25	32	22	28	30	31	39	31	32	32	30	35	30	....	27.1
Foxholm	Maximum	52	55	51	37	46	62	60	41	35	37	35	57	52	43	33	36	44	47	45	41	47	65	64	59	35	32	38	54	55	63	....	47.5
	Minimum	24	24	35	29	27	27	27	29	18	16	21	20	32	31	29	29	22	26	27	22	26	29	27	31	25	30	30	30	36	29	....	26.9
Fullerton	Maximum	50	58	64	68	56	68	72	64	41	37	43	66	52	52	69	40	47	51	45	44	45	72	76	82	41	46	55	54	54	58	....	55.8
	Minimum	13	23	30	31	29	25	36	32	19	17	18	21	34	34	33	30	26	31	32	23	31	28	37	42	34	34	33	31	38	31	....	29.2
Garrison	Maximum	50	59	55	51	53	66	70	52	52	37	40	63	55	52	42	38	44	51	46	40	49	70	74	62	38	39	42	59	55	63	....	52.2
	Minimum	21	27	34	31	27	27	36	30	21	17	25	24	34	33	29	28	22	26	31	23	26	30	36	32	27	28	30	28	33	37	....	28.4
Grafton	Maximum	55	65	..	62	45	51	52	44	33	29	33	32	47	43	41	40	43	47	51	47	47	58	65	64	60	45	49	49	53	60	....	[a]48.6
	Minimum	18	18	..	24	32	27	31	32	22	11	14	12	30	23	32	30	26	31	30	25	33	31	30	49	30	33	39	39	41	32	....	[a]28.4
Grand Forks	Maximum	53	62	65	52	46	53	51	44	35	30	30	33	46	40	45	42	44	44	50	45	47	62	68	67	48	47	51	47	54	58	....	48.6
	Minimum	16	25	31	26	28	27	32	28	20	18	15	14	31	30	35	31	30	28	30	23	30	30	30	46	36	37	39	41	34	30	....	29.0
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Hansboro	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Hettinger	Maximum	38	46	44	37	57	46	51	34	33	33	42	44	46	53	38	36	39	38	36	40	47	58	64	51	50	59	50	59	57	..	....	[a]45.7
	Minimum	11	28	31	35	30	24	34	10	29	20	28	31	36	28	30	29	25	24	29	22	26	24	39	36	31	50	33	33	34	..	....	[a]29.0
Hillsboro	Maximum	44	60	64	60	54	53	51	47	40	33	33	40	48	46	53	..	48	46	51	48	43	59	73	69	64	48	48	48	54	60	....	[a]51.2
	Minimum	29	40	45	36	32	42	34	34	23	18	26	29	27	30	35	..	39	26	33	28	33	40	50	52	36	39	37	40	40	36	....	[a]34.8
Howard	Maximum	36	54	45	35	52	60	60	42	33	34	35	60	48	32	33	43	46	42	45	37	50	65	65	40	38	38	38	52	54	63	....	45.5
	Minimum	24	32	32	29	19	28	30	28	19	18	22	25	30	29	29	25	23	22	22	23	25	28	35	29	19	28	29	32	36	28	....	26.6
Jamestown §§	Maximum	56	64	57	51	64	59	48	40	38	41	47	48	44	47	40	41	49	48	47	45	61	77	64	56	54	59	52	52	59	77	....	52.8
	Minimum	15	22	36	32	37	29	32	37	22	20	19	20	21	34	34	32	26	27	33	27	30	32	35	37	35	33	34	32	35	30	....	29.6
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Langdon §§	Maximum	59	55	40	41	49	46	36	31	26	32	33	42	37	34	31	40	43	44	44	45	53	57	53	40	43	44	44	49	58	58	....	43.6
	Minimum	11	22	30	24	24	25	31	30	18	15	15	9	16	30	30	29	26	25	29	23	28	30	32	40	30	26	31	35	37	29	....	26.0
Larimore §§	Maximum	62	64	48	54	51	48	43	36	35	36	38	47	38	41	33	43	50	45	50	40	64	70	61	36	45	48	44	54	56	51	....	47.7
	Minimum	19	20	28	25	28	30	34	32	20	26	15	15	28	29	32	32	28	30	33	25	30	32	31	35	34	32	35	38	38	30	....	28.8
Linton	Maximum	45	58	61	59	55	69	74	70	42	37	37	67	64	63	60	38	47	52	46	40	48	75	77	73	38	35	47	61	56	62	....	55.2
	Minimum	15	23	29	36	28	23	39	31	18	14	22	30	32	35	34	30	23	27	34	21	30	27	40	38	31	30	29	33	37	29	....	28.9
Lisbon §§	Maximum	45	63	69	62	54	69	67	53	45	38	42	45	51	46	73	38	48	54	49	44	43	70	78	84	44	45	53	53	57	59	....	54.7
	Minimum	15	19	30	30	24	25	38	38	19	18	22	19	20	32	35	34	27	30	31	20	31	29	35	44	32	32	34	36	41	39	....	29.3
McKinney	Maximum	55	60	40	35	45	44	58	42	35	38	38	60	51	40	37	37	35	45	40	35	42	62	60	55	40	35	38	58	50	67	....	45.9
	Minimum	25	23	31	24	25	23	33	26	18	16	20	20	30	32	30	30	20	20	25	20	30	30	26	31	25	30	32	30	32	21	....	25.9
Maddock	Maximum	52	61	59	60	50	64	59	57	40	37	38	43	48	49	38	36	42	48	48	45	48	64	70	64	57	51	45	46	52	60	....	51.0
	Minimum	19	22	28	28	27	28	31	27	17	18	17	17	32	31	31	29	19	26	30	26	28	30	30	42	31	30	33	31	37	27	....	27.4
Melville	Maximum	51	63	60	54	52	65	58	54	36	36	38	43	48	48	40	35	42	47	46	40	44	70	70	65	41	40	46	48	51	58	....	49.6
	Minimum	18	27	36	28	28	28	38	26	16	16	15	16	33	32	31	29	23	27	36	23	25	31	33	41	30	30	33	30	39	29	....	28.2
Minot §§	Maximum	55	63	50	43	52	65	68	43	51	39	38	62	50	42	34	37	42	50	48	44	50	70	68	57	36	40	45	59	56	65	....	50.7
	Minimum	24	30	34	30	28	22	35	29	19	18	18	22	22	34	31	30	23	28	28	20	25	28	27	32	27	28	30	28	30	26	....	26.9
Mott	Maximum	36	54	48	48	53	66	65	36	34	35	44	48	41	47	38	40	44	40	42	42	50	59	66	38	30	31	40	48	48	52	....	45.4
	Minimum	12	31	37	36	40	40	36	33	23	19	25	37	34	36	28	27	33	34	35	37	40	43	38	24	27	27	30	32	35	36	....	32.2
Napoleon §§	Maximum	46	60	62	62	53	68	74	48	41	38	36	60	50	51	38	34	45	50	45	40	45	73	75	65	33	34	49	60	49	60	....	51.5
	Minimum	10	20	32	30	24	25	26	25	15	9	19	20	25	30	30	26	17	19	25	17	24	26	38	35	29	28	28	26	36	22	....	24.5
New Salem	Maximum	43	57	57	55	56	65	76	54	41	32	33	60	56	56	44	38	47	51	38	36	48	70	74	65	56	38	44	59	56	60	....	52.5
	Minimum	19	30	33	33	31	30	31	32	20	15	23	22	32	33	30	28	24	27	30	22	27	32	46	35	37	32	33	36	40	32	....	29.8
Pembina §§	Maximum	62	58	45	45	50	43	40	30	28	33	33	42	45	43	35	35	45	46	48	50	56	67	62	48	45	46	50	47	53	60	....	46.3
	Minimum	18	19	24	23	26	29	30	18	14	10	12	15	26	30	33	28	26	27	28	28	31	34	35	34	33	36	34	39	38	30	....	26.9
Steele	Maximum	44	42	39	55	56	64	67	42	38	34	38	68	49	46	39	36	42	37	42	40	48	64	72	66	38	35	45	47	59	64	....	48.5
	Minimum	24	18	32	30	24	26	28	25	12	10	25	10	33	34	35	30	12	24	18	20	18	28	40	29	33	30	30	33	37	26	....	25.8
Towner	Maximum	56	64	59	45	51	64	59	42	56	68	65	68	60	53	37	41	47	52	49	54	46	71	73	70	37	36	46	48	56	64	....	54.6
	Minimum	38	45	38	31	35	45	35	26	39	40	50	52	48	33	33	35	33	37	37	37	33	45	58	35	33	32	34	38	42	49	....	38.9
Valley City	Maximum	51	61	65	55	52	64	59	50	41	36	40	36	49	42	53	46	45	50	49	42	43	65	75	78	65	44	48	48	53	58	....	52.0
	Minimum	16	24	31	29	32	27	33	34	28	20	14	18	31	32	32	32	28	46	32	26	33	31	32	46	35	35	33	36	34	30	....	30.5
Wahpeton	Maximum	35	49	72	68	62	60	62	62	52	43	47	43	56	50	73	70	50	53	53	51	46	65	77	78	68	60	52	51	60	57	....	57.5
	Minimum	19	18	30	26	35	23	38	35	22	18	13	19	28	33	38	35	30	30	32	26	32	31	34	52	45	42	38	42	43	27	....	31.1
Walhalla	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Westhope	Maximum	55	64	50	59	48	50	60	42	32	39	39	57	57	42	40	53	44	50	48	54	56	52	60	48	40	39	38	40	66	67	....	49.6
	Minimum	22	24	33	32	32	40	42	30	27	37	27	42	32	37	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34	36	....	[b]32.9
Williston	Maximum	50	57	49	39	51	66	67	42	35	35	37	63	50	43	38	45	49	47	43	38	50	67	69	53	39	39	42	55	55	65	....	49.3
	Minimum	23	32	34	31	27	32	35	30	22	21	26	31	37	35	32	29	28	29	27	27	27	30	33	29	26	32	32	37	39	30	....	30.1
Moorhead, Minn	Maximum	45	58	67	63	48	56	56	47	40	33	40	35	47	41	65	44	44	48	50	44	41	63	76	73	56	47	50	45	55	57	....	55.1
	Minimum	12	20	31	30	35	27	38	28	20	17	15	17	28	34	38	32	32	30	32	26	33	33	36	51	43	41	38	41	38	31	....	30.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

551. [illegible]
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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXIII. Bismarck, N. D., May, 1924. No. 5

GENERAL SUMMARY.

The weather during May was generally unfavorable for crops and for outdoor work. The mean temperatures recorded at all stations were decidedly below the normal, the mean for the State showing the lowest, with but two exceptions, in the climatological history of the section. There was much cloudiness, but the precipitation was below the normal in all parts of the State. The precipitation was unevenly distributed geographically. A light general rain covered the State from the 5th to 8th, inclusive; during the remaining days of the month, only light scattered showers occurred. Farm work made good progress, but due to cool and cloudy weather vegetation was backward at the end of the month. Frosts were frequent and some damage to garden truck and fruits was reported. There was much work done on main highways, and roads were in excellent condition.

TEMPERATURE.

The mean temperature for the State was 46.9°, or 5.7° below the normal, and 7.2° lower than the mean for May, 1923. The highest mean reported was 51.4° at Towner, McHenry County; the lowest was 44.2° at Langdon, Cavalier County, and at Maryville, Traill County. The highest temperature reported was 84° at Pembina, Pembina County, on the 15th; the lowest was 15° at Pettibone, Kidder County, on the 5th and 24th, and at McKinney, Renville County, on the 26th. The greatest monthly range of temperature was 68° at McKinney, Renville County; the least was 49° at Ashley, McIntosh County. The greatest daily range was 53° at Napoleon, Logan County, on the 22d.

PRECIPITATION.

The average precipitation for the State was 0.79 inch, or 1.76 inches below the normal, and 0.98 inch less than the average for May, 1923. The greatest monthly amount reported was 3.32 inches at Maryville, Traill County; the least was 0.02 inch at Dunseith, Rolette County. The greatest amount recorded in any 24 consecutive hours was 1.22 inches at Richardton, Stark County, on the 6th. The average snowfall was 2.4 inches. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS.

Auroras were observed at Crosby on the 2d and 3d; at Ellendale, Fessenden, Foxholm, Grand Forks, Howard, Minto, Sharon, and Valley City on the 21st; at Ellendale, Foxholm and Grand Forks on the 22d; at Foxholm on the 25th; at Foxholm, Howard, New England and Williston on the 27th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.00	30.34	30	29.53	22	57	7,765	10.4	52	nw.	17
Devils Lake	29.97	30.32	30	29.53	17	44	8,824	11.9	38	n.	13
Ellendale	29.98	30.28	30	29.48	28	56	12,341	16.6	54	n.	17
Grand Forks	29.94	30.26	30	29.46	16	90	....	......	50	w.	26
Williston	30.00	30.32	6	29.56	22	48	6,371	8.6	43	nw.	17
Moorhead, Minn	29.93	30.27	30	29.53	17	58	6,910	9.3	34	nw.	21
Av'ges and extremes	29.97	30.34	30	29.46	16	.....	....	11.4	54	n.	17

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	234.2	467.3	50	− 8	72	41	42	18	2
Devils Lake	209.8	471.0	45	−13	70	45	44	16	15
Ellendale	270.5	463.8	58	0	75	48	....	25	4
Grand Forks	......	......	......	......	74	.....	46	.....	....
Williston	314.1	471.0	67	+12	75	40	38	17	19
Moorhead, Minn.	289.2	467.3	62	+ 4	70	48	54	25	29
Averages and extremes	263.6	468.1	56	− 1	73	44	45	16	15

† And other dates.

COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893...	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894...	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895...	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896...	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897...	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898...	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899...	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900...	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901...	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902...	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903...	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904...	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905...	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906...	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907...	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908...	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909...	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910...	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911...	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912...	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913...	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914...	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915...	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916...	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917...	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918...	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919...	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920...	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921...	52.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922...	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.
1923...	54.1	+1.5	100	13	1.77	−0.78	6	15	10	6	nw.
1924...	46.9	−5.7	84	15	0.79	−1.76	5	12	10	9	nw.

Climatological Data for May, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	46.3	−7.8	80	17	23	21	45	0.64	−2.20	0.19	1.6	9	16	10	5	n.	E. T. Carley.
Amidon	Slope	......	11	48.4	......	79	15	23	7	44	0.82	......	0.45	2.0	4	17	10	4	w.	Charles Eastgate.
Arnegard	McKenzie	......	10	46.0	......	81	15	24	25	43	1.08	......	0.40	2.0	5	21	8	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	46.6	−6.1	72	22	23	24	45	0.18	−2.28	0.18	T.	1	19	4	8	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	48.2	−1.9	80	4	27	14	42	0.72	−2.09	0.40	1.0	5	......	......	......	......	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	32	48.1	−5.6	82	15	21	25	51	0.68	−1.78	0.39	1.0	5	17	7	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	49.2	−5.3	81	15	26	25	43	0.45	−2.05	0.17	1.4	5	8	9	14	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	45.2	−6.1	82	15	19	19†	47	0.26	−1.78	0.13	0	5	16	6	9	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	46.2	−4.4	80	15	19	23	47	0.67	−1.64	0.43	0	5	18	3	10	......	G. H. Phelps.
Bowman	Bowman	2,961	11	47.8	......	78	3	26	13†	44	0.52	......	0.45	0	4	18	6	7	ne.	R. Love, Jr.
Cando	Towner	1,488	24	46.6[b]	−4.9	80[b]	15	23[b]	19†	44[i]	0.68	−1.72	0.34	......	4	......	......	......	nw.	A. J. Swanson.
Carson	Grant	2,500	13	46.6	−5.7	76	22	20	25	41	0.25	−2.39	0.15	1.0	3	15	9	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19	......	......	......	......	......	......	......	0.80	−1.41	0.30	......	3	13	14	4	nw.	S. Friswold.
Crosby	Divide	1,954	18	47.4	−3.0	79	15	17	25	42	0.39	−1.63	0.13	1.5	4	18	9	4	nw.	John Jensen.
Devils Lake	Ramsey	1,478	28	45.6	−7.1	79	15	25	19	37	1.24	−0.96	0.62	5.2	9	8	12	11	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	33	45.4	−6.8	73	15	23	24	44	1.12	−1.31	0.42	7.8	5	16	6	9	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	45.9	−4.2	80	15	18	25	43	0.06	−2.18	0.06	T.	1	8	16	7	n.	H. Feldner.
Dunn Center	Dunn	2,191	26	47.0	−6.3	80	15	23	24	49	0.76	−1.78	0.30	......	3	15	5	11	n.	W. H. Moede.
Dunseith	Rolette	1,682	29	45.8	−6.1	76	15	17	24	44	0.02	−1.68	0.02	......	1	13	5	13	n.	J. G. Lamont.
Eckman	Bottineau	1,500	20	......	......	......	......	......	......	......	0.10	−2.08	0.10	0	1	0	23	8	n.	C. E. Strock.
Edgeley	LaMoure	1,468	24	48.3	−5.2	76	15	21	4	50	0.73	−1.94	0.24	2.0	6	1	10	20	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	47.6	−8.1	75	15	25	24	48	0.85	−2.16	0.16	1.7	7	5	16	10	n.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	48.6[a]	......	75[a]	31	25[a]	19	46[a]	0.93	1.27	0.55	2.5	4	12	17	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	17	45.0	......	75	4	24	19	42	0.97	−1.34	0.53	......	6	18	10	3	nw.	A. O. Wang.
Fessenden	Wells	1,610	13	46.7	−4.8	82	15	22	25	48	0.69	−1.59	0.22	......	8	5	12	14	nw.	T. D. Monsen.
Finley	Steele	1,461	1	45.7	......	77	15	25	19	36	0.91	......	0.28	2.5	9	10	6	15	nw.	G. J. Mustad.
Forman	Sargent	1,249	31	......	......	......	......	......	......	......	0.70	......	0.22	......	4	......	......	......	n.	O. Enger.
Foxholm	Ward	1,657	4	46.4	......	78	15	24	19†	38	0.39	......	0.38	2.5	2	7	18	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7	......	......	......	......	......	......	......	0.94	......	0.43	5.0	7	14	10	7	nw.	Verne King.
Fullerton	Dickey	1,439	27	48.0	−5.3	77	15	24	24	47	1.13	−2.11	0.28	4.1	7	12	12	7	nw.	F. O. Alin.
Garrison	McLean	1,901	30	47.4	−5.2	80	15	22	25	41	0.93	−1.24	0.48	......	4	14	11	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	47.5	−5.4	76	15†	24	19	41	1.17	−0.94	0.40	......	7	12	14	5	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	45.6	−7.8	79	15	24	19	42	2.38	−0.16	0.61	6.7	12	13	6	12	n.	U. S. Weather Bureau.
Granville	McHenry	1,504	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. A. Christianson.
Hannah	Cavalier	1,568	31	......	......	......	......	......	......	......	0.28	−1.82	0.23	......	2	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	17	44.8	−5.5	83	15	17	19	48	0.50	−1.58	0.50	T.	1	12	16	3	ne.	C. E. Blackorby.
Hettinger	Adams	2,675	18	49.2	−3.6	77	15	20	26	48	0.41	−1.71	0.41	4.0	1	23	4	4	nw.	U. J. Downey.
Hillsboro	Traill	901	19	47.8[f]	−5.4	78[c]	31	30[j]	3	36[i]	1.17	−2.35	0.26	0	8	......	......	......	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	44.4	−5.0	73	11	17	7	38	1.06	−1.12	0.60	8.0	5	7	16	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	48.0	−5.5	79	14	25	23	46	0.60	−2.09	0.21	T.	7	19	2	10	nw.	S. Calvelage.
Lamoine	Kidder	1,936	20	45.4	−5.3	77	15	20	25	40	0.70	−1.66	0.30	5.0	3	16	8	7	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	29	44.2	−6.6	79	15	20	19	42	0.29	−1.96	0.11	......	6	17	5	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	45.6	−6.8	78	14	25	4†	48	2.43	−0.04	1.20	......	11	12	3	16	n.	Reuben Gray.
Linton	Emmons	1,711	7	49.6	......	80	15	21	24†	52	0.55	......	0.20	1.2	8	12	9	10	ne.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	47.4	−5.5	78	15	25	21†	44	1.36	−1.83	0.35	2.5	7	21	4	6	......	W. S. Adams.
McClusky	Sheridan	1,943	7	46.5	......	75	11	20	25	39	1.05	......	0.60	3.0	3	14	9	8	nw.	Edw. Tapley.
McHenry	Foster	1,509	14	46.4	−5.9	79	15	24	12†	43	0.83	−2.66	0.36	4.0	4	16	0	15	n.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	47.5	−4.5	83	16	15	26	47	0.46	−1.50	0.36	1.0	2	9	14	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	13	48.4	−5.7	78	15	24	5†	43	0.83	−2.95	0.30	1.6	5	15	3	13	n.	J. G. Carlson.
Maddock	Benson	1,604	9	46.8	......	79	15	21	25	41	0.95	......	0.55	......	6	4	15	12	nw.	A. T. Felland.
Mandan	Morton	1,644	11	48.6	......	79	16	23	25	43	0.41	......	0.15	0	4	16	7	8	n.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	45.8	−5.8	78	15	21	25	43	0.67	−1.69	0.40	2.0	4	16	6	9	nw.	P. B. Anderson.
Marmarth	Slope	2,714	16	48.4	−1.6	77	3	28	6	42	1.14	−1.14	0.93	9.4	4	9	12	10	......	S. P. Grane.
Mayville	Traill	975	29	44.2	−10.3	73	31	22	4	43	3.32	+0.35	0.80	......	9	14	7	10	n.	R. Peterson.
Melville	Foster	1,590	27	46.5	−6.0	79	31	24	25	43	0.94	−1.73	0.30	5.0	4	14	10	7	nw.	J. P. Kidder.
Minot	Ward	1,557	29	46.7	−5.6	81	15	20	25	47	0.87	−1.10	0.52	......	3	7	12	11	w.	W. I. Faris.
Minto	Walsh	820	32	46.2	−7.2	82	15	20	19	46	0.91	−1.43	0.30	1.0	8	9	13	9	ne.	C. M. Evans.
Mott	Hettinger	2,424	18	46.2	−5.4	78	15	23	6	48	0.28	−2.08	0.17	1.5	4	11	9	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	33	46.2	−6.2	77	15	19	22†	53	0.45	−1.95	0.16	1.0	5	10	4	17	n.	C. J. Hoof.
New England	Hettinger	2,400	31	46.2	−5.4	80	15	23	25	51	0.49	−1.66	0.30	T.	4	5	21	5	nw.	W. S. Jones.
New Salem	Morton	2,163	21	49.6	−1.7	80	15	20	25	45	0.45	−1.92	0.28	0	5	18	8	5	n.	J. Christiansen.
Park River	Walsh	998	21	47.2	−5.0	81	15	23	19	41	0.81	−1.42	0.34	......	3	10	7	14	nw.	C. B. Wright.
Parshall	Mountrail	......	10	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	51	46.0	−6.5	84	15	18	19	47	0.30	−1.92	0.30	0	1	14	7	10	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	44.4[b]	−6.1	74[b]	31	15[b]	5†	48[b]	0.63	−2.22	0.25	4.5	4	......	......	......	nw.	S. C. Shanks.
Power	Richland	1,020	31	......	......	......	......	......	......	......	1.32	−1.57	0.42	1.5	......	......	......	......	......	J. A. Power.
Powers Lake	Burke	2,205	11	......	......	......	......	......	......	......	0.91	−0.89	0.45	......	8	20	3	8	ne.	Geo. B. Gee.
Richardton	Stark	2,467	9	46.6	......	78	15	25	7	41	1.60	......	1.22	9.0	6	9	13	9	nw.	Geo. Keim.
Sharon	Steele	1,516	......	......	......	......	......	......	......	......	1.02	......	0.23	7.2	10	9	10	12	n.	Nels O. Grefsheim.
Stanton	Mercer	1,722	1	......	......	......	......	......	......	......	0.92	......	0.48	......	3	15	9	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	29	46.1	−7.7	73	22	20	25	41	0.53	−1.95	0.18	2.2	3	9	13	9	n.	H. S. Wood.
Towner	McHenry	1,482	23	51.4	−0.9	76	16	19	19	42	0.30	−2.02	0.25	1.0	2	9	9	13	nw.	B. Bagley.
Turtle Lake	McLean	1,899	10	46.9	......	74	15	16	4	51	0.51	......	0.34	4.0	3	11	10	10	nw.	A. T. Anderson.
Valley City	Barnes	1,245	20	46.6	−6.0	78	15	24	24†	43	0.74	−2.39	0.35	0.9	8	6	18	7	nw.	H. Twito.
Wahpeton	Richland	962	31	49.5	−5.8	77	16	23	22	40	0.80	−2.01	0.21	......	7	19	0	12	nw.	C. G Luick.
Walhalla	Pembina	966	21	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	T. R. Johnson.
Washburn	McLean	1,731	24	......	......	......	......	......	......	......	1.25	−1.13	0.66	......	4	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	19	47.9	−3.5	82	13†	22	25	46	0.14	−1.90	0.14	0	1	12	13	6	n.	W. A. Meddaugh.
Williston	Williams	1,875	46	48.6	−5.4	80	15	27	13	38	0.99	−1.27	0.99	4.3	6	11	12	8	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	44.6[a]	−6.9	77[a]	15	16[a]	25	47[a]	0.33	......	0.18	1.0	2	12	9	10	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	46.8	−8.3	79	15	27	22	41	0.68	−2.27	0.19	0.7	11	10	15	6	n.	U. S. Weather Bureau.
Averages	......	......	......	46.9	−5.7	84	15	15	5†	53	0.79	−1.76	1.22	2.4	5	12	10	9	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for May, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red						T.	.19	.07	.05	.04			.12	.05			.04		.04				.04									0.64
Amidon	Lit. Missouri				T.	T.	.45		T.								.07	T.	.05	T.			.25		T.								0.82
Arnegard	Missouri					.40	.32											.02						.31	.03								1.08
Ashley	Missouri						T.	T.	T.	.18														T.									0.18
Beach	Lit. Missouri					.40											.18		.06				.04			.04							0.72
Berthold Agency	Missouri				T.	.01	.39										T.	.10						.16		.02							0.68
Bismarck ***	Missouri					.10	.07	.03	T.	T.			T.				T.	.09						.16		T.							0.45
Bottineau‖ ‖	Mouse					.03	.06	T.	T.									.03	.13		T.		.01					T.					0.26
Bowbells ‖ ‖	Mouse					.03	.43	.05									.04										.12						0.67
Bowman	Grand						.45										.01	.02						.04									0.52
Cando	Devils Lake							.26		.05								.34				.03											0.68
Carson	Heart						.08												.02				.15										0.25
Cooperstown	Sheyenne						.30			.20								.30					T										0.80
Crosby	Mouse					.10	.13										T.	.11					T.			.05			T.				0.39
Devils Lake ***	Devils Lake		T.		T.	.07	.56	.07	.05	.06			T.	T.			.02	.36	.01		T.	.04											1.24
Dickinson‖ ‖	Heart					T.	.42	.24		T.									T.	.12				.28			.06						1.12
Donnybrook	Mouse							T.					T.				T.	.06	T.				T				T.						0.06
Dunn Center ‖‖	Knife						.25	.30																.21									0.76
Dunseith	Mouse				.02																												0.02
Eckman	Mouse						T.											.10				T.					T.						0.10
Edgeley	James						.06	.05	.12	.16										.10				.24									0.73
Ellendale***	James		.01				.10	.19	.14	.12				T.			T.	.15						.14									0.85
Energy	Missouri				T.	T.	.55	.05					T.				T.	.13						.20									0.93
Epping	Missouri					.10	.53	T.									.02	.04						.20		.08							0.97
Fessenden‖ ‖	James					.02	.18	.06	.02	.03	T.							.12	.22				T.	.04									0.69
Finley	Red		T.		T.		.28	.05	.06	.17	.02		T.	.03			T.	.22	T.		T.	.06	.02	T.	T.								0.91
Forman	Sheyenne							.14	.16	.22				.18																			0.70
Foxholm	Mouse				T.	T.	.38	T.					T.				T.	.01				T.	T.			T.	T.						0.39
Fryburg	Heart				.14	.07	.43										.01	.05	.21					T.		.03							0.94
Fullerton	James					T.	.12	.24	.28	.12				.09				.08	T.			T.	T.	.20									1.13
Garrison	Missouri					.16	.48											.20						.09									0.93
Grafton	Red				.01			.06		.25		.01		.19				.25				.40											1.17
Grand Forks ***	Red				T		.61	.16	.28	.15		.02	.12	.38	.01		.02	.29	T.		.02	.32					T.						2.38
Granville	Mouse																																
Hannah	Pembina							.05						.23																			0.28
Hansboro	Devils Lake				T.			T.		T.								.50	T.			T.											0.50
Hettinger	Grand						.41																										0.41
Hillsboro	Red						.25	.26	.12	.23				.05	.01							.15		.10									1.17
Howard	Missouri						.21	.60								T.	T.	T.					*	.14		.11	T.		T.				1.06
Jamestown‖ ‖	James						.02	.21	.17	.07	.05								.07					.01									0.60
Lamoine	Missouri				T.		.30											.20						.20			T.						0.70
Langdon‖ ‖	Pembina								.02	.11								.04		.03	.03		.06										0.29
Larimore	Red						.04	1.20	.04	.25	.20	.02		.10	.03			.15					.25	.15									2.43
Linton	Missouri					.01	.08	.10	.01	.02	.01							.12	T.					.20									0.55
Lisbon ‖‖	Sheyenne			T.			T.	.11	.15	.18	.18			T.	.09		T.	T.	.30					.35									1.36
McClusky	Missouri						.60	.30									T.						T.	.15		T.							1.05
McHenry	James				T.	T.	.25		.17	T.							T.	.36	T.					.05									0.83
McKinney	Mouse				.10				.36									T.										T.					0.46
McLeod	Sheyenne						.11	T.		.30				.10					.26					.06			T.						0.83
Maddock	Sheyenne				.03		.55	.09	T.	.07							T.	T.	.16			.05											0.95
Mandan‖ ‖	Missouri						.15	.05	T.	T.	T.								.09					.12			T.						0.41
Manfred	James				T.	T.	.40			.06								.19						.02									0.67
Marmarth	Lit. Missouri				.10		.93			T.								T.	.06	T.			.05			T.				T.			1.14
Mayville	Red				.10			.44	.80	.22				.26				.60	.10			.60		.20									3.32
Melville	James						.20		T.	.15								.29						.30									0.94
Minot‖‖	Mouse						.52	.25											.10														0.87
Minto	Red							.13		.30	.01	.01			.07		.01	.16				.22					T.						0.91
Mott	Cannon Ball					.03	.17												.02					.06									0.28
Napoleon ‖‖	Missouri							.10	.05		.04								.16					.10									0.45
New England	Cannon Ball						.30										.05	.02	T.					.12		T.							0.49
New Salem	Heart						.28	.03		T.								.03	T.					.10		.01							0.45
Park River	Red						T.			.34				T.				.24				.23											0.81
Parshall	Missouri																																
Pembina‖ ‖	Red									.30		T.	T.	T.									T.										0.30
Pettibone	James					T.	.20											.12	.06					.25									0.63
Power	Sheyenne							*	*	.30			.42					.30						.30									1.32
Powers Lake	Missouri	.04		.35		.01		.45			.01		.01						.01					.03									0.91
Richardton	Heart					.12	1.22											.04	.04					.13		.05							1.60
Sharon	Red				.01	.03	.20	.12	.04	.23				.10			T.	.21	.01		T.	.07	T.					T.					1.02
Stanton	Missouri							.48		T.							T.							.40								.04	0.92
Steele	Missouri				T.	.15	.18	T.	T.	T.								T.						.20									0.53
Towner	Mouse						.25	T.										.05															0.30
Turtle Lake	Missouri					T.	.34	.05										.12						T.									0.51
Valley City	Sheyenne						.09	.01	.08	.14			T.	.03				.35	.02			T.		.02	T								0.74
Wahpeton	Red						.12		.21	.16				.12	.05			.05	.09														0.80
Walhalla	Pembina																																
Washburn	Missouri					.66		.23										.09						.27									1.25
Westhope	Mouse																	.14															0.14
Williston ***	Missouri				.01	.33	.31										T.	.02					.27			.05	T.					T.	0.99
Willow City	Mouse				T.		T.	.15									T.	.18	T.			T.	T.				T.						0.33
Moorhead, Minn ***	Red		T.				.08	.03	.19	.14			.02	.08	.01			.09				.02	.01	.01			T.						0.68

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	60	62	53	61	65	38	38	42	40	66	75	57	52	60	80	68	80	68	44	53	60	56	48	57	60	64	52	69	65	60	73	58.9
	Minimum	30	34	28	26	36	33	31	33	32	33	40	46	30	32	35	41	44	41	44	30	23	25	30	25	27	39	36	38	35	32	36	33.7
Arnegard	Maximum	54	70	72	69	60	35	47	52	53	65	75	57	58	67	81	68	54	42	47	47	48	71	47	54	48	45	56	67	62	59	63	57.8
	Minimum	35	38	39	37	34	31	29	32	33	39	40	35	26	27	38	47	35	35	30	33	31	38	32	27	24	37	35	36	37	37	35	34.3
Ashley	Maximum	65	69	54	60	63	53	39	41	47	64	66	66	54	59	71	70	66	42	50	50	65	72	66	53	53	66	57	66	66	58	63	59.2
	Minimum	39	39	31	29	39	32	30	35	31	37	39	41	30	32	37	50	41	33	29	33	28	27	29	23	24	36	33	39	40	34	38	34.1
Beach	Maximum	71	72	76	80	60	40	44	47	54	57	65	71	57	67	79	72	56	43	50	54	57	76	46	60	56	50	64	71	65	67	72	61.3
	Minimum	45	47	46	47	40	29	28	29	31	34	35	33	31	27	41	49	36	32	30	30	32	34	30	28	30	36	36	35	40	32	35	35.1
Berthold Agency	Maximum	72	72	65	70	66	44	47	53	53	65	77	65	60	66	82	71	57	49	57	57	65	73	61	62	56	56	67	73	67	69	75	63.6
	Minimum	30	41	33	39	39	31	29	31	34	39	41	33	26	29	31	42	38	33	25	32	25	35	32	22	21	36	32	30	37	32	34	32.6
Bismarck	Maximum	70	71	64	68	60	44	48	53	49	69	76	55	57	64	81	72	60	47	56	56	66	75	50	61	55	59	66	72	64	66	74	62.2
	Minimum	36	44	39	35	41	32	31	37	35	40	47	33	31	36	38	48	40	37	31	33	31	34	31	27	26	39	37	40	42	35	40	36.3
Bottineau §§	Maximum	65	63	59	50	53	40	54	55	60	68	64	49	56	66	82	66	58	48	51	51	50	57	46	56	58	58	67	71	58	68	74	58.7
	Minimum	29	36	29	30	35	32	31	35	33	35	49	36	30	28	35	41	35	27	19	31	24	25	19	21	19	35	31	37	34	39	39	31.6
Bowbells §§	Maximum	72	66	56	56	50	39	48	56	53	65	77	56	63	68	80	68	52	58	53	55	55	58	48	60	58	63	72	68	62	56	73	60.1
	Minimum	31	55	31	36	34	30	28	33	33	37	37	31	25	25	37	48	34	30	34	23	30	34	19	24	34	33	25	35	30	33	34	32.4
Bowman	Maximum	68	69	78	74	63	43	42	42	48	59	70	65	54	62	76	72	56	48	49	54	64	73	63	60	53	53	64	70	65	66	70	61.1
	Minimum	32	41	38	42	39	28	27	36	28	37	38	42	26	28	32	49	45	34	28	26	37	34	32	30	27	34	32	33	42	33	35	34.4
Cando	Maximum	61	60	..	50	53	46	47	51	57	68	75	70	53	66	80	71	64	49	55	53	51	61	57	52	60	58	..	70	66	68	72	[b]60.1
	Minimum	32	28	..	28	35	32	31	36	33	41	50	38	28	34	36	47	41	31	23	34	28	27	27	24	23	38	..	30	35	38	36	[b]33.2
Carson	Maximum	70	72	71	68	56	44	50	46	41	66	74	50	60	66	68	74	60	60	54	56	70	76	56	62	52	60	60	74	69	67	65	61.9
	Minimum	30	34	34	36	38	25	26	27	28	29	39	32	29	26	34	44	38	36	25	25	25	26	26	22	20	42	28	33	39	32	42	31.3
Crosby	Maximum	70	71	64	62	52	43	52	58	53	64	75	64	62	69	79	67	52	59	57	54	58	64	54	59	52	54	69	70	63	73	74	61.8
	Minimum	32	41	30	37	42	31	28	33	35	37	40	30	25	28	38	42	34	30	34	34	32	35	22	22	17	38	27	37	33	37	43	33.0
Devils Lake	Maximum	59	53	49	52	53	38	46	49	51	66	74	56	50	64	79	64	58	47	54	48	51	58	42	51	58	59	65	68	60	65	71	56.7
	Minimum	32	35	29	29	36	31	31	32	32	40	50	31	31	35	42	50	34	32	25	33	33	32	28	28	26	41	32	41	38	37	43	34.5
Dickinson §§	Maximum	68	69	69	69	59	40	42	46	45	60	69	47	54	60	73	68	56	44	50	51	63	71	44	56	47	49	60	65	62	63	68	57.7
	Minimum	34	39	36	39	40	32	27	30	31	37	35	41	25	28	29	45	44	34	30	29	24	33	32	23	24	36	34	28	41	34	31	33.1
Donnybrook	Maximum	70	65	58	60	60	47	59	56	55	67	77	53	60	67	80	70	66	54	58	54	53	60	54	60	57	54	68	70	61	65	69	61.5
	Minimum	27	35	27	32	35	27	27	30	35	39	45	32	25	25	39	48	34	29	19	32	27	32	21	23	18	32	26	32	27	28	31	30.3
Dunn Center §§	Maximum	70	71	67	68	58	39	48	51	48	64	74	52	58	60	80	69	59	40	56	56	65	75	49	59	50	45	65	71	68	68	73	60.5
	Minimum	33	41	33	39	39	31	27	31	34	38	37	38	27	26	31	45	40	37	26	34	25	34	31	23	24	43	33	28	36	30	40	33.4
Dunseith	Maximum	59	62	63	55	60	55	43	46	56	63	70	71	47	62	76	73	70	54	53	55	48	57	58	46	55	59	63	67	64	67	68	59.5
	Minimum	26	36	28	29	33	30	30	34	32	43	50	35	30	32	32	42	38	23	28	30	36	30	24	17	25	36	30	41	35	33	31	32.2
Edgeley	Maximum	65	70	63	65	64	57	43	48	42	67	74	70	53	64	76	69	64	48	57	59	67	74	67	58	59	72	64	74	68	66	72	63.2
	Minimum	31	37	29	21	39	33	31	36	32	35	39	43	31	32	36	51	44	33	30	35	26	24	28	23	22	37	35	38	35	32	36	33.4
Ellendale	Maximum	63	70	59	68	65	47	41	44	41	65	72	61	53	63	75	70	62	46	56	56	65	75	48	55	58	70	62	70	63	64	71	60.6
	Minimum	32	41	33	27	43	32	32	33	33	39	39	37	32	34	41	43	40	36	34	34	29	27	29	25	27	35	38	38	39	37	39	34.8
Fessenden §§	Maximum	66	63	56	60	58	38	47	51	53	70	78	55	55	66	82	67	62	53	60	55	60	66	48	56	60	62	67	66	62	70	77	60.9
	Minimum	31	37	32	27	35	33	30	33	33	35	45	39	32	35	34	44	42	31	23	32	29	25	28	23	22	36	32	34	35	29	33	32.5
Foxholm	Maximum	67	64	56	57	51	41	49	55	56	65	75	63	57	63	78	67	57	49	56	52	53	59	51	58	57	55	64	70	60	63	71	59.3
	Minimum	32	38	28	31	35	30	30	35	35	41	49	34	26	26	40	52	36	30	24	35	32	33	25	28	24	37	28	38	32	39	39	33.6
Fullerton	Maximum	63	71	59	67	64	51	42	45	41	67	73	60	53	64	77	69	63	47	57	57	66	73	51	56	62	73	63	73	61	65	75	61.6
	Minimum	33	38	32	28	40	34	32	32	33	36	41	40	32	34	36	43	44	35	32	35	29	26	29	24	25	41	38	36	38	36	38	34.5
Garrison	Maximum	71	71	62	69	57	41	46	53	52	64	74	58	57	64	80	67	66	52	57	55	62	67	52	59	53	56	71	72	64	67	74	61.7
	Minimum	30	38	32	31	36	30	28	32	33	39	46	36	29	31	39	38	37	32	29	33	32	34	28	27	22	35	34	31	34	32	34	33.0
Grafton	Maximum	55	55	55	52	57	50	53	51	51	69	74	71	49	65	76	76	70	50	55	55	48	64	59	52	62	70	66	68	66	67	72	60.7
	Minimum	33	30	28	25	33	34	35	38	32	43	47	37	30	35	35	48	44	29	24	35	25	29	30	29	31	40	35	39	38	36	35	34.3
Grand Forks	Maximum	55	58	56	53	59	45	49	46	48	68	73	54	43	62	79	65	59	46	54	51	52	59	45	48	59	67	64	67	63	65	72	57.5
	Minimum	31	31	26	25	37	32	34	33	34	43	48	30	30	33	37	46	36	31	24	32	25	32	31	28	30	47	35	37	41	34	35	33.8
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Hansboro	Maximum	62	55	50	47	50	45	52	50	57	80	76	50	51	65	83	78	66	48	65	52	62	62	48	48	67	65	68	69	60	65	72	60.3
	Minimum	25	20	30	20	25	30	32	30	35	38	48	30	28	28	36	42	34	24	17	20	26	30	24	18	22	24	35	40	30	30	35	29.2
Hettinger	Maximum	64	68	68	68	38	41	41	43	46	62	72	69	56	63	77	75	68	72	61	71	62	73	69	67	70	66	68	70	70	70	72	63.9
	Minimum	36	42	45	38	38	38	31	25	31	31	39	44	26	27	29	48	41	38	38	36	41	27	32	36	31	20	28	30	34	36	36	34.6
Hillsboro	Maximum	58	56	50	54	60	56	42	42	44	..	72	66	42	60	76	76	60	57	55	55	56	58	56	53	61	64	64	68	..	..	78	[c]58.5
	Minimum	35	33	30	32	42	32	32	36	34	..	50	42	31	39	57	40	46	34	34	32	35	37	35	..	..	..	..	..	..	..	..	[i]37.2
Howard	Maximum	70	70	64	62	57	51	40	46	51	50	73	60	57	64	71	63	52	50	55	55	61	61	46	48	56	57	61	68	67	63	71	58.8
	Minimum	35	35	32	30	31	34	17	24	29	28	33	26	24	26	38	38	31	27	25	30	30	30	25	24	25	26	31	34	37	34	39	30.0
Jamestown §§	Maximum	71	58	63	52	57	69	57	51	66	65	51	50	64	79	66	60	49	55	58	61	66	45	50	58	54	71	72	62	65	76	78	61.3
	Minimum	35	36	34	30	34	34	35	35	37	34	43	44	32	33	38	44	43	33	28	35	35	27	25	27	33	34	34	39	35	36	34	34.7
Lamoine	Maximum	52	71	57	65	57	34	40	51	50	66	74	56	55	62	77	69	61	48	55	52	61	66	52	56	57	58	63	70	65	64	72	59.2
	Minimum	32	37	31	28	30	30	30	32	32	38	47	32	29	35	37	45	38	32	23	29	25	27	26	22	20	34	29	36	31	30	37	31.7
Langdon §§	Maximum	55	49	55	45	49	41	47	48	53	68	73	40	46	62	79	71	70	50	59	56	53	61	61	50	64	65	57	66	62	65	71	57.8
	Minimum	30	30	25	25	31	31	31	33	30	32	31	37	30	29	35	42	39	27	20	29	33	26	22	24	24	36	39	20	36	33	35	30.5
Larimore §§	Maximum	51	51	52	59	34	44	48	48	68	71	48	44	63	78	55	55	50	55	52	51	58	45	50	62	68	67	70	67	65	72	77	57.4
	Minimum	32	32	26	25	32	32	32	33	32	34	43	43	30	30	37	50	45	32	25	32	25	31	30	28	30	40	34	37	40	38	37	33.8
Linton	Maximum	70	73	69	68	71	60	45	50	49	71	76	73	58	66	80	77	64	48	57	59	68	78	66	60	59	66	69	75	69	70	75	65.8
	Minimum	30	42	34	32	41	34	32	37	34	36	38	41	32	32	30	44	42	32	29	27	29	26	32	21	21	32	30	34	45	32	35	33.4
Lisbon §§	Maximum	67	65	60	63	63	39	41	45	46	68	76	60	43	62	78	69	47	50	59	58	64	70	50	56	60	73	64	75	61	66	72	60.3
	Minimum	34	38	34	32	28	34	34	34	33	33	40	40	31	31	40	46	44	32	30	35	25	26	30	25	31	30	39	49	33	46	32	34.5
McKinney	Maximum	71	67	58	47	62	65	58	62	59	60	68	80	64	60	69	83	70	60	50	60	58	55	62	57	66	58	60	68	65	64	70	62.9
	Minimum	24	38	28	34	30	32	38	30	35	37	40	44	35	26	36	40	50	37	32	21	37	32	33	20	24	15	33	24	30	30	30	32.1
Maddock	Maximum	63	64	57	56	54	49	43	47	53	67	74	73	55	65	79	78	63	50	56	56	55	63	56	55	59	56	65	71	68	66	72	60.9
	Minimum	29	34	30	25	35	30	30	35	32	40	47	39	31	36	38	48	42	32	22	28	29	29	27	25	21	35	27	38	34	30	33	32.6
Melville	Maximum	62	60	58	58	56	48	44	49	46	65	72	60	52	63	78	72	60	48	56	54	58	54	55	58	56	62	63	69	67	65	79	59.6
	Minimum	30	38	31	27	36	30	30	35	31	38	46	38	30	34	38	48	40	32	25	34	29	26	27	25	21	39	31	45	31	31	36	33.4
Minot §§	Maximum	70	66	68	60	52	35	50	55	57	73	73	53	57	67	81	70	59	52	60	56	57	63	50	60	57	57	68	72	62	68	71	61.3
	Minimum	29	32	31	33	36	33	30	32	35	36	43	38	29	29	31	43	39	31	22	33	30	33	26	24	20	36	29	33	32	33	31	32.1
Mott	Maximum	58	54	49	40	40	33	37	37	45	68	76	64	68	47	78	66	52	40	46	49	56	60	52	62	60	51	73	77	66	68	72	57.2
	Minimum	45	42	40	37	30	23	25	26	28	39	49	40	43	50	52	46	40	31	28	30	30	28	25	34	30	33	32	29	30	31	41	35.1
Napoleon §§	Maximum	68	74	63	68	63	37	45	48	46	68	76	54	58	65	77	72	61	47	56	57	65	72	45	58	61	67	64	72	65	67	75	61.7
	Minimum	27	38	33	28	30	33	28	33	30	31	40	35	28	31	31	47	42	31	27	30	24	19	27	21	19	36	28	32	34	25	37	30.8
New Salem	Maximum	71	70	68	65	60	43	42	51	51	66	72	68	68	65	80	79	60	48	57	59	72	77	68	62	56	62	68	72	70	72	77	64.5
	Minimum	37	40	36	36	40	30	28	32	32	40	54	35	25	30	45	34	42	32	27	33	30	32	27	24	20	37	38	42	37	34	44	34.6
Pembina §§	Maximum	55	55	50	54	53	50	53	52	55	69	76	45	45	66	84	79	60	45	56	52	53	62	56	52	63	71	68	68	64	68	74	59.8
	Minimum	30	25	24	21	35	35	35	36	32	38	36	40	29	31	37	50	60	25	18	32	23	30	23	25	30	40	30	28	30	29	41	32.2
Steele	Maximum	59	64	65	41	36	44	63	50	45	68	69	49	68	59	68	70	66	45	45	54	55	73	45	55	46	68	68	68	67	69	72	58.5
	Minimum	32	40	35	33	31	31	35	35	32	40	35	40	35	35	35	40	42	32	31	35	31	32	28	22	20	33	35	36	33	32	39	33.7
Towner	Maximum	68	67	66	65	58	40	51	53	59	69	74	72	62	70	71	76	65	51	58	56	51	51	53	57	62	54	65	72	68	69	75	62.2
	Minimum	52	57	50	53	32	34	38	49	46	50	60	60	48	50	66	44	50	31	19	29	27	28	26	23	33	34	38	34	37	27	34	40.6
Valley City	Maximum	59	58	53	58	61	48	42	49	43	66	73	66	44	61	78	67	62	47	57	55	60	60	50	55	58	59	63	76	63	65	73	58.8
	Minimum	31	36	31	36	41	33	32	35	32	39	44	35	32	33	35	47	41	34	26	34	32	26	29	24	21	50	34	39	39	25	40	34.5
Wahpeton	Maximum	61	63	63	62	67	59	45	43	52	69	75	72	50	53	76	77	66	66	57	59	65	66	55	55	62	74	74	74	72	65	75	63.6
	Minimum	32	32	30	27	46	36	34	37	33	35	40	45	30	34	36	50	45	36	34	34	25	23	30	27	29	45	44	37	32	34	36	35.4
Walhalla	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Westhope	Maximum	71	71	58	51	50	40	45	60	70	54	38	70	82	76	82	82	78	58	59	60	64	60	58	59	59	58	71	72	61	71	75	63.4
	Minimum	29	35	28	31	35	32	35	36	42	30	29	27	36	54	36	36	32	32	27	28	32	34	23	28	22	34	27	35	34	33	33	32.4
Williston	Maximum	70	71	67	68	54	37	47	53	52	63	75	54	58	67	80	67	55	50	58	55	62	68	49	59	51	58	64	70	64	66	73	60.8
	Minimum	35	43	38	44	34	31	30	35	31	39	44	35	27	29	42	49	39	35	33	37	34	41	32	33	31	39	37	37	41	36	37	36.4
Moorhead, Minn	Maximum	56	55	52	58	62	49	43	42	43	68	73	61	40	58	79	67	61	46	54	53	58	59	45	53	61	70	62	70	62	61	72	57.8
	Minimum	34	38	32	28	39	33	32	35	34	39	48	31	31	33	38	49	41	36	30	36	29	27	31	31	31	47	40	44	38	37	38	35.8

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXIII. BISMARCK, N. D., JUNE, 1924. No. 6

GENERAL SUMMARY.

The weather during June was one of the most favorable in the climatological history of the State. The weather was cool, which was decidedly favorable for all small grains, and at the close of the month spring wheat, oats, barley, speltz and winter rye were in excellent condition. While somewhat too cool for the germination and growth of corn, that crop was also in good condition at the close of the month, being of good stand and color, and free from weeds. Pastures and ranges afforded abundant feed, and wild and tame grasses promised excellent hay crop. The month was free from damaging hot winds, and no extremely high temperatures were recorded. Several damaging hailstorms occurred, particularly on the 18th, when winds of high velocity occurred. The precipitation was unusually well distributed, both geographically and throughout the month. Much work was done on primary highways, and at the close of the month those thoroughfares were in excellent condition.

TEMPERATURE.

The mean temperature for the State was 58.6°, or 4.2° below the normal, and 7.5° lower than the mean for June, 1923. The highest mean reported was 65.0° at Mott, Hettinger County; the lowest was 54.6° at Arnegard, McKenzie County. The highest temperature reported was 89° at Bottineau, Bottineau County, on the 30th; the lowest was 26° at Grafton, Walsh County, on the 7th. The greatest monthly range of temperature was 60° at Grafton, Walsh County, and at Hettinger, Adams County. The greatest daily range was 50° at Donnybrook, Ward County, on the 1st.

PRECIPITATION.

The average precipitation for the State was 4.17 inches, or 0.67 inch above the normal, and 0.35 inch more than the average for June, 1923. The greatest monthly amount reported was 7.57 inches at Bowbells, Burke County; the least was 1.85 inches at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 4.00 inches at Bowbells, Burke County, on the 19th. The average number of days with 0.01 inch or more of precipitation was 11.

AURORAS.

Auroras were observed at Howard on the 9th; at Foxholm and Grand Forks on the 10th; at Grand Forks on the 11th, and at New England on the 15th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.94	30.40	30	29.39	18	57	6,064	8.4	78	w.	18
Devils Lake	29.90	30.31	30	29.32	19	44	6,492	9.0	44	w.	19
Ellendale	29.93	30.36	30	29.39	18	56	8,265	11.5	44	nw.	5
Grand Forks	29.87	30.27	30	29.33	19	99	......	......	36	sw.	20
Williston	29.91	30.37	30	29.49	18	48	5,174	7.2	35	se.	7
Moorhead, Minn	29.88	30.28	30	29.34	19	58	5,294	7.4	29	nw.	5
Av'ges and extremes	29.90	30.40	30	29.32	19	......	......	8.7	78	w.	18

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	233.3	475.1	49	−13	83	58	60	31	5
Devils Lake	251.2	478.7	52	−17	76	46	54	17	1
Ellendale	257.2	470.9	55	− 6	84	58	....	33	2
Grand Forks	......	......	......	......	74	.....	54	.....	....
Williston	276.6	478.7	58	− 3	83	54	51	28	2†
Moorhead, Minn	311.2	475.7	66	+ 3	76	49	55	31	2
Averages and extremes	265.9	475.8	56	− 7	79	53	55	17	1

† And other dates.

COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.
1922	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.
1923	66.1	+3.3	100	30	3.82	+0.32	8	13	12	5	se.
1924	58.6	−4.2	89	26	4.17	+0.67	11	10	12	8	nw.

Climatological Data for June, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	58.8	−4.7	88	12	29	6	47	4.13	+0.26	2.06	0	7	14	11	5	sw.	E. T. Carley.
Amidon	Slope		11	58.5		83	17	36	10	35	2.27		0.84	0	12	6	23	1	nw.	Charles Eastgate.
Arnegard	McKenzie		10	54.8		80	16	38	9†	32	4.70		0.89	0	16	10	15	5	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	58.1	−3.9	81	21	39	10	33	4.94	+1.45	0.98	0	10	16	5	9	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	57.8	−3.3	83	16†	29	7	38	3.96	+0.48	1.30	0	11					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	58.6	−4.0	82	16†	34	10	39	4.78	+0.90	1.86	0	13	13	13	4	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	60.4	−3.3	84	21	42	1	36	6.21	+2.67	1.86	0	16	3	10	17	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	57.7	−3.3	89	30	34	6	48	2.74	−0.40	1.07	0	9	16	5	9	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	56.5	−3.7	82	16	31	11	37	7.57	+4.48	4.00	0	11	19	0	11		G. H. Phelps.
Bowman	Bowman	2,961	11	58.2		81	21	36	10	36	3.94		0.82	0	13	14	8	8	se.	R. Love, Jr.
Cando	Towner	1,488	24																	A. J. Swanson.
Carson	Grant	2,500	13	57.2	−5.8	82	14†	36	10	40	5.91	+2.04	1.20	0	12	8	14	8	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19								4.95	+1.31	2.10	0	8	18	9	3	nw.	S. Friswold.
Crosby	Divide	1,954	18	58.0	−2.6	80	30	34	12	41	5.09	+2.13	1.23	0	12	3	17	10	e.	John Jensen.
Devils Lake	Ramsey	1,478	28	59.0	−3.6	83	16	33	6	34	3.44	−0.09	1.98	0	11	12	9	9	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	33	56.4	−4.9	78	17	36	4†	37	3.26	+0.22	1.25	0	15	10	6	14	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	57.2	−3.3	88	1	35	6	50	5.68	+2.82	1.66	0	8	10	12	8	w.	H. Feldner.
Dunn Center	Dunn	2,191	26	58.8	−3.1	81	15	35	6	34	3.88	−0.42	0.89	0	11	6	10	14	se.	W. H. Moede.
Dunseith	Rolette	1,682	29	55.6^{f}	−5.6	78^{m}	17	31	6	33^{m}	2.81	−0.15	1.00	0	9	2	16	12	ne.	J. G. Lamont.
Eckman	Bottineau	1,500	20								2.77	+0.01	0.67	0	8	0	15	15	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	24	60.0	−2.8	84	14†	30	6	38	2.79	−0.57	0.81	0	7	0	14	16	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	59.7	−6.3	83	14	34	6	39	3.74	+0.74	0.93	0	15	3	15	12	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13								4.25	+0.64	1.06	0	14	5	21	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	17	55.2		80	26	36	6†	35	5.46	+2.12	1.53	0	11	14	8	8	nw.	A. O. Wang.
Fessenden	Wells	1,610	13	60.2	−0.8	86	3	31	6	45	4.73	+0.70	1.48	0	15	6	13	11	nw.	T. D. Monsen.
Finley	Steele	1,461	1	59.8		81	14†	33	6	33	2.76		0.96	0	12	12	8	10	se.	G. J. Mustad.
Forman	Sargent	1,249	31								2.15	−1.46	0.79	0	6	14	9	7	e.	O. Enger.
Foxholm	Ward	1,657	4	56.8		86	16	37	7	46	4.86		1.51	0	10	4	14	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7								4.63		2.21	0	12	6	22	2	nw.	Verne King.
Fullerton	Dickey	1,439	27	61.0	−1.7	87	14†	32	6	43	3.05	−0.23	0.85	0	9	11	13	6	s.	F. O. Alin.
Garrison	McLean	1,901	30	57.6	−4.6	82	17	34	6	37	6.06	+2.74	1.16	0	13	10	12	8	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	59.9	−2.6	86	16	26	7	37	2.71	−0.53	1.32	0	9	20	6	4	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	60.5	−2.4	88	16	34	6	38	2.07	−2.32	0.69	0	11	8	15	7	sw.	U. S. Weather Bureau.
Granville	McHenry	1,504	18	58.4^{a}	−4.7	80^{c}	18†	32	6	41^{c}	3.48	+0.73	1.10	0	8	4	19	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	31								3.14	−0.30	1.18	0	6					J. Moffatt.
Hansboro	Towner	1,597	17	56.2	−4.2	85	16†	29	6	47	3.36	+0.67	1.00	0	13	6	19	5	ne.	C. E. Blackorby.
Hettinger	Adams	2,675	18	58.8	−3.3	88	20	28	1	43	3.93	+0.69	1.10	0	11	8	17	5	nw.	U. J. Downey.
Hillsboro	Traill	901	19	61.8^{e}	−2.6	84^{e}	10†	34^{e}	6	35^{e}	2.20	−1.15	0.75	0	11					F. E. Mayall.
Howard ‡‡	Williams	2,275	18	56.2	−3.5	77	27	34	6†	35	4.17	+1.58	1.46	0	10	2	20	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	58.6	−4.5	85	20	39	3	43	4.00	+0.22	2.20	0	11	20	0	10	w.	S. Calvelage.
Lamoine	Kidder	1,936	20	57.6	−2.9	81	16	37	10	40	5.52	+2.20	1.98	0	8	6	17	7	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	29	56.3	−3.4	80	18	31	6	35	2.63	−0.87	0.84	0	9	19	7	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	59.4	−2.7	83	15	35	6	37	4.55	+1.05	3.25	0	8	12	9	9	n.	Reuben Gray.
Linton	Emmons	1,711	7	60.6		87	21	35	1†	44	4.17		0.91	0	16	11	12	7	se.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	61.2	−1.9	88	14†	29	6	42	3.70	−0.59	2.02	0	10	22	7	1		W. S. Adams.
McClusky	Sheridan	1,943	7	58.4		80	14†	30	8	37	6.18		1.50	0	12	8	15	7	se.	Edw. Tapley.
McHenry	Foster	1,509	14	58.3	−3.7	85	14	29	6	39	6.73	+3.51	3.30	0	9	17	0	13	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	55.6	−5.1	80	16	34	1†	41	5.93	+2.71	1.90	0	9	11	11	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	13	59.8	−5.2	84	14	30	6	44	4.26	+0.06	1.45	0	11	12	10	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	9	59.0		83	16	28	6	41	2.82		0.82	0	12	0	18	12	nw.	A. T. Felland.
Mandan	Morton	1,644	11	59.3		84	21	39	1	39	5.56		2.03	0	16	15	5	10	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	59.0	−2.5	81	14	30	6	40	3.45	−0.13	1.30	0	14	7	12	11	nw.	P. B. Anderson.
Marmarth	Slope	2,714	16	58.1	−2.2	81	14	35	13	43	2.97	−0.14	0.90	0	16	2	16	12		S. P. Grane.
Mayville	Traill	975	29	58.2	−6.3	83	21†	30	6	37	3.45	−0.06	0.62	0	9	10	14	6	nw.	R. Peterson.
Melville	Foster	1,590	27	58.4^{a}	−4.5	82^{a}	14	32^{a}	5	38^{a}	3.97	+0.46	1.30	0	8				sw.	J. P. Kidder.
Minot	Ward	1,557	29	57.6	−4.9	83	21	30	2	41	4.78	+1.52	2.10	0	9	12	12	6	w.	W. I. Faris.
Minto	Walsh	820	32	60.2	−3.7	85	16†	29	6†	46	2.63	−0.67	1.30	0	8	8	18	4	ne.	C. M. Evans.
Mott	Hettinger	2,424	18	65.0	+2.0	87	13†	43	8	32	3.22	−0.18	0.68	0	10	11	11	8	nw.	O. H. Opland.
Napoleon	Logan	1,955	33	58.1	−4.1	84	14	37	10	38	4.52	+0.90	1.10	0	13	9	9	12	sw.	C. J. Hoof.
New England	Hettinger	2,400	31	58.5	−3.5	84	13†	34	10	42	2.39	−0.30	0.75	0	11	5	23	2	se.	W. S. Jones.
New Salem	Morton	2,163	21	60.0	−2.8	84	27	39	10	37	4.67	+0.96	0.93	0	13	8	19	3	nw.	J. Christiansen.
Park River	Walsh	998	21	59.8	−3.4	83	16	33	6†	40	4.11	+0.78	1.08	0	11	9	11	10	nw.	C. B. Wright.
Parshall	Mountrail		10																	J. A. Johnson.
Pembina	Pembina	789	51	59.8	−2.8	84	18	30	7	39	1.85	−1.43	0.95	0	6	20	5	5	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	57.2	−3.0	81	16†	30	6	41	4.60	+1.38	1.35	0	16	7	10	13	sw.	S. C. Shanks.
Power	Richland	1,020	31								4.18	+0.22	2.78	0	11					J. A. Power.
Powers Lake	Burke	2,205	11								5.29	+2.43	2.04	0	6	20	7	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	9	58.2		86	27	38	10	34	3.56		0.95	0	16	4	17	9	nw.	Geo. Keim.
Sharon	Steele	1,516									4.79		2.45	0	14	4	13	13	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	1								4.69		1.44	0	8	8	16	6	nw.	J. H. Giffey.
Steele	Kidder	1,857	29	58.0	−4.4	80	14	34	7	34	7.39	+4.06	2.28	0	13	6	16	8	ne.	H. S. Wood.
Towner	McHenry	1,482	23								2.22	−0.86	0.70	0	6					B. Bagley.
Turtle Lake	McLean	1,899	10	59.2		85	21	36	24	36	6.59		1.63	0	14	4	10	16	w.	A. T. Anderson.
Valley City	Barnes	1,245	20	60.2	−3.0	82	14†	32	6	39	2.40	−0.91	1.29	0	8	3	23	4	nw.	H. Twito.
Wahpeton	Richland	962	31	62.2	−2.6	85	14	34	6	38	5.68	+1.73	2.16	0	13	19	0	11	nw.	C. G Luick.
Walhalla	Pembina	966	21																	T. R. Johnson.
Washburn	McLean	1,731	24								4.64	+1.09	1.36	0	12					Karl Klein.
Westhope	Bottineau	1,508	19	58.8	−2.8	80	1†	38	1	42	3.48	+0.54	1.07	0	8	12	12	6	n.	W. A. Meddaugh.
Williston	Williams	1,875	46	59.0	−3.7	79	16	40	6	29	6.78	+3.21	3.03	0	14	6	15	9	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	56.0	−5.0	79	13†	29	6	47	2.51	−0.67	0.64	0	9	3	19	8	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	61.3	−3.1	84	14	35	6	34	4.37	+0.24	2.10	0	11	10	14	6	sw.	U. S. Weather Bureau.
Averages				58.6	−4.2	89	30	26	7	50	4.17	+0.67	4.00	0	11	10	12	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for June, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red					.03				1.00						.45				.12			.04		T.				2.06	.43			9.13
Amidon	Lit. Missouri	T.		.13				.43	T.	.12		.19		.08	.08	.01			.81		T.		.05		.05	T.		.08	T.	.21			2.27
Arnegard	Missouri	.19		.10	.16			.45	.16	.03				T.	.13	.15		.71	.82	.89	.10		.35	.03				.10	.33				1.70
Ashley	Missouri			.49				.85	.55	.33		.18	.98		.35				.60								.50	.12	.32				4.94
Beach	Lit. Missouri	.10		.24				.13	.24	.33	T.	.27		T.				T.	1.30		T.	T.	.35	.08				.49		.43			3.96
Berthold Agency	Missouri	T.		T.	.13			.29	.65			.05		T.	.02	.05		.71	.62		.04		.29	.07				1.50	.36	T.			4.78
Bismarck ***	Missouri		T.	.02	T.	T.	.01	.48	1.35		.16	.34	.08	.03	.22			.20	1.86		.04		.05	T.	.01			.92	.44				6.21
Bottineau‖ ‖	Mouse					.11			.01	.16	.24		.12				T.		1.07	.61	.20		.22						T.				2.74
Bowbells ‖ ‖	Mouse		.14			.27			.61	.23	.10	.10					.25		1.32	4.00			.16						.39				7.57
Bowman	Grand	.01	.20					.73	.08	.47		T.			.45	.35	T.		.50		T.			.02	.16	.10		.82	.05				3.94
Cando	Devils Lake.																																
Carson	Heart							.48	.85	.10	.60	.08	.05		.77	.01			1.20						.25			.39	1.13				5.91
Cooperstown	Sheyenne			.25					.95				.50		.10				2.10				.05	.15				.85					4.95
Crosby	Mouse	T.		T.	.09			.28	.35	.15		1.01		.24		.13		.65	.11	1.23		T.						.39	.46				5.09
Devils Lake ***	Devils Lake.		T.	.03	.03	T.			.35	.03			.06		T.			.71	1.63	.04		T.	.42						.01		.13		3.44
Dickinson‖ ‖	Heart		.13		.05	T		T.	.45	.03	T.	T.	.21		.09		T.		.13	1.25		.04	.13	.10	.20				.16	.25	.04		3.26
Donnybrook	Mouse				.05				1.12	.10		.63		T.		.21		1.40	T.	1.66								.51					5.68
Dunn Center ‖‖	Knife		.15	.03					.72	T.	T.		.89				.08			.86			.22	.15	.43				.19	.16			3.88
Dunseith	Mouse				.25	.02			.01	.11			.40					1.00	.60			.22	.20							T.	T.		2.81
Eckman	Mouse				.19				.47	.14		.05						.41	.56	.67									.28				2.77
Edgeley	James							.35	.75						.10				.16		T.				.18			.44	.81				2.79
Ellendale***	James	T.	T.	.01	T.		.03	.46	.63		.04	.16	.31		.81		T.	.03	.29	.01	T.				.13	T.	.04	.54	.25		T.		3.74
Energy	Missouri				.17			.07	.99	.02		.05	.07	.07		.02		.29	1.06				.36	.36				.50	.22				4.25
Epping	Missouri			.07	.13			.50	.10			.03		.34	T.			.63	.51	1.53								1.12	.50				5.46
Fessenden‖ ‖	James				T.	.17			.02	.33	.15		.16	.13		.80			.44	1.48		.08	.12	.15	.28				.40		.04		4.75
Finley	Red			.10		.02	T.		.41	.10		T.	.22	T.	.04					.96	.03	.18	T.	.13		T.		T.	.46		.11		2.76
Forman	Sheyenne					.08			.79				.08								.17							.58	.45				2.15
Foxholm	Mouse		T.	T.	.02			T.	1.12		.02	.31					.18	1.51	.25	.57	T.		T.					.13	.75	T.			4.86
Fryburg	Heart	T.		.19		T.		.45	T.	.07	T.	.15	.06		T.	.15	T.	T.	2.21		.12	T.	.22	.08				.73	.20				4.63
Fullerton	James			.36	T.			.40	.85	.26	T.				.05				.20				T.				.05	.32	.56		T.		3.05
Garrison	Missouri			.25	.21			.24	1.16			.08		.19	T	T.		1.04	.84	T.	.12		.27	.05				.69	.92	T.			6.06
Grafton	Red					.07				.31	.01		.02						.27	1.32			.60				.08	.03					2.71
Grand Forks ***	Red			.24	T.	.14			.13	.08	T.		.06	T.					.69	.44		.20	.03	T.			T.		.03		.03		2.07
Granville	Mouse		T.	T.	T.	T.		T.	.84	.10				.31	T.				1.10	.18	.05		T.	.14					.76				3.48
Hannah	Pembina		.20							.56							.76			1.18		.08						.36					3.14
Hansboro	Devils Lake.				.15				.10	.15		.10	.15				.10		.60	1.00			.08				.25	.60	.05		.03		3.36
Hettinger	Grand							.66	.40	.10		T.		.20	.30		.15		1.10							.61	.07	.32	.02	T.			3.93
Hillsboro	Red								.10	.15	.02	.19		.06	.16					.46			.17	.09					.75		.05		2.20
Howard	Missouri	T.		.25	.12	T.	T.	.81	.12	.03		T.	T.	.12	T.	T.		.28		1.46	T.	T.	T.	T.				*	.98	T.			4.17
Jamestown‖ ‖	James				.18	.01				.71		.15	.37			.03				.04					.12			.09	2.20	.10			4.00
Lamoine	Missouri							*	*	.71								.62		1.98		T.		.42		T.		.77	1.02				5.52
Langdon‖ ‖	Pembina					.32				.27		.05	.30				.34		.29	.84			.07					.15			T.		2.63
Larimore	Red					.40				.50				.05					.10	3.25			.08	.10					.07				4.55
Linton	Missouri			.14	.01	.36	T.	.40	.89			.02	.33		.21			.26		.91	.04				.20	.01	.01	.03	.35				4.17
Lisbon ‖‖	Sheyenne								.22	.35		.06	.12			.35				.06		.03	.31		T.				2.02	.18	T.		3.70
McClusky	Missouri			.15	.10			.05	.90	.10		.20		T.		T.			1.25	1.50	T.	*	.40	.25				.20	1.08				6.18
McHenry	James								.50	.12		.05	.17		.33			.66	3.30			T.	T.	.75					.85				6.73
McKinney	Mouse			T.	.30				.88	.26		.33				T.	.12	1.90		1.75		.16							.23				5.93
McLeod	Sheyenne			.07		T.		T.		.74	.20	.06	.02	T.	1.45		T.				T.	.02	.62		.03			.44	.61		T.		4.26
Maddock	Sheyenne				.07	.07			.22			T.	.17						.72	.82	.01	.10	.42					.07	.14	.01			2.82
Mandan‖ ‖	Missouri			T.	.07	.01		.04	1.55	.01		.12	.44		.04	.11			.31	2.03			.06		.04			.02	.43	.28			5.56
Manfred	James				.14				.22	.15	.14		.02		.10				.30	1.30	.07		.41	.10		.02		.04	.44		T.		3.45
Marmarth	Lit. Missouri	T.		.06		T.	.06	.12	.90	.13		.04			.04	.40	.03	.22	.61	T.			T.	.08		.01		.10	.16	.01			2.97
Mayville	Red					.40			.13	.60				.40						.62			.45		.12	.40			.33				3.45
Melville	James			T.					.57	.10					.27	T.			.60	1.30	T.		T.	.20				.10	.83				3.97
Minot‖‖	Mouse								.60	.35			.43				.03		2.10	.45	.02		.05						.75				4.78
Minto	Red								.06	.22							.20		.05	1.30			.48				.15	.17					2.63
Mott	Cannon Ball							.68		.17		.08			.33				.66						.02	.22		.56	.43	.07			3.22
Napoleon ‖‖	Missouri				.37	.02		.20	.48	.25		.05	.15			.73			.82	.17		.11							1.10	.07			4.52
New England	Cannon Ball	.16		.08	T.			.42	.04	T.		.08	.12	T.	T.				.58		T.		.03					.75	.04	.09			2.39
New Salem	Heart	T.		T.	T.			.30	.93	.01		.58		.03		.06		.54	.86		.01		.03	.06				.44	.82				4.67
Park River	Red				.02	.18			.28	.83					.08		.47		.40	1.08			.47				.21	.09			T.		4.11
Parshall	Missouri																																
Pembina‖ ‖	Red					.30				.10	T.		.10					.10	T.	.95			T.					.30	T.				1.85
Pettibone	James			.03				.10	.38	.08		.15	.14		.05			.12	T.	1.35	.10		.10	.15	.02		.05	.78	1.00				4.60
Power	Sheyenne			.06		.04			.08		.10				.65				.10		.10	.17		.10				*	2.78				4.18
Powers Lake	Missouri							.06				.16						.02		2.04		2.00				1.01							5.29
Richardton	Heart	.04		.02				.31	.38		.04	.05	.17	.51	.01			.03	.95		.06		.19	.08				.50	.22				3.56
Sharon	Red					.05			.49	.14	T.	.02	.51	.16	.04				.01	2.45		.34	.01	.09					.26		.22		4.79
Stanton	Missouri	T.			T.	.28			1.44			.27						.03	.76				.30	.41				1.20					4.69
Steele	Missouri	T.	T.			.25		.26	.61	.09	T.	.18	.33					.25	.21	1.37	.18	T.					.30	1.08	2.28		T.		7.39
Towner	Mouse			.15					.20	.24								.45				.48						.70					2.22
Turtle Lake	Missouri				.30			.05	1.39	T.		.05		.02	.02	.09		T.	.99	.59	.02		.38	.24				.82	1.63	T.			6.59
Valley City	Sheyenne			.07		T.			.50				T.	.02	.12					T.			T.	.01				.36	1.29		.03		2.40
Wahpeton	Red					.33			.50	.25	.11	.10	.05	.06		.10				.05		1.40	.17					.40	2.16				5.68
Walhalla	Pembina																																
Washburn	Missouri	.18			.14			.09	1.36	.05		.09							.87		.21		.14	.36				.72	.43				4.64
Westhope	Mouse				T.					.36			.38					1.07	.49	.82		.25	.03					.08					3.48
Williston ***	Missouri	.23		.21	.04			.42	.05	T.		.03		.12	.06	.06		.01	2.43	.60	T.		T.	T.				2.41	.11				6.78
Willow City	Mouse			.09	.06				.10	.12		T.	T.					T.	.61	.64		.61	.14					T.	.14				2.51
Moorhead, Minn ***	Red	T.			T.	.08			.32	.01	T.	.06	T.		.40		T.		T.	.16		.93	.29					.38	1.73		.01		4.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	80	71	74	78	64	50	62	55	60	70	72	88	86	86	70	84	82	70	75	63	58	70	68	71	83	84	76	70	62	74	....	71.9
	Minimum	38	45	45	51	51	29	40	43	43	39	44	41	44	42	45	52	53	60	58	46	48	50	43	48	46	48	48	46	45	44	....	45.8
Arnegard	Maximum	52	74	68	72	54	59	58	45	49	63	76	63	64	64	63	80	75	63	51	54	67	52	68	70	76	68	67	59	61	61	....	63.2
	Minimum	42	45	45	44	42	46	43	43	38	38	45	48	50	50	46	48	51	51	50	44	45	50	43	46	47	54	56	50	49	44	....	46.4
Ashley	Maximum	61	67	75	69	74	62	52	57	52	56	63	72	79	75	66	76	69	74	66	69	81	78	70	71	71	68	68	67	64	64	....	67.9
	Minimum	46	47	46	45	46	40	45	41	41	39	41	41	56	55	47	55	56	57	51	47	48	53	57	52	50	50	55	55	45	43	....	48.3
Beach	Maximum	72	73	69	67	64	67	49	64	58	74	74	74	79	71	74	83	73	70	76	78	82	67	62	72	74	64	83	64	69	73	....	70.6
	Minimum	35	40	49	44	36	30	29	44	42	36	43	46	50	49	52	55	49	47	43	46	50	47	45	47	49	53	50	50	49	43	....	44.9
Berthold Agency	Maximum	70	77	66	75	65	72	51	51	58	70	74	77	80	77	74	82	82	75	68	68	81	76	66	72	76	79	77	67	68	73	....	71.6
	Minimum	41	46	38	38	45	38	44	43	43	34	44	44	47	52	48	50	52	51	42	42	42	49	42	45	61	49	58	51	45	42	....	45.5
Bismarck	Maximum	72	76	72	77	64	63	53	52	60	70	65	77	80	82	72	82	78	76	64	70	84	66	64	72	73	76	79	67	67	73	....	70.9
	Minimum	42	52	47	45	45	45	45	44	46	42	48	50	54	59	49	58	57	55	52	49	48	52	49	54	52	51	60	53	50	47	....	50.0
Bottineau §§	Maximum	78	78	78	74	60	68	57	48	53	64	67	73	78	79	70	82	76	79	59	68	80	64	71	71	73	82	70	73	70	89	....	71.1
	Minimum	43	48	40	40	35	36	40	43	42	36	40	47	51	53	41	49	53	52	53	44	41	47	37	41	42	47	51	51	48	41	....	44.3
Bowbells §§	Maximum	72	75	70	66	63	66	63	49	56	63	65	68	72	70	74	82	70	72	71	69	78	71	71	74	79	81	76	70	73	77	....	70.2
	Minimum	42	45	43	40	39	35	38	41	40	37	31	41	43	46	42	45	55	46	40	42	43	44	42	44	48	50	50	49	40	43	....	42.8
Bowman	Maximum	67	69	65	74	64	60	49	58	54	72	71	74	76	76	72	75	78	74	60	67	81	75	70	69	61	79	77	60	65	70	....	68.7
	Minimum	47	43	49	40	41	40	41	43	42	36	48	45	53	54	45	54	55	51	49	44	45	51	51	50	51	55	57	51	50	42	....	47.8
Cando	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Carson	Maximum	72	75	66	78	75	63	50	56	60	70	66	75	80	82	70	82	80	70	60	70	82	76	66	72	66	74	65	64	67	72	....	70.1
	Minimum	40	41	41	38	40	36	40	38	39	36	45	46	49	52	46	62	56	52	42	40	44	45	46	48	44	44	46	48	43	40	....	44.2
Crosby	Maximum	73	73	73	60	62	72	63	59	63	70	73	75	73	71	73	76	73	73	60	64	78	73	68	72	79	78	76	70	72	80	....	70.8
	Minimum	46	46	48	43	39	37	38	41	43	36	35	34	40	49	44	52	54	51	51	44	46	43	45	48	50	51	55	51	51	46	....	45.2
Devils Lake	Maximum	77	74	78	76	55	66	60	54	53	67	72	76	78	79	71	83	78	78	64	70	78	62	67	71	75	79	71	70	64	73	....	70.6
	Minimum	45	50	53	50	39	33	39	45	44	41	38	51	49	49	41	57	51	56	53	49	48	50	46	47	49	52	56	49	47	45	....	47.5
Dickinson §§	Maximum	69	69	62	73	61	65	46	50	56	67	66	73	75	71	69	76	78	72	58	64	76	59	57	68	67	74	76	77	66	72	....	67.1
	Minimum	44	45	43	36	40	39	44	43	42	36	42	45	48	52	50	51	53	54	50	44	42	48	40	47	49	51	54	52	50	39	....	45.8
Donnybrook	Maximum	88	76	71	73	65	70	63	58	55	65	68	70	73	75	70	77	72	71	68	68	78	62	70	70	72	80	70	65	70	75	....	70.3
	Minimum	38	49	48	36	39	35	37	40	41	37	38	42	44	45	46	55	48	46	49	43	47	42	42	44	49	50	48	49	49	45	....	44.0
Dunn Center §§	Maximum	71	55	74	63	69	48	50	58	70	74	71	78	77	70	81	80	74	59	65	78	64	67	69	73	76	77	66	76	77	73	....	69.4
	Minimum	42	45	42	40	40	35	45	42	42	45	46	50	54	57	49	52	55	54	50	44	45	60	44	57	48	49	53	54	50	55	....	48.1
Dunseith	Maximum	71	71	76	63	52	62	71	62	50	63	64	72	70	70	70	75	78	..	..	..	..	..	..	..	..	..	..	..	..	..	....	[m]67.1
	Minimum	41	50	43	36	41	31	40	43	42	35	40	50	50	52	41	49	51	51	53	47	43	47	34	45	44	40	49	50	45	44	....	44.2
Edgeley	Maximum	79	74	76	76	72	63	56	50	61	67	69	78	82	84	72	82	82	76	71	73	84	83	74	73	76	76	74	73	69	73	....	73.3
	Minimum	48	47	45	47	47	30	44	42	45	40	37	50	55	53	45	52	52	59	53	46	46	50	43	48	45	46	50	56	40	40	....	46.7
Ellendale	Maximum	76	73	75	75	63	61	53	48	61	66	71	76	82	83	71	80	80	75	70	72	82	71	71	69	73	71	75	66	65	71	....	70.8
	Minimum	37	50	45	48	43	34	47	42	46	42	40	56	57	56	49	57	58	60	52	45	47	50	48	54	52	50	51	51	47	45	....	48.6
Fessenden §§	Maximum	82	80	86	83	61	72	57	49	57	72	76	80	81	83	85	84	80	81	65	75	83	75	74	76	81	82	80	70	66	77	....	75.1
	Minimum	38	49	43	41	42	31	42	45	43	37	40	50	52	52	42	45	51	55	52	45	44	49	50	44	45	43	53	51	44	44	....	45.4
Foxholm	Maximum	74	74	73	74	62	67	58	51	53	56	67	70	75	76	69	86	75	70	62	66	78	63	68	68	71	76	68	66	66	71	....	68.4
	Minimum	43	49	44	45	40	38	37	42	44	42	40	44	46	52	41	40	50	50	52	44	48	41	43	48	50	53	50	50	47	47	....	45.3
Fullerton	Maximum	80	75	81	80	65	67	56	50	62	70	73	78	83	87	74	83	83	79	71	75	87	75	72	75	78	77	77	68	66	73	....	74.0
	Minimum	38	48	45	49	47	32	46	42	46	41	41	52	56	55	47	51	56	60	55	45	44	49	46	51	58	52	52	57	47	42	....	48.1
Garrison	Maximum	74	74	72	73	61	68	59	48	56	68	68	75	81	75	69	80	82	74	74	65	79	73	74	70	75	76	75	65	65	71	....	70.6
	Minimum	39	47	40	41	39	34	42	41	42	37	43	45	49	52	42	43	52	53	44	43	45	48	43	44	46	49	58	50	45	46	....	44.7
Grafton	Maximum	78	77	81	80	78	66	65	63	57	69	73	75	81	81	74	86	78	85	74	73	80	74	72	74	78	80	71	75	70	78	....	74.9
	Minimum	41	44	50	52	48	31	26	27	35	41	37	54	48	51	41	51	45	53	51	47	49	51	44	48	46	44	51	53	45	44	....	44.9
Grand Forks	Maximum	77	70	76	76	61	62	64	63	60	67	76	78	80	83	76	88	78	78	68	72	80	66	74	74	81	83	74	71	61	74	....	73.0
	Minimum	39	45	53	52	38	34	37	45	45	42	42	55	50	51	47	52	49	60	60	52	51	53	46	47	50	56	51	49	45	43	....	48.0
Granville	Maximum	78	78	77	76	61	70	65	52	55	55	67	77	74	77	74	78	75	80	75	65	70	80	77	75	80	76	80	..	..	..	....	[c]72.1
	Minimum	37	40	40	42	41	32	38	42	43	38	42	38	46	47	52	50	48	57	50	52	45	48	42	45	44	48	47	50	49	52	....	44.8
Hansboro	Maximum	78	75	80	80	70	66	63	60	55	65	70	70	78	65	70	85	85	85	76	70	80	70	76	80	80	85	66	73	70	80	....	73.5
	Minimum	35	40	40	40	38	29	34	40	40	32	30	47	40	30	30	46	40	38	50	44	45	40	35	40	40	40	44	45	35	42	....	39.0
Hettinger	Maximum	58	61	65	67	68	71	63	68	67	80	71	75	78	78	75	79	79	75	61	88	82	81	82	83	80	77	77	64	67	70	....	73.1
	Minimum	28	36	34	33	35	34	38	36	34	38	47	48	53	56	49	52	51	53	50	45	47	46	48	49	43	52	59	52	46	45	....	44.6
Hillsboro	Maximum	..	..	..	..	..	66	64	61	59	69	72	78	81	83	72	84	84	80	75	74	84	81	72	75	80	82	81	70	69	75	....	[e]74.8
	Minimum	..	..	..	..	..	34	40	45	44	40	42	52	51	51	47	51	54	62	60	50	49	53	47	54	48	47	51	55	47	45	....	[e]48.8
Howard	Maximum	76	70	69	55	62	69	59	78	57	65	74	70	74	72	70	70	76	67	63	63	72	63	66	67	72	76	77	66	72	74	....	68.8
	Minimum	46	44	47	42	38	34	40	38	40	34	45	46	48	45	45	46	50	48	46	38	44	46	40	41	44	44	49	49	44	44	....	43.5
Jamestown §§	Maximum	69	80	78	64	64	56	50	58	71	69	80	81	82	72	83	80	81	69	74	85	71	72	75	80	79	72	67	65	74	70	....	72.4
	Minimum	40	41	39	41	44	34	41	41	41	48	41	47	50	52	42	47	50	55	53	42	44	48	42	49	43	44	49	50	43	41	....	44.7
Lamoine	Maximum	74	71	68	65	70	68	52	47	55	58	67	77	77	76	77	81	80	76	64	70	80	78	65	70	74	70	71	74	63	71	....	69.6
	Minimum	40	44	41	40	40	40	42	41	43	37	40	40	53	54	60	41	51	54	52	56	41	44	42	45	48	48	56	48	43	43	....	45.6
Langdon §§	Maximum	77	74	79	78	56	63	61	58	52	63	70	67	74	75	71	74	75	80	63	65	74	60	69	69	72	78	60	60	61	74	....	68.4
	Minimum	42	43	45	45	42	31	34	44	43	37	38	50	49	53	38	52	47	53	52	46	45	46	40	39	44	44	55	49	40	41	....	44.2
Larimore §§	Maximum	72	78	76	55	62	62	55	55	61	73	73	76	78	72	83	76	76	65	70	78	60	68	70	75	78	70	68	63	73	70	....	69.7
	Minimum	45	47	50	55	50	35	36	42	45	42	43	53	50	52	46	52	53	56	56	48	50	60	48	50	51	50	58	55	49	47	....	49.1
Linton	Maximum	78	78	77	80	70	62	52	56	62	70	71	80	84	86	76	82	84	78	70	74	87	86	65	74	72	78	81	74	69	75	....	74.4
	Minimum	35	49	45	40	45	39	45	43	45	35	43	46	46	48	49	56	57	58	50	44	43	56	48	53	49	50	57	54	41	39	....	46.9
Lisbon §§	Maximum	72	74	79	74	63	67	55	52	68	69	72	82	83	88	74	86	84	81	74	77	86	88	74	81	80	76	76	75	65	74	....	75.0
	Minimum	40	38	41	51	41	29	45	45	46	37	43	60	54	53	45	52	55	51	57	46	47	46	46	49	49	58	55	55	45	43	....	47.4
McKinney	Maximum	75	75	70	70	60	65	60	50	56	65	65	70	75	73	61	80	78	70	65	60	74	60	66	70	75	75	70	70	70	75	....	68.3
	Minimum	34	34	34	44	38	40	40	40	43	38	40	42	44	47	40	50	45	42	41	40	43	42	42	45	47	49	50	60	50	42	....	42.9
Maddock	Maximum	78	75	76	77	75	67	63	59	67	69	77	79	81	80	75	83	79	77	71	68	77	75	65	72	74	77	78	70	67	73	....	73.5
	Minimum	37	48	41	44	41	28	38	45	36	37	51	48	50	48	41	47	50	54	52	45	45	47	40	43	45	50	48	57	43	40	....	44.6
Melville	Maximum	78	74	77	75	68	58	55	51	55	65	68	75	78	82	64	80	78	78	72	68	81	75	65	72	..	78	68	67	65	72	....	[a]70.4
	Minimum	47	48	50	47	32	45	40	52	41	39	42	50	40	54	48	50	51	53	54	46	45	53	43	46	..	47	52	52	44	44	....	[a]46.4
Minot §§	Maximum	77	55	75	74	63	70	57	48	53	68	70	75	78	78	71	81	79	75	60	70	83	68	70	72	78	80	72	70	70	72	....	70.4
	Minimum	36	30	39	45	42	31	43	42	43	39	38	43	48	51	42	54	51	50	53	47	46	48	40	45	46	50	52	50	48	45	....	44.7
Mott	Maximum	76	78	80	86	82	79	75	70	73	75	76	78	87	84	76	80	77	77	69	76	82	87	85	80	73	77	78	70	76	82	....	78.1
	Minimum	45	48	52	55	57	51	48	43	44	50	53	58	55	56	50	55	52	54	48	51	56	62	60	57	50	53	48	45	48	51	....	51.8
Napoleon §§	Maximum	78	76	78	75	63	63	52	49	58	66	66	77	80	84	70	83	80	75	66	70	83	72	70	73	74	75	75	65	65	70	....	71.0
	Minimum	42	44	43	41	42	38	42	40	43	37	40	45	50	55	45	50	53	54	50	43	45	50	42	47	43	44	51	55	43	40	....	45.2
New Salem	Maximum	75	75	70	77	73	64	61	55	61	70	67	79	80	81	75	72	77	78	75	77	82	79	65	68	70	75	84	68	77	74	....	72.8
	Minimum	41	49	47	40	41	40	41	40	40	39	40	62	51	54	54	54	54	48	46	44	53	45	44	46	50	44	58	58	52	44	....	47.3
Pembina §§	Maximum	79	74	81	80	68	64	67	64	54	64	76	75	80	76	75	82	79	84	69	71	80	79	73	73	75	79	67	74	68	75	....	73.5
	Minimum	40	36	50	55	48	34	30	40	45	42	38	50	50	55	55	50	50	49	54	50	50	50	45	40	48	46	51	51	40	40	....	46.1
Steele	Maximum	75	72	70	72	70	70	56	47	57	68	60	74	79	80	74	79	75	76	60	70	70	62	70	66	75	76	74	68	64	70	....	69.3
	Minimum	41	44	43	46	44	42	34	41	40	39	41	47	57	55	56	51	55	56	50	44	42	55	45	50	42	46	54	57	44	42	....	46.8
Towner	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Valley City	Maximum	79	79	78	76	67	64	56	60	59	64	69	77	78	82	70	81	81	78	70	72	81	69	70	74	78	82	67	66	63	71	....	72.0
	Minimum	41	40	51	54	47	32	35	45	44	40	46	53	55	54	46	57	57	65	60	47	47	48	45	46	48	48	54	53	46	47	....	48.4
Wahpeton	Maximum	77	75	78	80	78	63	63	59	63	70	74	80	83	85	83	84	81	79	75	77	80	81	74	73	79	78	75	74	66	74	....	75.4
	Minimum	42	42	43	55	54	34	45	45	44	40	36	55	55	57	50	57	53	65	60	49	48	44	48	48	49	51	56	55	47	42	....	49.5
Walhalla	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Westhope	Maximum	80	78	74	73	65	70	70	68	65	67	69	74	78	77	76	74	75	76	68	69	68	60	64	72	77	80	62	74	76	72	....	71.7
	Minimum	38	40	41	40	41	42	40	42	41	40	40	47	43	45	48	46	56	52	52	46	48	47	49	51	48	47	52	50	48	49	....	45.8
Williston	Maximum	72	72	70	64	63	69	50	50	57	69	76	72	77	73	74	79	79	70	62	65	77	63	69	70	76	78	75	67	68	75	....	69.4
	Minimum	51	49	53	44	42	40	43	43	42	41	51	47	51	52	51	50	56	52	47	45	51	49	44	50	52	57	53	52	51	50	....	48.6
Moorhead, Minn	Maximum	78	73	77	77	67	63	59	58	60	70	70	77	81	84	71	83	79	77	73	74	83	70	70	74	78	78	65	67	61	72	....	72.3
	Minimum	44	47	46	56	42	35	45	46	45	41	49	54	57	54	50	56	56	65	56	49	49	53	48	53	49	53	55	55	47	47	....	50.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXIII. BISMARCK, N. D., JULY, 1924. No. 7

GENERAL SUMMARY.

Weather favorable for farm work and for crops generally prevailed in all parts of the State throughout the month. The month opened with moderate temperature, abundant sunshine and only light precipitation, a condition that prevailed until the 15th, except for general showers on the 8th. From the 16th to the close of the month showers were general, there was considerable cloudiness, and the temperature was below the normal. The mean temperature for the State was, with but two exceptions, the lowest of record, the two exceptions being in 1904 and 1911.

At the close of the month all crops were excellent. Winter rye and barley harvest was well under way, and spring wheat was practically headed in all sections, with but few scattered reports of black stem rust. Corn and flax, which showed a greatly increased acreage, were well advanced, considering the cool weather. Pastures and ranges were good to excellent generally, although a few sections needed rain.

TEMPERATURE.

The mean temperature for the State was 65.5°, or 2.0° below the normal, and 5.7° lower than the mean for July, 1923. The highest mean reported was 68.6° at Linton, Emmons County; the lowest was 61.9° at McKinney, Renville County. The highest temperature reported was 99° at Beach, Golden Valley County, on the 28th; the lowest was 32° at Hansboro, Towner County, on the 13th and 17th. The greatest monthly range of temperature was 59° at Willow City, Bottineau County; the least was 41° at Foxholm, Ward County. The greatest daily range was 53° at Hansboro, Towner County, on the 13th.

PRECIPITATION.

The average precipitation for the State was 1.95 inches, or 0.66 inch below the normal, and 1.19 inches less than the average for July, 1923. The greatest monthly amount reported was 3.97 inches at Stanton, Mercer County; the least was 0.57 inch at McHenry, Foster County. The greatest amount recorded in any 24 consecutive hours was 2.33 inches at Willow City, Bottineau County, on the 19th. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS.

Auroras were observed at McLeod on the 23d, and at Epping on the 26th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	29.97	30.37	2	29.58	20	57	6,343	8.5	34	se.	20
Devils Lake	29.95	30.33	2	29.52	21	44	6,510	8.8	32	nw.	27
Ellendale	29.99	30.39	2	29.52	21	56	9,387	12.6	48	se.	18
Grand Forks	29.92	30.35	2	29.56	21	90	....	......	35	sw.	21
Williston	29.91	30.31	1	29.51	28	48	5,174	7.0	37	e.	16
Moorhead, Minn	29.95	30.35	2	29.48	21	58	5,484	7.4	23	nw.	12†
Av'ges and extremes	29.95	30.39	2	29.48	21	.....	....	8.9	48	se.	18

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	379.0	479.2	79	+ 8	76	46	54	25	15
Devils Lake	212.3	483.1	44	−24	80	48	51	30	14
Ellendale	413.0	475.2	87	......	80	44	....	29	15
Grand Forks	......	......	.....	......	78	.....	53	.....	....
Williston	372.4	483.1	77	+ 9	77	50	51	29	26
Moorhead, Minn	407.0	479.2	85	+14	78	52	53	34	4
Averages and extremes	356.7	480.0	74	......	78	48	52	25	15

† And other dates.

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COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.
1923	71.2	+3.7	103	35	3.14	+0.53	8	16	11	4	se.
1924	65.5	−2.0	99	32	1.95	−0,66	6	18	9	4	nw.

Climatological Data for July, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	63.8	−4.9	90	29	35	4	45	3.06	+0.05	1.00	0	6	22	7	2	sw.	E. T. Carley.
Amidon	Slope		11	65.2		95	28	42	1	36	1.94		0.69	0	8	17	14	0	w.	Charles Eastgate.
Arnegard	McKenzie		10	64.4		95	15	45	1†	41	1.25		0.42	0	8	21	10	0	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	62.6	−5.8	88	28	38	11	40	1.31	−1.35	0.71	0	4	26	4	1	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	67.6	+0.3	99	28	41	24	45	1.09	−0.71	0.40	0	6					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	66.4	−2.5	92	15	41	13	42	1.19	−0.78	0.51	0	7	22	8	1	se.	C. L. Hall.
Bismarck	Burleigh	1,674	50	67.5	−2.3	91	15	47	13	38	1.40	−0.74	0.59	0	8	17	9	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	65.3	−0.5	91	3†	41	13	43	2.52	+0.24	0.88	0	9	17	6	8	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	64.2	−1.6	90	25	41	1	37	0.94	−1.20	0.33	0	8	24	3	4		G. H. Phelps.
Bowman	Bowman	2,961	11	64.8		90	15	40	12	37	2.01		0.90	0	7	23	6	2	se.	R. Love, Jr.
Cando	Towner	1,488	24	66.0^{d}	−0.1	88^{d}	11	41^{d}	14	45^{d}	2.55	+0.02	1.13	0	7	11	15	5	nw.	A. J. Swanson.
Carson	Grant	2,500	13	65.4	−2.7	90	15†	42	1	40	1.64	−0.30	0.65	0	5	20	9	2	se.	J. W. Evens.
Cooperstown	Griggs	1,428	19								1.90	−0.83	1.50	0	3	26	2	3	nw.	S. Friswold.
Crosby	Divide	1,954	18	65.4	−0.5	93	15	46	13†	42	1.13	−0.85	0.38	0	8	8	16	7	sw.	John Jensen.
Devils Lake	Ramsey	1,478	28	66.1	−2.0	89	15	39	13	34	1.31	−2.47	0.40	0	10	16	12	3	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	33	64.3	−3.7	88	15†	40	1	38	2.69	+0.37	1.36	0	8	18	8	5	se.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	65.4	−0.4	95	28	42	13	43	3.67	+1.04	1.90	0	6	11	17	3	se.	H. Feldner.
Dunn Center	Dunn	2,191	26	65.1	−2.9	92	10	43	13†	43	1.21	−0.84	0.48	0	6	21	7	3	se.	W. H. Moede.
Dunseith	Rolette	1,682	29					39	2		3.39	+1.05	1.37	0	8	14	12	5	w.	J. G. Lamont.
Eckman	Bottineau	1,500	20								2.02	−0.42	1.21	0	4	2	23	6	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	24	67.0	−1.5	93	10†	38	13	41	0.91	−1.89	0.45	0	3	19	9	3	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	66.7	−4.0	93	29	43	17	44	1.53	−1.37	0.96	0	5	16	11	4	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	67.2		97	15	40	4	47	2.81	+0.63	1.10	0	6	15	16	0	nw.	H. S. Solenberger.
Epping	Williams	2,224	17	62.6		87	15	43	23	35	1.84	−0.08	0.97	0	9	23	8	0	nw.	A. O. Wang.
Fessenden	Wells	1,610	13	67.4	+0.3	96	15	40	13	42	0.61	−1.86	0.35	0	5	20	10	1	se.	T. D. Monsen.
Finley	Steele	1,461	1	65.7		88	15	43	13†	32	1.52		0.50	0	10	23	6	2	nw.	G. J. Mustad.
Forman	Sargent	1,249	31								1.67	−1.36	0.80	0	5	19	8	4	sw.	O. Enger.
Foxholm	Ward	1,657	4	64.6		87	15	46	13†	34	1.33		0.63	0	3	9	17	5	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7								0.92		0.33	0	4					Verne King.
Fullerton	Dickey	1,439	27	66.7	−1.7	95	29	41	13	46	1.47	−1.85	0.65	0	5	27	4	0	nw.	F. O. Alin.
Garrison	McLean	1,901	30	64.7	−3.4	87	10†	42	13	35	2.61	+0.51	0.90	0	7	19	8	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	65.6	−1.9	89	7	39	13	39	3.23	+0.75	1.75	0	10	23	5	3	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	64.0	−3.4	88	5	41	17	39	1.86	−0.89	0.51	0	7	21	5	5	s.	U. S. Weather Bureau.
Granville	McHenry	1,504	18	64.7^{g}	−2.4	90^{n}		40	14	37^{n}	2.35	+0.28	0.91	0	7	9	19	3	se.	W. A. Christianson.
Hannah	Cavalier	1,568	31								1.97	−0.49	1.25	0	7					J. Moffatt.
Hansboro	Towner	1,597	17	62.1	−3.3	90	7†	32	13†	53	2.79	+0.81	1.10	0	8	7	19	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	18	65.8	−3.7	91	27	40	1	41	2.15	−0.64	0.86	0	6	21	4	6	se.	U. J. Downey.
Hillsboro	Traill	901	19	67.4^{a}	−2.1	91^{a}	15	42^{a}	13	38^{a}	2.11	−0.52	1.03	0	8	18	12	1	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	63.2	−2.3	89	10	40	12	47	2.89	+1.29	1.94	0	8	14	13	4	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	64.6	−3.9	92	14	38	13	51	2.19	−0.56	1.10	0	5	23	1	7	w.	S. Calvelage.
Lamoine	Kidder	1,936	20	64.7^{c}	−1.2	90^{d}	15	44^{c}	2	39^{d}	0.68	−1.87	0.52	0	2	19	10	2	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	29	63.1	−1.4	87	6	37	13	42	2.41	−0.15	0.50	0	13	21	5	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	65.6	−1.1	90	26	42	17	40	1.77	−1.22	0.70	0	10	19	0	12	s.	Reuben Gray.
Linton	Emmons	1,711	7	68.6		98	15	40	2	52	3.66		1.55	0	5	20	4	7	se.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	67.8	−0.4	97	28	43	13	48	0.83	−2.70	0.45	0	6	18	9	4	nw.	W. S. Adams.
McClusky	Sheridan	1,943	7	65.8		89	15	44	2†	42	1.15		0.58	0	5	21	9	1	se.	Edw. Tapley.
McHenry	Foster	1,509	14	65.2	−2.4	88	15	39	13	42	0.57	−2.62	0.20	0	4	29	0	2	s.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	61.9^{b}	−4.1	88^{b}	26	40^{b}	11†	40^{b}	2.26	+0.20	1.00	0	6	16	2	13	nw.	N. P. Swenson.
McLeod	Ransom	1,075	13	66.5	−3.7	94	27	45	2†	38	2.31	−1.12	1.31	0	5	27	2	2	se.	J. G. Carlson.
Maddock	Benson	1,604	9	65.2		91	15	35	13	46	1.68		0.78	0	7	8	20	3	nw.	A. T. Felland.
Mandan	Morton	1,644	11	66.9		92	28	46	13	41	2.07		0.67	0	10	17	11	3	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	65.8	−1.1	88	28	40	13	40	1.48	−0.82	1.10	0	6	16	11	4	nw.	P. B. Anderson.
Marmarth	Slope	2,714	16	66.4^{a}	−1.4	92^{a}	28	43^{b}	1	36^{i}	2.48	+0.82	0.90	0	7	17	6	8		S. P. Grane.
Mayville	Traill	975	29	65.5	−3.9	91	15	38	13	41	2.48	−0.49	0.95	0	5	21	9	1	sw.	R. Peterson.
Melville	Foster	1,590	27	65.6^{a}	−2.3	90^{a}	15	40^{a}	13†	45^{a}	1.05	−1.69	0.55	0	3	18	12	1	sw.	J. P. Kidder.
Minot	Ward	1,557	29	66.7	−1.4	92	15	43	13	39	1.69	−0.16	0.70	0	7	20	10	1	e.	W. I. Faris.
Minto	Walsh	820	32	65.3	−1.8	90	26	37	13†	40	2.33	−0.43	0.65	0	11	15	14	2	ne.	C. M. Evans.
Mott	Hettinger	2,424	18	65.8	−3.3	91	15	41	24	40	1.58	−0.79	0.54	0	4	16	9	6	se.	O. H. Opland.
Napoleon	Logan	1,955	33	64.1	−4.2	93	10	36	13	51	2.46	−0.02	1.70	0	4	24	6	1	s.	C. J. Hoof.
New England	Hettinger	2,400	31	66.4	−2.1	93	10†	42	1	46	2.45	+0.14	1.33	0	4	16	15	0	se.	W. S. Jones.
New Salem	Morton	2,163	21	67.4	−1.9	91	15	44	2	38	2.06	−0.04	1.08	0	6	20	10	1	se.	J. Christiansen.
Park River	Walsh	998	21	66.0	−1.8	87	6†	40	13	35	2.30	−0.08	1.22	0	6	16	8	7	nw.	C. B. Wright.
Parshall	Mountrail		10								2.32		1.72	0	2					J. A. Johnson.
Pembina	Pembina	789	51	64.0	−3.7	90	6†	36	1†	50	3.60	+1.22	1.50	0	9	19	6	6	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	16																	S. C. Shanks.
Power	Richland	1,020	31								1.15	−2.23	0.38	0	7					J. A. Power.
Powers Lake	Burke	2,205	11								0.83	−0.95	0.35	0	6	22	7	2	se.	Geo. B. Gee.
Richardton	Stark	2,467	9	66.0		94	5	41	31	45	2.54		0.86	0	7	15	14	2	se.	Geo. Keim.
Sharon	Steele	1,516									1.29		0.80	0	5	15	8	8	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	1								3.97		1.84	0	4	21	9	1	se.	J. H. Giffey.
Steele	Kidder	1,857	29	65.6	−3.8	94	10	41	13	48	1.19	−1.69	0.76	0	4	26	4	1	se.	H. S. Wood.
Towner	McHenry	1,482	23	66.0	−1.1	93	10†	35	13	45	1.78	−0.45	0.70	0	6	22	7	2	sw.	B. Bagley.
Turtle Lake	McLean	1,899	10	65.5		88	10†	44	13	38	2.23		0.79	0	7	14	8	9	sw.	A. T. Anderson.
Valley City	Barnes	1,245	20	65.8	−2.2	90	15	40	13	34	1.25	−1.59	0.45	0	10	8	22	1	nw.	H. Twito.
Wahpeton	Richland	962	31	68.4	−0.9	94	29	43	13	40	2.49	−1.31	1.00	0	6	28	0	3	nw.	C. G. Luick.
Walhalla	Pembina	966	21																	T. R. Johnson.
Washburn	McLean	1,731	24								2.19	−0.11	1.62	0	5					Karl Klein.
Westhope	Bottineau	1,508	19	65.6	−0.5	89	10	42	2†	43	2.09	+0.14	0.94	0	5	22	7	2	n.	W. A. Meddaugh.
Williston	Williams	1,878	46	66.9	−2.0	94	10	47	13	34	2.18	+0.15	1.09	0	11	17	10	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	64.2^{g}	−1.0	92^{g}	10	33^{g}	13	45^{g}	2.88	+0.79	2.33	0	4					M. A. Ostby.
Moorhead, Minn.	Clay	935	44	66.6	−1.5	90	29	45	13	35	1.25	−2.49	0.47	0	9	21	8	2	s.	U. S. Weather Bureau.
Averages				65.5	−2.0	99	28	32	13†	53	1.95	−0.66	2.33	0	6	18	9	4	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record. but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for July, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red									1.00									T.	.22	.02	1.00						.02		.80	T.		3.06
Amidon	Lit. Missouri						T.	.69	.13					.10		T.			.34	.10	.54		T.						.02	.02			1.94
Arnegard	Missouri						.13		.42			T.							.17	.05	.18	.05	.08	T.					.17				1.25
Ashley	Missouri									.20								.71		.24		.16											1.31
Beach	Lit. Missouri								.29	.16							T.		.40		.07	.12		.05									1.09
Berthold Agency	Missouri						T.	T.	.30								.01		.07			.25	.51				.02		T.	.03			1.19
Bismarck ***	Missouri								.11								.10	.05	.29	.06	.53	.09	.17										1.40
Bottineau‖‖	Mouse								.38	.03		.20								.71	.07	.88	.05	T.				.15	.05	T.			2.52
Bowbells ‖‖	Mouse							.03	.14								.08			.33		.07	.03	.10					.16				0.94
Bowman	Grand								.90	.03								.10	.55		.33									.05	.05		2.01
Cando	Devils Lake								.34			T.				T.				.42		1.13		.16			T.	.24	.17	.09			2.55
Carson	Heart								.34									.03	.65		.36	.26											1.64
Cooperstown	Sheyenne																		.30			1.50						.10					1.90
Crosby	Mouse							.12	.12								T.		.23	.38	.05	.04	.15	T.				.04					1.13
Devils Lake ***	Devils Lake								.14			.02								.26	.06	.40	.09	.07	.10			.03	.14	T.			1.31
Dickinson‖‖	Heart							.03	1.36	.14								T.		.20	.06	.54		.32	T.			.04				T.	2.69
Donnybrook	Mouse						T.	.62											.60	1.90	.36	.07	T.					.12					3.67
Dunn Center ‖‖	Knife							T.	.18									T.		.22		.48	.06	.07				T.		.20			1.21
Dunseith	Mouse							.03	.57											.62		1.37			.25			.23	.05	.27			3.39
Eckman	Mouse								.26											1.21		T.	.19					.36					2.02
Edgeley	James																		.45		.15	.31											0.91
Ellendale***	James								.03	.07		T.						T.	.47	T.	.90	.06		T.		T.		T.					1.53
Energy	Missouri																.01		T.	1.09		1.10	.05	.05			.51			T			2.81
Epping	Missouri						.01	19	.97										.22	.07	.01	.15	.01					.21	T.				1.84
Fessenden‖‖	James								.04											.35		.12		.04		.06							0.61
Finley	Red								.45			T.						T.	.02	.25		.50		.14		.02	.03	.01	T.	.08	.02	T	1.52
Forman	Sheyenne								.42										.07	.22	.16	.80											1.67
Foxholm	Mouse						T.	T.	.31			T.					T		T.	.39	T.	.63	T.					T.	T.	T.			1.33
Fryburg	Heart								.22								T.		.25		.33	.12		T.			T.	T.	T.	T.	T.		0.92
Fullerton	James								.06	.16							T.		.65		.35	.25						T.					1.47
Garrison	Missouri						T.		.52										.90	.30		.62	.12	.07					.08				2.61
Grafton	Red								.55			.06								.09		1.75		.35			.08	.03	.12	.18	.02		3.23
Grand Forks ***	Red								.42	T.		.29				.02			T.	.03		.48				T.	.51		.11		T.		1.86
Granville	Mouse							.76				T.					T.		.91		T.	.46	T.	.03			.12	.04	.03	T.			2.35
Hannah	Pembina								.16			.08		T.					1.25		.05	.12	T.						.23		.08		1.97
Hansboro	Devils Lake								.45			.05								.75		1.10						.10	.03	.21	.10		2.79
Hettinger	Grand								.86					T.				.22		.50	.30	.25									.02		2.15
Hillsboro	Red	.06							.51	.06									.15	.16		1.03							T.	.10	.04		2.11
Howard	Missouri								.52								T.	T.	1.94	.02	.09	.12	T.				.18		.02	T.		T.	2.89
Jamestown‖‖	James																		.26	.14	.41	1.10								.28			2.19
Lamoine	Missouri								.16			T.									.52		T.						T.	T.			0.68
Langdon‖‖	Pembina	.07							.20	.47		.06				.19				.06		.50	.15		.07	.05	T.	.15		.34	.10		2.41
Larimore	Red	.10								.25			.20						.10	.05		.70					.04		.02	.25	.06		1.77
Linton	Missouri									T.								.05	1.55	.50	.34	1.22											3.66
Lisbon ‖‖	Sheyenne	.02							T.	.45									.04	.18	.04	.10						T.		T.			0.83
McClusky	Missouri								.10			T.					T.	T.		.28		.58		.15					.04				1.15
McHenry	James							.15												.20			T.		.07				.15				0.57
McKinney	Mouse							1.00												.65		.40	.05					.10	.06	T.			2.26
McLeod	Sheyenne						.76									.11			1.31							.07		.06					2.31
Maddock	Sheyenne								.02			.08							T.	.59		.78	T.	.07		.11		.03					1.68
Mandan‖‖	Missouri								.10									.12	.14	.45	.02	.67	.10	.35				.11				.01	2.07
Manfred	James								.05											1.10	.20	.08		.03		T.		.02					1.48
Marmarth	Lit. Missouri							.76	.05					T					.90	.12	.41		T.	.06					.18				2.48
Mayville	Red								.28	.60												.95								.44	.21		2.48
Melville	James								T.			T.							T.	.55		.10		T.					T.	.40			1.05
Minot‖‖	Mouse								.32											.57		.70	.02	.02					.05	.01			1.69
Minto	Red								.54			T.				.13	.01			.08		.65		.23			.04	.06	.05	.47	.07		2.33
Mott	Cannon Ball								.53								.01		T.	.54	.50												1.58
Napoleon ‖‖	Missouri																		.38	.20	.18	1.70											2.46
New England	Cannon Ball								.37										1.33		.70		.05										2.45
New Salem	Heart						T.	.06	T.									.03		.44		.38	1.08	.07					T.				2.06
Park River	Red								.17							.15				T.		1.22		.29				.18		.29			2.30
Parshall	Missouri																				1.72	.60											2.32
Pembina‖‖	Red									.30			T.			.25				.10		.75	.20	.10	.20	T.				1.50	.20		3.60
Pettibone	James																																
Power	Sheyenne		.01						.38								.07				.32							.29	.03		.02		1.15
Powers Lake	Missouri							.03	.01		.04								.35		.25										.15		0.83
Richardton	Heart							.37		.07								.22	.09	.86	.64		.29										2.54
Sharon	Red								.29			T.							T.	T.		.80		.02			T.	T.	T.	.12	.06		1.29
Stanton	Missouri								.45										1.48		1.84		.20						T.				3.97
Steele	Missouri								T.										.15	.76	.18	T.		.10				T.	T.	T.		T.	1.19
Towner	Mouse								.14										.70		.70	.02	.02	T.				.20	T.				1.78
Turtle Lake	Missouri						T.		.72									.05	.07	.33		.79		.20					.07	T.			2.23
Valley City	Sheyenne								.40										.08	.04	.01	.45		.01		.03		.02	.08	.13	T.		1.25
Wahpeton	Red								.74										.07	.16	.02	.50				1.00							2.49
Walhalla	Pembina																																
Washburn	Missouri																	.12	1.62		.20		.17				.08						2.19
Westhope	Mouse							.40												.94		.57	.06						.12				2.09
Williston ***	Missouri						.06	1.07	.03									.10	.24	.05	.01	.51	.01				.09	T.	.01	T.	T.	T.	2.18
Willow City	Mouse							.28			T.									2.33								.25	.02				2.88
Moorhead, Minn ***	Red								.46	.01								T.	.09	.01	T.	.30	.04	.02					.27	.05	T.		1.25

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight * Precipitation included in the next following measurement T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	68	74	76	80	85	86	84	60	70	80	69	79	76	81	89	75	67	66	71	74	72	87	80	70	74	89	81	87	90	74	78	77.2
	Minimum ...	44	44	50	35	42	52	54	60	46	54	55	48	41	45	53	53	42	47	54	50	58	52	56	52	53	46	56	51	61	57	48	50.3
Arnegard	Maximum...	75	74	78	80	83	69	65	70	74	87	78	77	76	84	95	72	67	68	70	77	73	69	66	78	83	89	82	75	68	82	82	76.3
	Minimum ...	45	47	52	54	55	65	57	53	48	55	56	50	45	48	54	55	55	53	55	53	55	52	47	48	48	54	60	58	52	50	52	52.6
Ashley	Maximum...	64	66	71	71	71	80	75	75	73	78	78	71	67	82	82	68	68	71	73	72	75	82	79	75	70	76	76	88	77	76	77	74.4
	Minimum ...	43	39	52	50	51	55	55	62	53	47	38	45	40	51	54	42	54	57	53	50	55	54	55	52	53	49	42	55	58	57	52	50.7
Beach	Maximum...	74	83	84	89	84	92	70	76	75	83	93	70	78	90	97	83	74	82	82	72	80	82	74	81	84	92	92	99	86	78	85	82.7
	Minimum ...	44	51	60	62	53	64	58	50	51	45	51	46	46	45	53	56	54	51	52	51	51	51	49	41	49	55	53	68	62	51	53	52.5
Berthold Agency	Maximum...	77	75	75	83	85	78	83	76	77	90	85	72	74	87	92	84	71	76	80	83	81	80	71	80	82	90	85	87	76	72	82	80.3
	Minimum ...	45	52	52	51	54	64	55	61	48	54	59	44	41	47	50	52	52	54	57	52	52	49	51	48	47	56	53	61	58	54	51	52.4
Bismarck	Maximum...	75	74	77	82	86	80	84	76	77	90	78	73	73	85	91	73	66	73	80	81	80	84	71	80	78	89	81	91	82	76	79	79.5
	Minimum ...	50	51	54	54	59	62	63	63	54	55	58	52	47	53	53	55	49	58	55	58	57	52	57	52	55	56	61	59	61	55	54	55.5
Bottineau §§	Maximum...	79	80	91	85	87	86	87	72	75	91	77	69	75	86	88	77	75	84	78	83	78	73	73	78	67	88	76	80	66	70	74	79.0
	Minimum ...	51	46	48	50	57	59	59	62	47	50	56	46	41	43	50	51	45	52	56	53	56	49	52	48	51	55	53	56	53	51	53	51.6
Bowbells §§	Maximum...	71	75	77	85	74	71	74	75	76	88	80	70	74	80	87	70	72	78	79	81	80	69	62	76	90	89	80	77	67	76	72	76.6
	Minimum ...	41	46	52	50	55	53	52	56	49	51	55	50	49	50	52	58	48	52	53	52	51	49	51	47	54	60	57	54	55	51	54	51.8
Bowman	Maximum...	72	73	78	80	80	82	78	72	76	86	79	76	68	81	90	81	71	70	74	74	74	83	64	76	80	88	88	89	80	75	81	78.0
	Minimum ...	43	46	48	50	53	62	55	58	47	50	54	40	49	47	53	59	52	50	51	53	52	48	51	45	54	52	52	60	55	56	52	51.5
Cando	Maximum...	76	76	78	..	82	87	87	85	75	..	88	76	..	86	86	78	72	76	77	83	77	81	73	78	78	86	..	84	76	72	75	[d]79.6
	Minimum ...	43	45	51	..	50	59	62	63	51	..	48	49	..	41	54	50	41	55	57	53	58	52	54	51	53	55	..	56	60	53	53	[d]52.5
Carson	Maximum...	76	74	75	80	84	80	80	75	78	90	80	76	78	85	90	78	75	72	80	80	77	84	70	76	80	85	90	85	82	80	82	79.9
	Minimum ...	42	44	49	48	52	59	55	54	48	50	68	45	43	48	52	52	55	54	50	52	50	47	54	44	45	50	54	56	54	52	50	50.8
Crosby	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Devils Lake	Maximum...	72	75	77	82	85	87	87	75	76	87	79	69	71	87	89	72	71	76	77	84	77	84	73	77	73	88	75	86	72	72	75	78.4
	Minimum ...	44	48	56	54	56	61	63	57	54	55	61	45	39	53	58	50	42	57	57	57	58	56	56	52	51	58	58	57	60	52	50	51.0
Dickinson §§	Maximum...	74	72	77	79	80	84	80	72	75	87	76	74	70	83	88	73	64	69	76	76	75	80	65	75	77	86	80	88	78	70	79	76.8
	Minimum ...	40	46	49	50	50	64	52	58	48	54	59	46	45	47	50	53	51	54	54	53	53	49	54	46	47	53	53	59	62	55	52	51.8
Donnybrook	Maximum...	78	77	74	74	80	83	73	71	73	82	78	83	85	84	87	72	74	77	76	85	75	78	68	67	81	94	90	95	62	60	61	77.4
	Minimum ...	56	54	44	50	50	57	55	48	57	51	54	48	42	48	56	48	49	50	55	59	62	60	58	59	58	65	65	54	52	49	45	53.5
Dunn Center §§	Maximum...	73	76	80	83	85	79	78	74	76	92	78	74	72	85	90	75	69	74	78	83	83	78	71	79	81	90	80	90	76	71	81	79.2
	Minimum ...	44	50	49	51	52	60	52	60	46	52	59	44	43	43	47	53	50	51	54	50	53	48	50	46	47	49	56	60	56	56	51	51.0
Dunseith	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	79	75	86	85	85	80	71	72	.....
	Minimum ...	48	39	45	50	52	57	58	54	52	44	56	50	40	42	50	49	45	55	55	48	55	49	51	52	52	55	54	51	51	49	52	50.3
Edgeley	Maximum...	71	74	76	85	84	85	87	84	85	93	85	81	73	86	93	88	76	71	80	84	80	88	84	80	78	87	87	92	93	87	79	83.1
	Minimum ...	46	39	49	44	45	51	48	62	47	52	56	48	38	50	58	51	40	54	55	51	58	53	55	52	52	48	59	52	57	54	51	50.8
Ellendale	Maximum...	70	72	74	79	83	84	85	83	78	93	84	80	72	83	91	74	77	69	79	81	79	85	74	77	75	84	84	89	93	76	78	80.3
	Minimum ...	48	44	49	46	50	59	56	60	53	49	58	49	44	49	53	53	43	55	58	54	60	54	58	54	55	50	60	52	65	56	51	53.1
Fessenden §§	Maximum...	77	75	77	81	86	86	87	87	88	89	81	76	74	89	96	75	67	77	82	84	79	83	88	83	78	93	81	90	86	78	77	82.3
	Minimum ...	46	45	51	51	53	59	62	63	62	60	51	48	40	47	54	51	41	51	57	52	56	51	52	48	49	53	56	56	59	55	44	52.5
Foxholm	Maximum...	73	73	75	80	81	78	76	72	71	85	81	67	71	84	87	72	71	78	75	79	77	70	70	78	76	85	75	84	72	68	76	76.1
	Minimum ...	50	50	50	54	58	57	58	60	48	51	57	49	46	52	62	49	47	51	58	55	55	54	51	49	49	60	58	55	54	51	46	53.0
Fullerton	Maximum...	73	78	78	82	87	86	88	83	77	93	84	80	72	85	93	75	80	87	80	85	78	88	78	78	76	87	84	94	95	76	79	82.5
	Minimum ...	47	43	49	42	48	56	54	60	55	47	56	48	41	49	56	53	45	48	49	47	48	51	56	52	50	49	59	51	60	59	51	50.9
Garrison	Maximum...	76	72	76	80	83	79	81	73	74	87	75	69	72	84	87	74	68	78	76	79	76	75	70	77	76	86	74	85	76	72	79	77.1
	Minimum ...	46	47	49	51	54	60	56	60	49	52	59	48	42	50	55	50	48	54	56	54	52	51	52	49	48	57	56	59	56	53	49	52.3
Grafton	Maximum...	74	78	80	82	84	88	89	81	78	88	80	74	74	84	83	71	74	71	78	85	82	83	78	78	73	86	77	77	74	71	74	79.0
	Minimum ...	41	43	55	47	52	53	58	59	56	49	58	56	39	47	54	50	41	47	57	49	65	54	57	52	56	52	57	57	60	54	45	52.3
Grand Forks	Maximum...	71	78	78	78	88	86	86	68	75	84	74	63	68	83	81	66	70	65	77	84	72	82	73	76	72	84	74	84	78	70	79	76.4
	Minimum ...	43	43	52	46	52	58	59	57	56	45	52	43	42	51	51	50	41	58	58	50	61	60	58	52	49	46	58	52	60	51	45	51.6
Granville	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	90	80	74	80	77	82	78	74	76	77	80	87	77	65	85	73	78	[n]78.4
	Minimum ...	45	52	42	56	54	57	59	45	50	48	50	52	48	40	45	46	54	55	60	52	57	51	52	48	47	55	57	50	58	48	47	51.0
Hansboro	Maximum...	84	80	84	85	85	88	90	85	76	90	82	76	85	90	85	75	75	76	76	88	72	65	65	86	77	80	62	72	78	60	62	78.5
	Minimum ...	35	38	40	45	50	52	57	58	48	50	41	45	32	40	45	40	32	35	52	48	50	46	46	47	44	52	48	46	56	47	48	45.7
Hettinger	Maximum...	74	75	79	78	83	84	78	75	76	90	83	78	70	83	90	82	80	76	57	76	77	84	83	81	80	86	91	89	84	71	89	80.0
	Minimum ...	40	50	51	50	51	64	54	59	49	53	55	48	49	44	49	51	47	52	40	55	53	50	54	51	47	54	58	56	56	55	54	51.6
Hillsboro	Maximum...	72	77	78	81	85	86	87	84	78	..	84	78	73	84	91	86	74	72	80	84	81	84	83	84	78	88	86	85	86	81	75	[a]81.5
	Minimum ...	44	46	53	46	51	52	58	61	57	..	51	54	42	46	55	58	43	53	57	51	60	56	58	54	55	50	62	55	66	56	48	[a]53.3
Howard	Maximum...	74	73	76	77	85	85	73	76	74	89	70	72	86	88	88	72	76	76	75	69	76	70	72	76	78	86	76	79	79	76	75	77.3
	Minimum ...	46	50	59	54	57	60	52	54	54	42	50	40	50	50	50	50	50	49	53	51	45	45	45	46	46	45	45	44	42	48	48	49.0
Jamestown §§	Maximum...	75	76	80	85	85	86	82	75	91	81	75	71	85	92	73	72	74	80	84	80	89	74	76	78	90	89	90	86	73	86	78	81.0
	Minimum ...	44	42	48	43	47	51	50	56	51	40	52	43	38	41	50	48	39	58	54	55	66	46	59	45	41	40	49	47	51	50	41	47.9
Lamoine	Maximum...	71	..	..	..	..	81	83	71	74	86	76	68	83	82	90	81	63	74	77	83	77	84	70	75	77	87	79	87	82	72	78	[d]78.2
	Minimum ...	48	44	..	..	..	50	60	63	49	47	46	46	50	48	52	52	47	57	55	50	55	51	53	47	47	50	50	55	58	50	48	[c]51.2
Langdon§§	Maximum...	72	77	79	80	83	87	85	84	84	84	76	71	67	85	84	67	71	74	74	82	74	82	74	76	69	84	70	76	65	66	70	76.5
	Minimum ...	42	44	44	38	55	55	61	60	52	46	46	49	37	44	51	47	39	53	55	51	57	50	52	51	50	54	54	53	55	50	45	49.7
Larimore §§	Maximum...	70	75	76	79	81	86	86	75	75	84	75	70	70	83	85	85	72	69	75	85	75	86	86	81	74	90	84	81	75	72	75	78.6
	Minimum ...	43	46	55	50	54	55	54	62	57	51	61	55	45	50	56	46	42	55	56	56	62	46	56	52	52	50	54	50	61	54	48	52.7
Linton	Maximum...	77	78	80	85	89	86	90	81	82	97	94	84	80	92	98	92	73	74	82	83	81	87	85	80	80	86	86	90	80	79	81	81.3
	Minimum ...	42	40	52	52	57	59	59	65	52	46	60	44	44	46	46	58	45	56	56	55	55	52	57	49	54	48	59	58	59	56	55	52.8
Lisbon §§	Maximum...	74	78	80	83	87	86	88	83	76	91	83	78	72	85	96	75	80	72	00	88	80	92	82	82	77	86	90	97	95	77	86	83.5
	Minimum ...	48	46	49	45	52	56	52	60	51	46	60	45	43	47	53	57	46	55	54	56	58	51	58	50	51	44	50	49	63	58	59	52.0
McKinney	Maximum...	76	70	74	76	75	71	70	65	82	75	62	80	82	82	85	..	..	75	70	80	65	67	65	75	80	88	78	75	70	68	65	[b]74.0
	Minimum ...	42	45	43	45	50	50	50	50	51	57	40	45	42	50	56	..	..	40	45	45	56	55	50	50	55	60	55	56	53	55	52	[b]49.8
Maddock	Maximum...	72	73	76	82	85	86	78	85	76	88	80	70	73	86	91	89	70	75	76	82	81	82	76	78	77	87	87	86	81	71	75	79.8
	Minimum ...	41	41	48	47	49	55	58	62	50	42	54	51	35	45	52	50	42	45	56	50	58	53	56	50	47	55	56	53	59	51	53	50.5
Melville	Maximum...	71	72	75	..	81	85	86	80	77	87	80	75	70	85	90	82	68	71	77	81	77	86	77	78	76	88	86	86	84	73	75	[a]79.4
	Minimum ...	45	47	52	..	46	60	50	60	53	50	50	51	40	40	58	52	43	63	55	56	55	52	52	50	48	52	57	55	62	54	46	[a]51.8
Minot §§	Maximum...	80	72	81	85	87	80	83	75	75	91	77	73	76	88	92	75	74	81	78	85	80	75	73	80	81	91	80	85	73	73	79	79.9
	Minimum ...	48	49	49	55	58	60	58	60	50	52	59	55	43	50	55	53	49	52	59	54	56	51	52	49	53	52	56	57	59	53	52	53.5
Mott	Maximum...	80	79	78	82	77	80	87	78	80	88	78	78	72	87	91	73	70	67	76	81	76	83	70	81	78	83	82	88	81	88	89	80.0
	Minimum ...	52	48	48	50	52	53	56	50	55	62	52	50	42	53	58	44	46	48	56	56	52	50	44	41	48	53	56	58	55	52	56	51.5
Napoleon §§	Maximum...	70	72	75	79	84	83	85	75	76	93	80	77	75	84	92	73	70	73	78	84	78	83	71	76	75	83	80	90	89	75	78	79.2
	Minimum ...	41	37	39	47	52	56	57	58	50	42	56	43	36	43	52	53	39	53	54	48	53	50	53	47	48	47	53	53	56	54	50	49.0
New Salem	Maximum...	78	72	72	81	81	77	84	77	84	90	79	82	72	87	91	80	67	72	80	85	80	88	74	80	84	00	80	90	84	79	80	80.6
	Minimum ...	47	44	47	58	53	62	57	54	60	52	67	51	45	54	55	51	46	54	53	59	54	52	57	59	56	57	57	52	64	52	55	54.3
Pembina §§	Maximum...	77	70	82	84	84	90	90	88	76	87	78	62	77	87	82	77	71	75	76	86	74	81	77	76	73	85	78	75	70	70	73	78.4
	Minimum ...	36	45	46	49	52	40	60	62	45	52	55	55	36	46	52	49	36	41	56	50	55	50	57	52	51	52	55	52	55	52	42	49.6
Steele	Maximum...	72	72	76	82	84	84	84	79	74	94	78	79	76	86	92	78	80	72	77	82	79	85	78	77	77	84	85	89	90	74	80	80.6
	Minimum ...	45	43	55	50	54	58	60	56	50	46	56	45	41	46	50	48	46	52	55	50	55	50	49	47	48	50	55	56	58	52	47	50.7
Towner	Maximum...	75	78	80	78	76	80	89	84	77	93	90	75	77	89	93	88	74	70	67	75	70	68	72	79	78	90	82	79	80	75	78	79.3
	Minimum ...	50	50	46	56	51	56	53	58	50	48	60	48	35	48	58	52	50	54	50	56	52	50	56	53	52	60	60	58	62	52	50	52.7
Valley City	Maximum...	69	74	75	79	84	83	85	78	74	84	79	73	68	82	90	71	70	69	78	84	75	85	74	78	73	86	80	87	86	72	74	78.0
	Minimum ...	48	48	54	52	58	57	55	56	56	50	57	48	40	48	57	54	44	55	55	55	55	53	57	49	56	59	63	58	65	55	48	53.7
Wahpeton	Maximum...	72	77	78	81	83	85	85	84	76	88	88	88	77	82	91	90	77	73	79	86	86	88	86	79	77	87	86	87	91	89	78	83.1
	Minimum ...	46	46	50	48	52	56	57	61	57	50	60	48	43	45	50	60	60	56	58	57	56	52	62	52	55	48	60	54	68	50	51	53.8
Walhalla	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Westhope	Maximum...	82	76	79	85	82	85	73	83	77	89	69	79	80	87	88	86	84	82	77	84	79	69	71	80	79	87	76	82	68	72	78	79.7
	Minimum ...	47	42	45	49	56	58	60	57	58	49	49	49	42	50	45	48	49	52	59	52	57	50	50	49	48	58	52	56	54	52	52	51.4
Williston	Maximum...	76	77	80	83	85	87	69	71	76	94	75	69	74	85	93	72	74	79	78	76	78	67	69	78	83	89	78	82	71	69	82	78.0
	Minimum ...	48	55	56	58	61	67	58	54	51	60	56	53	47	55	59	58	56	56	56	56	57	55	54	51	49	59	57	64	56	54	54	55.8
Moorhead, Minn	Maximum...	70	75	75	79	82	85	85	73	76	86	82	76	69	83	90	71	73	68	79	83	75	83	76	77	72	85	78	85	90	72	73	78.3
	Minimum ...	47	48	51	50	53	58	60	61	58	51	60	52	45	48	56	55	46	57	58	58	62	55	60	54	54	50	63	58	65	57	51	54.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXIII. BISMARCK, N. D., AUGUST, 1924. No. 8

GENERAL SUMMARY.

The month opened with weather favorable for farm work and for crops. Rye harvest, which began during July, was nearly completed during the first decade. Some reports of black stem rust were received, chiefly affecting the late sown spring wheat. As harvesting of early sown spring wheat was well begun during the first days of the month, no great damage resulted from this cause. Rapid progress was made in threshing during the month, and at the close the greater portion of shocked small grain was threshed. A few reports of frost were received, and in some sections slight damage to corn and garden truck occurred. Haying was practically completed during the month, and while rain was needed in many sections for pastures and ranges, forage crops were good at the close of the month.

TEMPERATURE.

The mean temperature for the State was 63.8°, or 1.6° below the normal, and 0.8° higher than the mean for August, 1923. The highest mean reported was 68.4° at Linton, Emmons County; the lowest was 52.4° at Hansboro, Towner County. The highest temperature reported was 102° at Dickinson, Stark County, on the 28th; the lowest was 28° at Hansboro, Towner County, on the 16th. The greatest monthly range of temperature was 71° at Arnegard, McKenzie County; the least was 50° at Hansboro, Towner County. The greatest daily range was 54° at Dunn Center, Dunn County, on the 27th.

PRECIPITATION.

The average precipitation for the State was 1.65 inches, or 1.45 inches below the normal, and 0.25 inch less than the average for August, 1923. The greatest monthly amount reported was 3.96 inches at Larimore, Grand Forks County; the least was 0.07 inch at Richardton, Stark County. The greatest amount recorded in any 24 consecutive hours was 2.55 inches at Napoleon, Logan County, on the 21st. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS.

Auroras were observed at Devils Lake, Foxholm, Sharon and Towner on the 29th, and at Epping and Napoleon on the 30th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
								Velocity, in miles per hour.			
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Average.	Highest.*	Direction.	Date.
Bismarck	29.92	30.24	13	29.49	29	57	6,119	8.2	37	nw.	30
Devils Lake	29.89	30.22	12	29.46	....	44	6,343	8.5	35	nw.	30
Ellendale	29.92	30.27	13	29.53	30	56	9,163	12.3	47	se.	2
Grand Forks	29.88	30.23	13	29.54	30	90	....	......	27	ne.	5
Williston	29.88	30.20	10	29.43	29	48	5,766	7.8	64	nw.	1
Moorhead, Minn	29.88	30.24	13	29.48	30	58	5,736	7.7	28	e.	19
Av'ges and extremes	29.90	30.27	13	29.43	29	.....	....	8.9	64	nw.	1

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
					Average per cent.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	281.5	439.4	64	−1	79	46	48	26	6
Devils Lake	299.0	442.0	68	+3	87	48	55	23	25
Ellendale	319.2	437.4	73	......	84	46	....	19	30
Grand Forks	....	....	......	......	83	......	56	......	....
Williston	322.6	442.0	73	+4	81	47	46	20	6†
Moorhead, Minn	....	....	......	......	83	49	50	22	30
Averages and extremes	305.6	440.2	70	+2	83	47	51	19	30

† And other dates.

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COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	−0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918...	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919...	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920...	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921...	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922...	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.
1923...	63.0	−2.4	97	28	1.90	−0.38	8	14	12	5	nw.
1924...	63.8	−1.6	102	28	1.65	−1.45	6	17	9	5	nw.

Climatological Data for August, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	66.0	−0.3	97	28	41	16	48	2.05	−0.67	1.00	0	5	17	14	0	se.	E. T. Carley.
Amidon	Slope	....	11	64.8	....	101	28	34	31	51	0.92	....	0.29	0	5	20	10	1	w.	Charles Eastgate.
Arnegard	McKenzie	....	10	64.0	....	100	27†	29	30	50	0.54	....	0.26	0	6	18	10	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	63.2	−2.7	95	28	38	13	33	1.45	−0.75	0.46	0	6	25	2	4	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	64.0	−3.7	99	29	36	6	53	0.19	−1.58	0.07	0	3	18	6	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	65.9	−1.4	96	28	44	31	40	1.91	−0.07	0.86	0	5	13	6	12	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	61.4	−2.2	91^{a}	27	38	9†	44^{a}	1.81	−0.40	0.56	0	10	16	4	11	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	61.6	−2.3	92	24	39	16	45	1.72	−0.48	0.89	0	5	23	2	6	....	G. H. Phelps.
Bowman	Bowman	2,961	11	64.2	....	96	29	33	31	43	2.16	....	1.30	0	5	19	9	3	se.	R. Love, Jr.
Cando	Towner	1,488	24	62.5^{c}	−1.4	93^{c}	29	38^{c}	18	42^{c}	1.46	−0.75	0.38	0	9	....	....	....	nw.	A. J. Swanson.
Carson	Grant	2,500	13	64.0	−3.6	96	28	31	31	48	2.19	+0.79	1.70	0	3	20	7	4	se.	J. W. Evens.
Cooperstown	Griggs	1,428	19	....	....	....	....	....	....	....	3.50	+0.84	1.50	0	6	19	9	3	nw.	S. Friswold.
Crosby	Divide	1,954	18	62.4	−1.3	94	27	40	10†	50	2.32	+0.11	0.50	0	8	10	15	6	sw.	John Jensen.
Devils Lake	Ramsey	1,478	28	63.4	−1.7	93	29	39	16	40	2.39	−0.37	0.58	0	11	14	12	5	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	33	61.8	−4.5	102	28	32	31	52	0.77	−1.18	0.35	0	7	18	4	9	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	61.2	−2.1	95	27	36	16	50	0.94	−1.20	0.24	0	7	11	12	8	w.	H. Feldner.
Dunn Center	Dunn	2,191	26	62.5	−4.1	101	28	36	31	54	0.33	−1.24	0.26	0	2	19	2	10	se.	W. H. Moede.
Dunseith	Rolette	1,682	29	62.8	−0.8	95	28	36	16	48	1.29	−1.12	0.46	0	9	18	7	6	w.	J. G. Lamont.
Eckman	Bottineau	1,500	20	....	....	....	....	....	....	....	1.45	−0.87	0.62	0	8	8	19	4	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	24	67.0	+0.6	100	28	33	12	46	0.71	−1.43	0.55	0	2	10	16	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	65.9	−2.9	96	28	39	13	40	2.74	+0.48	1.32	0	8	13	11	7	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	64.0	....	96	28	38	11	50	0.46	....	0.32	0	4	15	15	1	se.	H. S. Solenberger.
Epping	Williams	2,224	17	58.4	....	93	28	31	31	45	1.65	−0.50	1.34	0	6	18	12	1	nw.	A. O. Wang.
Fessenden	Wells	1,610	13	65.4	+0.4	98	29	34	13	50	0.92	−1.46	0.45	0	5	20	6	5	nw.	T. D. Monsen.
Finley	Steele	1,461	1	64.4	....	90	29	40	16	35	3.34	....	1.46	0	9	23	2	6	nw.	G. J. Mustad.
Forman	Sargent	1,249	31	....	....	....	....	....	....	....	3.51	+0.80	0.98	0	7	18	8	5	n.	O. Enger.
Foxholm	Ward	1,657	4	62.5	....	93	29	35	16	44	0.88	....	0.32	0	8	11	14	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7	....	....	94	28	36	31	....	0.64	....	0.35	0	4	20	10	1	nw.	Verne King.
Fullerton	Dickey	1,439	27	66.4	+0.1	96	22	38	13	43	1.69	−0.84	0.65	0	5	22	7	2	nw.	F. O. Alin.
Garrison	McLean	1,901	30	62.0	−3.7	93	28	41	9†	47	1.71	−0.29	1.20	0	5	19	10	2	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	64.2^{a}	−0.3	90^{a}	29	35^{a}	17	39^{a}	2.47	−0.12	0.85	0	8	....	....	....	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	63.2	−1.7	90	25†	38	13	44	2.43	−0.03	1.01	0	11	16	10	5	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	18	62.6	−1.3	98	29	35	16	51	1.09	−1.00	0.48	0	7	11	16	4	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	31	....	....	....	....	....	....	....	1.39	−0.46	0.76	0	6	....	....	....	....	J. Moffatt.
Hansboro	Towner	1,597	17	52.4	−10.4	78	19	28	16	34	1.65	−0.57	0.60	0	6	17	12	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	18	66.4	−0.6	101	28	32	31	51	0.71	−0.54	0.46	0	3	23	5	3	nw.	U. J. Downey.
Hillsboro	Traill	901	19	66.8	−0.1	94	28	38	13	38	1.56	−1.38	0.47	0	6	20	9	2	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	61.7	−1.8	94	27	37	11	44	0.84	−1.05	0.48	0	5	9	18	4	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	61.6	−4.6	99	28	31	13	52	1.98	−0.76	1.63	0	5	19	3	9	w.	S. Calvelage.
Lamoine	Kidder	1,936	20	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	E. V. Virgin.
Langdon	Cavalier	1,615	29	61.6	−0.1	92	25	35	16	36	1.15	−1.50	0.47	0	5	28	3	0	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	63.6	−0.7	91	24†	34	17	45	3.96	+1.36	1.15	0	7	19	5	7	w.	Reuben Gray.
Linton	Emmons	1,711	7	68.4	....	101	28	35	31	48	1.85	....	0.83	0	7	15	4	12	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	66.7	+0.2	98	29	32	13	46	2.80	+0.54	1.37	0	4	16	8	7	nw.	W. S. Adams.
McClusky	Sheridan	1,943	7	63.8	....	95	28	40	16	45	0.87	....	0.65	0	5	22	7	2	se.	Edw. Tapley.
McHenry	Foster	1,509	14	62.4	−2.3	89	29	39	13	47	1.64	−1.54	0.60	0	5	23	0	8	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	N. P. Swenson.
McLeod	Ransom	1,075	13	67.6	0.0	94	28	34	13	47	2.27	−0.08	1.06	0	5	19	3	9	nw.	J. G. Carlson.
Maddock	Benson	1,604	9	63.5	....	91	25†	35	13	51	1.83	....	0.58	0	8	7	16	8	nw.	A. T. Felland.
Mandan	Morton	1,644	11	65.2	....	96	28	41	31	39	2.35	....	1.21	0	3	14	7	10	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	63.9	−0.4	91	28†	36	13	40	1.27	−1.19	0.73	0	8	17	7	7	nw.	P. B. Anderson.
Marmarth	Slope	2,714	16	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	S. P. Grane.
Mayville	Traill	975	29	65.4	−0.9	90	25†	36	13†	40	1.89	−1.05	0.70	0	6	23	6	2	n.	R. Peterson.
Melville	Foster	1,590	27	65.6^{b}	−0.8	92^{b}	28	37^{b}	13	42^{b}	1.87	−0.12	1.25	0	3	....	....	....	se.	J. P. Kidder.
Minot	Ward	1,557	29	62.2	−2.9	98	29	41	9†	52	1.66	−0.54	0.51	0	7	19	11	1	w.	W. I. Faris.
Minto	Walsh	820	32	64.0	−0.6	93	25	35	13†	43	2.29	−0.12	0.80	0	8	7	22	2	ne.	C. M. Evans.
Mott	Hettinger	2,424	18	61.4	−4.5	99	28	31	31	48	2.67	+1.03	2.20	0	5	9	13	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	33	63.5	−2.5	89	25	38	13†	53	3.95	+1.56	2.55	0	7	21	6	4	sw.	C. J. Hoof.
New England	Hettinger	2,400	31	64.0	−2.7	99	28	33	31	51	0.58	−1.19	0.38	0	2	16	15	0	nw.	W. S. Jones.
New Salem	Morton	2,163	21	66.2	−0.2	98	28	40	21	45	0.63	−1.04	0.26	0	5	14	14	3	s.	J. Christiansen.
Park River	Walsh	998	21	63.4	−2.1	90	25†	35	17	40	2.35	+0.12	0.65	0	9	11	8	12	nw.	C. B. Wright.
Parshall	Mountrail	....	10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. A. Johnson.
Pembina	Pembina	789	51	62.6	−1.5	90	25	36	12	42	1.80	−0.33	0.50	0	6	20	7	4	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	S. C. Shanks.
Power	Richland	1,020	31	....	....	....	....	....	....	....	2.04	−0.43	1.09	0	6	....	....	....	....	J. A. Power.
Powers Lake	Burke	2,205	11	....	....	....	....	....	....	....	2.52	+0.73	0.42	0	9	11	5	12	e.	Geo. B. Gee.
Richardton	Stark	2,467	9	65.2	....	101	28	37	31	48	0.07	....	0.07	0	1	16	4	11	nw.	Geo. Keim.
Sharon	Steele	1,516	....	....	....	....	....	....	....	....	3.20	....	1.89	0	9	16	10	5	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	1	....	....	....	....	....	....	....	0.50	....	0.30	0	2	18	8	5	se.	J. H. Giffey.
Steele	Kidder	1,857	29	62.9	−3.9	94	28	39	31	50	1.02	−1.32	0.68	0	4	16	9	6	nw.	H. S. Wood.
Towner	McHenry	1,482	23	66.2	+1.8	99	29	40	13	47	0.26	−1.83	0.20	0	3	24	4	3	nw.	B. Bagley.
Turtle Lake	McLean	1,899	10	63.2	....	96	28	40	13	45	0.68	....	0.28	0	7	17	14	0	sw.	A. T. Anderson.
Valley City	Barnes	1,245	20	66.0	+0.4	97	28	40	17	45	0.37	−1.88	0.18	0	5	10	20	1	nw.	H. Twito.
Wahpeton	Richland	962	31	68.1	+1.2	95	28	35	13	39	2.15	−0.75	1.21	0	5	29	0	2	nw.	C. G Luick.
Walhalla	Pembina	966	21	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T. R. Johnson.
Washburn	McLean	1,731	24	....	....	....	....	....	....	....	0.88	−0.45	0.62	0	4	....	....	....	....	Karl Klein.
Westhope	Bottineau	1,508	19	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	W. A. Meddaugh.
Williston	Williams	1,878	46	63.8	−2.3	96	28	41	10	42	1.22	−0.09	1.10	0	8	14	10	7	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	60.7	−2.8	92	29	36	9†	41	1.26	−0.82	0.44	0	7	13	14	4	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	66.4	+0.3	93	28	43	13†	33	2.99	−0.11	1.34	0	9	19	11	1	nw.	U. S. Weather Bureau.
Averages	....	....	....	63.8	−1.6	102	28	28	16	54	1.65	−1.45	2.55	0	6	17	9	5	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for August, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red			.70			T.		T.		.02	T.	.13							.20		1.00											2.05
Amidon	Lit. Missouri			.29						T.						.16	.17	.02	.28														0.92
Arnegard	Missouri	.26	.07						T.	T.	T.					.02	T.		.05	.06	.08	T.									T		0.54
Ashley	Missouri	.26													.15			.46		.31	.04	.23											1.45
Beach	Lit. Missouri																																.....
Berthold Agency	Missouri	.05		T.	T.	T.			T.							T.	.07				.07	T.											0.19
Bismarck ***	Missouri	T.		T.	T.				T.		.01		T.		T.	T.	.20	T.	.86	T.	.83	.01									T.	T.	1.91
Bottineau‖‖	Mouse		.25		.09	.11		.03	.56		.21	.01	.38						T.			.15		.02									1.81
Bowbells ‖‖	Mouse		.28		.18		.12		.89			.25																					1.72
Bowman	Grand			T.												.38	.20	.03	1.30			.25											2.16
Cando	Devils Lake.	.15				.28			.38		.11	.01	.17		.08						.13	.15											1.46
Carson	Heart	.14																	.35		1.70												2.19
Cooperstown	Sheyenne				.35		.15						.20	.05						1.25	1.50												3.50
Crosby	Mouse	.13	.50	.36			.36		.28	.47			T.				.06	.16						T.									2.32
Devils Lake ***	Devils Lake.	.55	T.		.58			.26	.06	.15	.03	.22	.13		.05						.35	.01											2.39
Dickinson‖‖	Heart	.35		.04	.05	T.				.13							.11			.05											.01		0.77
Donnybrook	Mouse		.21		.02			.15	.24	.09	.09								.14														0.94
Dunn Center ‖‖	Knife	.26																.07					T.										0.33
Dunseith	Mouse	.12	.02		.46					.15	.05	.20	.12						.01		.16												1.29
Eckman	Mouse		.20		.19				.62	.27	.07		.03							.03		.04											1.45
Edgeley	James																		T.	.55		.16											0.71
Ellendale***	James	.32	1.32		T.	T.				T.			.01		.02		T.	.24	.45		.36	.02											2.74
Energy	Missouri	T.	.06		.06	T.							.02				T.				.32												0.46
Epping	Missouri	.17	1.34		.01			T.				.05					.01	T.	T.	.07	T.												1.65
Fessenden‖‖	James		.05	.03		.45					.05											.34											0.92
Finley	Red	T.	T.	.09	T.	.23			.34		.03		.22		.05				T.	1.46	.03	.89								T.			3.34
Forman	Sheyenne	.44		1.05														.05	.15	.72		.98	.12										3.51
Foxholm	Mouse	.01	.21		.01			.02	.14	T.	.08						T.		T.	.09	.32												0.88
Fryburg	Heart	.08	T.	.12					.09							.35																	0.64
Fullerton	James	T.	.35	.47											T.		T.	.08	.65			.14											1.69
Garrison	Missouri	.05			1.20								.05								.38	.03											1.71
Grafton	Red	.05				.85			.34		.36		.07		.27						.05	.48											2.47
Grand Forks ***	Red	T.	.01		.40			T.	.48	.02	.10	.11			.07				T.	1.01	.07	.14				.02				T.			2.43
Granville	Mouse		.25	T.	.12	T.		.48		.11	.04				T.						.07	.02											1.09
Hannah	Pembina				.76			T.		.10	.02	.09									.38			.04									1.39
Hansboro	Devils Lake.		.31		.60				.30	.20	.04										.20												1.65
Hettinger	Grand														.46			.23				.02											0.71
Hillsboro	Red					.10			.26				.25		.04					.44		.47								T.			1.56
Howard	Missouri		.48	T.	.10			T.	.02		.23			.01			T.	T.	T.	T.											T.		0.84
Jamestown‖‖	James		.02			.04									.02					.27		1.63											1.98
Lamoine	Missouri																																.....
Langdon‖‖	Pembina							.03	.40				.10		.15							.47											1.15
Larimore	Red					1.15			.75		.30		.10		.06					1.10		.50											3.96
Linton	Missouri	.06				.06				T.								.06	T.	.83	.26	.53	.05										1.85
Lisbon ‖‖	Sheyenne	.10	T.	.73	T.						T.					T.		T.		.60		1.37											2.80
McClusky	Missouri			T.	.65				.05				.02		T.					.03	.12										T.		0.87
McHenry	James	.05	.07		.58				.34											.60													1.64
McKinney	Mouse																																.....
McLeod	Sheyenne		T.	.45	T.										.07			T.	.18	.51		1.06											2.27
Maddock	Sheyenne	.23		.02		.57			.58		.10		.11		.03						T.	.19											1.83
Mandan‖‖	Missouri				T.					T.	T.		T.				T.	.19	T.	1.21		.95											2.35
Manfred	James	.05	T.		.73	.02			.20	T.	.11	.02	.06								.08												1.27
Marmarth	Lit. Missouri																																.....
Mayville	Red								.40			.06	.20		.05					.70		.48											1.89
Melville	James		T.		1.25				T.											.25	T.	.37											1.87
Minot‖‖	Mouse		.50			.28	.01		.20		.03									.13		.51											1.66
Minto	Red				T.	.80			.29		.28		.06		.10					.21	.03	.52											2.29
Mott	Cannon Ball	T.	T.	.25												.11	.09		2.20			.02											2.67
Napoleon ‖‖	Missouri	.01					.03							.13	.12			.02		1.09		2.55											3.95
New England	Cannon Ball															.38			.20														0.58
New Salem	Heart		T.	.14	T.				T.	T.							.02			.26	.20	T.										.01	0.63
Park River	Red	.06				.53			.27		.38	.16	.04		.20					.06		.65											2.35
Parshall	Missouri																																.....
Pembina ‖‖	Red					.30		T.	.10		.50								.30	.10		.50											1.80
Pettibone	James																																.....
Power	Sheyenne		*	1.09						.07				.03					.35		.50												2.04
Powers Lake	Missouri		.36			.34		.26		.42	.16				.41				.23			.18			.16								2.52
Richardton	Heart																			.07			T.										0.07
Sharon	Red	.02	.03			.11			.32		.03		.23		.03					1.89	T.	.54								T.		T.	3.20
Stanton	Missouri										T.						.20					.30											0.50
Steele	Missouri									T.	T.		T.		T	.05	.05		.68	T.	.24												1.02
Towner	Mouse	.01	.05																		.20												0.26
Turtle Lake	Missouri	.02	.01		.23	.01											.09				.28	.04											0.68
Valley City	Sheyenne		T.			.02					.06		.01		T.				T.	.18	.10												0.37
Wahpeton	Red			.10															.11	1.21		.63	.10										2.15
Walhalla	Pembina																																.....
Washburn	Missouri											.08							.62	.12	.06												0.88
Westhope	Mouse																																.....
Williston ***	Missouri	.94	.09		T.				T.	.01	.02					.01	.12	T	.02		.01									T.			1.22
Willow City	Mouse	T.	.16	T.	.22				.44	.13	.04	.14									.12												1.26
Moorhead, Minn ***	Red	T.	.59	.75		T.			.01		.14		.04		T.				.37	.08	.88	.13											2.99

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	80	87	85	86	76	80	78	70	78	71	78	70	75	90	75	71	72	72	79	80	78	83	87	90	94	92	91	97	91	80	76	81.0
	Minimum	42	58	70	57	57	49	53	51	45	48	45	45	36	42	51	41	45	53	58	53	57	48	49	49	59	56	46	49	60	61	44	50.9
Arnegard	Maximum	82	84	79	64	63	75	77	68	66	66	79	74	84	82	68	63	68	79	84	79	72	82	84	96	90	85	100	100	96	79	67	78.5
	Minimum	67	55	52	50	48	40	50	45	43	40	43	51	59	56	50	48	52	46	57	57	50	47	48	52	53	58	50	52	51	29	40	49.6
Ashley	Maximum	75	77	79	85	78	70	80	75	66	69	70	70	69	72	72	68	70	66	77	71	65	73	73	75	81	80	79	95	85	81	67	74.6
	Minimum	53	66	60	52	54	47	48	47	47	47	46	48	38	57	50	45	51	57	59	55	58	47	47	40	57	58	47	62	62	58	42	51.8
Beach	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Berthold Agency	Maximum	84	79	83	73	66	78	79	72	73	76	80	70	87	81	71	62	66	81	85	79	74	83	85	96	92	87	98	97	99	85	88	80.9
	Minimum	57	57	49	48	47	36	43	47	37	40	40	52	45	53	42	48	52	43	49	55	57	41	42	43	50	55	45	50	52	42	40	47.0
Bismarck	Maximum	84	78	83	85	72	78	80	69	71	73	78	66	80	84	70	67	71	71	85	72	73	82	85	86	91	86	90	96	90	72	65	78.5
	Minimum	62	63	54	55	54	47	52	51	45	47	49	51	45	59	50	49	53	55	56	59	55	50	50	52	58	58	50	57	68	51	44	53.3
Bottineau §§	Maximum	78	80	76	64	67	76	71	64	69	71	70	64	75	75	66	65	65	79	84	83	74	77	79	88	89	86	91	86	90	66	..	[a]75.6
	Minimum	54	58	48	48	43	40	48	45	38	39	40	43	41	48	47	41	45	51	54	55	54	38	46	47	50	52	42	59	54	53	43	[a]47.2
Bowbells §§	Maximum	82	80	82	60	68	70	71	68	70	71	72	70	75	80	75	65	71	82	85	80	72	77	80	92	88	82	91	89	81	62	65	76.0
	Minimum	53	54	52	43	42	45	43	42	43	42	41	51	52	55	48	39	40	50	51	55	52	50	45	47	51	50	48	44	43	50	41	47.2
Bowman	Maximum	87	81	84	77	71	78	82	72	70	74	82	82	87	79	71	65	79	75	75	76	62	77	83	88	86	86	96	96	93	78	64	79.2
	Minimum	60	61	50	47	49	40	44	50	39	39	44	47	46	54	51	48	55	57	45	54	47	44	46	50	51	50	55	53	59	53	33	49.1
Cando	Maximum	75	..	..	76	68	74	73	67	69	70	71	66	72	76	73	67	..	75	82	81	72	78	79	..	89	85	88	87	93	88	..	[e]76.7
	Minimum	53	..	..	54	45	44	54	47	41	47	44	42	39	56	48	40	..	38	58	53	56	46	49	..	47	54	44	54	51	52	..	[e]48.3
Carson	Maximum	86	80	84	85	78	78	84	70	70	75	80	74	80	85	87	78	72	76	84	76	74	82	87	90	89	86	80	96	92	74	70	80.7
	Minimum	57	57	47	46	47	40	41	45	36	38	38	41	44	56	44	44	51	50	46	56	45	44	49	49	52	53	50	48	68	48	31	47.2
Crosby	Maximum	84	77	76	72	64	73	70	66	67	70	76	74	83	76	71	64	70	84	79	78	73	75	79	90	88	82	94	92	89	67	67	76.5
	Minimum	58	53	49	44	44	45	49	45	43	40	40	45	56	54	46	42	49	52	52	56	54	45	48	48	54	56	48	42	49	46	43	48.2
Devils Lake	Maximum	77	80	77	74	68	74	73	65	69	70	71	64	73	78	66	66	68	70	83	79	73	81	81	86	90	84	89	86	93	70	67	75.6
	Minimum	54	60	57	53	50	48	50	50	44	51	46	43	41	55	48	39	44	55	58	59	53	50	52	50	58	56	49	55	53	55	47	51.1
Dickinson §§	Maximum	80	72	82	65	64	73	79	60	65	70	78	72	85	82	70	67	68	70	80	79	67	78	85	91	88	85	97	102	98	68	60	76.8
	Minimum	58	57	47	49	48	41	42	46	38	37	37	43	46	53	47	49	49	49	43	56	45	45	41	43	52	53	46	50	56	52	32	46.8
Donnybrook	Maximum	80	81	79	76	63	74	61	60	59	60	58	64	75	78	75	64	67	83	84	85	72	78	82	93	91	87	95	93	92	70	64	75.6
	Minimum	54	55	48	45	41	44	49	41	40	40	43	43	40	43	45	36	48	51	50	54	52	48	45	50	56	54	56	43	49	50	42	46.9
Dunn Center §§	Maximum	82	76	82	67	65	76	78	67	72	73	77	69	86	70	81	60	68	80	82	82	70	80	84	92	89	85	97	101	98	78	64	78.4
	Minimum	57	55	48	46	48	37	44	49	38	40	37	45	42	56	50	44	50	42	45	49	49	42	42	42	52	56	43	54	51	55	36	46.6
Dunseith	Maximum	78	82	83	72	68	77	80	69	66	72	72	66	75	76	73	62	72	82	83	84	74	76	76	88	88	84	90	95	88	75	84	77.8
	Minimum	54	59	51	49	44	41	50	44	38	44	41	42	40	49	47	36	53	54	55	55	55	38	38	45	51	53	42	59	52	58	44	47.8
Edgeley	Maximum	82	86	88	90	83	80	83	79	76	76	81	73	78	88	79	70	69	71	85	79	80	85	89	91	95	93	91	100	92	84	75	82.9
	Minimum	57	59	58	50	55	46	50	48	44	49	46	33	45	56	48	40	47	56	53	52	53	49	47	52	60	60	45	68	49	68	38	51.0
Ellendale	Maximum	80	84	84	86	73	77	81	69	70	72	77	69	77	83	74	69	68	66	82	77	78	81	84	86	92	89	86	96	90	75	73	79.0
	Minimum	59	65	62	58	55	51	58	51	50	48	49	44	39	57	47	42	53	55	54	54	57	49	49	54	56	58	49	56	61	49	48	52.8
Fessenden §§	Maximum	80	85	85	83	75	81	79	80	78	78	78	73	81	86	73	72	72	74	90	82	79	86	88	95	95	88	94	94	98	76	69	82.2
	Minimum	55	59	52	52	49	44	49	39	44	42	42	49	34	56	47	39	45	48	54	50	53	44	46	45	53	55	44	55	55	61	44	48.5
Foxholm	Maximum	81	78	76	63	66	74	72	65	69	71	74	67	79	76	69	65	68	80	80	82	70	75	77	89	85	80	91	92	93	82	66	76.1
	Minimum	55	57	52	48	42	45	50	43	41	42	45	49	41	55	50	35	50	43	55	55	52	49	50	52	60	59	47	48	49	53	43	48.9
Fullerton	Maximum	84	86	85	88	74	78	82	70	76	72	78	71	79	85	75	70	69	68	82	78	78	83	85	88	92	91	87	96	93	76	73	80.4
	Minimum	58	65	60	55	57	59	49	51	48	50	48	47	38	58	52	40	50	58	52	52	59	50	47	53	54	55	47	53	59	60	44	52.5
Garrison	Maximum	87	73	80	69	64	74	74	65	71	70	75	68	79	77	67	64	66	79	82	76	72	79	80	88	87	84	91	93	92	79	66	76.5
	Minimum	56	56	48	49	48	44	46	46	41	41	42	51	41	52	44	42	49	47	51	50	49	44	45	46	54	54	44	56	51	47	42	47.6
Grafton	Maximum	76	78	80	76	73	76	74	69	72	72	72	67	72	80	74	..	69	67	76	78	78	82	81	86	94	89	86	85	90	79	70	[a]77.4
	Minimum	50	59	59	54	51	45	53	50	48	52	49	43	36	54	64	..	35	55	57	53	57	45	45	56	60	51	47	52	51	50	50	[a]51.0
Grand Forks	Maximum	74	76	80	76	70	73	70	65	70	70	68	64	71	82	67	65	68	68	73	73	77	82	80	86	90	88	84	89	90	76	78	75.6
	Minimum	49	61	58	54	55	49	53	51	48	51	50	44	38	53	47	39	39	56	52	54	52	50	50	42	63	57	48	55	56	56	49	50.9
Granville	Maximum	80	80	82	64	66	77	73	66	67	72	74	67	80	77	79	68	70	80	85	83	72	81	82	92	90	82	91	92	98	70	69	77.8
	Minimum	55	57	48	48	43	44	45	46	44	43	42	48	40	50	49	35	52	48	53	52	54	48	47	44	50	52	43	50	50	48	42	47.4
Hansboro	Maximum	67	70	73	75	58	62	62	56	55	68	65	64	60	56	56	44	60	62	78	60	58	55	60	67	70	70	67	70	75	74	65	63.9
	Minimum	45	47	50	50	42	38	38	40	33	38	31	32	30	44	40	28	32	45	50	45	52	40	35	35	52	52	38	44	44	40	38	41.0
Hettinger	Maximum	86	91	84	76	72	79	85	77	73	81	83	80	87	84	81	82	81	99	81	83	82	73	89	94	90	88	100	101	96	80	71	84.2
	Minimum	54	48	51	56	50	46	45	50	50	53	40	46	48	57	48	52	50	46	46	48	46	44	42	46	49	49	50	50	62	55	32	48.7
Hillsboro	Maximum	78	83	85	86	85	78	77	75	75	70	76	70	73	86	80	69	71	70	76	75	81	84	83	87	93	91	86	94	93	88	72	80.3
	Minimum	51	65	62	56	58	51	55	52	48	52	49	49	38	56	51	42	39	57	57	52	59	50	51	51	55	59	49	59	65	63	48	53.2
Howard	Maximum	79	76	75	62	65	72	72	72	70	75	74	76	84	76	76	70	70	80	80	75	76	77	66	89	89	80	94	93	90	71	68	76.5
	Minimum	55	52	45	45	50	44	42	44	40	40	37	40	44	47	48	45	45	44	44	45	46	46	45	52	52	55	50	49	52	60	52	46.9
Jamestown §§	Maximum	88	86	89	73	80	84	70	75	73	74	70	84	83	70	70	70	78	81	77	78	83	86	92	90	90	89	99	98	74	72	84	81.0
	Minimum	44	41	47	45	48	40	41	42	36	39	39	42	31	42	39	34	37	43	38	45	47	41	40	42	44	48	49	46	50	51	38	42.3
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Langdon §§	Maximum	72	75	77	72	66	74	72	71	66	70	70	68	71	76	64	62	68	75	83	82	74	78	80	85	92	90	89	86	90	70	65	75.3
	Minimum	52	58	52	54	54	43	54	48	42	49	42	38	40	41	45	35	40	50	50	55	50	45	45	45	56	54	41	52	56	56	45	48.0
Larimore §§	Maximum	76	82	80	71	75	75	66	70	73	72	67	72	82	67	69	71	67	78	80	78	81	81	88	91	86	86	88	91	71	74	71	66.7
	Minimum	50	56	53	55	52	47	50	50	45	50	50	48	37	52	47	38	34	53	57	55	57	50	51	51	59	59	47	55	52	57	46	50.4
Linton	Maximum	86	90	88	90	80	82	86	83	76	78	84	80	84	89	82	73	76	73	85	83	77	86	91	94	94	91	95	101	97	90	74	85.1
	Minimum	61	61	52	49	58	46	49	50	49	46	44	51	46	61	48	50	58	59	51	55	53	45	46	53	51	50	47	57	64	58	35	51.8
Lisbon §§	Maximum	82	85	87	90	74	86	82	70	77	75	80	73	84	86	75	73	70	77	80	78	81	80	81	91	93	92	91	98	94	78	75	81.9
	Minimum	56	67	68	63	55	52	57	51	42	51	41	47	32	42	51	42	45	56	54	50	58	48	48	48	52	54	45	54	62	57	44	51.5
McKinney	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Maddock	Maximum	76	80	81	78	69	74	74	69	72	69	73	72	77	80	75	66	70	74	85	84	74	82	82	89	91	88	90	91	94	90	68	78.6
	Minimum	52	59	52	52	48	48	49	48	40	48	42	47	35	55	44	39	43	47	59	48	55	46	43	44	55	58	39	52	51	58	45	48.4
Melville	Maximum	78	82	80	85	72	78	75	72	70	..	74	68	73	83	74	66	65	65	84	80	75	82	83	88	46	86	88	92	91	87	..	[b]78.8
	Minimum	55	60	55	52	50	46	52	49	41	..	47	48	37	59	47	56	51	50	58	53	57	49	50	52	56	57	46	62	65	60	..	52.4
Minot §§	Maximum	84	82	80	65	68	77	76	68	71	71	76	68	82	78	68	56	68	83	83	81	72	80	82	93	90	83	96	97	98	67	68	77.8
	Minimum	48	56	50	50	44	43	50	45	41	43	46	46	40	46	46	41	41	46	41	52	49	47	45	48	52	55	42	49	50	50	44	46.6
Mott	Maximum	78	80	75	80	80	78	80	73	78	76	67	71	84	79	74	68	70	67	71	75	75	81	88	90	82	82	93	99	96	71	68	78.4
	Minimum	53	45	46	43	40	42	45	42	43	39	40	36	36	50	40	42	47	48	43	46	43	45	47	50	52	48	43	57	50	40	31	44.3
Napoleon §§	Maximum	82	88	85	89	73	80	82	71	75	72	80	65	78	84	73	69	74	71	80	78	75	82	87	88	89	86	88	97	90	71	70	79.7
	Minimum	52	56	51	48	50	43	44	45	45	45	42	42	38	41	45	39	43	49	50	52	52	45	45	50	53	55	45	45	60	57	38	47.3
New Salem	Maximum	83	87	86	82	72	80	88	77	79	75	78	79	77	81	77	70	72	70	82	77	77	82	91	90	94	90	95	98	95	72	69	81.5
	Minimum	57	60	52	58	49	44	57	47	43	42	51	43	41	57	54	49	52	47	54	52	45	51	62	52	52	56	52	57	50	52	40	50.9
Pembina §§	Maximum	78	78	78	78	71	77	76	69	70	69	68	67	68	78	70	67	71	71	78	82	80	78	80	85	90	88	85	86	89	75	68	76.4
	Minimum	46	55	58	56	48	48	51	52	43	46	45	36	36	56	48	38	37	40	52	55	56	48	49	46	48	60	48	45	51	62	52	48.7
Steele	Maximum	82	80	82	87	84	74	76	79	72	74	74	69	66	69	62	64	65	65	77	72	74	69	86	86	91	86	87	94	90	70	62	76.4
	Minimum	56	64	50	50	56	44	46	46	40	46	46	49	46	60	41	42	42	50	55	56	52	46	46	48	53	54	45	44	60	58	39	49.4
Towner	Maximum	78	80	75	80	78	76	75	76	79	73	72	73	71	75	77	74	70	74	84	81	75	84	81	90	93	89	95	91	99	90	75	80.1
	Minimum	61	56	50	60	52	56	53	52	60	50	56	49	40	56	52	51	48	50	65	56	46	46	47	52	48	52	54	56	52	50	42	52.2
Valley City	Maximum	78	84	83	86	72	77	76	72	74	73	71	69	72	80	71	69	69	71	80	70	79	83	83	88	92	90	89	97	93	87	73	79.1
	Minimum	54	63	58	47	55	48	56	50	42	61	45	51	43	48	48	42	40	56	58	53	58	53	53	53	59	58	44	60	67	63	42	52.8
Wahpeton	Maximum	80	84	87	88	87	79	82	80	75	75	79	76	76	87	81	70	70	70	79	77	85	81	86	87	92	91	87	95	90	85	76	81.9
	Minimum	56	65	64	58	60	52	58	55	47	53	47	47	35	57	53	41	46	52	52	55	60	50	54	55	65	58	48	59	66	63	45	54.3
Walhalla	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Westhope	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Williston	Maximum	83	78	78	62	64	75	77	65	67	70	77	68	89	76	69	62	68	79	82	76	71	78	80	91	88	82	96	96	92	66	66	76.5
	Minimum	58	57	53	48	46	47	50	46	46	41	42	54	51	55	51	50	53	48	48	57	52	50	51	53	57	59	54	54	59	48	44	51.0
Moorhead, Minn	Maximum	77	82	84	85	71	76	75	68	72	68	74	68	73	85	68	64	67	70	74	75	81	80	83	85	92	90	84	93	87	77	71	77.4
	Minimum	56	66	64	62	58	54	58	54	49	52	51	51	43	58	50	43	45	59	58	55	60	52	53	56	64	59	52	60	66	58	51	55.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

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OCT 28 1924

UNIVERSITY OF ILLINOIS

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

Vol. XXXIII. Bismarck, N. D., September, 1924. No. 9

GENERAL SUMMARY.

The month opened with weather generally favorable for threshing, harvesting of flax, and other outdoor work, a condition that prevailed during the first decade. Showers during the fore part of the second decade delayed threshing considerably, but improved pastures, ranges and harvested fields, affording abundant feed for livestock, and benefited fall plowing. During the second decade some reports were received of frost damage to corn, but the crop was generally so far advanced that the damage was slight. Some delay occurred during the last decade to threshing, caused by showers, but at the close of the month most shock threshing was completed, and stack threshing was well advanced. Most all of the corn was out of danger from frosts at the end of the month.

TEMPERATURE.

The mean temperature for the State was 55.0°, or 1.4° below the normal, and 5.1° lower than the mean for September, 1923. The highest mean reported was 59.6° at McLeod, Ransom County; the lowest was 44.8° at Hansboro, Towner County. The highest temperature reported was 98° at Linton, Emmons County, on the 3d; the lowest was 20° at Dunn Center, Dunn County, on the 26th, and at Jamestown, Stutsman County, on the 29th. The greatest monthly range of temperature was 71° at Jamestown, Stutsman County; the least was 46° at Hansboro, Towner County. The greatest daily range was 59° at Dunn Center, Dunn County, on the 23d.

PRECIPITATION.

The average precipitation for the State was 2.31 inches, or 0.67 inch above the normal, and 0.08 inch less than the average for September, 1923. The greatest monthly amount reported was 5.12 inches at Jamestown, Stutsman County; the least was a trace at New England, Hettinger County. The greatest amount recorded in any 24 consecutive hours was 2.25 inches at Langdon, Cavalier County, on the 20th. A trace of snow was recorded at five stations. The average number of days with 0.01 inch or more of precipitation was 7.

AURORAS.

Auroras were observed at Devils Lake, Foxholm and Williston on the 2d; at Foxholm on the 4th and 14th; at Crosby on the 22d; at Bismarck, Bowman, Crosby, Dickinson, Eckman, Ellendale, Fessenden, Foxholm, Fullerton, Grand Forks, Howard, McClusky, McLeod, Melville, New England, Richardton, Sharon, Stanton, Valley City and Williston on the 23d; at Crosby, Finley, Grand Forks, Linton and Pettibone on the 24th; at Arnegard on the 28th, and at Towner on the 30th.

ERRATA, AUGUST, 1924.

Pages 29 and 30: Departure of precipitation from normal, for the State, should be −0.63 inches, instead of −1.45 inches, as published.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.00	30.40	28	29.48	19	57	6,519	9.1	36	s.	9
Devils Lake	29.98	30.36	29	29.51	19	44	6,182	8.6	31	e.	26
Ellendale	30.02	30.38	29	29.57	26	56	9,492	13.2	38	s.	23
Grand Forks	29.96	30.39	29	29.53	24	90	....	......	46	se.	18
Williston	29.95	30.38	28	29.33	18	48	5,053	7.0	31	se.	8
Moorhead, Minn	30.00	30.38	29	29.54	26	58	5,980	8.3	28	se.	23
Av'ges and extremes	29.98	30.40	28	29.48	19	.....	....	9.2	46	se.	18

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	238.2	376.6	63	+1	82	49	52	27	24
Devils Lake	200.9	377.2	53	−5	86	55	63	22	2
Ellendale	215.9	376.0	57	−5	88	50	....	20	1
Grand Forks	......	......	......	......	83	.....	62	.....	....
Williston	254.6	377.2	67	+7	81	44	45	15	2†
Moorhead, Minn.	243.6	376.6	65	+3	87	58	65	30	5
Averages and extremes	......	....	61	0	84	51	57	15	2†

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913	57.2	+0.8	103	8	1.75	+0.11	6	16	8	6	nw.
1914	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.
1922	59.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw.
1923	60.1	+3.7	99	15	2.39	+0.75	6	14	8	8	nw.
1924	55.0	−1.4	98	20	2.31	+0.67	7	15	7	8	nw.

Climatological Data for September, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	55.2	−2.1	86	3	34	28	45	4.73	+2.76	1.73	0	10	15	9	6	nw.	E. T. Carley.
Amidon	Slope		11	56.7		90	2†	26	27	44	0.69		0.50	T.	4	14	13	3	nw.	Charles Eastgate.
Arnegard	McKenzie		10	56.6		92	2	29	29	50	0.66		0.17	0	6	18	6	6	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	53.6^{d}	−3.7	78^{d}	3†	30^{d}	28†	35^{d}	3.10	+2.08	1.33	0	4				nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	55.2	−1.1	90	2	27	27	46	0.71	−0.56	0.54	0	4					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	56.5	−0.5	91	2	24	29	51	0.82	−0.62	0.38	0	4	20	5	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	57.2	−0.9	89	3	32	27	43	1.60	+0.41	0.89	0	9	12	9	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	54.6^{a}	−0.9	86^{a}	3	32^{a}	21†	40^{a}	1.85	+0.28	0.79	0	9	16	2	12	se.	E. C. Evenson.
Bowbells	Burke	1,958	13	53,9	+1.1	88	23	31	21†	48	0.98	−0.64	0.21	T.	9	21	2	7		G. H. Phelps.
Bowman	Bowman	2,961	11	55.4		86	2†	28	27	50	0.65		0.15	0	7	18	4	8	nw.	R. Love, Jr.
Cando	Towner	1,488	24	55.0^{a}	−0.6	83^{a}	2	29^{a}	29	42^{a}	2.26	+0.83	1.41	0	7	9	12	9	se.	A. J. Swanson.
Carson	Grant	2,500	13	56.1	−0.3	95	3	23	28	47	1.13	−0.60	0.53	0	4	23	5	2	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19								4.25	+2.59	1.35	0	6	17	7	6	nw.	S. Friswold.
Crosby	Divide	1,954	18	55.4	+1.7	88	2	28	27	45	1.11	−0.13	0.50	0	5	15	5	10	sw.	John Jensen.
Devils Lake	Ramsey	1,478	28	54.3	−1.3	83	2	33	29	37	4,54	+3.15	1.59	0	9	12	7	11	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	33	55.4	−1.1	90	3	25	26†	52	0.66	−0.41	0.49	0	6	13	7	10	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26																	H. Feldner.
Dunn Center	Dunn	2,191	26	53.8	−3.3	89	2†	20	26	59	0.83	−0.29	0.43	0	4	20	2	8	nw.	W. H. Moede.
Dunseith	Rolette	1,682	29	54.7	−0.1	88	4	29	29	52	2.66	+1.09	1.51	0	6	16	7	7	w.	J. G. Lamont.
Eckman	Bottineau	1,500	20								1.86	+0.73	0.36	0	8	7	18	5	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	24	55.9	−1.6	93	3	30	29	43	2.71	+1.05	1.40	0	5	9	10	11	se.	O. A. Thompson.
Ellendale	Dickey	1,449	26	55.6	−2.8	92	3	31	29	44	2.73	+1.38	1.13	0	9	11	6	13	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	55.8		91	23	28	29	51	0.92	−0.62	0.39	0	4	15	12	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	17																	A. O. Wang.
Fessenden	Wells	1,610	13	55.5	+0.4	87	2	29	29	45	3.36	+1.64	1.20	0	10	12	5	13	nw.	T. D. Monsen.
Finley	Steele	1,461	1	54.6		80	2	33	28†	36	3.89		1.20	0	11	11	7	12	nw.	G. J. Mustad.
Forman	Sargent	1,249	31								3.79	+1.47	1.74	0	7	14	8	8	se.	O. Enger.
Foxholm	Ward	1,657	4	55.4		87	2	30	29	44	1.04		0.28	0	6	12	10	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7								0.50		0.30	0	3	19	10	1	nw.	Verne King.
Fullerton	Dickey	1,439	27	55.8	−0.9	91	3	33	29†	42	3.30	+1.23	1.51	0	6	14	6	10	s.	F. O. Alin.
Garrison	McLean	1,901	30	55.1	−1.7	88	23	27	27†	47	0.95	−0.41	0.32	0	6	16	8	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	54.4	−1.5	84	2	24	9	47	3.09	+1.27	0.97	0	8	16	6	8	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	53.9	−2.3	82	2	32	5	42	3.19	+1.33	1.04	0	8	17	6	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	18																	W. A. Christianson.
Hannah	Cavalier	1,568	31								2.36	+0.22	1.93	0	3					J. Moffatt.
Hansboro	Towner	1,597	17	45.8	−9.1	68	17	22	29	37	2.79	+0.89	1.10	0	6	17	8	5	ne.	C. E. Blackorby.
Hettinger	Adams	2,675	18																	U. J. Downey.
Hillsboro	Traill	901	19	56.5	−2.5	82	2	35	9	44	2.62	+0.13	0.64	0	10	13	8	9	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	53.8	0.0	83	30	22	27	42	1.05	−0.32	0.38	0	6	11	12	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	50.4	−6.3	91	2	20	29	55	5.12	+3.59	1.18	0	10	15	3	12	nw.	S. Calvelage.
Lamoine	Kidder	1,936	20																	E. V. Virgin.
Langdon	Cavalier	1,615	29	53.4	−0.1	84	2†	30	28†	49	4.23	+2.24	2.25	0	6	18	6	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	54.2	−1.0	81	1	31	30	43	4.58	+2.69	2.00	0	7	17	2	11	s.	Reuben Gray.
Linton	Emmons	1,711	7	59.1		98	3	29	29	54	1.69		0.73	0	6	17	3	10	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	55.6	−2.1	90^{a}	3	28	29	48^{a}	4.57	+2.42	1.69	0	8	17	3	10		W. S. Adams.
McClusky	Sheridan	1,943	7	54.1		83	2	30	22†	46	2.12		0.58	T.	6	16	5	9	nw.	Edw. Tapley.
McHenry	Foster	1,509	14																	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	55.2^{m}	+1.1	86^{m}	2	30^{m}	15	46^{m}	1.21	−0.22	0.40	0	4					N. P. Swenson.
McLeod	Ransom	1,075	13	59.6	+2.7	88	3	32	29	47	3.91	+1.37	1.11	0	6	16	6	8	se.	J. G. Carlson.
Maddock	Benson	1,604	9	54.6		84	2†	29	29	48	3.42		1.54	0	6	10	10	10	nw.	A. T. Felland.
Mandan	Morton	1,644	11	56.6		89	3	31	27	44	1.34		0.80	0	7	14	9	7	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	53.2	−2.7	80	2†	30	29	37	3.24	+1.89	1.40	0	8	16	3	11	nw.	P. B. Anderson.
Marmarth	Slope	2,714	16								0.48	−0.75	0.15	T.	5					S. P. Grane.
Mayville	Traill	975	29	55.8	−1.0	83	2	32	29	45	2.76	+0.48	1.21	0	9	17	3	10	n.	R. Peterson.
Melville	Foster	1,590	27	54.6	−1.8	81	3†	31	29	40	3.57	+2.19	1.15	0	9	13	7	10	se.	J. P. Kidder.
Minot	Ward	1,557	29	55.8	−0.9	92	23	23	29	57	1.21	−0.97	0.30	0	8	23	7	0	w.	W. J. Faris.
Minto	Walsh	820	32	54.2	−2.2	85	2	29	28	49	3.85	+1.85	1.93	0	8	13	8	9	ne.	C. M. Evans.
Mott ††	Hettinger	2,424	18	54.0	−2.3	89	23	25	27	56	0.53	−1.04	0.31	0	3	12	10	8	nw.	O. H. Opland.
Napoleon	Logan	1,955	33	53.8	−3.1	87	3	29	28	46	2.46	+1.22	1.00	0	8	14	7	9	s.	C. J. Hoof.
New England	Hettinger	2,400	31	55.4	−0.4	90	4	24	27	49	T.	−1.12	T.	T.	0	11	17	2	nw.	W. S. Jones.
New Salem	Morton	2,163	21	57.7	+0.5	92	3	24	2	57	0.73	−0.62	0.28	0	4	18	9	3	nw.	J. Christiansen.
Park River	Walsh	998	21																	C. B. Wright.
Parshall	Mountrail		10																	J. A. Johnson.
Pembina	Pembina	789	51	53.5	−0.3	84	2	30	29	42	2.27	+0.58	0.85	0	4	17	3	10	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	53.7	0.0	85	3	28	22	52	2.96	+1.57	1.02	0	10	18	2	10	ne.	S. C. Shanks.
Power	Richland	1,020	31								3.55	+1.49	1.22	0	8					J. A. Power.
Powers Lake	Burke	2,205	11								0.85	−0.24	0.56	0	5	22	5	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	9	55.2		90	23	23	27	52	0.60		0.30	0	4	18	7	5	nw.	Geo. Keim.
Sharon	Steele	1,516									4.38		1.61	0	10	15	5	10	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	1								0.91		0.60	0	3	16	6	8	se.	J. H. Giffey.
Steele††	Kidder	1,857	29	54.9	−2.9	88	3	33	22	44	0.80	−0.44	0.58	0	2	14	6	10	se.	H. S. Wood.
Towner	McHenry	1,482	23	57.8	+2.0	90	2	30	1	55	1.35	−0.30	0.45	0	4	20	7	3	nw.	B. Bagley.
Turtle Lake	McLean	1,899	10	54.5		86	2	29	27†	46	1.58		0.55	0	7	13	11	6	nw.	A. T. Anderson.
Valley City	Barnes	1,245	20	56.1	−2.1	86	3	33	28	38	4.58	+2.94	1.50	0	11	14	8	8	nw.	H. Twito.
Wahpeton	Richland	962	31	57.4	−1.2	90	3	34	28	48	3.90	+1.68	0.95	0	9	16	1	13	se.	C. G Luick.
Walhalla	Pembina	966	21																	T. R. Johnson.
Washburn	McLean	1,731	24																	Karl Klein.
Westhope	Bottineau	1,508	19	53.7^{g}	−1.1	89	2	25^{o}	29	52^{o}	2.46	+1.27	0.87	0	6	14	12	4	n.	W. A. Meddaugh.
Williston	Williams	1,878	46	56.0	−0.6	89	2	26	27	45	0.52	−0.39	0.31	0	6	17	8	5	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	53.0	−1.3	85	2	27	1	51	2.29	+0.74	0.62	0	6	19	6	5	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	55.8	−2.4	83	3	37	28	37	3.16	+0.86	1.05	0	7	14	5	11	s.	U. S. Weather Bureau.
Averages				55.0	−1.4	98	3	20	26†	59	2.31	+0.67	2.25	T.	7	15	7	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record. but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for September, 1924.

Stations.	Drainage Basin.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ||||	Red						T.	1.73			.72	.66	.05	.17							.10	.80	T.				.20	.20	.10				4.73
Amidon	Lit. Missouri						T.		.09	.07		T.	T.							.50							.03	T.					0.69
Arnegard	Missouri						.11				.06	.06							.10	.17	.16						T.						0.66
Ashley	Missouri							T.			1.33										.38	.10					1.29						3.10
Beach	Lit. Missouri						.09	T.	.04		.04										.54						T.	T.					0.71
Berthold Agency	Missouri						.32													.08	.38				T.	.04							0.82
Bismarck ***	Missouri					T.	.02			.37	.52		.03		.06					T.	.02					.03	.53	.02					1.60
Bottineau|| ||	Mouse						.11	.09			.79	.02	.10							.01	.32						.20	.21					1.85
Bowbells || ||	Mouse							.19	.09	.02	.16		.05	.03						.19	.04						.21	T.					0.98
Bowman	Grand						.13		.10	.10										.10	.15						.02	.05					0.65
Cando	Devils Lake						.25	.01			1.41		.16							T.	.10					.02	.31						2.26
Carson	Heart									.25	.20										.15						.53						1.13
Cooperstown	Sheyenne						.76	.14		.85	.30									1.35							.85						4.25
Crosby	Mouse						.50	.07				.21	T.							T						.11	.22						1.11
Devils Lake ***	Devils Lake						.32	.04		.21	1.07		.05							1.52	.07					.06	1.20	T.					4.54
Dickinson|| ||	Heart						.04	.02			.07		.03							T.	.49					.01	T.	T.					0.66
Donnybrook	Mouse																																
Dunn Center ||||	Knife						.43	T.		.07										.03	.30												0.83
Dunseith	Mouse						.17				1.51		.18								.03					.20	.57						2.66
Eckman	Mouse						.27	.36			.16		.17							.24	.31					.06	.29						1.86
Edgeley	James						.18	.19			1.40											.32					.62						2.71
Ellendale***	James					T.	.02	.20	.01	.16	.95		T.							.14	.01	1.12					.12						2.73
Energy	Missouri						.05		T.		.39	T.	.12								T.					T.	.36						0.92
Epping	Missouri																																
Fessenden|| ||	James						.18	.42			1.20	.04		.30	.01						.25						.03	.91	.02				3.36
Finley	Red						.65	.14			1.20	.02	.07		.24					.02	.80	.11					.62	.02					3.89
Forman	Sheyenne						.22	.42	.03		1.74		.05									1.09						.24					3.79
Foxholm	Mouse						.28		T.		.28	T.								.18	.16					.08	.06						1.04
Fryburg	Heart									T.		.12	T.							T.	.30						.08						0.50
Fullerton	James						.15	.22		T.	1.51	T.								T.	.12	1.18					.12		T.				3.30
Garrison	Missouri						.32		.02		.20	.03	T.							T.	.08						.30						0.95
Grafton	Red						.07	.04			.88	.02	.21								.97						.70	.20					3.09
Grand Forks ***	Red						.35				.80	T.	.17	.07	T.						1.04	.03					.47	.26					3.19
Granville	Mouse																																
Hannah	Pembina							.08													.35							1.93					2.36
Hansboro	Devils Lake						.15				1.10		.35								.04					.35	.80						2.79
Hettinger	Grand																																
Hillsboro	Red						.44	.13			.64	.06	.08	.02							.47	.38					.16	.24					2.62
Howard	Missouri				.38	T.	T.	T.	T.	T.	.19	T.	.11	T.					T.	.11						*	.26						1.05
Jamestown|| ||	James						.17	.74	.22		.32	.52		.30							.78	.28					.61	1.18					5.12
Lamoine	Missouri						.24				1.60		.20							.34						*	.56						2.94
Langdon|| ||	Pembina										.45	.20	.06								2.25						.12	1.15					4.23
Larimore	Red										.75	.50	.03	.15							2.00							1.00	.15				4.58
Linton	Missouri						T.			.05	.73		.05								.33					.01	.52						1.69
Lisbon ||||	Sheyenne						.12	.72			1.69	.27		.30							.34	.97					T.	.16	T.				4.57
McClusky	Missouri						.40		.20		.58		.40								.03						.51	T.					2.12
McHenry	James																																
McKinney	Mouse					.30					.40		.25					.26															1.21
McLeod	Sheyenne							1.11			1.06		.48							T.		1.03					.04	.19					3.91
Maddock	Sheyenne						.28				1.54		.43	.10						T.	.20					T.	.87						3.42
Mandan|| ||	Missouri						.04				.80		.03	.03							.02					T.	.33	.09					1.34
Manfred	James						.39	.06		.17	1.40		.16	.05						T.	.28					T.	.73						3.24
Marmarth	Lit. Missouri									.04								.15	.04	.15								.10					0.48
Mayville	Red						.55	.11			1.21	.05	.04								.39	.10					.08	.18					2.76
Melville	James						1.10	.25	.03		.65	.03	.23							T.	.03					.10	1.15	T.					3.57
Minot|| ||	Mouse		*				.09	.10	.20		.10								.07		.20						.15	.30					1.21
Minto	Red						.11	.07			.75	.01	.20								1.93						.57	.21					3.85
Mott	Cannon Ball									.31								T.	T.						.13			.09					0.53
Napoleon ||||	Missouri						.05	.03			1.00	.02		.03							.75						.16	.42					2.46
New England	Cannon Ball						T.		T.																		T.	T.					T.
New Salem	Heart						.06	T.			.26		T.								.13					T.	.28						0.73
Park River	Red																																
Parshall	Missouri																																
Pembina || ||	Red											.70	T.								.42						.85		.30				2.27
Pettibone	James						.45	.10	.12	T.	1.02	.01	.12	.05						.06	.18					T.	.85						2.96
Power	Sheyenne						*	1.04				*	1.06								*	1.22					*	.23					3.55
Powers Lake	Missouri											.12							.56			.06				.03	.08						0.85
Richardton	Heart							.08											.30		.12						.10						0.60
Sharon	Red						.57	.20			1.14		.05		.02					.07	1.61	.03				T.	.68	.01					4.38
Stanton	Missouri							.02			.60									T.	T.						.29						0.91
Steele	Missouri						T.	.22	T.		T	T.	T.		T.												.58	T.					0.80
Towner	Mouse										.45								T.		T.					.20	.40	.30					1.35
Turtle Lake	Missouri						.24	.04	.10		.55	T.	.16	.01													.48						1.58
Valley City	Sheyenne						1.50	.25	T.	.07	1.34	.01	.15		.07						.65	.09					.35	.10					4.58
Wahpeton	Red		.70				.70	.20			.75	.02	.31	.09								.95						.18					3.90
Walhalla	Pembina																																
Washburn	Missouri																																
Westhope	Mouse							.87			.17									.30	.22					.69	.21						2.46
Williston ***	Missouri						.31	.03		.08		.03							T.	.02	T.					.05	T.						0.52
Willow City	Mouse						.22			.57	.62		.15							T.	T.					.23	.50						2.29
Moorhead, Minn ***	Red						.86	.19			.70	T.	.16								.04	.91					T.	.30					3.16

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. * Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.**

Daily Temperatures for September, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	75	82	36	75	77	60	70	64	66	50	55	57	68	72	76	77	75	72	70	68	62	70	73	81	76	65	49	54	67	70	....	68.7
	Minimum ...	41	37	43	42	35	38	49	43	35	39	49	47	45	42	39	38	40	44	45	52	42	38	40	47	45	47	41	34	36	35	....	41.6
Arnegard	Maximum...	76	92	86	82	83	73	76	68	72	70	58	59	74	74	72	77	84	78	62	55	57	81	90	70	60	49	62	68	75	87	....	72.3
	Minimum ...	37	43	46	40	44	46	46	47	48	47	37	45	39	36	45	39	44	50	47	35	31	36	40	43	41	40	35	34	29	39	....	41.0
Ashley	Maximum...	65	75	78	78	70	69	67	66	65	58	60	62	60	..	..	58	62	..	..	68	59	66	67	77	74	65	45	53	55	68	....	[d]65.0
	Minimum ...	48	47	49	43	39	50	50	48	39	47	41	38	40	..	..	37	42	..	..	47	41	36	45	45	46	45	38	30	30	36	....	[d]42.2
Beach	Maximum...	72	90	88	84	80	82	80	70	77	70	51	51	60	72	75	79	88	78	71	52	65	82	68	71	61	49	48	46	71	85	....	70.5
	Minimum ...	34	45	44	43	50	55	53	48	49	49	35	42	34	34	38	36	47	41	34	34	33	36	44	43	35	31	27	31	33	40	....	39.9
Berthold Agency	Maximum...	76	91	84	82	81	72	76	78	77	70	67	67	66	70	72	75	80	78	68	56	67	81	90	74	64	53	53	63	73	89	....	73.1
	Minimum ...	28	45	38	34	43	57	52	48	47	51	36	44	41	47	30	37	43	48	50	42	30	30	43	33	34	44	25	31	24	40	....	39.9
Bismarck	Maximum...	74	83	89	79	79	68	75	67	71	69	65	59	66	64	70	71	72	70	67	54	65	80	83	77	62	50	50	60	68	81	....	69.6
	Minimum ...	41	51	49	44	47	56	55	47	44	48	43	48	46	45	38	41	49	52	54	44	41	37	52	42	46	44	32	36	36	40	....	44.9
Bottineau §§	Maximum...	..	72	86	72	70	76	68	77	62	68	62	66	58	63	65	70	74	75	82	63	55	65	71	80	76	59	47	54	57	65	....	[a]67.5
	Minimum ...	..	45	46	34	41	50	45	48	38	43	44	41	42	47	36	43	45	48	51	42	32	32	41	45	39	44	34	37	34	40	....	[a]41.6
Bowbells §§	Maximum...	71	86	76	76	77	65	57	62	71	68	60	60	59	65	72	74	77	76	62	52	61	67	88	71	61	51	48	61	69	84	....	67.6
	Minimum ...	34	46	42	41	42	50	48	41	42	48	40	40	40	40	36	40	46	50	47	35	31	34	40	41	37	42	32	32	31	38	....	40.1
Bowman	Maximum...	72	86	86	82	80	79	76	74	70	69	69	55	67	70	69	72	78	74	63	48	62	80	86	68	61	51	50	60	70	85	....	70.4
	Minimum ...	39	44	45	43	30	56	54	49	48	50	35	40	33	36	37	40	43	49	44	39	31	32	41	43	46	40	28	29	31	35	....	40.3
Cando	Maximum...	70	83	81	70	73	66	76	67	65	62	65	63	67	..	69	70	73	71	66	59	64	67	73	78	68	68	56	59	65	69	....	[a]68.4
	Minimum ...	35	41	47	38	36	52	54	38	32	48	49	44	46	..	37	39	41	47	56	40	37	34	43	44	47	41	40	36	29	39	....	[a]41.7
Carson	Maximum...	76	85	95	80	80	78	78	70	74	68	64	60	66	65	68	70	73	77	72	52	76	82	90	80	63	52	54	64	72	86	....	72.3
	Minimum ...	35	46	48	35	45	54	48	42	50	49	34	39	35	40	34	49	43	49	45	38	31	34	46	38	39	38	24	23	30	35	....	39.9
Crosby	Maximum...	64	88	76	76	79	67	76	66	67	76	56	56	66	71	72	73	78	76	67	55	65	79	87	69	57	48	48	58	70	83	....	69.0
	Minimum ...	33	43	43	43	49	51	49	44	46	48	44	38	43	42	38	44	49	49	46	38	29	38	43	44	39	41	28	31	34	41	....	41.7
Devils Lake	Maximum...	71	83	76	69	73	60	75	62	64	54	65	54	66	66	70	73	73	70	64	55	63	66	74	78	53	49	46	52	65	68	....	65.2
	Minimum ...	39	46	45	40	37	51	53	39	37	47	48	45	45	47	37	48	45	48	52	44	40	36	47	47	45	43	38	38	33	41	....	43.4
Dickinson §§	Maximum...	75	89	90	82	83	78	77	71	75	70	60	59	65	70	71	74	81	80	65	51	64	81	89	70	63	48	48	63	72	87	....	71.7
	Minimum ...	30	45	38	36	45	56	54	45	46	49	36	42	36	34	31	37	41	45	48	43	33	32	37	40	38	44	25	27	25	35	....	39.1
Donnybrook	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Dunn Center §§	Maximum...	72	89	84	80	83	68	75	67	76	69	59	60	64	67	71	73	81	80	64	64	64	79	89	70	48	50	61	61	71	87	....	70.9
	Minimum ...	31	39	41	37	41	49	52	48	49	48	36	39	41	43	30	31	38	45	42	42	32	29	30	34	35	20	21	23	23	26	....	36.6
Dunseith	Maximum...	70	84	84	88	76	70	74	67	67	64	65	56	64	68	70	73	73	72	70	62	66	72	78	77	68	48	46	56	61	72	....	68.7
	Minimum ...	37	39	47	36	35	49	45	36	36	45	45	41	44	43	37	39	42	59	51	42	32	34	45	43	42	41	36	36	29	37	....	40.7
Edgeley	Maximum...	75	84	93	79	75	65	69	63	66	62	67	60	69	66	71	73	72	70	67	61	65	75	82	89	79	69	50	59	65	69	....	70.0
	Minimum ...	43	42	50	41	36	53	50	45	34	46	47	41	42	40	36	40	40	43	54	49	42	38	40	48	40	38	40	31	30	32	....	41.8
Ellendale	Maximum...	72	80	92	76	74	64	66	62	67	52	61	59	65	65	69	70	72	70	68	60	62	73	80	82	74	60	48	55	63	71	....	67.7
	Minimum ...	48	38	48	45	39	56	52	41	35	47	49	46	44	45	41	39	41	47	53	48	42	43	43	53	44	46	37	35	31	34	....	43.6
Fessenden §§	Maximum...	78	87	86	79	78	63	77	64	67	58	70	57	69	63	75	76	75	73	65	57	66	80	80	81	62	62	55	60	70	76	....	70.3
	Minimum ...	35	42	48	38	34	46	51	43	35	46	39	40	43	45	34	41	41	48	49	45	38	31	38	43	42	47	39	36	29	34	....	40.7
Foxholm	Maximum...	71	87	79	75	77	70	74	65	73	67	62	60	64	66	69	72	76	74	64	53	64	75	83	71	63	49	47	58	67	80	....	68.5
	Minimum ...	38	49	49	40	42	51	45	44	40	50	41	45	45	49	40	45	45	48	50	40	31	33	39	43	42	43	33	36	30	44	....	42.3
Fullerton	Maximum...	72	80	91	76	75	65	67	62	68	55	63	58	65	66	69	71	73	71	70	62	60	71	78	79	74	68	47	55	63	69	....	68.1
	Minimum ...	50	39	49	43	40	53	50	46	35	46	49	44	44	41	38	41	42	45	52	49	42	40	43	51	44	45	40	34	33	33	....	43.4
Garrison	Maximum...	75	86	78	79	77	66	74	66	70	68	61	62	62	67	71	71	75	72	61	63	66	83	88	75	58	49	44	72	69	84	....	69.8
	Minimum ...	32	44	43	38	41	55	54	44	43	50	39	42	40	46	34	37	38	48	47	41	33	30	46	38	38	43	27	37	27	37	....	40.4
Grafton	Maximum...	72	84	76	67	73	65	77	68	67	58	55	54	69	70	74	78	76	73	69	64	60	65	77	79	72	57	49	51	60	67	....	67.5
	Minimum ...	36	37	48	41	33	49	43	39	24	45	47	46	50	43	34	40	42	43	53	48	42	40	41	50	41	49	40	30	30	38	....	41.4
Grand Forks	Maximum...	70	82	78	70	74	60	72	60	66	55	52	51	66	68	71	75	73	70	71	60	52	64	74	78	69	68	46	50	59	62	....	65.5
	Minimum ...	42	40	48	40	32	50	50	41	34	46	42	48	49	40	36	39	42	46	53	47	40	38	42	53	45	46	33	33	36	38	....	42.3
Granville	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Hansboro	Maximum...	50	55	55	48	55	62	50	45	60	66	66	60	60	56	56	65	68	62	60	52	48	51	62	62	60	50	42	50	52	60	....	56.4
	Minimum ...	33	35	35	31	30	35	30	28	23	42	42	40	39	38	32	33	33	38	40	38	26	30	35	36	35	38	34	30	22	28	....	33.6
Hettinger	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Hillsboro	Maximum...	71	82	81	73	73	72	70	69	65	63	54	54	67	69	73	74	74	71	70	68	58	65	77	80	79	73	52	50	63	67	....	68.6
	Minimum ...	43	38	53	45	37	53	52	41	35	45	47	48	47	43	40	40	42	45	54	53	43	41	45	54	49	50	40	36	37	37	....	44.4
Howard	Maximum...	68	72	80	80	79	80	81	80	79	80	56	69	65	67	70	72	76	70	66	52	64	77	81	66	54	46	46	59	71	83	....	69.7
	Minimum ...	31	38	40	42	40	42	44	42	40	44	36	39	41	38	36	40	44	44	42	33	34	38	42	34	38	32	22	28	34	41	....	38.0
Jamestown §§	Maximum...	89	91	75	75	67	71	60	65	71	67	55	61	65	70	81	71	70	68	59	61	71	80	70	67	52	47	55	62	67	71	....	67.8
	Minimum ...	34	38	39	38	28	33	41	36	28	31	33	35	36	31	30	29	36	30	35	40	31	29	30	38	34	37	30	25	20	28	....	32.9
Lamoine	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Langdon §§	Maximum...	71	84	84	69	76	71	77	68	66	62	62	54	65	70	75	74	75	70	67	57	61	67	73	75	70	55	45	49	65	65	....	67.2
	Minimum ...	34	35	47	35	34	43	50	35	33	46	45	46	45	44	36	40	42	48	50	45	45	33	31	36	32	44	39	30	30	32	....	39.5
Larimore §§	Maximum...	81	80	70	75	60	74	64	65	50	57	53	67	70	73	74	74	70	70	60	55	66	76	76	60	50	50	55	65	74	77	....	66.4
	Minimum ...	38	41	55	48	33	40	50	40	32	38	45	47	47	43	40	44	47	45	46	76	40	42	41	48	43	48	40	32	32	31	....	42.1
Linton	Maximum...	79	86	98	86	82	84	78	72	73	70	69	61	68	72	74	76	75	73	75	65	67	82	85	85	73	69	52	60	70	78	....	71.6
	Minimum ...	40	43	44	41	45	60	53	50	46	50	40	39	39	45	40	37	46	51	53	47	42	32	53	47	46	46	34	30	29	40	....	43.6
Lisbon §§	Maximum...	75	84	90	78	80	56	67	62	67	49	54	60	68	72	75	74	77	75	70	62	60	65	81	83	77	63	51	56	68	..	....	[a]68.9
	Minimum ...	45	36	51	45	35	46	50	47	31	42	44	42	46	42	37	37	41	42	45	54	41	40	43	49	47	50	40	34	28	35	....	42.2
McKinney	Maximum...	70	86	80	78	70	70	75	65	70	67	65	55	65	76	72	80	..	..	..	..	..	..	..	..	..	..	..	50	..	..	....	[m]70.2
	Minimum ...	32	46	38	35	35	50	45	45	45	50	40	40	45	40	30	34	..	..	..	..	..	..	..	..	..	..	..	34	..	..	....	[m]40.2
Maddock	Maximum...	72	84	84	77	73	70	76	73	66	64	65	63	66	65	70	73	73	72	67	60	65	71	77	77	75	52	47	57	66	72	....	69.1
	Minimum ...	31	36	43	35	33	51	53	39	33	46	43	45	43	40	33	38	39	45	56	44	36	30	44	38	42	45	37	37	29	36	....	40.0
Melville	Maximum...	71	72	81	78	73	68	72	68	66	57	66	58	63	62	69	73	72	70	68	60	62	70	78	81	65	56	45	55	67	70	....	67.2
	Minimum ...	38	48	55	38	37	52	50	43	37	45	45	45	42	43	34	45	43	44	48	45	40	35	41	43	41	42	39	33	31	34	....	41.9
Minot §§	Maximum...	75	91	87	78	80	65	78	63	73	69	63	61	65	68	74	76	77	75	67	53	66	82	92	75	56	55	77	67	71	85	....	72.1
	Minimum ...	31	43	46	37	41	42	49	46	40	46	39	41	43	45	33	42	42	42	49	42	32	29	35	40	37	39	35	34	23	38	....	39.4
Mott	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Napoleon §§	Maximum...	70	82	87	76	77	63	71	64	68	65	65	58	65	64	71	72	71	70	75	55	65	75	80	79	66	48	51	57	66	68	....	68.1
	Minimum ...	38	36	48	37	38	43	48	45	38	41	35	39	38	40	35	37	37	41	46	44	39	35	45	45	42	45	35	29	32	37	....	39.6
New Salem	Maximum...	78	81	92	73	79	82	76	72	72	70	69	63	71	68	71	73	77	75	72	55	66	83	90	70	75	56	52	63	70	87	....	72.7
	Minimum ...	38	24	40	54	47	62	52	45	43	49	41	43	42	47	35	48	43	42	45	42	37	38	54	46	42	43	31	30	32	47	....	42.7
Pembina §§	Maximum...	65	84	74	67	74	62	78	63	70	52	55	56	68	70	74	77	78	76	79	60	60	68	79	78	54	52	55	50	64	68	....	66.8
	Minimum ...	48	49	40	40	32	34	38	36	31	34	48	48	48	36	38	34	40	46	54	44	34	34	45	45	45	47	41	34	30	36	....	40.2
Steele	Maximum...	73	81	88	81	76	62	70	68	64	56	67	69	64	63	71	72	72	69	62	53	58	73	80	80	78	49	44	60	59	65	....	67.6
	Minimum ...	39	44	44	44	43	55	50	44	39	45	44	45	42	43	39	40	44	45	42	42	42	33	50	45	42	43	34	34	32	39	....	42.2
Towner	Maximum...	85	90	78	75	78	75	78	75	74	72	70	68	68	69	78	75	77	78	71	74	70	72	70	68	69	70	74	75	78	72	....	71.2
	Minimum ...	30	48	45	35	48	45	38	46	56	40	41	35	45	45	45	43	46	45	43	40	38	37	38	40	37	38	41	33	45	38	....	41.5
Valley City	Maximum...	72	81	86	75	73	64	70	67	64	53	59	57	67	65	69	72	72	74	79	67	59	65	77	79	71	68	47	53	65	70	....	67.9
	Minimum ...	41	44	54	40	35	49	50	47	44	46	48	45	42	40	43	45	47	50	53	50	43	35	44	54	45	46	39	33	40	36	....	44.3
Wahpeton	Maximum...	74	70	90	87	74	70	62	63	65	64	55	61	66	71	75	75	74	70	70	69	60	70	76	81	79	73	60	56	63	67	....	69.7
	Minimum ...	38	51	42	45	38	51	51	48	39	47	47	48	43	40	40	43	46	46	50	57	43	36	49	54	50	55	42	34	41	38	....	45.1
Walhalla	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Westhope	Maximum...	76	89	87	71	78	78	76	66	70	70	69	67	68	74	73	75	76	76	72	67	68	76	84	77	60	51	50	64	69	76	....	71.8
	Minimum ...	32	37	42	37	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	38	30	29	45	37	36	44	31	31	25	40	....	[c]35.6
Williston	Maximum...	73	89	76	78	79	66	73	66	71	67	56	58	64	67	71	74	82	76	61	56	66	80	87	68	56	50	50	60	73	85	....	69.3
	Minimum ...	37	49	45	42	53	56	50	50	50	47	41	45	39	40	38	41	51	54	47	35	33	35	46	42	43	31	26	36	30	47	....	42.6
Moorhead, Minn	Maximum...	69	77	83	71	71	59	67	60	62	55	53	54	64	67	71	73	72	69	69	63	52	64	76	81	76	69	47	51	62	66	....	65.8
	Minimum ...	48	40	54	45	40	52	51	45	40	46	47	46	46	44	47	43	45	48	54	51	44	42	48	55	53	47	41	37	41	39	....	45.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 10-22-24—1135.]

UNNI

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXIII. BISMARCK, N. D., OCTOBER, 1924. No. 10

GENERAL SUMMARY.

Unusual conditions characterized the weather during October, 1924. The mean temperature for the State was the highest of record; the average precipitation was also the highest of record, and it was the only October in the climatological history of the State with a prevailing wind direction southeast, all others being northwest. The month opened with clear weather, a condition that obtained until the 4th, when general showers occurred. The 6-7th were fair, but from the 8th to the 12th rain was general over the State; in fact, practically all the precipitation for the month was confined to those two periods. Scattered showers, however, occurred on the last two days of the month. Farm work generally made excellent progress from the 15th to the close of the month. Some reports of grain sprouting in shock were received. At the close of the month good headway had been made in threshing and the seeding of winter rye, and with fall plowing. Fall feed was abundant, and livestock generally was in excellent condition.

TEMPERATURE.

The mean temperature for the State was 50.3°, or 6.5° above the normal, and 6.3° higher than the mean for October, 1923. The highest mean reported was 55.0° at Wahpeton, Richland County; the lowest was 41.6° at Hansboro, Towner County. The highest temperature reported was 86° at Westhope, Bottineau County, on the 11th; the lowest was 19° at Jamestown, Stutsman County, on the 3d. The greatest monthly range of temperature was 63° at Bowbells, Burke County; the least was 42° at Ashley, McIntosh County, and at Valley City, Barnes County. The greatest daily range was 49° at Jamestown, Stutsman County, on the 3d, and at Linton, Emmons County, on the 25th.

PRECIPITATION.

The average precipitation for the State was 2.43 inches, or 1.43 inches above the normal, and 1.55 inches greater than the average for October, 1923. The greatest monthly amount reported was 5.74 inches at Powers Lake, Burke County; the least was 0.97 inch at Washburn, McLean County. The greatest amount recorded in any 24 consecutive hours was 2.45 inches at Bowbells, Burke County, on the 8th. The average number of days with 0.01 inch or more of precipitation was 7. The average snowfall was 0.3 inch; the greatest fall was 5.8 inches at Howard, Williams County.

AURORAS.

Auroras were observed at Powers Lake on the 17th and 18th; at McLeod on the 20th; at Crosby, Finley, Foxholm and Minto on the 21st; at Crosby, Grand Forks, New England, Powers Lake and Valley City on the 22d; at Arnegard, Bowman, Crosby, Devils Lake, Ellendale, Foxholm, McClusky, McLeod, New England, Sharon and Williston on the 23d; at Arnegard, Bowman, Crosby, Devils Lake, Ellendale, Foxholm, Grand Forks, Linton, McClusky, Moorhead, New England and Pettibone on the 24th; at Finley, Fullerton, Moorhead and Pettibone on the 25th; at Eckman on the 26th; at Powers Lake on the 27th, and at Eckman on the 28th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level.					Winds.					
	Average.	Highest.	Date.	Lowest.	Date.	Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	29.97	30.40	20	29.27	29	57	7,328	9.8	44	sw.	12
Devils Lake	29.94	30.40	20	29.30	29	44	7,366	9.9	38	sw.	12
Ellendale	29.99	30.39	21	29.30	30	56	10,582	14.2	49	nw.	5
Grand Forks	29.94	30.42	21	29.33	30	90	....	......	54	s.	12
Williston	29.92	30.39	19	29.22	29	48	5,738	7.7	48	w.	12
Moorhead, Minn	29.98	30.42	21	29.23	30	58	6,673	9.0	31	sw.	12
Av'ges and extremes	29.96	30.42	21	29.22	29	.....	....	10.1	54	s.	12

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine.				Humidity.				
	Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	193.0	336.9	57	− 3	84	51	57	25	26
Devils Lake	212.0	335.6	63	+ 9	86	58	72	30	26
Ellendale	236.7	338.3	70	− 8	86	49	....	26	25†
Grand Forks	......	......	......	......	92	.....	71	.....	....
Williston	219.7	335.6	65	+11	83	53	58	25	25
Moorhead, Minn	229.6	336.9	68	+ 8	86	57	65	40	12†
Averages and extremes	218.2	336.6	65	+ 6	....	54	....	25	25†

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.				Precipitation.			Sky.			Wind Dir.
	Mean.	Dep.	Highest.	Lowest.	Average.	Dep.	No. rainy days.	Clear days.	P.cdy days.	Cl'dy days.	
1892...	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893...	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894...	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895...	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896...	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897...	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898...	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899...	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900..	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901...	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902...	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903...	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904...	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905...	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906...	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907...	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908...	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909...	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910...	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911...	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912...	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913...	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914...	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915...	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916...	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917...	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918...	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919...	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920...	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921...	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922...	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.
1923...	44.0	+0.2	84	− 8	0.88	−0.12	4	14	7	10	nw.
1924...	50.3	+6.5	86	19	2.43	+1.43	7	17	5	9	se.

Climatological Data for October, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	50.8	+6.5	76	17†	28	21	44	2.83	+1.54	1.10	0	4	21	7	3	sw.	E. T. Carley.
Amidon	Slope		11	50.2		75	16†	28	6	37	3.38		1.53	T.	5	18	8	5	w.	Charles Eastgate.
Arnegard	McKenzie		10	49.6		76	25	23	6	41	2.72		1.23	T.	6	23	1	7	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	51.0^{a}	+7.3	73^{a}	17	31^{a}	3†	39^{a}	2.95	+1.89	1.14	0	5	21	2	8	se.	R. C. Miles.
Beach	Golden Valley	2,579	19	49.4	+5.4	78	22	25	31	41	2.34	+1.35	0.71	7.0	5					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	49.8	+5.1	83	1	26	6	44	3.22	+2.36	1.61	0	5	20	3	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	53.0	+8.1	76	25	33	3	40	2.02	+0.99	1.68	0	5	14	5	12	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	50.2	+8.6	78	25†	27	31	47	2.47	+1.48	0.76	0	8	14	6	11	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	48.2	+7.9	84	1	21	6	37	4.80	+4.05	2.45	0	7	21	0	10		G. H. Phelps.
Bowman	Bowman	2,961	11	49.2		74	16	25	6	39	3.67		2.00	0	5	16	6	9	se.	R. Love, Jr.
Cando	Towner	1,488	24	49.7^{a}	+6.0	77^{a}	26	30^{a}	7	39^{a}	2.00	+1.28	0.78	0	7	10	11	10	se.	A. J. Swanson.
Carson	Grant	2,500	13	50.2	+6.7	76	17	24	6	42	2.93	+2.05	1.50	0	4	21	5	5	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19								1.70	+0.83	0.90	0	3	18	9	4	se.	S. Friswold.
Crosby	Divide	1,954	18	48.8	+7.3	78	17	20	6	41	1.75	+0.99	0.59	2.0	7	16	7	8	sw.	John Jensen.
Devils Lake	Ramsey	1,478	28	50.4	+9.9	78	26	31	7	33	2.08	+0.85	1.02	0	8	17	3	11	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	33	48.2	+4.3	75	25	26	5†	46	3,37	+2.59	1.38	T.	7	17	3	11	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26																	H. Feldner.
Dunn Center	Dunn	2,191	26	48.2	+2.6	75^{a}	25†	26	6	46^{a}	3.48	+2.85	0.96	0	7	20	1	10	se.	W. H. Moede.
Dunseith	Rolette	1,682	29	50.3	+9.2	79	26	26	10	45	3.34	+2.59	1.29	T.	8	17	4	10	w.	J. G. Lamont.
Eckman	Bottineau	1,500	20								2.45	+1.60	0.60	0	8	17	7	7	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	24	52.0	+6.1	79	17	26	7	45	1.65	+0.73	0.57	0	6	7	15	9	se.	O. A. Thompson.
Ellendale	Dickey	1,449	26	52.3	+6.7	78	1	29	28	41	1.35	+0.31	0.82	0	5	17	3	11	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	50.0		78	26	27	3	45	2.43	+1.73	1.46	0	5	19	7	5	se.	H. S. Solenberger.
Epping	Williams	2,224	17																	A. O. Wang.
Fessenden	Wells	1,610	13	50.2	+8.2	80	26	28	7†	45	1.96	+1.18	1.10	0	7	18	5	8	nw.	T. D. Monsen.
Finley	Steele	1,461	1	50.6^{a}		74^{a}	26	30^{a}	7	34^{a}	2.10		0.75	0	7	19	2	10	se.	G. J. Mustad.
Forman	Sargent	1,249	31								1.29	−0.05	0.42	0	4	18	8	5	s.	O. Enger.
Foxholm	Ward	1,657	4	50.2		75	26	25	6	34	2.28		0.71	T.	7	14	9	8	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	7								2.98		1.10	T.	5	23	2	6	sw.	Verne King.
Fullerton	Dickey	1,439	27	51.4	+7.1	74	1	30	7†	40	2.12	+0.83	0.72	0	8	17	7	7	s.	F. O. Alin.
Garrison	McLean	1,901	30	51.3	+7.5	76	25	28	3†	39	1.98	+1.08	0.82	0	6	18	6	7	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	51.0	+8.3	81	26	29	7	44	2.45	+1.56	1.23	0	8	18	6	7	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	50.8	+7.3	75	26	30	7	40	2.46	+1.30	1.01	T.	6	18	4	9	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	18	50.7	+6.6	79	26	28	6†	40	1.63	+0.75	0.48	0	5	13	5	13	se.	W. A. Christianson.
Hannah	Cavalier	1,568	31								3.58	+2.62	2.15	0	6					J. Moffatt.
Hansboro	Towner	1,597	17	41.6	+0.3	80	12	22	7†	37	2.52	+1.61	0.80	T.	8	17	7	7	ne.	C. E. Blackorby.
Hettinger	Adams	2,675	18	52.0	+5.6	76	30†	28	30	47	3.14	+2.50	1.60	T.	4	24	4	3	nw.	U. J. Downey.
Hillsboro	Traill	901	19	52.4^{b}	+6.4	76^{b}	17	30^{b}	21	36^{b}	2.40	+1.38	1.16	0	7				se.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	45.9	+4.5	78	20	26	6†	42	1.53	+0.72	0.50	5.8	5	14	6	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	49.2	+4.4	76	16	19	3	49	1.92	+0.99	0.81	0	4	18	3	10	sw.	S. Calvelage.
Lamoine	Kidder	1,936	20	52.2^{b}	+9.1	76^{b}	26	31^{b}	6†	38^{b}	1.68	+1.10	1.68	0	1					E. V. Virgin.
Langdon	Cavalier	1,615	29	48.5	+8.1	74	25	29	10†	42	3.35	+2.41	1.35	0	7	18	5	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	49.8	+6.5	78	26	26	7	40	3.01	+1.78	1.60	0	7	16	4	11	s.	Reuben Gray.
Linton	Emmons	1,711	7	53.9		77	17†	28	25	49	1.48		0.95	0	5	12	8	11	se.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	47.0	+1.7	75^{a}	1	28	9†	40^{a}	1.47	+0.45	0.68	0	3	11	7	13	nw.	W. S. Adams.
McClusky	Sheridan	1,943	7	49.4		76	26	29	6	40	2.34		1.00	0	6	17	8	6	se.	Edw. Tapley.
McHenry	Foster	1,509	14	50.0	+7.7	76	29	30	7†	42	2.20	+1.29	1.00	0	3	19	0	12	s.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	46.7^{h}	+5.0	80^{h}	25	23^{h}	5	48^{h}	3.05	+2.21	1.50	0	7					N. P. Swenson.
McLeod	Ransom	1,075	13	55.2	+9.7	82	17	30	7	45	2.43	+1.37	0.90	0	4	18	4	9	se.	J. G. Carlson.
Maddock	Benson	1,604	9	50.2		78	26	28	7†	40	1.90		0.82	0	6	15	5	11	se.	A. T. Felland.
Mandan	Morton	1,644	11	51.8		76	11†	29	7	42	1.94		1.64	0	5	15	4	12	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	50.0	+6.7	74	17†	22	8	36	1.56	+0.75	0.55	0	5	19	2	10	se.	P. B. Anderson.
Marmarth	Slope	2,714	16								3.17	+2.38	1.00	0	8					S. P. Grane.
Mayville	Traill	975	29	51.9^{c}	+7.0	77^{f}	26	27	27	47^{f}	2.95	+1.84	1.44	0	4	19	2	10	sw.	R. Peterson.
Melville	Foster	1,590	27	51.4	+7.8	78	26	27	7	36	2.58	+1.71	1.25	0	4	15	10	6	se.	J. P. Kidder.
Minot	Ward	1,557	29	50.6	+7.0	79	24	23	6	42	2.20	+1.26	1.26	0	5	19	7	5	w.	W. I. Faris.
Minto	Walsh	820	32	50.4	+7.2	81	26	27	7	44	2.82	+1.72	1.50	0	7	17	7	7	se.	C. M. Evans.
Mott ††	Hettinger	2,424	18	47.8	+4.8	78	25	24	6	42	3.65	+2.56	1.74	0	4	8	11	12	w.	O. H. Opland.
Napoleon	Logan	1,955	33	50.8	+8.9	76	17†	30	3†	44	1.77	+0.83	1.12	0	4	21	3	7	s.	C. J. Hoof.
New England	Hettinger	2,400	31	47.8	+4.1	74	1†	25	6	42	2.67	+2.02	0.76	0	5	12	8	11	w.	W. S. Jones.
New Salem	Morton	2,163	21	52.3	+8.0	79	12	25	7	47	1.99	+1.04	1.50	0	4	18	6	7	nw.	J. Christiansen.
Park River	Walsh	998	21	50.2	+5.9	79	26	27	7	36	2.93	+1.92	1.18	0	8	17	6	8	se.	C. B. Wright.
Parshall	Mountrail		10																	J. A. Johnson.
Pembina	Pembina	789	51	50.1	+10.1	72	23	28	7	39	1.30	−0.04	1.10	0	2	15	5	11	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	50.4	+9.2	77	26	25	31	44	2.50	+1.85	0.85	0	6	13	6	12	se.	S. C. Shanks.
Power	Richland	1,020	31								2.20	+0.73	0.93	0	3					J. A. Power.
Powers Lake	Burke	2,205	11								5.74	+4.92	1.50	2.3	7	22	2	7	w.	Geo. B. Gee.
Richardton	Stark	2,467	9	48.3		75	25	23	6	42	2.28		1.55	0	5	21	3	7	se.	John Muggli.
Sharon	Steele	1,516									2.14		0.67	0	6	18	5	8	s.	Nels O. Gretsheim.
Stanton	Mercer	1,722	1								2.12		1.84	0	3	18	8	5	se.	J. H. Giffey.
Steele††	Kidder	1,857	29	50.2	+6.2	76	26	32	6†	41	1.71	+0.83	0.94	0	5	21	4	6	se.	H. S. Wood.
Towner	McHenry	1,482	23	51.4	+9.0	72	14†	26	31	41	2.00	+1.10	1.05	0	4	22	2	7	se.	B. Bagley.
Turtle Lake	McLean	1,899	10	50.8		76	25	28	3	41	1.29		0.57	0	8	16	6	9	se.	A. T. Anderson.
Valley City	Barnes	1,245	20	51.7	+6.5	73	17	31	7	38	2.20	+1.37	0.95	0	6	21	3	7	se.	H. Twito.
Wahpeton	Richland	962	31	55.0	+9.1	83	17	32	10	39	2.56	+1.05	1.27	0	5	21	0	10	se.	C. G Luick.
Walhalla	Pembina	966	21																	T. R. Johnson.
Washburn	McLean	1,731	24								0.97	+0.03	0.58	0	5					Karl Klein.
Westhope	Bottineau	1,508	19	51.4^{a}	+10.0	86^{a}	11	30^{a}	9†	46^{a}	2.03	+1.36	0.59	0	5	19	3	9	se.	W. A. Meddaugh.
Williston	Williams	1,878	46	49.4	+6.0	75	26	29	6	37	1.90	+1.13	0.77	4.5	6	18	5	8	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33								2.66	+1.96	1.37	0	5					M. A. Ostby.
Moorhead, Minn.	Clay	935	44	53.1	+8.6	79	17	32	10	36	2.87	+0.80	1.05	0	6	20	5	6	s.	U. S. Weather Bureau.
Averages				50.3	+6.5	86	11	19	3	49	2.43	+1.43	2.45	0.3	7	17	5	9	se.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for October, 1924.

Stations.	Drainage Basin.	Day of Month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red				.93					1.10		.60	.20																			T.	2.83
Amidon	Lit. Missouri				.90				.79	.06	1.52		.10																				3.38
Arnegard	Missouri			T.	.53				.65	.17	.05	.09	1.23																				2.72
Ashley	Missouri					.58			1.14	.30		.33																			.60		2.95
Beach	Lit. Missouri				.71				.60	T.	.09	.36	.58																				2.34
Berthold Agency	Missouri			.01	.45				1.61			1.11	.04																				3.22
Bismarck ***	Missouri				.17				1.09	.59			.04									T.									.13		2.02
Bottineau ‖	Mouse				.50	.38			.60	.76	.06	T.	.04	.10																	.03		2.47
Bowbells ‖	Mouse				.75	.70			2.45		.05	.09	.69	.07																			4.80
Bowman	Grand				.72				2.00	.20		.60	.15																				3.67
Cando	Devils Lake.				.28	.78			.36	.22		.08	T.	.08																	.20		2.00
Carson	Heart				.20				1.50				.93																		.30		2.93
Cooperstown	Sheyenne				.75				.90			.05																					1.70
Crosby	Mouse		T.		.21	.02			.40	.20	.09	.24	.59																				1.75
Devils Lake ***	Devils Lake.				.65	.37			.59	.04	.05	.02	.03		T.																.33		2.08
Dickinson ‖	Heart				.56	.37				.80	.04	.01	1.38	.21									T.										3.37
Donnybrook	Mouse																																
Dunn Center ‖	Knife				.66	.04			.96	.20		.84	.73	.05																			3.48
Dunseith	Mouse				.30	.98			.42	1.29	.05	.03	.17																		.10		3.34
Eckman	Mouse			.02	.51	.59			.54	.60	.10	.06	.03																				2.45
Edgeley	James				.08	.22		.57	.42			.21																			.15		1.65
Ellendale***	James				.26	T.			.80	.03		.15																			.11		1.35
Energy	Missouri				.23	.16			1.46	.46		T.	.12																				2.43
Epping	Missouri																																
Fessenden ‖	James				.01	1.10			.01	.63		.05		.02																		.14	1.96
Finley	Red				.15	.75	.01		.40	.60		.06	T.																		.13	T.	2.10
Forman	Sheyenne					.42			.32	.22		.33																					1.29
Foxholm	Mouse		T.	T.	.44	.71			.37	.59	.09	.06	.02																				2.28
Fryburg	Heart				1.10				.72	.26	T.	.74	.16																				2.98
Fullerton	James																																
Garrison	Missouri				.38	.14			.82	.57	T.	.03	.04																				1.98
Grafton	Red					1.23			.36	.45		.05	.02			.20															.04	.10	2.45
Grand Forks ***	Red				.45	1.01	T.		.63	.03		.22			T.																.12		2.46
Granville	Mouse				.30	.48			.48	.34		.03	T.																				1.63
Hannah	Pembina				*	2.15		T.		.05	1.06			.11																.21			3.58
Hansboro	Devils Lake.				.80	.20			.65	.25	.03	.17		.22																		.20	2.52
Hettinger	Grand				.83				1.60				.61							.10													3.14
Hillsboro	Red				.03	1.16			.34	.34		.45																			.05	.03	2.40
Howard	Missouri	T.	T.	T.	T.	.30			.10		.45	.18	.50																				1.53
Jamestown ‖	James					.69				.81		.11																			.31		1.92
Lamoine	Missouri							1.68																							T.		1.68
Langdon ‖	Pembina				.05	1.35				1.15	.29	.07				.24																.20	3.35
Larimore	Red				.05	1.60			.50	.50		.20		.02																	.04		3.01
Linton	Missouri				.14	.06			.95	.20		T.	T.																		.13		1.48
Lisbon ‖	Sheyenne					.61	T.		.68		.18																	T.					1.47
McClusky	Missouri				*	.48			.65	1.00	T.	.01	T.																		.20		2.34
McHenry	James				.80				1.00																					.40			2.20
McKinney	Mouse		T.	*	1.50			*	*	1.30	.15	.10	T.																				3.05
McLeod	Sheyenne					.90				.81		.61			T.																	.11	2.43
Maddock	Sheyenne				.24	.82			.30	.20		.06	T.																		.28		1.90
Mandan ‖	Missouri				T.	.15			T.	1.64			.03									.05									.07		1.94
Manfred	James				.30	.55			.47	.21	T.	.03	T.																		T.		1.56
Marmarth	Lit. Missouri			1.00	.15			.60	.52	.02		.75	.11							.02													3.17
Mayville	Red					1.44			.14	.67		.70																					2.95
Melville	James				.12	1.25			.78			T.																			.43		2.58
Minot ‖	Mouse				.05	.80				1.26	.01	.08																					2.20
Minto	Red				.03	1.50			.42		.53	.06				.16															.12		2.82
Mott	Cannon Ball				.26				1.58		1.74									.07													3.65
Napoleon ‖	Missouri					.45	.03			1.12																						.17	1.77
New England	Cannon Ball				*	.70			.76	.43		.75	.03																				2.67
New Salem	Heart				.15				1.50				.15																		.19		1.99
Park River	Red				.08	1.18	T.		.65	.40		.12			T.	.25															.23	.02	2.93
Parshall	Missouri																																
Pembina ‖	Red					1.10						.20																					1.30
Pettibone	James				.30	.85			.85	.30		.02	T.																		.18		2.50
Power	Sheyenne					.93				.76	.51																			T.			2.20
Powers Lake	Missouri			.02	.79	.17			1.50		1.38	1.42	.46																				5.74
Richardton	Heart				.10	.08			.44			1.55	.11																				2.28
Sharon	Red				.23	.67			.56	.46		.05																			.17		2.14
Stanton	Missouri				.28				*	1.84																					T.		2.12
Steele	Missouri				.24	.22			.94	.16			T.	T.																	.15		1.71
Towner	Mouse					1.05				.75		.15	.05																				2.00
Turtle Lake	Missouri				.14	.25			.57	.21		.02	.02	.03																	.05		1.29
Valley City	Sheyenne				.20	.95			.35	.35		.25																			.10		2.20
Wahpeton	Red					1.27			.32	.85		.03																				.09	2.56
Walhalla	Pembina																																
Washburn	Missouri					.26			.58	.04			.06																		.03		0.97
Westhope	Mouse				.59	.42			.45	.30		.27																					2.03
Williston ***	Missouri			T.	.57				.27	.02	.21	.46	.37																				1.90
Willow City	Mouse				1.37				.47	.68	.08	T.	.06																				2.66
Moorhead, Minn ***	Red				.90	.08			.62	.13		1.05			T.																.09		2.87

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	73	68	65	51	50	65	64	60	59	60	70	65	69	68	71	70	76	72	71	64	61	65	67	72	76	75	63	64	66	52	63	65.6
	Minimum...	37	43	32	46	33	29	31	32	50	31	34	52	43	35	36	40	42	40	35	33	28	31	32	37	32	33	35	32	34	39	33	36.1
Arnegard	Maximum...	70	50	66	50	35	56	70	53	53	52	48	47	63	68	70	73	72	70	66	65	66	67	72	57	76	75	73	66	56	57	63	62.1
	Minimum...	49	38	33	32	32	23	33	46	37	33	47	35	39	39	35	39	41	36	36	35	43	43	37	37	35	39	39	38	38	34	26	37.0
Ashley	Maximum...	66	56	54	54	48	48	..	65	59	57	68	66	70	70	70	70	73	69	66	63	60	62	66	62	71	72	71	66	69	57	67	[a]63.8
	Minimum...	41	40	31	48	35	33	..	40	46	33	45	40	46	38	38	34	45	42	38	38	31	39	39	38	36	38	32	35	36	39	32	[a]38.3
Beach	Maximum...	69	55	53	42	43	62	72	60	62	43	43	50	65	66	75	77	76	66	62	62	68	78	73	67	75	75	70	66	60	55	65	62.9
	Minimum...	41	34	33	30	29	27	36	43	36	33	40	31	37	34	34	37	40	37	34	44	41	43	37	37	36	40	36	37	38	31	25	35.8
Berthold Agency	Maximum...	83	69	69	59	37	57	69	63	54	48	56	59	66	67	70	75	76	70	65	62	65	63	64	70	72	74	70	62	59	58	65	64.4
	Minimum...	39	31	31	36	32	26	31	52	42	34	42	38	42	32	33	37	38	30	29	29	28	45	31	39	32	37	35	31	35	39	35	35.2
Bismarck	Maximum...	72	57	67	56	40	55	71	64	57	52	74	69	67	71	70	75	75	70	68	62	61	67	72	70	76	75	71	69	73	53	66	66.0
	Minimum...	42	38	33	36	35	35	34	53	38	37	51	44	45	44	38	39	46	42	35	39	40	45	42	42	36	43	34	37	42	42	35	40.1
Bottineau §§	Maximum...	73	54	59	51	51	52	61	58	58	16	54	67	62	69	71	68	71	69	69	62	64	65	69	69	78	78	67	67	60	57	51	62.9
	Minimum...	44	42	44	37	32	30	29	49	28	32	37	41	38	42	41	38	42	36	35	38	36	41	37	41	31	40	40	38	40	38	27	37.5
Bowbells §§	Maximum...	84	64	52	65	40	40	51	59	60	45	41	61	47	62	61	68	72	62	72	60	61	62	63	71	69	65	76	62	58	56	53	60.1
	Minimum...	51	38	31	38	29	21	25	40	42	30	31	34	36	35	32	40	35	34	36	35	45	36	40	42	40	40	43	38	36	37	36	36.3
Bowman	Maximum...	69	52	62	48	36	58	70	63	56	52	56	50	65	63	72	74	70	67	62	59	61	67	69	64	73	70	71	63	65	51	62	61.9
	Minimum...	46	39	33	31	30	25	36	44	36	34	42	32	38	33	33	41	40	37	40	44	39	44	36	35	35	36	36	35	40	37	26	36.5
Cando	Maximum...	68	60	56	55	51	49	59	55	55	48	55	67	62	69	66	68	..	71	67	60	61	63	68	64	73	77	68	63	59	57	57	[a]61.7
	Minimum...	41	42	37	46	38	37	30	49	44	31	41	47	41	35	38	34	..	35	36	33	31	36	38	38	34	38	36	33	38	41	33	[a]37.7
Carson	Maximum...	75	56	69	59	38	48	70	72	55	60	65	58	64	69	70	75	76	70	68	64	60	65	70	72	75	74	75	68	72	52	70	65.6
	Minimum...	41	33	29	28	28	24	28	42	34	32	44	35	33	39	30	36	39	33	28	40	39	44	34	36	37	39	36	38	38	35	28	34.8
Crosby	Maximum...	67	55	65	52	38	52	65	56	46	46	47	48	58	68	68	73	78	74	72	64	65	67	68	73	70	71	70	64	54	52	57	61.4
	Minimum...	52	38	44	33	29	20	33	45	34	31	38	36	36	30	30	38	37	33	33	34	43	42	40	43	41	43	34	36	33	36	28	36.2
Devils Lake	Maximum...	68	58	61	52	49	48	60	54	56	47	66	66	63	70	66	67	69	66	66	60	60	63	68	61	73	78	69	65	60	49	59	61.8
	Minimum...	43	44	38	46	36	33	31	51	34	31	42	43	43	38	36	37	43	36	36	34	35	38	42	40	40	47	39	39	40	38	34	38.9
Dickinson §§	Maximum...	71	53	66	44	40	57	70	59	54	46	53	49	62	64	71	74	71	67	65	63	63	63	72	67	75	74	71	66	66	56	63	62.4
	Minimum...	40	37	30	40	32	26	27	33	39	33	34	35	40	34	31	31	31	34	30	36	38	41	33	33	29	33	34	35	37	39	26	33.9
Donnybrook	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Dunn Center §§	Maximum...	..	51	68	55	35	55	67	61	53	46	54	52	62	65	69	73	73	65	71	62	63	62	73	68	75	75	69	68	66	57	63	[a]62.5
	Minimum...	35	36	30	30	30	26	27	48	40	34	34	40	38	34	34	32	34	30	29	30	45	42	33	33	29	32	34	28	32	37	34	33.9
Dunseith	Maximum...	72	63	56	54	49	50	60	58	55	45	50	66	63	70	70	70	70	69	68	64	63	65	69	68	76	79	74	69	64	59	57	63.4
	Minimum...	45	42	35	44	32	28	31	47	41	26	38	44	44	33	42	43	36	41	38	36	34	38	34	40	31	34	36	31	41	40	28	37.2
Edgeley	Maximum...	78	60	67	63	52	52	71	61	61	55	68	70	68	72	72	70	79	70	67	61	62	63	65	63	74	78	66	66	71	58	63	66.0
	Minimum...	41	47	32	48	37	34	26	56	47	30	49	46	42	36	40	35	45	38	36	34	28	34	37	33	40	36	34	31	31	39	34	37.9
Ellendale	Maximum...	78	60	66	65	45	53	73	60	58	58	75	69	68	73	71	71	75	70	67	59	62	63	65	64	74	71	63	68	71	51	63	65.5
	Minimum...	43	43	32	39	39	36	32	55	39	34	55	47	43	38	43	37	45	44	38	36	32	35	39	41	38	35	37	29	31	40	36	39.1
Fessenden §§	Maximum...	72	65	68	56	46	58	62	55	53	50	69	60	69	73	68	72	75	70	70	64	65	65	71	66	76	80	74	71	67	56	63	65.5
	Minimum...	40	40	31	33	36	33	28	33	52	31	35	45	43	35	36	34	36	31	30	28	28	31	39	42	33	35	33	32	32	39	30	35.0
Foxholm	Maximum...	72	62	62	65	46	52	64	58	54	42	50	64	61	63	64	71	68	65	65	60	63	65	69	70	74	75	68	69	64	56	59	62.6
	Minimum...	51	40	31	41	32	25	32	48	40	30	38	39	38	35	34	39	41	37	35	33	35	46	41	44	12	46	39	35	33	42	29	37.8
Fullerton	Maximum...	74	60	66	64	44	50	70	58	58	58	73	68	67	73	70	68	73	69	66	60	61	62	62	62	73	69	67	66	71	51	63	64.4
	Minimum...	42	46	32	44	37	36	30	54	37	32	49	48	44	37	41	36	43	42	36	33	30	33	36	39	41	37	25	31	31	40	34	38.3
Garrison	Maximum...	70	60	66	50	37	52	67	66	60	46	63	68	68	68	72	74	73	71	69	65	64	66	71	71	76	77	73	70	70	56	67	65.5
	Minimum...	41	41	28	36	32	28	28	54	41	31	41	39	41	34	38	37	35	41	31	30	35	44	54	40	37	42	34	31	34	41	30	37.1
Grafton	Maximum...	66	67	60	60	55	48	61	57	63	50	60	66	66	68	68	67	72	68	68	62	60	63	65	63	75	81	64	61	64	62	58	63.5
	Minimum...	39	47	37	44	43	37	29	47	48	30	43	50	45	33	40	38	45	37	35	33	30	32	38	38	32	37	37	34	40	42	31	38.4
Grand Forks	Maximum...	70	62	60	64	51	44	63	54	60	50	66	66	65	71	66	67	72	65	63	61	55	62	62	64	73	75	62	64	66	57	56	62.5
	Minimum...	40	44	35	41	40	34	30	49	40	34	49	52	40	36	43	40	47	37	33	32	32	35	40	40	33	37	38	36	43	41	38	39.0
Granville	Maximum...	65	56	65	57	55	54	68	60	55	48	67	66	65	68	70	73	72	68	68	62	63	72	75	73	78	79	69	70	69	55	62	65.4
	Minimum...	42	41	32	45	34	28	30	54	42	30	42	40	38	32	34	35	35	28	30	28	33	35	37	42	40	44	34	30	38	34	28	36.0
Hansboro	Maximum...	50	50	54	50	45	38	52	52	40	48	56	80	65	55	55	62	57	52	50	44	65	56	55	55	54	50	47	50	48	46	45	52.5
	Minimum...	35	35	37	35	32	25	22	40	34	34	34	45	35	28	28	34	32	30	28	22	28	32	28	30	32	32	28	25	26	25	25	30.8
Hettinger	Maximum...	68	73	69	71	64	68	73	66	73	71	69	70	65	66	67	75	72	71	69	71	73	74	70	67	69	70	68	74	73	76	76	70.4
	Minimum...	32	34	31	36	31	34	36	36	34	32	34	34	38	36	36	32	34	36	34	33	36	36	33	34	33	36	30	32	34	28	29	33.7
Hillsboro	Maximum...	71	68	64	64	58	45	..	63	62	52	65	68	66	70	67	68	76	68	69	66	58	62	68	..	74	74	68	64	66	65	63	[b]65.2
	Minimum...	42	42	35	40	44	38	..	32	50	33	48	55	46	36	42	41	50	39	37	35	30	34	38		34	38	38	35	38	40	36	[b]39.5
Howard	Maximum...	66	46	66	46	40	51	68	57	57	35	45	35	60	66	69	70	69	68	69	50	60	56	71	74	75	78	76	65	59	46	44	59.3
	Minimum...	38	28	33	30	27	20	28	38	34	30	33	30	30	33	33	35	35	33	34	34	36	34	32	36	38	40	34	39	34	30	20	32.5
Jamestown §§	Maximum...	59	69	68	43	51	64	56	57	52	69	63	65	70	68	69	76	69	67	60	62	63	63	60	74	75	69	66	68	49	63	43	62.9
	Minimum...	28	28	19	37	38	34	27	51	50	34	44	18	47	35	38	34	34	38	32	33	29	29	35	37	35	34	35	32	31	35	35	35.4
Lamoine	Maximum...	64	..	..	..	..	57	54	68	..	..	..	..	70	74	72	72	69	66	67	61	64	64	68	70	73	76	75	74	71	61	55	[h]67.2
	Minimum...	40	..	..	..	..	31	31	40	..	..	..	..	32	38	40	35	44	37	33	33	36	42	40	48	37	38	37	40	33	40	32	[h]37.3
Langdon§§	Maximum...	63	62	53	43	47	59	55	55	55	60	55	62	70	65	68	67	65	65	62	59	64	62	68	72	74	68	67	57	45	53	46	60.3
	Minimum...	43	43	42	42	42	31	31	31	49	29	29	43	40	38	38	37	36	37	35	23	35	34	35	34	32	40	39	35	35	40	30	36.7
Larimore §§	Maximum...	77	60	62	58	50	45	55	55	58	55	64	65	64	70	68	66	64	65	67	60	66	68	64	64	68	78	65	64	62	58	60	62.7
	Minimum...	37	45	37	40	40	35	26	45	35	32	43	46	44	40	35	37	38	35	34	32	29	30	38	38	35	38	38	33	34	37	33	36.8
Linton	Maximum...	75	60	70	61	45	58	71	62	61	56	74	70	70	73	72	75	77	76	77	69	63	66	58	68	77	76	76	71	74	63	66	68.1
	Minimum...	42	45	30	45	35	35	35	56	46	38	52	44	42	40	32	38	48	40	42	37	42	43	42	41	28	34	32	36	39	42	29	39.7
Lisbon §§	Maximum...	75	74	60	64	60	56	55	50	55	57	56	57	58	56	60	62	65	60	57	62	65	65	63	56	58	55	50	51	50	48	..	[a]58.7
	Minimum...	35	43	45	38	44	39	34	32	28	40	30	32	34	38	32	40	38	39	35	38	32	38	40	36	32	32	30	34	30	28	28	35.3
McKinney	Maximum...	65	60	55	50	60	60	55	55	55	55	50	45	60	65	65	..	..	..	..	..	..	..	..	70	80	75	70	69	60	60	50	[h]60.4
	Minimum...	32	33	32	32	23	25	40	34	42	30	39	35	40	32	28	..	..	..	..	..	..	..	..	30	32	44	32	26	30	40	29	[h]33.0
Maddock	Maximum...	72	62	63	60	51	52	57	57	55	49	57	68	64	70	68	68	72	68	67	61	61	65	69	68	74	78	70	69	69	61	60	64.0
	Minimum...	39	42	33	45	36	32	28	49	45	29	40	45	42	32	33	32	42	36	32	32	28	35	41	35	34	40	32	30	28	40	30	36.4
Melville	Maximum...	70	70	65	55	51	55	61	57	55	48	68	68	65	69	65	65	69	65	68	65	60	67	67	60	73	78	71	64	65	67	61	64.2
	Minimum...	40	44	35	45	35	32	27	50	44	32	45	46	55	35	44	38	46	32	45	30	30	35	42	36	37	47	35	33	34	40	33	38.8
Minot §§	Maximum...	68	56	63	55	50	58	67	59	47	48	46	67	55	71	75	72	68	69	68	65	62	74	74	79	78	72	72	69	69	65	65	64.7
	Minimum...	43	40	31	40	33	23	31	43	38	30	41	39	40	31	36	36	40	29	30	28	34	44	46	45	37	45	35	36	36	40	30	36.5
Mott	Maximum...	48	38	57	48	37	54	74	52	50	73	65	66	59	62	72	76	73	70	64	60	61	65	67	76	78	74	77	70	64	68	63	63.1
	Minimum...	34	32	35	29	29	24	28	33	35	36	34	33	29	28	33	35	33	32	34	35	36	34	33	35	36	34	35	33	31	28	28	32.4
Napoleon §§	Maximum...	73	67	68	55	40	55	68	60	57	55	73	61	73	72	70	73	76	71	67	63	65	65	68	64	68	76	73	74	71	47	63	65.9
	Minimum...	39	45	30	40	31	30	30	50	43	31	34	42	41	35	34	32	45	37	32	34	30	35	40	36	34	32	31	34	35	37	30	35.8
New Salem	Maximum...	75	97	70	58	39	58	72	70	70	49	54	79	69	73	74	75	75	70	68	58	61	67	75	72	78	77	72	69	72	54	66	67.4
	Minimum...	47	42	43	35	31	30	25	45	40	34	34	35	44	35	37	34	42	41	35	35	39	42	42	35	35	45	39	34	36	33	29	37.2
Pembina §§	Maximum...	68	70	58	64	54	48	64	68	60	55	62	64	62	70	67	68	58	70	67	67	70	68	72	64	68	71	64	66	64	70	50	64.2
	Minimum...	38	41	48	48	44	48	28	34	44	34	36	48	42	34	34	36	38	32	34	32	31	34	36	40	38	34	32	35	32	45	42	37.8
Steele	Maximum...	62	65	65	49	40	54	59	55	54	58	71	49	60	70	67	69	71	70	70	66	64	67	66	61	70	76	67	68	72	55	67	63.1
	Minimum...	39	44	35	36	34	32	33	32	35	33	35	42	42	40	35	43	47	37	35	36	36	36	40	40	34	35	34	35	42	41	35	37.2
Towner	Maximum...	71	68	65	63	65	69	68	63	65	52	55	66	68	72	70	69	72	69	69	69	67	68	72	70	71	70	60	65	66	64	63	66.6
	Minimum...	43	38	30	36	36	28	32	42	40	42	42	52	36	34	33	36	36	39	30	33	36	34	40	42	40	45	32	30	32	28	26	36.2
Valley City	Maximum...	71	61	63	62	53	48	62	56	57	50	68	68	65	71	67	66	73	66	67	66	58	71	62	62	72	72	62	63	63	57	60	63.3
	Minimum...	43	43	35	43	40	35	31	49	42	32	48	50	45	44	37	34	48	41	40	36	35	42	40	45	34	40	40	36	36	40	40	40.1
Wahpeton	Maximum...	75	73	66	65	64	50	67	65	64	59	80	77	70	72	70	69	83	77	74	70	60	63	66	65	73	75	70	65	68	65	63	68.5
	Minimum...	45	48	38	48	41	39	35	50	51	32	54	55	45	41	42	39	50	46	35	33	35	34	48	40	39	40	41	38	42	47	35	41.5
Walhalla	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Westhope	Maximum...	63	56	56	54	54	46	46	58	54	56	86	78	64	70	67	69	73	68	72	70	73	67	72	73	79	79	71	69	67	57	..	[a]65.6
	Minimum...	46	41	45	43	32	31	31	46	30	30	40	34	41	34	36	40	41	33	42	40	30	41	34	40	34	37	35	33	40	40	..	[a]37.3
Williston	Maximum...	68	49	64	46	37	56	68	61	52	41	49	45	61	67	70	73	71	70	68	64	66	67	71	68	75	75	68	64	58	57	62	61.6
	Minimum...	43	38	39	33	30	29	33	47	35	33	41	35	37	36	33	41	36	33	33	34	46	45	40	39	40	44	37	39	35	37	34	37.3
Moorhead, Minn	Maximum...	74	64	62	64	54	47	64	57	61	55	74	68	67	70	68	67	79	70	67	61	57	61	65	64	73	73	62	64	66	58	61	64.4
	Minimum...	45	49	37	45	42	36	35	52	42	32	52	54	46	41	47	41	51	44	38	37	35	35	39	42	37	40	41	39	44	42	37	41.8

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 11-24 24—1125.]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

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NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXIII. BISMARCK, N. D., NOVEMBER, 1924. No. 11

GENERAL SUMMARY.

The weather, taken as a whole, was generally favorable for farm and other outdoor work throughout the State. During the first decade threshing was generally completed, some late winter rye planted, and considerable fall plowing accomplished. During the second and third decades farm work was mostly confined to corn harvesting and grain marketing. Livestock ranged freely on pastures, ranges and harvested fields, and at the close of the month was in excellent condition.

TEMPERATURE.

The mean temperature for the State was 27.6°, or 1.0° above the normal, and 8.9° lower than the mean for November, 1923. The highest mean reported was 36.3° at McLeod, Ransom County; the lowest was 21.6° at Langdon, Cavalier County, and at Pembina, Pembina County. The highest temperature reported was 69° at Hettinger, Adams County, on the 9th, and at Finley, Steele County, on the 19th; the lowest was −15° at Howard, Williams County, on the 13th. The greatest monthly range of temperature was 76° at Hettinger, Adams County; the least was 38° at Lisbon, Ransom County. The greatest daily range was 53° at Hettinger, Adams County, on the 9th, and at Fessenden, Wells County, on the 14th.

PRECIPITATION.

The average precipitation for the State was 0.18 inch, or 0.40 inch below the normal, and 0.32 inch less than the average for November, 1923. The greatest monthly amount reported was 0.85 inch at Howard, Williams County; there was none at Forman, Sargent County, and at Wahpeton, Richland County. Eleven other stations reported but a trace. The greatest amount recorded in any 24 consecutive hours was 0.56 inch at Powers Lake, Burke County, on the 5th. The average snowfall was 1.9 inches, the greatest monthly fall being 10.0 inches at Pembina, Pembina County. The average number of days with 0.01 inch or more of precipitation was 2.

AURORAS.

Auroras were observed at New England on the 5th; at Grand Forks on the 9th, and at Sharon on the 24th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.08	30.65	2	29.51	10	57	7,685	10.7	40	nw.	20
Devils Lake	30.01	30.60	2	29.48	10	44	8,355	11.6	39	nw.	20
Ellendale	30.03	30.62	2	29.35	5	56	10,911	15.2	46	nw.	21
Grand Forks	29.99	30.53	2	29.48	10	90	....	......	51	s.	8
Williston	30.05	30.59	1	29.59	9	48	7,182	10.0	48	w.	19
Moorhead, Minn	30.02	30.64	10	29.40	2	58	6,950	9.7	33	se.	8
Av'ges and extremes	30.03	30.65	2	29.35	5	.....	....	11.4	51	s.	8

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	121.5	281.1	43	−10	78	58	65	37	19
Devils Lake	124.0	278.2	45	− 2	81	72	78	39	19
Ellendale	149.8	284.1	53	......	81	56	....	22	19
Grand Forks	....	....	......	......	86	.....	76	......	....
Williston	135.7	278.2	49	+ 3	80	63	72	40	19
Moorhead, Minn	112.2	281.1	40	−10	75	62	68	37	19
Averages and extremes	128.6	280.5	46	− 4	81	62	72	22	19

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1891	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901	26.8	+.02	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918	28.9	+2.3	71	18	1.04	+0.46	4	13	6	11	nw.
1919	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921	21.0	5.6	69	30	0.68	+0.10	5	7	8	15	nw.
1922	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.
1923	36.5	+9.9	72	− 5	0.50	−0.08	3	13	8	9	nw.
1924	27.6	+1.0	69	−15	0.18	−0.40	2	11	9	10	nw.

Climatological Data for November, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	25.2^{b}	−2.1	52^{d}	4	0	29	41^{d}	0.16	−0.38	0.08	2.0	2	19	10	1	nw.	E. T. Carley.
Amidon	Slope		11	33.1		64	19	−4	13	38	0.02		0.02	0	1	18	4	8	w.	Charles Eastgate.
Arnegard	McKenzie		10	29.6		59	19	1	12	44	0.19		0.10	2.0	3	14	8	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	30.1^{a}	+2.4	61^{a}	20	3^{b}	13	37^{b}	T.	−0.54	T.	T.	0	15	7	8	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	31.2	−0.2	60	19	−10	13	40	0.13	−0.41	0.09	0.2	3					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	30.0^{b}	+1.2	56^{b}	1	−8^{b}	13	38^{b}	0.03	−0.45	0.03	0.2	1	12	14	4	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	30.8	+2.3	64	19	2	13	40	0.05	−0.63	0.04	0.2	2	7	10	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	22.0	−1.6	53	1†	−13	13	38	0.48	−0.06	0.15		7	5	8	17	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	23.0	−1.8	50	1	12	13	39	0.23	−0.28	0.23	2.3	1	17	1	12		G. H. Phelps.
Bowman	Bowman	2,961	11	32.0		63	19	3	13	38	T.		T.	T.	0	12	8	10	nw.	R. Love, Jr.
Cando	Towner	1,488	24	24.4^{b}	−2.1	55^{b}	19	−6^{b}	13†	37^{b}	0.16	−0.35	0.13	1.6	2				nw.	A. J. Swanson.
Carson	Grant	2,500	13																	J. W. Evens.
Cooperstown	Griggs	1,428	19								0.30	−0.24	0.30	3.0	1	13	11	6	nw.	S. Friswold.
Crosby	Divide	1,954	18	24.8	−3.0	47	1	−11	13	32	0.48	−0.28	0.24	5.2	4	7	10	13	nw.	John Jensen.
Devils Lake	Ramsey	1,478	28	23.8	+1.2	58	19	−4	28	31	0.38	−0.33	0.21	4.4	9	8	9	13	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	33	30.7	+2.1	65	19	−6	13	40	0.12	−0.36	0.05	1.2	3	8	9	13	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	26.4^{c}	−2.4	57^{c}	19	−5^{c}	12†	32^{c}	0.08	−0.51	0.03	0.3	3				nw.	H. Feldner.
Dunn Center	Dunn	2,191	26	30.2	+1.8	62	19	−5	13	39	T.	−0.62	T.	T.	0	13	3	14	nw.	W. H. Moede.
Dunseith	Rolette	1,682	29	22.3	−3.9	55	1	−12	10†	41	0.58	+0.15	0.36	6.7	5	6	10	14	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	20								0.33	−0.21	0.10	3.2	2	6	15	9	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	24	30.2	−0.2	64	19	4	28†	45	T.	−0.34	T.	0	0	6	10	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	30.2	+4.1	62	19	7	28	44	0.12	−0.66	0.05	1.4	5	7	5	18	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	29.8		62	19	−8	13	41	0.15	−0.11	0.05	2.0	4	10	14	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	17																	A. O. Wang.
Fessenden	Wells	1,610	13	25.8	−1.2	55	18	−7	14	53	0.15	−0.49	0.07	0.9	4	11	8	11	nw.	T. D. Monsen.
Finley	Steele	1,461	1	26.7		69	19	2	12†	41	0.18		0.10	0.9	3	12	5	13	nw.	G. J. Mustad.
Forman	Sargent	1,249	31								0.00	−0.56	0.00	0	0	14	14	2	nw.	O. Enger.
Foxholm	Ward	1,657	4	26.0		56	19	−8	13	30	0.23		0.12	3.2	4	8	10	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7								0.10		0.05	1.0	2	11	10	9	nw.	Verne King.
Fullerton	Dickey	1,439	27	29.6	−0.1	60	19	8	12†	40	0.16	−0.57	0.10	1.6	2	9	12	9	nw.	F. O. Alin.
Garrison	McLean	1,901	30	27.4	+0.4	63	19	−7	13	36	0.02	−0.56	0.02	T.	1	6	15	9	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	25.3	+1.3	54	1	3	29	33	0.22	−0.44	0.15		3	8	8	14	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	25.4	−0.7	56	19	5	28	37	0.17	−0.53	0.15	2.2	3	9	6	15	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	18																	W. A. Christianson.
Hannah	Cavalier	1,568	31								0.40	−0.28	0.24	5.0	2					J. Moffatt.
Hansboro	Towner	1,597	17					−12	13	28	0.24	−0.22	0.24	3.0	1	16	7	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	18	33.6	+0.2	69	9	−7	12	53	0.02	−0.30	0.02		1	14	9	7	nw.	U. J. Downey.
Hillsboro	Traill	901	19	28.6	−0.2	65	19	3	29	43	0.10	−0.71	0.05	1.0	2	10	12	8	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	24.4	−3.3	49	3	−15	13	29	0.85	+0.34	0.48	7.0	5	8	13	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	27.8	+0.2	63	18	−2	12	51	0.03	−0.70	0.03	0.2	1	12	3	15	nw.	S. Calvelage.
Lamoine	Kidder	1,936	20	27.6	+0.6	63	1	−6	13	41	T.	−0.54	T.	T.	0	15	6	9	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	29	21.6	−4.1	45	19	−5	13	40	0.54	−0.16	0.36	6.0	5	13	12	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	25.5	−0.3	60	19	0	12†	40	0.24	−0.44	0.08	3.0	5	12	5	13	n.	Reuben Gray.
Linton	Emmons	1,711	7	32.6^{1}		54^{1}	4	7^{1}	28	38^{1}	0.04		0.04	T.	1					W. C. Wolverton.
Lisbon	Ransom	1,091	21	25.0	−5.2	44	1	6	25	26	T.	−0.62	T.	T.	0	13	13	4		W. S. Adams.
McClusky	Sheridan	1,943	7	25.7		60	19	−8	13	39	0.06		0.03	1.0	2	9	12	9	nw.	Edw. Tapley.
McHenry	Foster	1,509	14																	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	24.0	−0.6	50	20	−12	13	37	0.56	−0.03	0.48	7.0	2	6	12	12	nw.	N. P. Swenson.
McLeod	Ransom	1,075	13	36.3	+6.6	67	1	0	29	46	0.10	−0.49	0.05	0.1	4	16	4	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	9	26.4		61	19	−6	13	35	0.13		0.08	1.4	2	7	11	12	nw.	A. T. Felland.
Mandan	Morton	1,644	11	30.6		64	19	−1	13	43	0.06		0.04	0.6	3	5	9	16	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	22	27.2	−1.8	61	19	−8	13	36	0.24	−0.50	0.10	1.5	4	10	10	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	16								0.22	−0.11	0.12	3.8	3					S. P. Grane.
Mayville	Traill	975	29	28.2	−1.1	60	19	2	29	38	0.02	−0.65	0.01	1.0	2	18	4	8	nw.	R. Peterson.
Melville	Foster	1,590	27	27.6	−1.4	60	19	−2	13	36	T.	−0.53	T.	T.	0	9	9	12	nw.	J. P. Kidder.
Minot	Ward	1,557	29	27.8	−1.9	60	19	−12	13	37	0.02	−0.66	0.02	0.2	1	4	13	13	w.	W. I. Faris.
Minto	Walsh	820	32	25.2	+0.7	55	19	2	12†	40	0.23	−0.42	0.23	5.0	1	7	13	10	ne.	C. M. Evans.
Mott ††	Hettinger	2,424	18																	O. H. Opland.
Napoleon	Logan	1,955	33	27.6	+1.0	61	19	−5	13	41	0.13	−0.46	0.08	0.5	2	14	4	12	w.	C. J. Hoof.
New England	Hettinger	2,400	31	31.4	+1.2	64	19	−5	13	48	T.	−0.49	T.	T.	0	6	18	6	nw.	W. S. Jones.
New Salem	Morton	2,163	21	31.8	+1.1	65	19	−4	13	38	T	−0.35	T.	T.	0	6	19	5	nw.	J. Christiansen.
Park River	Walsh	998	21	25.2^{a}	−2.8	53^{a}	1	−2^{a}	13	35^{a}	0.08	−0.68	0.08	4.0	1	12	5	13	nw.	C. B. Wright.
Parshall	Mountrail		10								0.04		0.04	0.5	1					J. A. Johnson.
Pembina	Pembina	789	51	21.6	−1.1	55	2	0	16	34	0.80	+0.12	0.16	10.0	8	15	4	11	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	26.4	−0.5	58	19	−6	13	41	0.12	−0.43	0.04	1.5	3	11	7	12	nw.	S. C. Shanks.
Power	Richland	1,020	31								0.10	−0.52	0.05	0.5	2					J. A. Power.
Powers Lake	Burke	2,205	11								0.66	+0.10	0.56	7.1	3	12	5	13	w.	Geo. B. Gee.
Richardton	Stark	2,467	9	29.0^{a}		55^{a}	16	−12^{a}	13	42^{a}	0.07		0.07	0.8	1	12	10	8	nw.	John Muggli.
Sharon	Steele	1,516									0.15		0.05	2.0	5	12	7	11	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	1								0.04		0.04	0.8	1	10	14	6	nw.	J. H. Giffey.
Steele††	Kidder	1,857	29	27.5	−0.9	55	19	−6	13	40	T.	−0.59	T.	T.	0	12	11	7	nw.	H. S. Wood.
Towner	McHenry	1,482	23	24.9	−0.1	60	19	−10	12	45	T.	−0.48	T.	T.	0	11	9	10	nw.	B. Bagley.
Turtle Lake	McLean	1,899	10	28.5		61	19	−7	13	39	0.03		0.03	0.8	1	11	6	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	20	28.6	−1.1	60	19	0	28	40	0.15	−0.47	0.10	T.	2	13	5	12	nw.	H. Twito.
Wahpeton	Richland	962	31	32.0	+3.7	63	19	2	29	43	0.00	−0.69	0.00	0	0	18	0	12	nw.	C. G Luick.
Walhalla	Pembina	966	21																	T. R. Johnson.
Washburn	McLean	1,731	24								0.08	−0.56	0.04		3					Karl Klein.
Westhope	Bottineau	1,508	19	21.8	−5.0	58	19	−13	15	47	0.52	−0.06	0.43		2	15	13	2	nw.	W. A. Meddaugh.
Williston	Williams	1,878	46	28.6	+1.4	55	19	−1	13	30	0.38	−0.22	0.23	2.4	3	7	12	11	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33								0.68	+0.17	0.20	4.5	6					M. A. Ostby.
Moorhead, Minn.	Clay	935	44	27.9	+1.4	60	19	5	29	37	0.21	−0.77	0.08	2.5	9	6	11	13	nw.	U. S. Weather Bureau.
Averages				27.6	+1.0	69	9†	−15	13	53	0.18	−0.40	0.56	1.9	2	11	9	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for November, 1924.

Stations.	Drainage Basin.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Amenia ||	Red											T.					T.	T.						.08	.08								0.16
Amidon	Lit. Missouri						T.				T.		T.								T.			.02				T.					0.02
Arnegard	Missouri					.10								.07						T.							.02						0.19
Ashley	Missouri																						T.										T.
Beach	Lit. Missouri													.02									.02	.09									0.13
Berthold Agency	Missouri						T.	T.			T.		T.								T.		.03	T.									0.03
Bismarck ***	Missouri					T.					.01												.04	T.			T.						0.05
Bottineau ||	Mouse					.07						.04					.09				.02	.15		.10						.01			0.48
Bowbells ||	Mouse						.23																										0.23
Bowman	Grand										T.											T.	T.	T.	T.			T.					T.
Cando	Devils Lake													T.			T							.13	.03					T.			0.16
Carson	Heart																																
Cooperstown	Sheyenne											T.					T.				T.		.30							T.	T.		0.30
Crosby	Mouse				.24	.16			.02				T.			T					.06					T.	T.		T.				0.48
Devils Lake ***	Devils Lake											.01	T.			.01	.02	.02			.06		.21	.01			.01			.03			0.38
Dickinson ||	Heart											.05											T.	.05	.02			T.					0.12
Donnybrook	Mouse				.03						T.		T.			T							.02	.03			T.						0.08
Dunn Center ||	Knife																							T.									T.
Dunseith	Mouse				T.	.02	T.		T.			.04				.36	.06		T.	T.	T.	T.	.10							T.			0.58
Eckman	Mouse				T.	.10						.05									T.	.08	.10										0.33
Edgeley	James																							T.									T.
Ellendale***	James						.02					.02	T.					T.			T.	T.	.01	.04	T.		T.	T.	T.	.03			0.12
Energy	Missouri										T.	.05									.02		.03	.05			T.						0.15
Epping	Missouri																																
Fessenden ||	James											.04		T.								.03		.07	.01					T.	T.		0.15
Finley	Red											T.		T.		T.	.01	T.			.07	T.	T.	.10			T.				T.		0.18
Forman	Sheyenne																																0.00
Foxholm	Mouse					.12	T.	T.		T.	.01	T.				T.	T.				T.	T.	.06	.04			T.	T.					0.23
Fryburg	Heart								T.		T.		T.								T.		T.			.05		.05					0.10
Fullerton	James						T.					.06	T.					T.			T.			.10						T.			0.16
Garrison	Missouri										.02											T.					T.						0.02
Grafton	Red											T.		.01			.15	.06						T.	T.					T.			0.22
Grand Forks ***	Red											T.		T.		T	.15	T.			T.			T.	T.		.01			.01			0.17
Granville	Mouse																																
Hannah	Pembina				.16												.24																0.40
Hansboro	Devils Lake					T.						T.					.24						T.				T.						0.24
Hettinger	Grand																					.02			T.								0.02
Hillsboro	Red											T.					.05													.05			0.10
Howard	Missouri					.48	.04	T.	.04			T.									T	*	.29	T.		T.	T.						0.85
Jamestown ||	James											T								T.										.03			0.03
Lamoine	Missouri											T.						T					T.				T.						T.
Langdon ||	Pembina				T.							.04				T.		.36		.02					.04					.08			0.54
Larimore	Red													.08			.08							.02				.02		.04			0.24
Linton	Missouri					T.		T.				T.									T.		.04	T.				T.					0.04
Lisbon ||	Sheyenne																					T.	T.										T.
McClusky	Missouri						T.					T.									T.		.03	.03			T.	T.					0.06
McHenry	James																																
McKinney	Mouse					.48	T.				T.		.08									T.					T.						0.56
McLeod	Sheyenne							T.				.02	T.					T.			T.		T.		.05		.01	.02		T.			0.10
Maddock	Sheyenne											T.									T		.05	.08			T.						0.13
Mandan ||	Missouri											.01											T.	.01	.04								0.06
Manfred	James											.05		T.							.10		.05	.04			T.						0.24
Marmarth	Lit. Missouri				.03																			.12	T.			.07					0.22
Mayville	Red																.01		T.									.01					0.02
Melville	James																	T.					T.										T.
Minot ||	Mouse											.02																					0.02
Minto	Red											T.					.23								T.			T.					0.23
Mott	Cannon Ball											T.										T.											T.
Napoleon ||	Missouri																						.08	.05									0.13
New England	Cannon Ball										T.										T.		T.	T.				T.					T.
New Salem	Heart																						T.	T.	T.		T.	T.	T.				T.
Park River	Red											T.					0.08	T.			T.												0.08
Parshall	Missouri			.04							T.																						0.04
Pembina ||	Red																.16	.16	.08		T.	T.			T.		.08	.08	.08	.08	.08		0.80
Pettibone	James																						.04	.04						.04			0.12
Power	Sheyenne																								.05			.05					0.10
Powers Lake	Missouri				.01	.56	.09																										0.66
Richardton	Heart						T.				.07										T.			T.			T.	T.					0.07
Sharon	Red											T.		T.		T.	.02	T.			.03	T	.03	.05	T.		T.	.02	T.	T.	T.		0.15
Stanton	Missouri										.04										T.												0.04
Steele	Missouri											T.										T.	T.	T.	T.		T.		T.				T.
Towner	Mouse										T.	T.					T.	T.			T.			T.									T.
Turtle Lake	Missouri											.03	T.											T.				T.					0.03
Valley City	Sheyenne											T.						T.			T.	.05	T.	.10			T.			T.			0.15
Wahpeton	Red																																0.00
Walhalla	Pembina																																
Washburn	Missouri									.02		.04		.02																			0.08
Westhope	Mouse					.43														.09													0.52
Williston ***	Missouri				.23	T.	T.		T.		T.	T.	T.			T				T.	T.		.12	.03			T.	T.					0.38
Willow City	Mouse				T.		T.	T.	.05		.15					T.	.05				.09	.14	.20				T.						0.68
Moorhead, Minn ***	Red										T.	.01	.03	.04			T.				.01	.02	.04	.04			.01			.01			0.21

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	46	40	44	52	42	36	28	38	36	42	44	....	....	....	....	31	33	30	40	38	41	32	23	40	34	30	17	20	41	15	....	ᵈ35.1
	Minimum	32	16	25	30	27	19	11	11	16	18	16	5	7	10	9	10	9	12	14	21	20	28	22	12	20	12	10	3	0	15	....	15.3
Arnegard	Maximum	45	51	52	40	27	27	45	50	30	25	19	7	27	42	55	50	40	52	59	48	50	48	33	50	40	32	27	29	47	42	....	39.6
	Minimum	26	21	31	25	15	12	11	6	14	18	6	1	4	11	26	25	30	27	25	25	30	30	25	15	21	23	19	17	30	22	....	19.7
Ashley	Maximum	53	39	45	38	36	31	44	51	40	....	30	26	24	45	45	45	41	57	60	61	46	39	28	28	46	45	30	23	49	41	....	ᵃ40.9
	Minimum	31	20	28	25	22	15	20	18	27	....	19	5	3	11	15	26	30	20	24	32	26	16	....	20	15	26	9	6	12	19	....	ᵇ19.3
Beach	Maximum	42	48	50	45	26	31	42	45	55	38	30	11	30	42	37	53	53	57	60	54	47	42	31	31	39	29	33	35	35	47	....	40.6
	Minimum	19	40	40	26	18	18	22	27	18	20	10	2	-10	15	25	20	20	28	25	31	28	28	16	26	27	17	17	24	33	22	....	21.7
Berthold Agency	Maximum	56	45	52	....	47	27	40	50	42	35	25	14	30	42	40	48	37	50	54	55	....	47	42	31	37	33	30	27	50	38	....	ᵇ40.1
	Minimum	23	17	29	....	18	15	23	22	12	18	9	2	-8	8	24	27	32	30	35	33	....	26	22	21	20	27	16	8	25	22	....	ᵇ19.9
Bismarck	Maximum	48	44	47	51	30	27	34	51	54	31	26	19	29	46	40	54	44	59	64	47	49	49	36	29	45	34	28	24	50	37	....	40.9
	Minimum	23	21	31	30	20	19	21	24	20	22	13	5	2	17	27	28	23	19	21	37	30	28	18	17	22	18	14	8	22	19	....	20.7
Bottineau §§	Maximum	50	38	40	29	22	25	42	31	40	36	28	10	18	33	31	30	36	43	53	45	40	36	24	26	36	33	18	30	36	32	....	33.0
	Minimum	21	24	28	17	18	6	16	10	6	3	4	-12	-13	8	14	10	14	15	19	32	36	10	3	8	7	10	-1	-8	12	12	....	11.0
Bowbells §§	Maximum	50	45	48	37	30	26	21	29	21	39	21	3	7	21	30	33	39	39	40	42	41	40	39	30	33	32	24	20	38	29	....	31.6
	Minimum	32	18	21	24	22	15	14	18	10	0	-3	-9	-12	-5	10	21	22	25	26	30	27	21	20	19	18	20	10	0	5	10	....	14.5
Bowman	Maximum	48	53	54	49	33	29	41	46	52	39	34	21	35	44	42	54	46	58	63	44	46	47	34	25	40	31	27	30	46	47	....	41.9
	Minimum	29	21	37	31	19	20	22	21	20	18	12	5	3	17	25	20	27	22	25	25	30	30	23	16	20	23	21	23	30	25	....	22.0
Cando	Maximum	46	....	37	34	30	27	27	39	....	41	28	15	19	38	36	31	38	47	55	52	42	38	28	29	33	33	25	12	40	37	....	ᵇ34.2
	Minimum	25	....	15	22	20	11	19	18	...	11	15	-4	-6	10	13	12	18	20	24	35	25	25	21	16	8	23	1	-6	3	13	....	ᵇ14.5
Carson	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Crosby	Maximum	47	38	45	35	22	26	30	39	37	23	17	5	18	34	34	39	38	43	42	44	43	41	33	22	38	32	28	28	35	35	....	33.0
	Minimum	29	14	29	20	9	5	15	20	5	15	-1	-6	-11	12	7	23	28	23	28	32	28	28	21	5	23	19	14	9	28	22	....	16.5
Devils Lake	Maximum	43	33	41	34	28	27	26	38	34	31	22	16	19	41	32	24	36	47	58	46	41	29	21	24	36	33	16	14	38	26	....	31.8
	Minimum	20	18	28	24	14	12	20	21	15	21	2	1	-2	18	18	12	24	24	27	36	24	20	15	13	19	7	4	-4	14	12	....	15.8
Dickinson §§	Maximum	47	52	47	45	27	28	45	49	52	28	29	12	33	45	40	55	47	58	65	50	49	50	35	30	40	31	27	38	49	45	....	41.6
	Minimum	28	19	29	32	20	17	20	20	16	20	15	5	-6	12	22	18	22	20	25	26	29	27	22	18	20	24	18	17	20	19	....	19.8
Donnybrook	Maximum	....	....	....	42	31	27	32	45	37	30	28	19	27	36	36	44	41	47	57	47	45	42	37	35	41	33	33	27	45	37	....	ᶜ37.2
	Minimum	....	....	....	19	4	2	16	17	15	14	0	-5	-5	18	20	21	27	27	27	27	27	25	17	19	21	14	9	-1	26	21	....	ᶜ15.6
Dunn Center §§	Maximum	43	46	53	40	28	25	42	47	42	31	24	12	31	44	37	53	45	58	62	50	48	49	34	28	41	36	28	28	48	43	....	39.9
	Minimum	26	20	28	27	19	15	24	20	17	18	12	2	-5	13	26	22	32	19	24	31	33	29	23	19	22	23	20	10	30	19	....	20.6
Dunseith	Maximum	55	34	39	36	28	25	26	43	31	29	25	16	18	38	34	30	37	45	52	50	40	38	31	32	36	35	27	18	40	38	....	34.2
	Minimum	24	17	23	14	16	4	4	8	3	-12	3	-12	-11	7	16	8	18	15	23	24	30	23	10	17	13	18	3	-10	3	12	....	10.4
Edgeley	Maximum	54	39	49	52	46	28	30	42	50	39	32	25	26	48	45	40	42	62	64	51	47	42	35	28	45	39	31	24	49	40	....	41.5
	Minimum	32	18	24	30	24	19	13	16	21	22	17	5	5	10	21	20	33	20	26	37	31	26	17	16	15	26	7	4	4	12	....	19.0
Ellendale	Maximum	50	41	49	55	44	26	31	44	54	40	31	23	25	47	48	41	41	61	62	46	47	35	31	28	47	34	25	22	50	33	....	40.4
	Minimum	25	21	28	31	25	22	17	20	16	26	17	9	9	12	25	22	23	17	25	39	31	27	18	17	16	17	11	7	13	10	....	19.9
Fessenden §§	Maximum	52	45	44	43	36	29	29	46	39	34	23	20	23	46	34	39	41	55	41	42	42	40	26	30	41	31	23	29	45	26	....	36.5
	Minimum	29	16	23	32	21	11	20	20	13	19	16	0	-6	-7	13	18	24	19	23	20	18	17	15	17	10	20	7	1	0	19	....	15.0
Foxholm	Maximum	47	38	48	36	25	25	31	44	29	23	21	11	22	37	34	43	38	46	56	50	42	36	35	28	39	34	26	24	45	38	....	35.0
	Minimum	25	15	28	23	15	10	18	19	10	15	5	-4	-8	15	20	19	30	23	28	35	30	22	17	19	17	21	9	0	17	20	....	17.1
Fullerton	Maximum	48	41	47	54	48	28	32	42	53	45	31	23	25	47	45	40	42	59	60	48	46	35	33	27	45	34	29	25	48	36	....	40.5
	Minimum	33	19	27	28	25	22	15	16	16	21	17	8	9	9	22	21	22	19	26	32	32	27	12	9	10	26	10	8	8	13	....	18.7
Garrison	Maximum	48	41	45	39	27	29	31	49	34	29	20	14	23	45	39	48	41	53	63	48	47	38	34	31	42	34	25	24	49	36	....	37.5
	Minimum	24	16	30	26	16	12	12	20	13	18	5	-4	-7	9	22	25	28	21	27	32	30	18	19	17	19	22	10	0	20	20	....	17.3
Grafton	Maximum	54	29	39	34	33	30	31	38	34	42	32	25	22	41	36	26	25	44	53	47	41	35	24	27	41	35	27	13	36	38	....	34.5
	Minimum	27	20	20	18	24	13	16	17	17	24	20	5	4	8	21	5	15	15	15	31	32	23	18	14	11	21	9	5	3	11	....	16.1
Grand Forks	Maximum	50	33	40	40	33	28	30	38	35	40	28	26	32	45	32	23	29	47	56	48	38	27	24	26	42	36	22	12	29	24	....	33.8
	Minimum	24	19	22	21	23	17	17	22	19	24	11	6	11	12	18	7	23	19	19	37	32	23	15	11	11	15	9	5	6	12	....	17.0
Granville	Maximum	....	....	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Hansboro	Maximum	35	32	30	22	16	17	20	20	20	18	10	7	10	28	25	15	30	32	38	36	32	22	20	24	24	20	15	10	20	27	....	22.5
	Minimum	25	10	8	7	6	6	6	6	6	7	4	-6	-12	0	6	4	10	15	15	30	20	10	10	10	15	10	0	-9	5	10	....	7.4
Hettinger	Maximum	63	61	52	46	38	68	63	60	69	44	38	47	51	37	36	36	39	52	42	46	41	39	44	46	42	41	40	52	51	41	....	47.5
	Minimum	32	37	30	28	24	20	21	18	16	10	9	-7	4	19	14	18	22	29	23	26	18	21	26	20	18	21	16	20	24	16	....	19.8
Hillsboro	Maximum	55	36	42	51	42	29	31	36	40	40	39	27	23	47	40	31	32	52	65	62	45	37	32	28	45	38	29	17	40	29	....	38.7
	Minimum	35	20	25	29	24	20	16	17	27	26	24	6	11	11	22	7	21	19	22	21	31	26	19	15	10	27	11	6	3	5	....	18.5
Howard	Maximum	42	44	49	32	24	22	28	36	22	23	16	6	12	30	32	40	40	42	45	45	39	41	34	34	32	33	28	29	43	38	....	32.7
	Minimum	18	15	24	24	6	10	18	22	11	16	-6	-9	-15	6	20	20	22	24	20	24	28	28	23	24	22	20	12	12	22	20	....	16.0
Jamestown §§	Maximum	43	44	55	39	33	27	44	44	37	27	23	26	42	40	48	42	54	63	46	45	31	30	31	46	32	25	25	46	24	40	....	38.4
	Minimum	33	19	30	23	25	19	10	18	20	20	20	-2	4	3	17	17	14	12	21	25	30	26	17	10	15	25	7	7	4	13	....	17.1
Lamoine	Maximum	63	47	44	45	43	34	28	46	41	41	34	25	22	36	41	43	40	52	59	50	45	38	35	28	43	37	27	28	34	37	...	39.5
	Minimum	28	16	27	25	20	14	21	18	15	16	15	-2	-6	10	10	10	15	17	18	28	28	24	14	21	13	24	3	-1	15	18	....	15.8
Langdon §§	Maximum	34	34	31	37	28	30	37	30	28	24	19	21	35	31	23	32	40	42	45	34	27	27	36	27	22	28	20	35	24	32	....	30.4
	Minimum	25	14	22	18	19	10	10	18	10	19	17	5	-5	3	10	8	9	15	18	31	27	25	17	14	12	12	2	-3	-2	6	....	12.9
Larimore §§	Maximum	38	38	40	40	38	28	30	33	38	37	25	24	40	41	30	23	33	46	60	45	38	30	30	28	36	30	20	20	40	20	....	34.1
	Minimum	32	15	24	32	25	14	14	20	20	21	22	0	0	20	3	10	18	18	24	30	30	28	18	14	11	22	7	2	0	11	....	16.9
Linton	Maximum	53	45	51	54	47	25	34	53	54	...	....	....	....	....	....	....	....	....	....	....	49	51	40	28	49	41	31	....	51	42	....	ˡ44.3
	Minimum	28	20	26	32	23	16	17	23	16	....	....	....	....	....	....	....	....	....	....	....	32	24	18	20	20	22	9	7	....	25	....	ˡ21.0
Lisbon §§	Maximum	44	40	42	40	40	36	40	42	36	36	34	32	40	41	38	30	26	30	29	34	26	30	28	20	18	22	24	28	20	22	....	32.3
	Minimum	29	18	28	30	28	20	26	21	19	20	18	20	21	16	12	8	12	18	19	16	18	14	15	12	6	10	15	12	14	12	....	17.7
McKinney	Maximum	34	37	38	35	30	20	28	40	32	24	20	5	25	33	34	36	35	35	36	50	42	32	30	38	33	32	30	25	40	38	....	32.2
	Minimum	25	17	29	20	10	0	20	16	4	14	-1	-6	-12	11	25	20	30	28	23	23	28	20	20	20	20	20	10	-2	20	20	....	15.8
Maddock	Maximum	59	36	43	38	32	27	27	42	45	33	28	17	22	40	39	32	40	48	61	55	41	39	30	28	40	42	31	18	40	41	....	37.1
	Minimum	26	15	26	26	20	11	19	19	12	20	14	-3	-6	9	16	14	24	18	25	35	29	20	15	13	12	21	4	-5	7	16	....	15.7
Melville	Maximum	50	38	42	46	34	32	27	42	42	38	38	20	22	43	37	34	38	51	60	49	41	38	30	28	41	35	28	20	43	38	....	37.5
	Minimum	30	18	25	32	21	18	18	19	17	18	16	1	-2	11	21	14	27	20	28	37	29	25	14	15	12	23	8	1	7	5	....	17.6
Minot §§	Maximum	53	40	45	38	30	28	34	48	28	28	24	10	22	45	35	45	40	53	60	50	45	36	33	41	28	30	32	22	48	38	....	37.0
	Minimum	34	18	29	23	20	13	21	21	9	12	7	-5	-12	23	23	23	34	19	23	36	31	24	17	21	10	22	21	3	18	23	....	18.7
Mott	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...	....	....	....	....	....	....	....	....	....	......
	Minimum	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Napoleon §§	Maximum	45	43	45	54	27	25	32	49	50	37	27	23	27	46	45	46	40	56	61	44	46	45	25	26	43	33	25	27	48	26	....	38.9
	Minimum	28	15	25	28	20	13	15	17	17	19	15	0	-5	10	15	23	26	18	20	31	28	21	12	13	10	22	3	1	15	18	....	16.4
New Salem	Maximum	52	44	51	40	42	32	40	45	48	50	34	28	20	46	45	57	45	60	65	52	50	52	30	29	40	35	29	26	49	38	....	42.5
	Minimum	40	19	27	36	18	14	20	23	21	23	12	4	-4	18	20	32	30	22	27	31	30	27	18	19	24	23	12	5	15	24	....	21.0
Pembina §§	Maximum	50	55	50	30	38	29	30	38	25	35	30	25	20	20	25	30	28	35	38	40	38	20	38	20	25	38	20	15	10	20	....	30.5
	Minimum	30	21	31	20	18	20	7	20	15	10	3	3	4	10	3	0	10	15	20	20	30	5	10	12	12	14	6	3	3	6	....	12.7
Steele	Maximum	41	45	49	51	41	27	35	53	49	31	24	20	21	40	39	42	41	50	55	42	41	41	28	42	42	31	25	16	34	25	....	37.1
	Minimum	31	30	32	31	21	17	19	24	22	21	17	0	-6	10	12	18	20	17	15	34	22	21	15	22	12	18	5	5	10	10	....	17.6
Towner	Maximum	58	55	48	45	36	32	40	48	40	30	20	25	20	30	30	30	35	47	60	55	45	36	32	28	40	36	22	16	28	30	....	36.6
	Minimum	20	10	15	20	20	18	20	20	18	3	-8	-10	0	10	12	18	20	17	23	22	22	20	10	12	18	22	8	-3	8	10	....	13.2
Valley City	Maximum	56	34	41	41	33	26	27	40	42	37	30	24	28	46	45	45	36	51	60	47	42	37	25	26	41	34	26	16	41	30	....	36.9
	Minimum	27	17	28	32	25	18	16	22	18	25	19	12	19	25	25	25	23	25	22	36	34	24	15	12	13	25	10	0	1	12	....	20.2
Wahpeton	Maximum	60	41	47	53	50	42	32	35	53	60	50	28	25	45	45	48	35	60	63	55	47	37	32	32	46	40	35	23	45	40	....	43.5
	Minimum	32	20	30	30	32	24	16	12	21	35	25	7	12	12	20	14	25	21	22	42	31	28	21	14	10	20	10	7	2	21	...	20.5
Walhalla	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Westhope	Maximum	44	46	46	44	44	24	26	28	31	26	22	16	23	24	34	34	33	45	58	50	48	30	24	28	27	30	27	30	41	30	....	33.8
	Minimum	16	18	14	20	19	10	18	14	5	4	2	-10	-11	5	-13	14	21	17	20	18	18	16	18	-12	5	3	3	-3	13	19	....	9.7
Williston	Maximum	37	50	49	38	23	26	41	41	26	24	16	6	27	40	36	47	44	50	55	49	49	45	33	29	40	32	29	34	48	41	....	36.8
	Minimum	23	24	31	20	9	18	25	21	10	16	1	1	-1	16	27	27	26	24	25	34	32	32	23	16	25	21	18	17	32	20	....	20.4
Moorhead, Minn	Maximum	47	35	42	51	45	29	29	34	49	52	30	23	19	44	42	28	31	55	60	50	39	33	23	26	44	33	25	14	40	28	....	36.7
	Minimum	23	20	31	33	24	22	16	20	20	30	14	8	10	10	22	9	28	24	23	37	32	24	14	13	13	16	11	5	8	13	....	19.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing. ᵇ 2 days, etc.

[WBO, Minneapolis, 12-23-24—11:35]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXIII. BISMARCK, N. D., DECEMBER, 1924. No. 12

GENERAL SUMMARY.

Seasonable weather prevailed during the first thirteen days, and during this period rapid progress was made in corn harvesting, in grain marketing and other outdoor farm activities. Livestock ranged freely on harvested fields, pastures and ranges and very little yard feeding was required. The latter part of the month, however, was unfavorable. The general storm of the 14-17th stopped farm work, delayed rail and highway traffic, and being accompanied by low temperature, caused much suffering to humans and to livestock. Only light precipitation occurred from the 18th to the close of the month, but the temperature remained low throughout that period.

TEMPERATURE.

The mean temperature for the State was 2.9°, or 10.1° below the normal, and 19.4° lower than the mean for December, 1923. The highest mean reported was 9.6° at Marmarth, Slope County; the lowest was -3.0° at Pembina, Pembina County. The highest temperature reported was 58° at Marmarth, Slope County, on the 12th; the lowest was -46° at Dunseith, Rolette County, on the 27th. The greatest monthly range of temperature was 93° at Crosby, Divide County; the least was 65° at Wahpeton, Richland County. The greatest daily range was 60° at Arnegard, McKenzie County, on the 26th.

PRECIPITATION.

The average precipitation for the State was 0.43 inch, or 0.11 inch below the normal, and 0.11 inch more than the average for December, 1923. The greatest monthly amount reported was 1.00 inch at Willow City, Bottineau County; there was only a trace at Westhope, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 0.53 inch at Turtle Lake, McLean County, on the 14th. The average snowfall for the State was 5.3 inches.. The average number of days with 0.01 inch or more of precipitation was 4.

AURORAS.

Auroras were observed at McLeod on the 19th; at Sharon and Stanton on the 20th; at McLeod and Napoleon on the 21st, and at Foxholm on the 28th.

BAROMETRIC PRESSURE AND WINDS.

Stations.	Barometric pressure, in inches, reduced to sea level. Average.	Highest.	Date.	Lowest.	Date.	Winds. Elevation of Anemometer.	Total movement, in miles.	Velocity, in miles per hour. Average.	Highest.*	Direction.	Date.
Bismarck	30.30	31.07	20	29.47	12	57	7,233	9.7	36	n.	24
Devils Lake	30.24	30.93	27	29.48	12	44	7,794	10.5	35	n.	26
Ellendale	30.24	31.02	27	29.42	12	56	11,174	15.0	47	nw.	24
Grand Forks	30.22	30.90	27	29.44	12	90	......	......	52	s.	1
Williston	30.26	31.05	27	29.46	12	48	6,508	8.7	31	w.	22
Moorhead, Minn	30.25	31.02	27	29.42	12	58	6,394	8.6	28	nw.	12
Av'ges and extremes	30.25	31.07	20	29.42	12	.....	....	10.5	52	s.	1

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY.

Stations.	Sunshine. Total hours of sunshine.	No. of hours possible.	Per cent of possible.	Dep'ture from normal, p-c't.	Humidity. Average per cent. 7 a. m.	Mean noon.	7 p. m.	Lowest observed.	Date.
Bismarck	112.9	265.8	42	−7	86	76	80	51	10
Devils Lake	103.0	262.1	39	−6	89	81	86	61	31
Ellendale	142.9	269.6	53	......	86	74	....	60	27
Grand Forks	....	....	......	......	78	.....	82	.....	....
Williston	120.7	262.1	46	−3	81	74	79	49	27
Moorhead, Minn.	107.0	265.8	40	−9	82	78	80	68	1
Averages and extremes	....	....	44	......	84	77	81	49	27

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature. Mean.	Dep.	Highest.	Lowest.	Precipitation. Average.	Dep.	No. rainy days.	Sky. Clear days.	P.cdy days.	Cl'dy days.	Wind Dir.
1891...	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892...	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893...	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894...	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895...	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896...	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897...	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898...	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	nw.
1899...	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900...	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901...	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902...	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903...	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904...	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905...	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906...	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907...	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908...	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909...	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910...	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911...	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912...	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913...	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914...	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915...	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916...	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917...	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918...	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919...	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920...	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921...	16.5	+3.5	59	−33	0.41	−0.13	4	14	7	10	nw.
1922...	8.5	−4.5	55	−34	0.67	+0.13	5	11	8	12	nw.
1923...	22.2	+9.2	62	36	0.32	−0.22	3	16	8	7	nw.
1924...	2.9	−10.1	58	46	0.43	−0.11	4	12	7	12	nw.

Climatological Data for December, 1924.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	29	-2.4	-15.1	41	1	-31	29	46	0.24	-0.27	0.08	3.0	3	14	13	4	nw.	E. T. Carley.
Amidon	Slope	......	11	8.2	......	55	12	-36	18	41	0.59	......	0.16	8.0	6	13	3	15	w.	Charles Eastgate.
Arnegard	McKenzie	......	10	6.0	......	51	1	-33	18	60	0.60	......	0.30	6.0	3	13	9	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	29	6.4[c]	-7.1	54[c]	12	-30[c]	27	31[c]	0.56	+0.05	0.32	7.0	3	......	......	......	nw.	R. C. Miles.
Beach	Golden Valley	2,579	19	7.9	-8.6	51	12	-34	26	51	0.54	+0.03	0.14	5.4	5	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	32	5.8	-9.9	57	12	-32	17	40	0.27	-0.13	0.14	4.5	4	13	8	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	50	5.6	-9.1	56	12	-29	27	49	0.23	-0.39	0.08	3.3	7	9	7	15	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	33	-2.5[a]	-9.2	40[a]	12	-38[a]	27	49[a]	0.42	-0.07	0.20	5.3	4	14	9	8	nw.	E. C. Evenson.
Bowbells	Burke	1,958	13	0.5	-10.2	45	1†	-32	27	34	0.35	-0.09	0.35	4.4	1	21	0	10	......	G. H. Phelps.
Bowman	Bowman	2,961	11	7.4	......	54	12	-34	18	39	0.06	......	0.02	......	3	11	4	16	nw.	R. Love, Jr.
Cando	Towner	1,488	24	2.6[a]	-4.6	34[a]	11†	-36[a]	28	49[a]	0.38	+0.02	0.19	4.0	4	13	5	13	w.	A. J. Swanson.
Carson	Grant	2,500	13	2.5	-13.5	46	12	-38	27	50	0.53	-0.01	0.16	6.5	6	13	7	11	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	19	......	......	......	......	......	......	......	0.60	+0.03	0.30	6.0	2	5	14	12	nw.	S. Friswold.
Crosby	Divide	1,954	18	0.2	-12.1	57	3	-36	27	39	0.66	+0.15	0.30	8.5	5	3	7	21	nw.	John Jensen.
Devils Lake	Ramsey	1,478	28	-0.7	-8.7	38	1	-31	27	51	0.67	+0.28	0.34	9.4	10	7	9	15	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	33	6.4	-10.9	54	11†	-35	18	44	0.78	+0.36	0.18	7.8	9	8	8	15	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	26	4.2	-8.0	48	1	-32	27†	49	0.27	-0.21	0.09	8.0	4	14	5	12	nw.	H. Feldner.
Dunn Center	Dunn	2,191	26	4.5	-16.0	55	12	-33	18†	42	0.56	0.00	0.32	7.0	3	11	1	16	nw.	W. H. Moede.
Dunseith	Rolette	1,682	29	-1.4	-9.7	38	1†	-46	27	49	0.29	-0.12	0.26	4.0	3	10	10	11	w.	J. G. Lamont.
Eckman	Bottineau	1,500	20	......	......	......	......	......	......	......	0.21	-0.41	0.11	6.0	4	2	18	11	w.	C. E. Strock.
Edgeley	LaMoure	1,468	24	5.0	-11.5	56	2	-31	28	46	0.28	-0.11	0.16	3.5	3	8	5	18	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	26	4.6	-12.2	52	12	-28	28	44	0.65	+0.32	0.15	8.5	9	8	7	16	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	13	5.1	......	56	12	-35	20	47	0.13	-0.22	0.08	3.0	2	14	10	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	17	2.1	......	45	10	-36	18†	53	0.32	-0.11	0.16	4.0	3	14	8	9	nw.	A. O. Wang.
Fessenden	Wells	1,610	13	2.2	-10.0	45	2	-33	28	44	0.37	-0.36	0.16	4.8	5	15	4	12	nw.	T. D. Monsen.
Finley	Steele	1,461	1	2.7	......	37	12	-30	27	41	0.34	......	0.13	5.3	5	10	8	13	nw.	G. J. Mustad.
Forman	Sargent	1,249	31	......	......	......	......	......	......	......	0.32	-0.22	0.16	4.0	3	12	9	10	n.	O. Enger.
Foxholm	Ward	1,657	4	2.8	......	43	1	-31	27	46	0.58	......	0.16	8.0	5	11	8	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	7	......	......	......	......	......	......	......	0.70	......	0.24	8.0	5	9	12	10	nw.	Verne King.
Fullerton	Dickey	1,439	27	5.8	-7.9	51	12	-28	28	42	0.80	-0.04	0.31	8.0	4	6	13	12	nw.	F. O. Alin.
Garrison	McLean	1,901	30	4.6	-9.0	49	12	-34	28	41	0.13	-0.44	0.07	1.9	3	13	9	9	nw.	Wm. H. Robinson.
Grafton	Walsh	827	33	0.1	-7.6	40	12	-29	18†	38	0.33	-0.21	0.14	4.3	6	15	6	10	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	34	1.0	-9.6	40	1	-29	27	52	0.56	-0.07	0.19	2.7	8	12	2	17	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	18	2.5	-9.9	44	11	-38	28	50	0.40	-0.15	0.24	5.0	2	18	7	6	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	31	......	......	......	......	......	......	......	0.48	-0.15	0.24	6.0	2	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	17	-2.9	-10.2	33	23†	-44	17†	41	0.48	-0.18	0.18	6.0	6	15	8	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	18	6.8	-9.0	56	12	-30	27	37	0.81	+0.47	0.40	10.0	4	13	2	16	nw.	U. J. Downey.
Hillsboro	Traill	901	19	1.4[b]	-11.2	38[b]	2†	-30[b]	27†	34[b]	0.55	-0.35	0.30	1.0	3	10	17	4	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	18	-0.2	-12.0	45	1	-36	27	41	0.84	+0.02	0.40	10.5	4	14	6	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	33	2.3	-11.3	41	11	-32	29	47	0.32	-0.43	0.12	4.0	6	18	3	10	w.	S. Calvelage.
Lamoine	Kidder	1,936	20	1.4	-9.8	41	1	-34	28	45	0.16	-0.34	0.16	2.0	1	13	8	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	29	-1.6	-8.9	35	11†	-40	20	55	0.40	-0.33	0.16	5.0	5	23	8	0	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	1.5	-9.3	40	12†	-35	27	50	0.34	-0.20	0.32	4.2	2	10	3	18	nw.	Reuben Gray.
Linton	Emmons	1,711	7	5.8	......	56	12	-32	20	46	0.48	......	0.16	6.0	6	18	0	13	nw.	W. C. Wolverton.
Lisbon	Ransom	1,091	21	2.6	-11.5	40	12	-30	28	40	0.16	-0.25	0.16	2.0	1	22	7	2	......	W. S. Adams.
McClusky	Sheridan	1,943	7	2.4	......	48	11	-35	18	48	0.32	......	0.16	4.0	5	9	10	12	nw.	Edw. Tapley.
McHenry	Foster	1,509	14	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	F. D. Cannon.
McKinney ‡‡	Renville	1,640	31	1.0	-9.7	41	1	-34	28	39	0.42	-0.02	0.24	5.5	3	6	16	9	nw.	N. P. Swenson.
McLeod	Ransom	1,075	13	5.7	-8.6	44	1	-30	28	35	0.45	0.00	0.15	3.0	7	9	7	15	n.	J. G. Carlson.
Maddock	Benson	1,604	9	2.7	......	40	1†	-32	28	47	0.25	......	0.14	2.8	4	6	13	12	nw.	A. T. Felland.
Mandan	Morton	1,644	11	4.8	......	56	12	-31	27†	48	0.22	......	0.06	......	5	9	2	20	nw.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	22	2.8	-8.5	40	1	-32	28	44	0.49	-0.27	0.20	5.7	6	9	12	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	16	9.6[a]	-8.1	58[a]	12	-32[a]	26	51[a]	0.79	+0.45	0.15	10.8	10	10	7	14	......	S. P. Grane.
Mayville	Traill	975	29	3.6	-9.5	38	1†	-30	28	42	0.40	-0.18	0.20	4.0	3	12	5	14	nw.	R. Peterson.
Melville	Foster	1,590	27	3.6	-8.2	41	1	-30	27	43	0.32	-0.14	0.16	4.0	2	10	7	14	nw.	J. P. Kidder.
Minot	Ward	1,557	29	6.2	-6.2	48	1	-34	28	45	0.38	-0.13	0.20	7.3	3	2	7	22	w.	W. I. Faris.
Minto	Walsh	820	32	0.8	-10.1	43	12	-32	27	42	0.41	-0.07	0.14	......	7	9	13	9	ne.	C. M. Evans.
Mott	Hettinger	2,424	18	4.3	-9.8	51	12	-33	18	40	0.81	+0.23	0.22	8.0	5	4	10	17	nw.	O. H. Opland.
Napoleon	Logan	1,955	33	2.1	-10.3	50	12	-35	27	44	0.43	-0.05	0.20	5.0	4	12	3	16	w.	C. J. Hoof.
New England	Hettinger	2,400	31	1.3[f]	-16.1	54[f]	1	-34[f]	18	36[f]	0.12	-0.29	0.12	1.5	1	......	......	......	nw.	W. S. Jones.
New Salem	Morton	2,163	21	4.8	-10.1	55	12	-33	18	44	0.42	-0.11	0.20	4.0	4	12	10	9	nw.	J. Christiansen.
Park River	Walsh	998	21	1.7	-9.4	38	12	-30	27	38	0.33	-0.20	0.25	6.0	2	10	14	7	nw.	C. B. Wright.
Parshall	Mountrail	......	10	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	51	-3.0	-9.0	36	12	-36	20	33	0.40	-0.36	0.40	4.0	1	10	5	16	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	16	0.8	-9.6	42	1†	-37	27†	55	0.40	-0.28	0.16	5.0	4	13	7	11	nw.	S. C. Shanks.
Power	Richland	1,020	31	......	......	......	......	......	......	......	0.40	-0.14	0.10	3.0	6	15	5	11	n.	Frank B. Power.
Powers Lake	Burke	2,205	11	......	......	......	......	......	......	......	0.55	-0.08	0.15	11.0	4	18	0	13	w.	Geo. B. Gee.
Richardton	Stark	2,467	9	2.4[b]	......	52[b]	13	-35[b]	21†	47[b]	0.29	......	0.16	3.6	3	......	......	......	nw.	John Muggli.
Sharon	Steele	1,516	......	......	......	......	......	......	......	......	0.28	......	0.15	2.9	4	14	6	11	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	1	......	......	......	......	......	......	......	0.72	......	0.40	8.5	4	9	15	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	29	0.6	-13.0	48	12	-33	19†	39	0.48	-0.05	0.32	6.0	3	15	8	8	nw.	H. S. Wood.
Towner	McHenry	1,482	23	1.6	-8.4	40	12	-40	28	49	0.12	-0.29	0.12	1.2	1	20	3	8	nw.	B. Bagley.
Turtle Lake	McLean	1,899	10	1.0	......	46	12	-32	27†	47	0.78	......	0.53	9.1	5	8	8	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	20	1.2	-12.5	35	1	-31	27	38	0.29	-0.26	0.10	2.0	5	13	5	13	w.	H. Twito.
Wahpeton	Richland	962	31	7.0	-7.7	38	12	-27	26	38	0.16	-0.29	0.08	2.0	2	15	0	16	nw.	C. G. Luick.
Washburn	McLean	1,731	24	......	......	......	......	......	......	......	0.33	-0.01	0.12	......	5	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	19	2.4	-6.6	45	1	-36	28	48	T.	-0.37	T.	T.	0	7	14	10	nw.	W. A. Meddaugh.
Williston	Williams	1,878	46	4.7	-9.1	48	1	-31	27	48	0.66	0.00	0.23	7.2	7	13	3	15	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	33	......	......	......	......	......	......	......	1.00	+0.46	0.50	10.0	5	......	......	......	......	M. A. Ostby.
Moorhead, Minn.	Clay	935	44	2.0	-9.5	37	12	-30	28	51	0.37	-0.37	0.12	3.0	8	10	7	14	n.	U. S. Weather Bureau.
Averages	......	......	......	2.9	-10.1	58	12	-46	27	60	0.43	-0.11	0.53	5.3	4	12	7	12	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for December, 1924.

Stations.	Drainage Basin.	Day of Month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red						.08		.08		.08		T.		T			T					T	T									0.24
Amidon	Lit. Missouri					T.	T.	.06	.12				T.	T	.05		.10	.10					T				T	T	T	.16		T.	0.59
Arnegard	Missouri					.30	.05											.25					T				T						0.60
Ashley	Missouri								.16						.08								T								.32		0.56
Beach	Lit. Missouri					T.	T	.11					T.	.12			.09						.05	T							.14		0.51
Berthold Agency	Missouri			T.		.05								T	.05			.11					T							[illegible]		T	[illegible]
Bismarck ***	Missouri					T.	T		.02		.01				.08	T	.02	.02					T		T.		T		T	.06		.02	0.23
Bottineau ‖	Mouse						T				.20					.07		.12	.03													T	0.42
Bowbells ‖	Mouse																	.35															0.35
Bowman	Grand							.02	.02									.02						T.									0.06
Cando	Devils Lake		T	T.			T.				.09						.19		.07	.03											T		0.38
Carson	Heart								.16				.02		.08			.08													.16	.03	0.53
Cooperstown	Sheyenne								T.	T.	.30				.30	T.		T.					T	T	T.								0.60
Crosby	Mouse					.12	.08	T.							.30	.12	T.	.04					T	T.	T							T	0.66
Devils Lake ***	Devils Lake						.01				.17		.02		.21	.13	.02	.05					.02	.02						T.		.02	0.67
Dickinson ‖	Heart						.02		.10						.15	.03		.10	.08						.04	T		T.			.18	.08	0.78
Donnybrook	Mouse					T.	.09								.03	.07		.08														T	0.27
Dunn Center ‖	Knife					T.									.32			.16											.08				0.56
Dunseith	Mouse	T.									.01	T.	T.			.26		.02															0.29
Eckman	Mouse						.11				T.		T.		.02	.03		.05							T.							T	0.21
Edgeley	James								.08					.16																	.04		0.28
Ellendale***	James			T.		T.		.04	.11		.03	T.	T.		.09	.01	.07	.04						T.	T				T.	T.	.15	.11	0.65
Energy	Missouri					T.									.08			.05														T.	0.13
Epping	Missouri					.16								T.	.08	.08							T										0.32
Fessenden ‖	James						T.	T	T		.16		.02		T.	.13		.03	.03	T.				T.	T.								0.37
Finley	Red		T.				T.	T.	.04		.03		.13		T.	.09		.05	T.				T.	T.									0.34
Forman	Sheyenne										.08							.16						.08									0.32
Foxholm	Mouse						.11				T.				.13	.14		.16					T.	T.								.04	0.58
Fryburg	Heart				T.		T.	.08						.10			.22														.24	.06	0.70
Fullerton	James					T.			.16		.04				.31	T.		T.	T.				T.								.29		0.80
Garrison	Missouri														.02			.04												.07			0.13
Grafton	Red						.03				.03		.03			.14		.05	.05														0.33
Grand Forks ***	Red		T.	T.		.11	T.		T.		.03		.19			.10		.03	.03	T.			.05	T.			.02						0.56
Granville	Mouse														.24				.16														0.40
Hannah	Pembina					T.						.24			T.					T.		.24											0.48
Hansboro	Devils Lake						T.					.18		.07	.05	.05	.05					.08											0.48
Hettinger	Grand						.01	.20							.40								T.			T.						.20	0.81
Hillsboro	Red					.20					.05					.30									T.		T.						0.55
Howard	Missouri					.16	.12						T.			.40		.16													T.	T.	0.84
Jamestown ‖	James							.04			.04	.02					.02													.08		.12	0.32
Lamoine	Missouri														.16																T.	T.	0.16
Langdon ‖	Pembina							.04			.08		.04			.16			.08					T.									0.40
Larimore	Red												.02			.32																	0.34
Linton	Missouri							.02	.06						.08			T.					.08		T.						.16	.08	0.48
Lisbon ‖	Sheyenne		T.										T.	T.			.16																0.16
McClusky	Missouri						T.				.04				.16			.04	.04								T.	T.				.04	0.32
McHenry	James																																
McKinney	Mouse						.08							T	T.	.24	T.	.10					T.	T.								T.	0.42
McLeod	Sheyenne						.06			.05	.02		.15		T.	T.		.09					.06	T.								.02	0.45
Maddock	Sheyenne										.14		.04			.04		T.	.03				T.		T.								0.25
Mandan ‖	Missouri								.03		T.				.06	.04		.03											T		.06		0.22
Manfred	James						T.				.20		T		.12	.08		T.					.04	.03	.02		T.				T		0.49
Marmarth	Lit. Missouri			T.				.15					.06	.15			.07	T					.04	.04			.04		.01	.15	.08		0.79
Mayville	Red						.10				.10		.20																				0.40
Melville	James						T.				.16		T.		.16			T.													T.		0.32
Minot ‖	Mouse						.03								.20		.15																0.38
Minto	Red						T.	.01			.01		.09			.14			.12						.02		.02						0.41
Mott	Cannon Ball							.09	.20									.22													.16	.14	0.81
Napoleon ‖	Missouri								.08						.05								.20								.10		0.43
New England	Cannon Ball					T.	T.											T.													.12	T	0.12
New Salem	Heart						T	T.	.07				T.		.20		T.						T.	T.	T.						.10	.05	0.42
Park River	Red										T		.08			.25																	0.33
Parshall	Missouri																																
Pembina ‖	Red															.40																	0.40
Pettibone	James									.08	.08				.16			.08														T.	0.40
Power	Sheyenne						.06			.06			.10					.10					.06									.02	0.40
Powers Lake	Missouri					.15								.10	.15			.15															0.55
Richardton	Heart					T.		T.	.04						.09																.16		0.29
Sharon	Red						T.		T.		.03		.08		T.	.15		.02					T.	T.									0.28
Stanton	Missouri					.02					T.				.20			.40													.10	T.	0.72
Steele	Missouri								.08	T.	T				.32	.08	T.	T.	T.			T.	T.		T.						T.		0.48
Towner	Mouse														T.	.12																	0.12
Turtle Lake	Missouri						.02				.04				.53			.11														.08	0.78
Valley City	Sheyenne					T.			.05		.10		.05			T.		.05						T.	.04						T.		0.29
Wahpeton	Red									.08								.08															0.16
Washburn	Missouri								.06	.02	T.				.09			.04													.12		0.33
Westhope	Mouse		T.												T.																		T.
Williston ***	Missouri			.01		.21	T.		T.			T.	T.	.16	.02		.06	.19					T.				T.		T.	.01		T.	0.66
Willow City	Mouse						T.				.20		T.		.10	.50	.05	.15												T.			1.00
Moorhead, Minn ***	Red					.06			.08		.01		.12			.01		.06					.02	T.	T.		T.				.01		0.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1924.

Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	41	30	18	21	23	16	6	16	10	28	35	10	14	12	14	18	−16	−18	−12	−10	−3	16	5	−18	12	−10	−8	−12	15	−10	3	5.5
	Minimum...	5	12	17	3	5	11	−7	−4	−10	−9	9	13	−2	1	−4	−21	−28	−28	−26	−26	−23	−18	−3	−22	−27	−20	−28	−30	−31	−10	−22	−10.4
Arnegard	Maximum...	51	45	45	30	32	30	7	10	23	30	46	50	35	25	25	21	−21	−21	−20	−22	−13	12	15	8	24	36	−19	2	8	7	12	16.5
	Minimum...	20	18	23	19	20	7	−11	−3	3	11	28	30	16	14	−15	−24	−23	−23	−25	−26	−27	22	−13	−8	−14	−24	−23	−27	−9	−12	−6	−4.4
Ashley	Maximum...	43	38	28	28	28	29	21	13	18	38	37	54	41	27	17	2	−3	−10	−4	1	−4	10	11	7	....	....	....	3	11	6	−1	[c]17.5
	Minimum...	14	20	17	6	3	15	0	−2	−5	7	15	34	17	6	2	−17	−20	−28	−24	−22	−23	−20	−14	−18	....	....	−30	−28	−7	−15	−22	−[b]4.8
Beach	Maximum...	42	39	34	39	36	25	20	13	36	42	46	51	40	32	28	−20	−22	−22	−6	−3	15	15	−5	25	25	−20	15	15	14	10	12	18.4
	Minimum...	20	22	19	17	20	6	4	6	21	30	25	40	20	20	−23	−22	−26	−33	−27	−28	21	−15	−17	−15	−20	−34	−22	−10	−14	−5	−17	−2.6
Berthold Agency	Maximum...	37	37	37	25	27	29	18	13	21	36	46	57	28	22	11	−4	−18	−17	7	−9	−11	34	23	6	24	29	−11	−4	8	5	1	15.9
	Minimum...	24	18	22	18	13	11	−4	−11	14	−10	18	26	18	10	−6	−22	−32	−30	−20	−28	−22	8	−16	−7	−6	−11	−26	−26	−6	−3	−20	−4.3
Bismarck	Maximum...	42	40	24	28	29	31	11	11	28	41	47	56	29	14	16	9	−17	−16	4	0	−8	17	17	8	27	29	−14	−2	10	3	2	15.8
	Minimum...	17	20	18	15	8	9	5	3	−2	15	22	29	14	9	−9	−20	−22	−26	−22	−25	23	−15	−14	14	18	20	−29	−28	5	−19	19	−4.7
Bottineau §§	Maximum...	36	32	28	26	24	23	8	3	19	33	32	40	28	....	4	−8	−18	17	−17	−12	12	18	−8	−2	17	18	−16	−17	−3	−3	0	[a]8.5
	Minimum...	8	19	13	8	9	1	−11	−6	−9	5	9	24	−5	...	−12	−27	−27	−37	−30	−38	−31	−31	−18	21	−28	−18	−38	−37	−24	−29	−25	−[a]13.5
Bowbells §§	Maximum...	45	41	40	45	24	27	10	2	18	31	30	37	34	9	6	−2	−21	−21	−20	−12	−21	9	18	6	22	12	−19	−6	−4	−5	−3	10.7
	Minimum...	15	12	10	12	16	0	−11	−7	−8	−2	7	14	0	−3	−5	−27	−26	−28	−28	−27	−28	−20	−12	−13	−10	−19	−32	−29	−18	−20	−13	−9.7
Bowman	Maximum...	49	40	31	23	36	29	15	12	22	38	40	54	32	23	23	−10	−10	−18	−2	0	−8	8	10	4	24	22	−10	16	18	14	−2	16.9
	Minimum...	16	31	23	20	12	15	8	−2	−4	10	26	32	23	16	−14	−21	−27	−34	−22	−18	−24	−18	−12	−13	−15	−11	−32	−17	5	−9	−11	−2.2
Cando	Maximum...	33	30	27	22	24	23	12	4	13	32	34	34	34	....	5	4	3	17	14	14	15	16	15	1	15	25	15	7	2	2	2	[a]16.5
	Minimum...	12	17	14	2	3	12	−8	−6	−10	3	10	31	−1	....	−8	−27	−27	−31	−29	−33	−27	26	−11	17	−28	−15	−34	−36	18	23	−25	−[a]11.2
Carson	Maximum...	40	45	30	20	33	30	20	10	25	38	44	46	44	22	12	0	−20	−20	−10	−5	−10	7	10	0	25	20	−18	0	15	10	−7	14.7
	Minimum...	16	15	14	9	6	6	2	−2	−11	6	18	30	15	4	−15	−25	−30	−35	−30	−26	−31	−23	−18	21	−25	−20	−38	−30	11	−26	−26	−9.7
Crosby	Maximum...	38	26	57	28	30	6	−2	−2	16	30	36	45	25	12	9	−7	−18	−17	−27	−10	−20	18	−8	−7	20	−2	−17	−12	1	−8	1	7.7
	Minimum...	24	18	28	18	28	−2	−12	−9	−6	15	17	25	3	8	−18	−28	−29	−28	−33	−31	−31	−21	−14	−11	10	−20	−36	−20	−19	−17	−12	−7.2
Devils Lake	Maximum...	38	26	23	24	27	21	3	1	15	34	37	37	17	3	8	−17	−17	−20	−12	−10	−13	15	12	2	23	26	−17	−2	0	−5	3	9.1
	Minimum...	14	19	8	5	4	−4	−8	−5	−8	9	14	17	−3	−2	−17	−23	−24	−27	−27	−28	−24	−17	−16	−21	−23	−25	−31	30	14	−20	−20	−10.5
Dickinson §§	Maximum...	48	40	27	28	33	20	12	17	30	38	54	54	38	24	0	−20	−21	−20	−4	−5	−5	12	6	10	27	19	−12	12	14	−2	2	15.4
	Minimum...	17	18	22	20	14	14	6	4	−3	15	20	45	24	15	0	−22	−31	−35	−26	−22	−28	−25	7	9	17	9	−30	−28	−10	−10	−20	−2.6
Donnybrook	Maximum...	48	38	27	27	28	25	22	3	23	37	42	47	36	29	9	2	−11	−18	−14	−15	−14	23	20	18	27	27	27	3	4	0	3	16.9
	Minimum...	25	17	19	16	14	−1	−13	−10	−8	−3	17	31	1	1	−11	−27	−26	−29	−24	−25	−26	−20	−14	−20	−16	−22	−32	−32	−15	−22	−9	−8.5
Dunn Center §§	Maximum...	46	41	33	26	31	32	10	11	23	41	40	55	42	19	21	−12	−19	−18	−12	−11	9	15	12	−2	23	27	−17	2	10	4	2	15.0
	Minimum...	19	18	21	18	12	8	−1	−7	−3	12	18	32	18	11	−12	−22	−32	−33	−28	−23	−29	−18	−11	−13	−17	−16	33	−30	−8	15	−22	−6.0
Dunseith	Maximum...	38	30	27	25	26	26	9	5	20	36	33	38	32	5	9	−8	−24	−15	−5	−6	−17	19	18	3	18	27	−18	−9	−6	1	2	10.9
	Minimum...	8	18	11	5	6	4	−15	−8	−10	5	12	25	−5	−6	−12	−27	−30	−34	−28	−36	−32	23	−16	−20	−30	−22	−46	−42	−28	−28	−23	−13.8
Edgeley	Maximum...	40	56	25	27	25	30	18	8	20	38	37	50	38	15	18	7	−11	−9	−4	0	−2	12	13	9	23	25	−9	−1	9	2	0	16.4
	Minimum...	9	20	17	2	1	1	−2	1	−6	−2	20	31	13	2	6	−17	−20	−25	−23	−23	−19	−18	−10	−16	−23	−10	−28	−31	11	23	−23	−6.3
Ellendale	Maximum...	39	33	24	28	24	30	10	8	17	39	40	52	29	11	18	−7	−13	−12	−3	2	3	16	16	10	21	27	−14	1	11	3	0	14.7
	Minimum...	10	23	13	6	7	10	2	2	−3	1	22	29	10	5	−7	−15	−17	−24	25	−24	−16	−15	−12	−14	−20	17	−26	−28	1	−24	−20	−5.4
Fessenden §§	Maximum...	26	45	30	21	26	32	26	17	11	27	40	38	37	27	10	13	−18	−16	−16	−15	−3	0	15	5	2	26	8	−12	5	7	2	13.4
	Minimum...	14	18	17	5	1	18	−5	−5	−7	−2	12	14	7	2	2	−21	−25	−28	−24	−29	−29	−18	2	17	−25	18	−31	33	−27	−17	−22	8.9
Foxholm	Maximum...	43	34	24	24	26	26	3	3	20	37	42	40	32	9	5	−10	−17	−17	−11	−12	−12	25	20	5	22	28	−17	2	9	6	2	12.5
	Minimum...	22	18	18	15	12	2	−10	−8	−5	11	19	30	7	2	−10	−21	−26	−28	−21	−27	−25	−19	−12	−12	17	−18	−31	−29	−14	−18	−12	−6.8
Fullerton	Maximum...	38	32	26	27	23	30	21	9	19	38	37	51	37	14	18	8	−8	−12	−3	1	0	12	15	9	22	18	3	−1	10	3	1	16.1
	Minimum...	10	20	10	5	6	17	2	3	−4	1	20	30	14	5	8	−16	−17	−24	23	−25	−19	−16	−8	−16	20	−8	−26	28	−6	−14	−22	−14.1
Garrison	Maximum...	42	40	28	24	38	27	20	11	29	40	44	49	32	19	9	−10	−16	−12	−6	2	−12	16	17	3	24	25	−13	4	7	−3	1	15.2
	Minimum...	23	17	18	12	12	6	−4	−3	−2	15	18	29	10	5	−10	−20	−23	−27	−23	−26	−25	−18	−12	−18	−17	13	−30	−34	−12	−17	−17	−6.0
Grafton	Maximum...	35	28	27	25	24	22	10	4	6	28	32	40	36	5	13	−6	13	−23	−14	−14	−12	17	15	−8	11	10	−15	−5	−2	−3	0	8.8
	Minimum...	9	17	15	8	3	10	−5	0	−6	0	11	30	2	−4	−6	−21	−17	−29	−29	29	−25	−20	−9	−22	−27	−9	−29	−26	−18	−19	−23	−8.6
Grand Forks	Maximum...	40	26	26	30	23	22	4	6	12	28	36	38	13	5	14	−12	10	−14	−10	4	−6	17	17	1	24	27	−17	−2	2	1	1	11.5
	Minimum...	12	18	13	5	6	−1	−6	−1	−7	3	9	13	0	−3	−12	−19	−16	−26	−26	−25	−21	−10	−19	−23	−27	−25	−29	−25	−17	−15	−20	−9.5
Granville	Maximum...	42	38	34	30	25	18	8	0	22	43	44	42	22	17	−4	0	5	8	−10	−12	−12	−24	20	10	25	18	18	12	8	0	8	13.6
	Minimum...	28	15	20	18	12	−4	−14	−4	−13	22	30	36	4	4	−8	24	−28	−32	−32	−35	−32	−24	28	−20	−8	−28	−30	−38	−15	−22	−18	−8.6
Hansboro	Maximum...	27	25	25	26	20	15	0	10	0	28	30	32	24	20	−17	−18	−21	−25	−19	8	13	29	33	31	33	3	22	−14	14	5	0	[illegible]
	Minimum...	10	2	2	0	0	0	−18	−14	−16	−2	10	20	−10	−20	−29	−33	−44	−44	−41	−29	−15	−10	7	−10	−7	−22	−36	−36	−22	20	−26	−14.6
Hettinger	Maximum...	49	47	32	28	37	28	16	16	18	25	38	56	48	26	25	8	−17	−14	3	4	−5	8	−4	6	18	6	−16	10	17	−2	−2	15.9
	Minimum...	23	20	23	12	10	15	15	10	12	3	19	19	19	15	−8	−20	−22	−29	−21	−16	−25	−17	−11	−14	−18	−8	−30	−21	−1	−10	−11	−2.2
Hillsboro	Maximum...	....	38	25	26	....	23	17	8	12	25	30	38	36	8	12	−1	−8	−12	−10	−5	−2	16	16	4	7	24	−7	−5	4	4	1	[b]11.2
	Minimum...	....	8	19	5	....	6	−6	1	−6	1	11	28	7	−1	−1	−20	−17	−25	26	−23	−21	−18	−7	−20	−23	−7	−30	−30	−17	−12	−17	−[b]8.4
Howard	Maximum...	45	39	38	28	30	26	7	6	14	28	40	40	29	15	10	19	−22	−22	−21	14	−20	24	17	−10	−5	12	−21	−12	0	1	−5	8.1
	Minimum...	19	25	22	18	18	6	−9	−7	−4	10	26	24	8	10	−20	−30	−32	−31	32	−28	34	−17	15	−17	−22	−23	−36	−33	−17	−23	−13	−8.4
Jamestown §§	Maximum...	27	20	27	24	22	20	6	20	38	38	41	15	17	17	20	2	−13	5	−2	3	15	10	8	21	25	−9	0	10	−2	0	0	13.2
	Minimum...	14	14	20	4	2	2	1	0	−6	−6	11	17	4	2	2	−20	−21	−26	−27	−25	−25	24	−5	−15	−22	−20	−29	−28	−32	−8	−20	−8.6
Lamoine	Maximum...	41	30	24	26	28	27	12	5	25	38	36	30	35	30	5	20	4	−20	−20	−9	−14	11	15	4	20	14	−14	−4	3	−3	0	12.6
	Minimum...	13	15	17	8	3	12	−5	−2	−7	9	10	7	10	4	−6	−22	−28	−30	−28	−28	−27	−22	−24	−20	−25	14	−33	−34	−19	−19	−22	−9.9
Langdon §§	Maximum...	32	25	27	24	27	20	12	7	20	32	35	35	27	11	8	−15	−8	−20	−15	−20	−12	15	19	18	23	9	5	0	1	−4	4	11.0
	Minimum...	7	15	10	0	2	6	−12	−7	−12	−10	6	8	5	−8	−15	−25	−25	−34	−34	40	−30	−25	11	−23	−32	−15	−33	−34	−20	−30	−24	−14.2
Larimore §§	Maximum...	35	25	22	30	22	20	6	7	10	34	34	40	20	22	11	5	−14	−15	10	−5	−8	20	15	10	25	17	−12	2	5	−2	2	12.0
	Minimum...	5	10	14	8	0	0	−5	0	−6	2	12	15	10	−4	5	−25	−20	−26	−25	−26	−25	−22	−15	−19	−25	5	−35	−28	−20	−20	−20	−9.0
Linton	Maximum...	44	40	25	31	31	30	14	11	26	45	42	56	41	22	19	1	−6	−13	6	0	−3	12	14	9	22	25	−8	−1	12	7	12	17.9
	Minimum...	16	17	20	13	2	13	3	3	−12	7	10	30	21	10	1	−16	−19	−31	−30	−32	−31	−23	−12	−20	−24	−8	−31	−28	−10	−16	−22	−6.4
Lisbon §§	Maximum...	28	30	32	26	24	20	24	18	20	18	34	40	36	20	−2	5	−10	−13	−14	−8	6	18	14	−6	−8	−10	−2	8	6	4	15	12.0
	Minimum...	12	16	19	8	12	10	14	12	10	6	12	12	10	12	−16	−17	−22	−27	−27	−25	22	−20	−26	−22	−27	−24	−29	−30	−20	−12	−10	−6.8
McKinney	Maximum...	41	38	32	25	25	25	18	5	15	35	40	40	32	10	2	−10	−20	−19	−14	−15	−12	−10	20	0	19	19	−14	−5	0	0	1	10.4
	Minimum...	25	17	20	15	14	5	−15	−10	−12	0	20	20	5	2	−10	−25	−25	−28	−20	−31	−23	−20	−11	−11	−19	20	−30	−34	−16	−24	−20	−8.4
Maddock	Maximum...	40	40	27	27	27	26	17	9	22	35	37	38	35	10	10	−4	−17	−16	12	−10	−13	18	16	5	19	32	−12	3	5	4	5	14.4
	Minimum...	13	18	15	4	1	13	−7	−3	−8	5	13	30	2	−1	−6	−24	−25	−30	−25	−29	−24	−20	−13	−17	−24	−15	−31	−32	−16	−21	23	−9.0
Melville	Maximum...	41	34	25	27	32	23	15	5	21	36	40	40	34	8	13	3	−18	−13	−8	−4	−12	14	15	9	20	25	14	5	5	3	2	13.7
	Minimum...	11	18	15	3	3	14	−5	−3	−6	6	18	32	6	1	−3	−22	−23	−28	−23	−23	−23	−15	12	−17	−23	−14	−30	27	−14	−18	−20	7.2
Minot §§	Maximum...	48	33	35	28	38	27	12	5	25	39	44	45	28	13	24	26	−12	−12	12	−13	12	20	22	2	25	10	12	0	6	4	3	18.1
	Minimum...	25	20	30	16	15	0	−10	−5	−7	11	22	28	5	5	−8	−11	−21	−27	−21	−30	−27	18	−12	−12	20	23	−23	−34	−13	−18	−18	−5.8
Mott	Maximum...	31	32	30	25	33	25	15	9	14	30	40	51	34	22	16	−5	−18	−17	4	−1	−5	−8	−7	0	26	20	−15	18	14	−5	−1	12.9
	Minimum...	15	18	21	16	8	15	8	3	−4	11	13	30	16	11	−5	−18	−22	−33	−25	18	−27	−20	−18	−15	0	−19	−32	22	−11	−11	−17	−4.2
Napoleon §§	Maximum...	44	37	23	27	35	20	15	8	20	40	43	50	23	16	18	−2	−16	−14	−5	−3	−7	15	2	6	12	18	−12	5	5	−3	0	13.4
	Minimum...	11	15	16	5	−3	15	3	−3	−11	7	14	35	16	2	2	−22	−27	−33	−30	−30	−30	−24	−5	−23	−28	−26	−35	−34	−15	−11	−31	−9.2
New Salem	Maximum...	41	42	23	23	24	14	18	10	18	40	44	55	32	20	16	10	−10	−15	−5	3	−6	11	10	12	27	30	−6	−6	12	3	−3	15.5
	Minimum...	21	19	20	15	12	11	6	0	−1	11	12	11	12	8	10	−22	−29	−33	28	−23	−27	−20	−15	−15	17	−14	−32	−29	−12	−15	−22	−6.0
Pembina §§	Maximum...	24	20	18	24	18	19	14	12	3	12	12	36	12	5	16	3	−15	−8	12	−12	−10	20	−10	−5	−10	−12	−10	−4	−8	−4	8	5.0
	Minimum...	5	5	10	14	8	15	−8	−4	−10	−10	8	12	5	−8	−4	−20	−20	−26	−34	−36	−25	10	−20	−18	20	−18	−29	−25	−24	−25	−25	−10.9
Steele	Maximum...	27	31	31	28	25	21	9	7	18	38	47	48	32	15	8	−15	−15	−18	−15	8	−10	−12	2	10	−18	−15	−10	10	5	15	2	9.5
	Minimum...	17	5	19	13	10	6	−2	−3	9	18	30	32	15	5	−6	−22	−26	−32	−33	−29	−30	−20	−18	−29	−33	−32	30	−29	−29	−21	−20	−8.3
Towner	Maximum...	30	28	28	27	28	28	22	25	28	36	38	40	38	30	5	−10	−18	−10	18	−15	−16	18	18	12	27	25	−15	−16	−16	−15	−15	11.8
	Minimum...	18	15	15	17	15	15	−5	−3	−10	15	16	15	15	5	−10	−24	−30	−30	−28	−36	−24	−22	−12	−10	−22	−20	−31	−40	−24	−24	−22	−8.6
Valley City	Maximum...	35	30	25	24	22	21	12	3	13	29	33	34	33	5	3	−17	−15	−16	−11	−5	−11	10	10	0	12	12	0	8	3	0	0	9.7
	Minimum...	12	17	12	5	12	12	−3	0	−6	6	12	32	0	−3	−8	−22	−22	29	−25	−27	23	−17	−14	−14	26	−13	−31	−14	−12	−13	−20	−7.2
Wahpeton	Maximum...	37	36	32	31	28	30	26	16	16	26	32	38	36	29	25	20	−6	−8	6	−2	2	10	19	7	33	−2	0	13	10	10	1	17.3
	Minimum...	11	22	20	7	15	23	−2	5	−6	11	15	26	8	3	8	−16	−14	−21	−26	−24	−23	−20	−2	−17	−5	27	27	−9	−10	−10	−21	−3.4
Walhalla	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Westhope	Maximum...	45	36	28	26	23	23	13	9	19	37	43	39	28	24	15	6	−4	14	−11	−13	−12	19	19	12	28	28	12	−19	−9	0	2	14.6
	Minimum...	20	17	12	10	−5	−9	−13	−9	−19	11	32	28	−1	−1	−11	−25	−24	−30	−25	−33	−27	−20	−14	−12	0	−20	−32	−36	26	24	−17	−9.8
Williston	Maximum...	48	36	29	30	32	17	7	11	26	38	44	46	29	16	16	−18	−18	−18	−15	−13	−13	19	10	6	29	26	−17	−3	8	1	4	13.3
	Minimum...	23	18	23	20	17	7	−3	2	8	26	20	29	13	12	−18	−24	−26	29	−27	−24	−29	−14	10	−14	−12	−22	−31	−30	−12	−10	−4	−3.9
Moorhead, Minn	Maximum...	36	30	25	26	26	25	5	6	7	25	37	37	14	11	18	−10	−12	−11	−9	−4	−5	14	13	5	16	28	−13	−4	5	0	3	11.1
	Minimum...	13	18	16	10	13	5	5	2	−5	1	17	14	3	−1	−10	−19	−15	−22	−24	−23	−18	15	−16	−19	−21	−23	−26	−30	−7	−12	−18	−7.0

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 1-22-25—1135]

UNNT

27 1925

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

NORTH DAKOTA SECTION.

ORRIS W. ROBERTS, Meteorologist.

VOL. XXXIII. BISMARCK, N. D., ANNUAL, 1924. No. 13

GENERAL SUMMARY.

The year 1924 will long be remembered as one of the most favorable in the climatological history of North Dakota. Not only were bounteous crops harvested, but prices for farm products were far above those of preceding years and resulted in general prosperity throughout the State. The mildness of the opening months and the coolness of the summer months formed almost ideal temperature conditions. The precipitation, while below the normal, was ample for all needs.

The mean annual temperature for the State was 38.2°, or 0.6° below the normal, and 2.5° lower than the mean for 1923. The highest mean annual temperature reported was 41.8° at Wahpeton, Richland County; the lowest was 34.6° at Langdon, Cavalier County. The highest temperature reported was 105° at Beach, Golden Valley County, on August 28th; the lowest was -46° at Dunseith, Rolette County, on December 27th. The temperature averaged above the normal during February, March, October and November, and below the normal during the remaining months. The highest mean annual temperature ever recorded in the State was 42.0° in 1921; the lowest was 35.8° in 1893. The highest temperature ever recorded in the State was 124° at Medora, Billings County, on September 3, 1912; the lowest was -56° at Goodall, McKenzie County, on January 12, 1916.

The average precipitation for the State was 17.55 inches, or 0.39 inch below the normal, and 0.21 inch less than the average for 1923. The greatest annual precipitation reported was 27.56 inches at Larimore, Grand Forks County; the least was 10.87 inches at New England, Hettinger County. The greatest monthly amount reported was 7.57 inches at Bowbells, Burke County, in June; there was none at Bowbells, Burke County, in January, at Forman, Sargent County, in January and November, at Lamoine, Kidder County, in January, at Parshall Mountrail County, in March, and at Wahpeton, Richland County, in January and November. The precipitation averaged above the normal during April, June, September and October, and below the normal during the remaining months. The heaviest annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.92 inches in 1917. The average snowfall for the State was 28.5 inches. The average number of days with 0.01 inch or more of precipitation was 66. There were 158 clear days, 101 partly cloudy days, and 107 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—The month opened with severe weather prevailing in all sections, effectively stopping farm work and road construction, and necessitated considerable feeding of livestock. This condition obtained during the first and second decades. The last decade, however, was generally mild and pleasant, allowing livestock to range on harvested fields and ranges. The month was devoid of severe storms.

FEBRUARY.—Unusually mild and pleasant weather prevailed throughout the State during the month, the mean temperature being the highest of record for February. The month was free from severe storms, there was abundant sunshine and a deficiency of precipitation. Owing to the reduced snow covering, some apprehension was expressed in some sections as to condition of winter rye.

MARCH.—Like the weather which prevailed during the preceding month, March opened with mild temperature, which rapidly reduced the snow covering, a condition which prevailed during the first and second decades. During this period spring work on farms was begun, considerable spring wheat was planted in the central and southeast portions, and some spring plowing accomplished. During the last decade farm work was somewhat delayed, due to frozen ground in the east portion, and by low temperatures and snow in the west and central portions.

APRIL.—On the whole, favorable weather prevailed throughout the month for farm work, and good progress was made, especially in the seeding of small grain and in spring plowing. Winter rye came through in fair condition, some reports of winter killing being received. Pastures and ranges improved rapidly, and livestock were generally in good condition.

MAY.—Weather unfavorable for crops and for outdoor work generally prevailed throughout the State. Mean temperatures below the normal were reported from all sections, there was much cloudiness, and a deficiency in precipitation. The precipitation was unevenly distributed. While farm work made fair headway, crops were backward at the close of the month. Frosts were frequent, and some damage was reported. Much work was accomplished on highways, and roads were generally in excellent condition.

JUNE.—The weather during June was one of the most favorable in the climatological history of the State. The weather was cool, which was decidedly favorable for all small grains, and at the close of the month spring wheat, oats, barley, speltz and winter rye were in excellent condition. While somewhat too cool for the germination and growth of corn, that crop was also in good condition at the close of the month, being of good stand and color and free from weeds. Pastures afforded abundant feed, and tame and wild grasses promised an excellent hay crop. Considerable damage, however, was caused by hailstorms, particularly on the 18th, when winds of high velocity occurred.

JULY.—Favorable weather prevailed in all sections, especially for small grains, the temperature being generally below normal, and the precipitation sufficient and well distributed. At the close of the month all crops were excellent. Winter rye and barley harvest was well under way, and spring wheat was

[Continued on page 53.]

Climatological Data for the Year 1924.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Amenia	Cass	954	29	37.1	97	Aug. 28	−37	Jan. 5	29	21.03	4.73	Sept.	T.	Jan.	21.6	62	186	130	50	nw.
Amidon	Slope	.....	11	40.6	101	Aug. 28	−36	Dec. 18	11	12.81	3.38	Oct.	0.02	Jan.†	35.0	59	167	138	61	w.
Arnegard	McKenzie	.....	10	38.6	100	Aug. 27†	−33	Dec. 18	10	15.06	4.70	June	0.19	Nov.	37.5	77	191	89	86	nw.
Ashley	McIntosh	2,001	29	38.6	95	Aug. 28	−30	Jan. 5†	29	17.95	4.94	June	T.	Nov.	19.0	45	.....	.....	.....	nw.
Beach	Golden Valley	2,579	19	40.0	105	Aug. 28	−34	Dec. 26	19	12.24	3.96	June	T.	Jan.	25.7	54	.....	.....	.....	.....
Berthold Agency	McLean	2,082	32	40.4	99	Aug. 29	−32	Dec. 17	32	12.09	4.78	June	T.	Jan.†	16.7	53	.....	.....	.....	nw.
Bismarck	Burleigh	1,674	50	40.7	96	Aug. 28	−29	Jan. 5†	50	16.67	6.21	June	0.04	Jan.	26.6	79	112	98	156	nw.
Bottineau	Bottineau	1,638	33	36.0	91	July 3†	−38	Jan. 16†	33	13.53	2.74	June	0.07	Feb.	.....	80	118	85	133	nw.
Bowbells	Burke	1,958	13	36.4	92	Aug. 24	−32	Jan. 5†	13	18.94	7.57	June	0.00	Jan.	.....	61	231	18	117	.....
Bowman	Bowman	2,961	10	39.7	96	Aug. 29	−34	Dec. 18	10	14.81	3.94	June	T.	Nov.	.....	63	185	79	102	nw.
Cando	Towner	1,488	24	.....	93	Aug. 29	−38	Jan. 25	24	.....	3.39	June	0.16	Nov.	.....	.....	.....	.....	.....	nw.
Carson	Grant	2,500	13	38.4	96	Aug. 28	−38	Dec. 27	13	17.05	5.91	June	0.06	Jan.	34.9	61	191	103	72	nw.
Cooperstown	Griggs	1,428	.....	.....	.....	.....	.....	.....	10	24.30	4.95	June	0.25	Jan.	.....	47	199	104	63	nw.
Crosby	Divide	1,954	18	37.5	94	Aug. 27	−36	Dec. 27	18	15.61	5.09	June	0.19	Mar.	34.4	76	110	131	125	nw.
Devils Lake	Ramsey	1,478	20	36.6	93	Aug. 29	−32	Jan. 4	20	22.17	4.96	Apr.	0.35	Jan.	45.8	104	130	102	131	w.
Dickinson	Stark	2,543	33	38.4	102	Aug. 28	−35	Dec. 18	33	15.13	3.37	Oct.	0.03	Jan.	42.2	80	164	60	142	nw.
Donnybrook	Ward	1,760	21	.....	95	July 28†	−32	Jan. 4†	32	.....	5.68	June	0.08	Nov.	27.0	.....	.....	.....	.....	nw.
Dunn Center	Dunn	2,191	21	39.2	101	Aug. 28	−33	Dec. 18†	21	13.59	3.88	June	T	Nov.	29.5	52	176	48	142	nw.
Dunseith	Rolette	1,682	28	.....	95	Aug. 28	−46	Dec. 27	28	15.89	3.39	July	0.02	May	27.0	67	147	100	119	w.
Eckman	Bottineau	.....	.....	.....	.....	.....	.....	.....	20	12.47	2.77	June	0.04	Mar.	28.2	56	.....	.....	.....	nw.
Edgeley	LaMoure	1,468	24	40.1	100	Aug. 28	−31	Jan. 5†	24	14.05	3.71	Apr.	T.	Jan.†	16.0	43	81	143	142	nw.
Ellendale	Dickey	1,449	22	39.8	96	Aug. 28	−32	Jan. 5	22	17.57	3.74	June	0.07	Jan.	23.5	93	109	108	149	nw.
Energy	McLean	1,750	3	.....	97	July 15	−35	Dec. 20	12	14.17	4.25	June	0.13	Dec.	32.5	60	145	170	51	nw.
Epping	Williams	2,224	3	36.4	93	Aug. 28	−37	Jan. 17	17	16.93	5.46	June	0.32	Dec.	.....	71	189	128	49	nw.
Fessenden	Wells	1,610	13	38.5	98	Aug. 29	−33	Jan. 4†	13	18.10	4.75	June	0.15	Nov.	21.5	83	156	93	117	nw.
Finley	Steele	1,461	3	37.8	90	Aug. 29	−31	Jan. 5	3	19.83	3.89	Sept.	0.18	Nov.	26.0	95	165	65	136	nw.
Forman	Sargent	.....	.....	.....	.....	.....	.....	.....	31	18.64	4.12	Apr.	0.00	Jan.†	.....	48	158	122	86	n.
Foxholm	Ward	.....	4	37.4	93	Aug. 29	−33	Jan. 4	4	15.25	4.86	June	0.11	Mar.	37.7	64	104	151	111	nw.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	6	15.71	4.63	June	0.10	Nov.	47.5	67	.....	.....	.....	nw.
Fullerton	Dickey	1,439	27	40.1	96	Aug. 28	−29	Jan. 5	27	19.16	3.66	Apr.	0.16	Nov.	31.1	59	164	114	88	nw.
Garrison	McLean	1,901	30	38.5	93	Aug. 28	−34	Dec. 28	30	17.22	6.06	June	T.	Jan.	.....	65	164	114	88	nw.
Grafton	Walsh	827	33	37.5	90	Aug. 29	−31	Jan. 5	33	20.79	4.39	Apr.	0.14	Feb.	.....	81	.....	.....	.....	nw.
Grand Forks	Grand Forks	830	34	36.9	90	Aug. 25†	−33	Jan. 5	34	20.52	3.95	Apr.	0.17	Nov.	33.6	103	160	84	122	nw.
Granville	McHenry	1,504	18	37.7	98	Aug. 29	−38	Dec. 28	18	14.03	3.48	June	T.	Mar.	38.0	55	121	146	99	nw.
Hannah	Cavalier	1,568	.....	.....	.....	.....	.....	.....	18	18.52	3.64	Apr.	T.	Feb.	41.0	48	.....	.....	.....	.....
Hansboro	Towner	1,597	17	.....	90	July 7†	−44	Dec. 17†	17	18.75	3.82	Apr.	T.	Jan.†	29.0	57	.....	.....	.....	nw.
Hettinger	Adams	2,253	17	39.8	101	Aug. 28	−30	Dec. 27	17	14.60	3.93	June	0.02	Nov.	36.5	44	203	83	80	nw.
Hillsboro	Traill	901	19	39.5	94	Aug. 28	−34	Jan. 5	19	16.45	3.09	Apr.	0.05	Mar.	12.9	65	.....	.....	.....	nw.
Howard	Williams	2,275	18	35.8	94	Aug. 27	−36	Dec. 27	18	17.18	4.17	June	0.49	Feb.	56.4	65	120	127	119	nw.
Jamestown	Stutsman	1,390	33	38.2	99	Aug. 28	−32	Dec. 29	33	22.01	5.12	Sept.	0.03	Nov.	.....	67	208	30	128	w.
Lamoine	Kidder	1,936	19	.....	96	Aug. 28	−34	Dec. 28	19	14.00	5.52	June	0.00	Jan.	25.0	37	.....	.....	.....	nw.
Langdon	Cavalier	1,615	29	34.6	92	Aug. 25	−40	Dec. 20	29	21.89	4.80	Apr.	0.29	May	.....	79	226	79	61	nw.
Larimore	Grand Forks	1,134	31	37.2	91	Aug. 24†	−35	Dec. 27	31	27.56	4.85	Apr.	0.24	Nov.	.....	82	153	66	147	n.
Linton	Emmons	1,711	8	41.5	101	Aug. 28	−38	Jan. 5	8	17.53	4.17	June	0.04	Nov.	33.9	84	.....	.....	.....	nw.
Lisbon	Ransom	1,091	21	39.1	98	Aug. 28	−34	Jan. 5	21	19.34	4.57	Sept.	T.	Jan.†	7.5	51	209	96	61	.....
McClusky	Sheridan	1,943	3	37.8	95	Aug. 28	−35	Dec. 18	7	16.98	6.18	June	0.06	Nov.	28.5	59	165	114	87	nw.
McHenry	Foster	.....	15	.....	89	Aug. 29	.....	.....	15	.....	4.91	Apr.	.....	.....	.....	.....	.....	.....	.....	nw.
McKinney	Renville	1,640	31	36.0	90	Aug. 26†	−34	Dec. 28	31	18.29	5.93	June	0.14	Mar.	26.0	52	.....	.....	.....	nw.
McLeod	Ransom	1,075	12	41.1	94	July 27†	−35	Jan. 5	12	20.81	4.25	June	0.10	Nov.	12.6	65	187	57	122	nw.
Maddock	Benson	1,604	11	38.0	94	Aug. 29	−33	Jan. 4	11	16.51	3.42	Sept.	0.08	Mar.	.....	66	93	151	122	nw.
Mandan	Morton	1,644	11	39.8	96	Aug. 28	−31	Dec. 27†	11	16.19	5.56	June	0.03	Jan.	.....	77	151	77	138	nw.
Manfred	Wells	1,605	22	37.7	91	Aug. 23†	−32	Jan. 5†	22	16.26	3.45	June	0.24	Nov.	33.1	77	157	94	115	nw.
Marmarth	Slope	2,714	.....	.....	92	July 28	−32	Dec. 26	12	16.27	3.17	Oct.	0.22	Jan.†	54.5	90	.....	.....	.....	.....
Mayville	Traill	975	29	37.8	91	July 15	−30	Jan. 20†	29	21.75	3.45	June	0.02	Nov.	29.2	63	.....	.....	.....	n.
Melville	Foster	1,590	27	38.4	92	Aug. 28	−30	Jan. 4†	27	19.59	4.41	Apr.	T.	Jan.†	24.5	45	.....	.....	.....	nw.
Minot	Ward	1,557	26	38.7	98	Aug. 29	−34	Dec. 28	26	15.06	4.78	June	0.02	Nov.	.....	57	149	113	104	w.
Minto	Walsh	820	32	37.1	93	Aug. 25	−32	Jan. 16†	32	19.99	3.85	Sept.	0.16	Mar.	.....	87	135	141	90	ne.
Mott	Hettinger	2,424	18	38.0	99	Aug. 28	−33	Jan. 2	18	15.16	3.65	Oct.	T.	Nov.	31.2	56	119	114	133	nw.
Napoleon	Logan	1.955	33	37.5	93	July 10	−37	Jan. 5	33	20.02	4.52	June	T.	Jan.	26.0	64	172	57	137	s.
New England	Hettinger	2,400	31	39.1	99	Aug. 28	−34	Dec. 18	31	10.87	2.67	Oct.	T	Jan.†	16.5	36	128	172	66	nw.
New Salem	Morton	2,163	21	40.4	98	Aug. 28	−33	Dec. 18	21	13.83	4.67	June	T.	Nov.	.....	61	161	135	70	nw.
Park River	Walsh	998	21	37.1	90	Aug. 25†	−30	Jan. 4†	21	23.23	5.91	Apr.	0.08	Nov.	26.1	69	144	89	133	nw.
Parshall	Mountrail	.....	.....	.....	.....	.....	.....	.....	9	11.05	2.60	June	0.00	Mar.	23.0	27	.....	.....	.....	.....
Pembina	Pembina	789	44	35.8	90	July 6†	−36	Dec. 20	44	18.59	5.65	Apr.	0.18	Mar.	23.0	52	188	82	96	s.
Pettibone	Kidder	1,856	15	.....	.....	.....	−39	Jan. 5	15	.....	4.60	June	0.12	Nov.	.....	.....	.....	.....	.....	.....
Power	Richland	1,020	.....	.....	.....	.....	.....	.....	31	19.21	4.18	June	0.10	Nov.	16.5	65	.....	.....	.....	.....
Powers Lake	Burke	2,205	.....	.....	.....	.....	.....	.....	11	.....	5.29	June	0.29	Jan.	.....	.....	.....	.....	.....	w.
Richardton	Stark	2,467	9	39.2	101	Aug. 28	−35	Dec. 21†	9	14.10	3.56	June	0.07	Nov.	42.0	63	144	109	113	nw.
Sharon	Steele	1,516	.....	.....	.....	.....	.....	.....	1	22.00	4.79	June	0.15	Nov.	25.3	90	145	101	120	nw.
Stanton	Mercer	.....	.....	.....	.....	.....	.....	.....	2	16.12	4.69	June	0.24	Jan.†	31.0	40	156	127	83	nw.
Steele	Kidder	1.857	28	37.6	94	July 10†	−38	Jan. 5	28	15.99	7.39	June	T.	Jan.†	23.2	44	166	115	85	nw.
Towner	McHenry	1,482	23	39.4	99	Aug. 29	−40	Dec. 28	23	11.27	2.22	June	T.	Nov.	33.2	33	179	89	98	nw.
Turtle Lake	McLean	1,899	10	37.5	96	Aug. 28	−32	Dec. 27†	10	16.28	6.59	June	0.03	Nov.	29.3	70	140	97	129	nw.
Valley City	Barnes	1,245	20	38.8	97	Aug. 28	−31	Jan. 5†	20	14.64	4.58	Sept.	0.13	Jan.	8.0	82	127	149	90	nw.
Wahpeton	Richland	962	31	41.8	95	Aug. 28	−35	Jan. 5	31	21.42	5.68	June	0.00	Jan.†	.....	58	229	4	133	nw.
Washburn	McLean	1,731	.....	.....	.....	.....	.....	.....	25	15.49	4.64	June	0.08	Nov.	.....	62	.....	.....	.....	.....
Westhope	Bottineau	1,508	19	37.7	94	Aug. 26	−38	Jan. 4	19	13.19	3.48	June	T.	Mar.†	.....	42	164	132	70	nw.
Williston	Williams	1,875	46	39.3	96	Aug. 28	−31	Dec. 27	46	17.43	6.78	June	0.34	Feb.	39.4	94	120	105	141	se.
Willow City	Bottineau	1,471	33	.....	92	July 10†	.....	.....	33	16.89	2.88	July	0.33	May	46.0	60	.....	.....	.....	nw.
Moorhead, Minn	Clay	935	44	39.0	93	Aug. 28	−35	Jan. 5	44	20.67	4.37	June	0.16	Jan.	14.7	102	154	111	101	s.

† Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1924, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Amenia	T.	-0.50	0.80	+0.40	0.16	-0.41	2.23	+0.35	0.64	-2.20	4.13	+0.26	3.06	+0.05	2.05	-0.67	4.73	+2.76	2.83	+1.54	0.16	-0.38	0.24	-0.27	21.03	+0.93
Amidon	0.02	......	0.25	......	1.20	......	0.71	......	0.82	......	2.27	......	1.94	......	0.92	......	0.69	......	3.38	......	0.02	......	0.59	......	12.81	......
Arnegard	0.43	......	0.60	......	1.02	......	1.27	......	1.08	......	4.70	......	1.25	......	0.54	......	0.66	......	2.72	......	0.19	......	0.60	......	15.06	......
Ashley	0.10	-0.45	0.40	-0.07	0.59	-0.60	2.37	+0.40	0.18	2.28	4.94	+1.45	1.31	-1.35	1.45	-0.75	3.10	+2.08	2.95	+1.89	T.	-0.54	0.56	+0.05	17.95	-0.17
Beech	T.	-0.63	0.42	0.09	0.61	-0.17	1.01	-0.41	0.72	2.09	3.96	+0.48	1.09	-0.71	0.71	-1.34	0.71	-0.56	2.34	+1.35	0.13	-0.41	0.54	+0.03	12.21	-4.55
Berthold Agency	T.	-0.40	T.	-0.55	0.20	-0.64	0.71	-0.45	0.68	-1.78	4.78	+0.90	1.19	-0.78	0.19	-1.58	0.82	-0.62	3.22	+2.36	0.03	-0.45	0.27	-0.13	12.09	-4.12
Bismarck	0.04	-0.50	0.28	-0.22	0.58	-0.46	1 90	+0.02	0.45	-2.05	6.21	+2.67	1.40	-0.74	1.91	0.07	1.60	+0.41	2.02	+0.99	0.05	-0.63	0.23	0.39	16.67	-0.97
Bottineau	0.18	-0.28	0.07	-0.30	0.23	-0.57	0.50	--0.37	0.26	-1.78	2.74	-0.40	2.52	+0.24	1 81	-0.40	1.85	+0.28	2.47	+1.48	0.48	-0.06	0.42	-0.07	13.53	2.23
Bowbells	0.00	-0.67	0.13	-0.24	0.14	-0.39	1.41	+0.15	0.67	-1.64	7.57	+4.48	0.94	-1.20	1.72	-0.48	0.98	-0.64	4.80	+4.05	0.23	-0.28	0.35	0.09	18.94	+3.05
Bowman	0.08	......	0.57	......	0.21	......	0.94	......	0.52	......	3.94	......	2.01	......	2.16	......	0.65	......	3.67	......	T.	......	0.06	......	14.81	......
Cando	0.50	+0.10	0.31	+0.08	......	......	3.38	+2.49	0.68	-1.72	3.39	0.49	2.55	+0.02	1.46	-0.75	2.26	+0.83	2.00	+1.28	0.16	-0.35	0.38	+0.02	......	......
Carson	0.06	-0.28	0.30	0.00	1.05	+0.39	0.96	-0.59	0.25	-2.39	5.91	+2.04	1.64	-0.30	2.19	+0.79	1.13	-0.60	2.93	+2.05	0.10	-0.46	0.53	0.01	17.05	+0.64
Cooperstown	0.25	-0.25	0.80	+0.49	0.40	-0.14	4.85	+3.80	0.80	-1.41	4.95	+1.31	1.90	-0.83	3.50	+0.84	4.25	+2.59	1.70	+0.83	0.30	-0.24	0.60	+0.03	24.30	+7.02
Crosby	0.30	-0.25	0.37	+0.11	0.19	-0.47	1.82	+0.80	0.39	-1.63	5.09	+2.13	1.13	-0.85	2.32	+0.11	1.11	-0.13	1.75	+0.99	0.48	-0.28	0.66	+0.15	15.61	+0.68
Devils Lake	0.35	-0.25	0.39	-0.17	0.42	-0.59	4.96	+2.93	1.24	-0.96	3.44	-0.09	1.31	-2.47	2.39	-0.37	4,54	+3.15	2.08	+0.85	0.38	-0.33	0.67	+0.28	22.17	+2.01
Dickinson	0.03	0.39	0.19	-0.24	1.11	+0.27	1.03	-0.20	1.12	-1.31	3.26	+0.22	2.69	+0.37	0.77	-1.18	0.66	-0.41	3,37	+2.59	0.12	-0.36	0.78	+0.36	15.13	-0.28
Donnybrook	0.36	-0.03	0.65	+0.14	0.18	0.59	2.91	+1.86	0.06	-2.18	5.68	+2.82	3.67	+1.04	0.94	-1.20	......	......	......	......	0.08	-0.51	0.27	-0.21	......	......
Dunn Center	0.17	-0.34	0.20	-0.36	0.72	-0.39	1.45	+0.13	0.76	-1.78	3.88	-0.42	1.21	-0.84	0.33	-1.24	0.83	-0.29	3.48	+2.85	T.	-0.62	0.56	0.00	13.59	3.30
Dunseith	0.26	0.21	0.30	-0.12	0.14	-0.63	0.81	-0.02	0.02	-1.68	2.81	-0.15	3.39	+1.05	1.29	-1.12	2.66	+1.09	3.34	+2.59	0.58	+0.15	0.29	-0.12	15.89	+0.83
Eckman	0.40	-0.16	0.16	-0.19	0.04	-0.46	0.68	-0.37	0.10	-2.08	2.77	+0.01	2.02	-0.42	1.45	-0.87	1.86	+0.73	2.45	+1.60	0.33	-0.21	0.21	-0.11	12.47	-2.83
Edgeley	T.	-0.29	0.20	-0.12	0.36	-0.44	3.71	+1.83	0.73	-1.94	2.79	-0.57	0.91	-1.89	0.71	-1.43	2.71	+1.05	1.65	+0.73	T.	-0.34	0.28	-0.11	14.05	-3.52
Ellendale	0.07	-0.33	0.38	-0.10	0.76	-0.44	2.65	+0.82	0.85	-2.16	3.74	+0.74	1.53	-1.37	2.74	+0.48	2.73	+1.38	1.35	+0.31	0.12	-0.66	0.65	+0.32	17.57	-1.01
Energy	0.23	-0.06	0.37	+0.11	0.26	-0.41	1.23	+0.09	0.93	-1.27	4.25	+0.64	2.81	+0.63	0.46	-1.49	0.92	-0.62	2.43	+1.73	0.15	-0.11	0.13	-0.22	14.17	-0.98
Epping	0.35	-0.21	0.35	0.00	1.06	+0.50	1.77	+0.62	0.97	-1.34	5.46	+2.12	1.84	-0.08	1.65	-0.50	0.98	-0.48	1.83	+0.94	0.35	-0.08	0.32	0.11	16.93	+1.39
Fessenden	0.41	-0.19	0.45	+0.12	0.25	-0.47	4.18	+2.64	0.69	1.59	4.73	+0.70	0.61	-1.86	0.92	-1.46	3.36	+1.64	1.96	+1.18	0.15	-0.49	0.37	0.36	18.10	-0.14
Finley	0.45	......	0.40	......	0.49	......	3.45	......	0.91	......	2.76	......	1.52	......	3.34	......	3.89	......	2.10	......	0.18	......	0.34	......	19.83	......
Forman	0.00	-0.53	0.50	-0.03	0.59	-0.31	4.12	+1.93	0.70	......	2.15	-1.46	1.67	-1.36	3.51	+0.80	3.79	+1.47	1.29	-0.05	0.00	-0.56	0.32	-0.22	18.64	-2.10
Foxholm	0.54	......	1.01	......	0.11	......	2.00	......	0.39	......	4.86	......	1.33	......	0.88	......	1.04	......	2.28	......	0.23	......	0.58	......	15.25	......
Fryburg	0.23	......	0.61	......	1.45	......	2.01	......	0.94	......	4.63	......	0.92	......	0.64	......	0.50	......	2.98	......	0.10	......	0.70	......	15.71	......
Fullerton	0.25	-0.50	0.56	-0.25	0.97	-0.25	3.66	+1.66	1.13	-2.11	3.05	-0.23	1.47	-1.85	1.69	-0.84	3.30	+1.23	2.12	+0.83	0.16	-0.57	0.80	-0.04	19.16	-2.92
Garrison	T.	-0.43	0.41	-0.12	0.72	0.32	1.70	+0.50	0.93	-1.24	6.06	+2.74	2.61	+0.51	1.71	-0.29	0.95	-0.41	1.98	+1.08	0.02	-0.56	0.13	-0.44	17.22	+1.02
Grafton	0.41	-0.19	0.14	-0.44	0.18	-0.51	4.39	+2.91	1.17	-0.94	2.71	-0.53	3.23	+0.75	2.47	-0.12	3.09	+1.27	2.45	+1.56	0.22	-0.44	0.33	-0.21	20.79	+3.11
Grand Forks	0.81	+0.23	0.33	-0.20	0.31	-3.40	3.95	+2.02	2.38	-0.16	2.07	-2.32	1.86	-0.89	2.43	-0.03	3.19	+1.33	2.46	+1.30	0.17	-0.53	0.56	-0.07	20.52	+1.28
Granville	0.32	0.19	0.66	+0.28	T.	0.57	1.29	+0.33	0.89	-0.95	3.48	+0.73	2.35	+0.28	1.09	-1.00	1.80	+0.55	1.63	+0.75	0.12	-0.49	0.40	-0.15	14.03	-0.43
Hannah	0.96	+0.24	T.	-0.56	0.32	-0.34	3.64	+2.38	0.28	-1.82	3.14	-0.30	1.97	-0.49	1.39	-0.46	2.36	+0.22	3.58	+2.62	0.40	-0.28	0.48	-0.15	18.52	+1.06
Hansboro	T.	-0.95	0.60	+0.12	T.	-0.66	3.82	+2.53	0.50	-1.58	3.36	+0.67	2.79	+0.81	1.65	-0.57	2.79	+0.89	2.52	+1.61	0.24	-0.22	0.48	-0.18	18.75	+2.47
Hettinger	0.20	-0.12	0.22	-0.06	1.12	+0.36	1.39	+0.23	0.41	-1.71	3.93	+0.69	2.15	-0.64	0.71	-0.54	0.50	-0.80	3.14	+2.50	0.02	-0.30	0.81	+0.47	14.60	+0.08
Hillsboro	0.20	-0.54	0.40	-0.28	0.05	-0.69	3.09	+1.08	1.17	-2.35	2.20	-1.15	2.11	-0.52	1.56	-1.38	2.62	+0.13	2.40	+1.38	0.10	-0.71	0.55	-0.35	16.45	-5.38
Howard	0.61	-0.14	0.49	-0.20	1.00	-0.14	1.85	+0.45	1.06	-1.12	4.17	+1.58	2.89	+1.29	0.84	-1.05	1.05	-0.32	1.53	+0.72	0.85	+0.34	0.84	+0.02	17.18	+1.43
Jamestown	0.04	-0.60	0.70	+0.12	0.18	-0.82	4.93	+3.19	0.60	-2.09	4.00	+0.22	2.19	-0.56	1.98	-0.76	5.12	+3.59	1.92	+0.99	0.03	-0.70	0.32	-0.43	22.01	+2.15
Lamoine	0.00	-0.61	0.41	+0.02	0.23	-0.54	1.15	+0.18	0.70	-1.66	5.52	+2.20	0.68	-1.87	0.53	-1.45	2.94	+1.66	1.68	+1.10	T.	-0.54	0.16	-0.34	14.00	-1.85
Langdon	0.88	+0.13	0.65	0.00	0.56	-0.28	4.80	+3.47	0.29	-1.96	2.63	-0.87	2.41	-0.15	1.15	-1.50	4.23	+2.24	3.35	+2.41	0.54	-0.16	0.40	-0.33	21.89	+3.10
Larimore	0.62	-0.09	0.75	+0.28	0.46	-0.23	4.85	+3.23	2.43	-0.04	4.55	+1.05	1.77	-1.22	3.96	+1.36	4.58	+2.69	3.01	+1.78	0.24	-0.44	0.34	-0.20	27.56	+8.17
Linton	0.30	......	0.61	......	0.88	......	1.82	......	0.55	......	4.17	......	3.66	......	1.85	......	1.69	......	1.48	......	0.04	......	0.48	......	17.53	......
Lisbon	T.	-0.70	0.20	-0.53	T.	-0.56	4.25	+2.36	1.36	-1.83	3.70	-0.59	0.83	-2.70	2.80	+0.54	4.57	+2.42	1.47	+0.45	T.	-0.62	0.16	-0.25	19.34	-2.01
McClusky	0.10	......	0.48	......	0.50	......	1.81	......	1.05	......	6.18	......	1.15	......	0.87	......	2.12	......	2.34	......	0.06	......	0.32	......	16.98	......
McHenry	0.30	-0.39	0.89	+0.38	0.13	-0.46	4.91	+3.36	0.83	-2.66	6.73	+3.51	0.57	-2.62	1.64	-1.54	3.80	+2.15	2.20	+1.29	......	......	......	......	......	......
McKinney	0.28	-0.09	0.40	+0.12	0.14	-0.59	2.03	+1.14	0.46	-1.50	5.93	+2.71	2.26	+0.20	1.55	-0.24	1.21	-0.22	3.05	+2.21	0.56	-0.03	0.42	0.02	18.29	+3.69
McLeod	0.13	-0.54	0.32	-0.26	0.11	-0.52	3.69	+1.30	0.83	-2.95	4.26	+0.06	2.31	-1.12	2.27	-0.08	3.91	+1.37	2.43	+1.37	0.10	-0.49	0.45	0.00	20.81	-1.86
Maddock	0.16	......	0.15	......	0.08	......	3.14	......	0.95	......	2.82	......	1.68	......	1.83	......	3.42	......	1.90	......	0.13	......	0.25	......	16.51	......
Mandan	0.03	......	0.19	......	0.34	......	1.68	......	0.41	......	5.56	......	2.07	......	2.35	......	1.34	......	1.94	......	0.06	......	0.22	......	16.19	......
Manfred	0.55	-0.10	0.63	+0.20	0.28	-0.50	2.40	+1.13	0.67	-1.69	3.45	-0.13	1.48	-0.82	1.27	-1.19	3.24	+1.89	1.56	+0.75	0.24	-0.50	0.49	-0.27	16.26	-1.23
Marmarth	0.22	-0.08	0.54	+0.15	1.36	+0.91	1.82	+0.69	1.14	-1.14	2.97	-0.14	2.48	+0.82	1.08	-0.54	0.48	-0.75	3.17	+2.38	0.22	-0.11	0.79	+0.45	16.27	+2.64
Mayville	0.24	-0.25	0.40	+0.01	0.52	-0.19	3.32	+1.57	3.32	+0.35	3.45	-0.06	2.48	-0.49	1.89	-1.05	2.76	+0.48	2.95	+1.84	0.02	-0.65	0.40	-0.18	21.75	+1.38
Melville	T.	-0.38	0.60	+0.27	0.28	-0.40	4.41	+3.30	0.94	-1.73	3.97	+0.46	1.05	-1.69	1.87	-0.12	3.57	+2.19	2.58	+1.71	T.	-0.53	0.32	-0.14	19.59	+2.94
Minot	0.30	-0.15	0.45	-0.01	0.05	-0.72	1.45	+0.13	0.87	-1.10	4.78	+1.52	1.69	-0.16	1.66	-0.54	1.21	-0.97	2.20	+1.26	0.02	-0.66	0.38	-0.13	15.06	-0.93
Minto	0.52	+0.03	0.21	-0.29	0.16	-0.66	3 63	+2.06	0.91	-1.43	2.63	-0.67	2.33	-0.43	2.29	-0.12	3.85	+1.85	2.82	+1.72	0.23	-0.42	0.41	0.07	19.99	+1.57
Mott	0.20	-0.68	0.56	-0.01	0.58	-0.46	1.08	-0.42	0.28	-2.08	3.22	-0.18	1.58	-0.79	2.67	+1.03	0.53	-1.04	3.65	+2.56	......	......	0.81	+0.23	15.16	-2.30
Napoleon	T.	-0.45	0.45	+0.05	0.83	-0.10	2.57	+0.90	0.45	-1.95	4.52	+0.90	2.46	-0.02	3.95	+1.56	2.46	+1.22	1.77	+0.83	0.13	-0.46	0.43	-0.05	20.02	+2.43
New England	T	-0.42	0.15	-0.39	..80	-0.07	1.22	+0.20	0.49	-1.66	2.39	-0.30	2.45	+0.44	0.58	-1.19	T.	-1.12	2.67	+2.02	T.	-0.49	0.12	-0.29	10.87	-3.27
New Salem	0.20	-0.43	0.22	-0.16	0.96	0.00	1.50	+0.27	0.45	-1.92	4.67	+0.96	2.06	-0.04	0.63	-1.04	0.73	-0.62	1.99	+1.04	T	-0.35	0.42	-0.11	13.83	-2.40
Park River	0.32	-0.12	0.38	-0.06	0.09	-0.46	5.91	+4.60	0.81	-1.42	4.11	+0.78	2.30	-0.08	2.35	+0.12	3.62	+2.03	2.93	+1.92	0.08	-0.68	0.33	-0.20	23.23	+6.43
Parshall	T.	......	0.10	......	0.00	......	1.02	......	0.80	......	2.60	......	2.32	......	1.50	......	0.60	......	1.62	......	0.04	......	0.45	......	11.05	......
Pembina	0.24	-0.40	0.20	-0.51	0.18	-0.72	5.65	+4.24	0.30	-1.92	1.85	-1.43	3.60	+1.22	1.80	-0.33	2.27	+0.58	1.30	-0.04	0.80	+0.12	0.40	-0.36	18.59	+0.45
Pettibone	0.25	-0.26	0.51	+0.15	0.58	+0.04	2.83	+1.43	0.63	-2.22	4.60	+1.38	......	......	......	......	2.96	+1.57	2.50	+1.85	0.12	-0.43	0.40	-0.28	......	......
Power	0.35	-0.30	0.55	-0.01	0.29	-0.41	3.08	+1.25	1.32	-1.57	4.18	+0.22	1.15	-2.23	2.04	-0.43	3.55	+1.49	2.20	+0.73	0.10	-0.52	0.40	-0.14	19.21	-1.92
Powers Lake	0.29	-0.49	0.35	-0.13	......	......	......	......	0.91	-0.89	5.29	+2.43	0.83	-0.95	2.52	+0.73	0.85	-0.24	5.74	+4.92	0.66	+0.10	0.55	-0.08	......	......
Richardton	0.17	......	0.52	......	0.75	......	1.65	......	1.60	......	3.56	......	2.54	......	0.07	......	0.60	......	2.28	......	0.07	......	0.29	......	14.10	......
Sharon	0.31	......	0.39	......	0.29	......	3.72	......	1.02	......	4.79	......	1.29	......	3.20	......	4.38	......	2.14	......	0.15	......	0.28	......	22.00	......
Stanton	0.04	......	0.44	......	0.25	......	1.52	......	0.92	......	4.69	......	3.97	......	0.50	......	0.91	......	2.12	......	0.04	......	0.72	......	16.12	......
Steele	T.	-0.52	0.60	+0.15	0.15	-0.78	2.12	+1.01	0.53	1.96	7.39	+4.06	1.19	1.69	1.02	-1.32	0.80	-0.44	1.71	+0.83	T.	-0.59	0.48	-0.05	15.99	1.30
Towner	0.50	+0.01	1.00	+0.62	0.10	-0.80	1.64	+0.54	0.30	-2.02	2.22	-0.86	1.78	-0.45	0.26	-1.83	1.35	-0.30	2.00	+1.10	T.	-0.48	0.12	0.29	11.27	-4.76
Turtle Lake	0.04	......	0.30	......	0.87	......	1.38	......	0.51	......	6.59	......	2.23	......	0.68	......	1.58	......	1.29	......	0.03	......	0.78	......	16.28	......
Valley City	0.13	-0.53	0.21	-0.14	0.24	-0.26	2.08	+0.49	0.74	-2.39	2.40	-0.91	1.25	-1.59	0.37	-1.88	4.58	+2.94	2.20	+1.37	0.15	-0.47	0.29	-0.26	14.64	-3.63
Wahpeton	0.00	-0.51	0.01	-0.49	T.	-0.91	3.64	+1.41	0.80	-2.01	5.68	+1.73	2.49	-1.31	2.15	-0.75	3.90	+1.68	2.56	+1.05	0.00	-0.69	0.16	-0.29	21.42	-1.09
Washburn	0.12	-0.27	0.23	-0.16	0.40	-0.25	3.18	+2.08	1.25	-1.13	4.64	+1.09	2.19	-0.11	0.88	-0.45	1.22	+0.03	0.97	+0.03	0.08	-0.56	0.33	-0.01	15.49	+0.29
Westhope	0.17	-0.39	0.17	-0.02	T.	-0.49	1.10	+0.04	0.14	-1.90	3.48	+0.54	2.09	+0.14	1.03	-1.20	2.46	+1.27	2.03	+1.36	0.52	-0.06	T.	-0.37	13.19	-1.08
Williston	0.38	-0.20	0.34	-0.13	0.68	0.00	1.40	+0.17	0.99	-1.27	6.78	+3.21	2.18	+0.15	1.22	-0.09	0.52	-0.39	1.90	+1.13	0.38	-0.22	0.66	0.00	17.43	+2.36
Willow City	0.40	-0.18	0.50	+0.04	0.52	-0.21	1.86	+0.91	0.33	......	2.51	-0.67	2.88	+0.79	1.26	-0.82	2.29	+0.74	2.66	+1.96	0.68	+0.17	1.00	+0.46	16.89	+1.60
Moorhead, Minn.	0.16	-0.55	0.35	-0.41	0.25	-0.89	4.01	+1.68	0.68	-2.27	4.37	+0.24	1.25	-2.49	2.99	-0.11	3.16	+0.86	2.87	+0.80	0.21	-0.77	0.37	0.37	20.67	-4.25

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1924, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Amenia	-1.5	-6.0	17.3	+10.3	24.9	+1.3	40.4	-1.9	46.3	-7.8	58.8	-4.7	63.8	-4.9	66.0	-0.3	55.2	-2.1	50.8	+6.5	[b]25.2	-2.1	-2.4	-15.1	37.1	-2.2
Amidon	8.4	.....	27.4	.....	25.6	.....	40.1	.....	48.4	.....	58.5	.....	65.2	.....	64.8	.....	56.7	.....	50.2	.....	33.1	.....	8.2	.....	40.6	.....
Arnegard	3.4	.....	28.1	.....	25.9	.....	38.4	.....	46.0	.....	54.8	.....	64.4	.....	64.0	.....	56.6	.....	49.6	.....	29.6	.....	6.0	.....	38.6	.....
Ashley	[a]3.7	-3.8	[c]22.0	+14.2	25.1	+3.1	40.8	-1.7	46.6	-6.1	58.1	-3.9	62.6	-5.8	63.2	-2.7	[d]53.6	-3.7	[a]51.0	+7.3	[a]30.1	+2.4	[b]6.4	-7.1	38.6	-0.6
Beach	7.6	-1.7	[f]26.7	+13.1	[c]25.0	-1.5	39.4	-3.1	48.2	-1.9	57.8	-3.3	67.6	+0.3	64.2	-0.8	55.2	-1.1	49.4	+5.4	31.2	-0.2	7.9	-8.6	40.0	-0.3
Berthold Agency	[b]9.1	+1.6	28.8	+19.4	[d]26.8	+2.1	[a]40.4	-3.3	48.1	-5.6	58.6	-4.0	66.4	-2.5	64.0	-3.7	56.5	-0.5	49.8	+5.1	30.0	+1.2	5.8	-9.9	40.4	0.0
Bismarck	6.2	-1.6	24.5	+14.2	26.8	+2.6	41.0	-1.1	49.2	-5.3	60.4	-3.3	67.5	-2.3	65.9	-1.4	57.2	-0.9	53.0	+8.1	30.8	+2.3	5.6	-9.1	40.7	+0.2
Bottineau	-0.8	-0.1	17.8	+16.0	24.7	+7.0	36.6	-2.8	45.2	-6.1	57.7	-3.3	65.3	-0.5	61.4	-2.2	[a]54.6	-0.9	50.2	+8.6	22.0	-1.6	-[a]2.5	-9.2	36.0	+0.4
Bowbells	2.3	-0.9	20.0	+14.2	24.0	+5.2	36.7	-1.7	46.2	-4.4	56.5	-3.7	64.2	-1.6	61.6	-2.3	53.9	+1.1	48.2	+7.9	23.0	-1.8	0.5	-10.2	36.4	+0.1
Bowman	8.0	.....	25.8	.....	24.6	.....	39.4	.....	47.8	.....	58.2	.....	64.8	.....	64.2	.....	55.4	.....	49.2	.....	32.0	.....	7.4	.....	39.7	.....
Cando	-1.4	+0.1	[b]16.2	+13.4	.....	.....	[a]37.6	-3.0	[b]46.6	-4.9	[a]58.4	-2.8	[f]66.0	-0.1	[e]62.5	-1.4	[a]55.0	-0.6	[a]49.7	+6.0	[b]24.4	-2.1	[a]2.6	-4.6	.....	.....
Carson	4.0	-5.9	23.0	+9.3	24.6	+0.1	38.0	-4.0	46.6	-5.7	57.2	-5.8	65.4	-2.7	64.0	-3.6	56.1	-0.3	50.2	+6.7	29.0	-1.7	2.5	-13.5	38.4	2.2
Crosby	1.4	-0.3	22.0	+14.9	25.8	+3.8	38.0	-2.6	47.4	-3.0	58.0	-2.6	65.4	-0.5	62.4	-1.3	55.4	+1.7	48.8	+7.3	24.8	-3.0	0.2	-12.1	37.5	+0.2
Devils Lake	-0.6	-0.9	16.4	+11.9	24.2	+5.7	37.1	-1.1	45.6	-7.1	59.0	-3.6	66.1	-2.0	63.4	-1.7	54.3	-1.3	50.4	+9.9	23.8	+1.2	-0.7	-8.7	36.6	+0.2
Dickinson	5.8	-4.5	23.4	+11.6	24.7	+0.3	38.4	-4.5	45.4	-6.8	56.4	-4.9	64.3	-3.7	61.8	-4.5	55.4	-1.1	48.2	+4.3	30.7	+2.1	6.4	-10.9	38.4	-1.9
Donnybrook	4.0	+0.6	22.0	+15.0	24.1	+1.7	37.6	-2.8	45.9	-4.2	57.2	-3.3	65.4	-0.4	61.2	-2.1	.....	.....	.....	.....	[c]26.4	-2.4	4.2	-8.0	.....	.....
Dunn Center	9.5	-4.3	25.7	+12.7	25.8	+1.7	39.3	-3.3	47.0	-6.3	58.8	-3.1	65.1	-2.9	62.5	-4.1	53.8	-3.3	48.2	+2.6	30.2	+1.8	4.5	-16.0	39.2	-2.0
Dunseith	0.6	-0.9	21.4	+18.0	24.4	+5.6	36.9	-3.5	45.8	-6.1	[f]55.6	-5.6	.....	.....	62.8	-0.8	54.7	-0.1	50.3	+9.2	22.3	-3.9	-1.4	-9.7	.....	.....
Eckman	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edgeley	6.6	-1.2	22.3	+11.4	25.7	-0.8	41.5	-1.7	48.3	-5.2	60.0	-2.8	67.0	-1.5	67.0	+0.6	55.9	-1.6	52.0	+6.1	30.2	-0.2	5.0	-11.5	40.1	-0.7
Ellendale	5.1	-5.6	21.2	+10.5	26.8	+1.2	42.1	-1.5	47.6	-8.1	59.7	-6.3	66.7	4.0	65.9	-2.9	55.6	-2.8	52.3	+6.7	30.2	+4.1	4.6	-12.2	39.8	-1.8
Energy	7.0	.....	25.2	.....	26.0	.....	40.7	.....	[a]48.6	.....	.....	.....	67.2	.....	64.0	.....	55.8	.....	50.0	.....	29.8	.....	5.1	.....	.....	.....
Epping	-0.8	.....	20.4	.....	24.4	.....	37.9	.....	45.0	.....	55.2	.....	62.6	.....	58.4	.....	.....	.....	.....	.....	.....	.....	2.1	.....	36.4	.....
Fessenden	2.7	-0.5	20.5	+12.6	26.2	+4.8	39.4	-0.8	46.7	-4.8	60.2	-0.8	67.4	+0.3	65.4	+0.4	55.5	+0.4	50.2	+8.2	25.8	-1.2	2.2	-10.0	38.5	+0.7
Finley	0.4	.....	18.2	.....	25.7	.....	38.9	.....	45.7	.....	59.8	.....	65.7	.....	64.4	.....	54.6	.....	[a]50.6	.....	26.7	.....	2.7	.....	37.8	.....
Foxholm	2.6	.....	19.8	.....	24.2	.....	37.2	.....	46.4	.....	56.8	.....	64.6	.....	62.5	.....	55.4	.....	50.2	.....	26.0	.....	2.8	.....	37.4	.....
Fullerton	6.1	-1.7	21.6	+12.3	26.8	+1.6	42.5	-0.3	48.0	-5.3	61.0	-1.7	66.7	-1.7	66.4	+0.1	55.8	-0.9	51.4	+7.1	29.6	-0.1	5.8	-7.9	40.1	+0.1
Garrison	3.4	-3.1	22.9	+14.5	25.6	+3.9	40.3	-2.3	47.4	-5.2	57.6	-4.6	64.7	-3.4	62.0	-3.7	55.1	-1.7	51.3	+7.5	27.4	+0.4	4.6	-9.0	38.5	-0.6
Grafton	-0.8	-1.7	16.2	+11.3	27.8	+8.6	[a]38.5	-1.8	47.5	-5.4	59.9	-2.6	65.6	-1.9	[a]64.2	-0.3	54.4	-1.5	51.0	+8.3	25.3	+1.3	0.1	-7.6	37.5	+0.6
Grand Forks	-2.0	-5.5	15.2	+8.7	26.8	+4.4	38.8	-3.2	45.6	-7.8	60.5	-2.4	64.0	-3.4	63.2	-1.7	53.9	-2.3	50.8	+7.3	25.4	-0.7	1.0	-9.6	36.9	-1.4
Granville	1.6	-0.3	21.4	+13.0	27.0	+3.3	37.4	-5.1	44.9	-6.5	[a]58.4	-4.7	[g]64.7	-2.4	62.6	-1.3	54.6	-0.2	50.7	+6.6	26.8	+0.7	2.5	-9.9	37.7	-0.5
Hansboro	[c]-3.0	-0.7	14.2	+10.5	19.8	-1.5	.....	.....	44.8	-5.5	56.2	-4.2	62.1	-3.3	52.4	-10.4	45.8	-9.1	41.6	+0.3	.....	.....	-2.9	-10.2	.....	.....
Hettinger	[a]3.8	-8.7	25.2	+12.0	24.8	-2.8	[a]37.4	-7.4	49.2	-3.6	58.8	-3.3	65.8	-3.7	66.4	-0.6	54.4	-3.6	52.0	+5.6	33.6	+0.2	6.8	-9.0	39.8	-2.1
Hillsboro	[c]-0.4	-4.3	20.2	+11.7	29.0	+4.3	[a]43.0	-0.6	[f]47.8	-5.4	[e]61.8	-2.6	[a]67.4	-2.1	66.8	-0.1	56.5	-2.5	[b]52.4	+6.4	28.6	-0.2	[b]1.4	-11.2	39.5	-0.6
Howard	0.2	-1.3	20.6	+14.6	22.6	+1.8	36.0	-3.8	44.4	-5.0	56.2	-3.5	63.2	-2.3	61.7	-1.8	53.8	0.0	45.9	+4.5	24.4	-3.3	-0.2	-12.0	35.8	-0.9
Jamestown	6.0	-0.5	20.6	+12.7	28.4	+5.8	41.2	-1.3	48.0	-5.5	58.6	-4.5	64.6	-3.9	61.6	-4.6	50.4	-6.3	49.2	+4.4	27.8	+0.2	2.3	-11.3	38.2	-1.3
Lamoine	-0.3	-4.3	.....	.....	23.6	+0.6	39.2	-3.4	45.4	-5.3	57.6	-2.9	64.7	-1.2	[a]62.9	-1.0	53.6	-3.0	[b]52.2	+9.1	27.6	+0.6	1.4	-9.8	.....	.....
Langdon	-4.2	-1.5	13.7	+10.7	23.2	+4.2	34.8	-3.3	44.2	-6.6	56.3	-3.4	63.1	-1.4	61.6	-0.1	53.4	-0.1	48.5	+8.1	21.6	-4.1	-1.6	-8.9	34.6	-0.5
Larimore	0.1	-2.5	16.2	+11.0	26.7	+5.7	38.2	-2.2	45.6	-6.8	59.4	-2.7	65.6	-1.1	63.6	-0.7	54.2	-1.0	49.8	+6.5	25.5	-0.3	1.5	-9.3	37.2	-0.3
Linton	4.1	.....	25.0	.....	27.8	.....	42.0	.....	49.6	.....	60.6	.....	68.6	.....	68.4	.....	59.1	.....	53.9	.....	32.6	.....	5.8	.....	41.5	.....
Lisbon	3.4	-2.5	23.0	+13.4	27.8	+1.2	42.0	-0.7	47.4	-5.5	61.2	-1.9	67.8	-0.4	66.7	+0.2	55.6	-2.1	47.0	+1.7	25.0	-5.2	2.6	-11.5	39.1	-1.1
McClusky	1.4	.....	22.2	.....	24.4	.....	39.2	.....	46.5	.....	58.4	.....	65.8	.....	63.8	.....	54.1	.....	49.4	.....	25.7	.....	2.4	.....	37.8	.....
McHenry	-0.9	-2.0	16.0	+10.6	26.0	+2.4	39.6	-1.7	46.4	-5.9	58.3	-3.7	65.2	-2.4	62.4	-2.3	53.3	+0.9	50.0	+7.7	.....	.....	.....	.....	.....	.....
McKinney	0.6	-2.6	19.4	+14.3	23.8	+4.6	35.9	-5.1	47.5	-4.5	55.6	-5.1	61.9	-4.1	60.7	-2.8	[a]55.2	+1.1	[b]46.7	+5.0	24.0	-0.6	1.0	-9.7	36.0	.....
McLeod	4.6	-3.1	20.6	+9.2	28.8	+2.9	44.1	+0.8	48.4	-5.7	59.8	-5.2	66.5	-3.7	67.6	0.0	59.6	+2.7	55.2	+9.7	36.3	+6.6	5.7	-8.6	41.4	+0.4
Maddock	1.8	.....	20.2	.....	27.0	.....	39.2	.....	46.8	.....	59.0	.....	65.2	.....	63.5	.....	54.6	.....	50.2	.....	26.4	.....	2.7	.....	38.0	.....
Mandan	4.2	.....	22.8	.....	26.4	.....	40.8	.....	48.6	.....	59.3	.....	66.9	.....	65.2	.....	56.6	.....	51.8	.....	30.6	.....	4.8	.....	39.8	.....
Manfred	2.4	-1.6	19.2	+12.4	24.5	+1.4	39.0	-2.8	45.8	-5.8	59.0	-2.5	65.8	1.1	63.9	-0.4	53.2	-2.7	50.0	+6.7	27.2	-1.8	2.8	-8.5	37.7	-0.6
Marmarth	10.0	-0.3	25.6	+12.5	25.0	-1.0	[a]40.8	-2.0	48.4	-1.6	58.1	-2.2	[a]66.4	-1.4	.....	.....	.....	.....	.....	.....	.....	.....	[a]9.6	-8.1	.....	.....
Mayville	[k]-1.8	-7.8	17.6	+9.9	26.1	+2.9	38.6	-4.6	44.2	-10.3	58.2	-6.3	65.5	-3.9	65.4	-0.9	55.8	-1.0	[c]51.9	+7.0	28.2	-1.1	3.6	-9.5	37.8	-2.2
Melville	3.0	-2.6	20.7	+14.1	24.5	+2.2	38.9	-1.2	46.5	-6.0	[a]58.4	-4.5	[a]65.6	-2.3	[b]65.6	-0.8	54.6	-1.8	51.4	+7.8	27.6	-1.4	3.6	-8.2	38.4	-0.4
Minot	3.4	-1.6	22.2	+14.3	26.4	+5.0	38.8	-2.9	46.7	-5.6	57.6	-4.9	66.7	-1.4	62.2	-2.9	55.8	-0.9	50.6	+7.0	27.8	-1.9	6.2	-6.2	38.7	-0.2
Minto	-1.6	-3.4	16.3	+10.4	26.6	+5.5	38.1	-2.5	46.2	-7.2	60.2	-3.7	65.3	-1.8	64.0	-0.6	54.2	-2.2	50.4	+7.2	25.2	+0.7	0.8	-10.1	37.1	-0.7
Mott	1.8	-5.7	20.2	+8.4	21.8	-4.8	38.8	-3.8	46.2	-5.4	65.0	+2.0	65.8	-3.3	61.4	-4.5	54.0	-2.3	47.8	+4.8	.....	.....	4.3	-9.8	38.0	-2.2
Napoleon	2.0	-3.9	20.4	+13.6	23.4	+2.1	38.0	-3.5	46.2	-6.2	58.1	-4.1	64.1	-4.2	63.5	-2.5	53.8	-3.1	50.8	+8.9	27.6	+1.0	2.1	-10.3	37.5	-1.0
New England	8.4	-4.9	25.8	+13.7	24.6	+0.2	39.6	-3.5	46.2	-5.4	58.5	-3.5	66.4	-2.1	64.0	-2.7	55.4	-0.4	47.8	+4.1	31.4	+1.2	[f]1.3	-16.1	39.1	-1.6
New Salem	5.4	-2.3	24.8	+14.2	24.2	-0.3	41.0	-1.5	49.6	-1.7	60.0	-2.8	67.4	-1.9	66.2	-0.2	57.7	+0.5	52.3	+8.0	31.8	+1.1	4.8	-10.1	40.4	+0.2
Park River	-1.1	-2.9	[b]15.6	+9.9	[e]26.2	+4.1	37.8	-3.7	47.2	-5.0	59.8	-3.4	66.0	-1.8	63.4	-2.1	53.7	-3.2	50.2	+5.9	[a]25.2	-2.8	1.7	-9.4	37.1	-1.2
Pembina	-3.2	-0.3	14.5	+13.1	26.2	+10.2	36.6	-1.3	46.0	-6.5	59.8	-2.8	64.0	-3.7	62.6	-1.5	53.5	-0.3	50.1	+10.1	21.6	-1.1	-3.0	-9.0	35.8	+0.6
Pettibone	0.8	+0.8	18.8	+14.2	[a]23.5	-0.3	37.4	-4.5	[b]44.4	-6.1	57.2	-3.0	.....	.....	.....	.....	53.7	0.0	50.4	+9.2	26.4	-0.5	0.8	-9.6	.....	.....
Richardton	8.8	.....	26.0	.....	25.4	.....	39.6	.....	46.6	.....	58.2	.....	66.0	.....	65.2	.....	55.2	.....	48.3	.....	[a]29.0	.....	[b]2.4	.....	39.2	.....
Steele	2.1	-5.5	19.8	+12.7	26.3	+4.2	37.2	-7.2	46.1	-7.7	58.0	-4.4	65.6	-3.8	62.9	-3.9	54.9	-2.9	50.2	+6.2	27.5	-0.9	0.6	-13.0	37.6	-2.2
Towner	-0.7	-3.3	18.4	+13.2	29.7	-10.5	46.8	+5.4	51.4	-0.9	.....	.....	66.0	-1.1	66.2	+1.8	57.8	+2.0	51.4	+9.0	24.9	-0.1	1.6	-8.4	39.4	+2.1
Turtle Lake	3.6	.....	22.5	.....	25.4	.....	40.0	.....	46.9	.....	59.2	.....	65.5	.....	63.2	.....	54.5	.....	50.8	.....	28.5	.....	1.0	.....	37.5	.....
Valley City	1.4	-3.4	19.8	+10.2	26.9	+0.8	41.2	-2.6	46.6	-6.0	60.2	-3.0	65.8	-2.2	66.0	+0.4	56.1	-2.1	51.7	+6.5	28.6	-1.1	1.2	-12.5	38.8	-1.2
Wahpeton	5.2	-2.6	22.4	+12.5	30.0	+3.8	44.3	0.0	49.5	-5.8	62.2	-2.6	68.4	-0.9	68.1	+1.2	57.4	-1.2	55.0	+9.1	32.0	+3.7	7.0	-7.7	41.8	+0.8
Westhope	[d]1.1	+2.5	21.2	+17.9	24.0	+3.1	[g]41.2	+1.5	47.9	-3.5	58.8	-2.8	65.6	-0.5	63.2	-0.9	[g]53.7	-1.1	[a]51.4	+10.0	21.8	-5.0	2.4	-6.6	37.7	+1.2
Williston	5.0	-1.4	23.8	+15.5	26.4	+3.5	39.7	-2.3	48.6	-5.4	59.0	-3.7	66.9	-2.0	63.8	-2.3	56.0	-0.6	49.4	+6.0	28.6	+1.4	4.7	-9.1	39.3	0.0
Willow City	-2.2	-2.5	15.8	+13.1	24.1	+5.8	[a]35.8	-4.4	[a]44.6	-6.9	56.0	-5.0	[g]64.2	-1.0	60.7	-2.8	53.0	-1.3	.....	.....	.....	.....	.....	.....	.....	.....
Moorhead, Minn.	1.4	-2.4	17.8	+9.5	27.4	+4.7	41.0	+0.7	46.8	-8.3	61.3	-3.1	66.6	-1.5	66.4	+0.3	55.8	-2.4	53.1	+8.6	27.9	+1.4	2.0	-9.5	39.0	-0.2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49.]

headed in all sections, with but few reports of black stem rust. Corn and flax, which showed greatly increased acreages, were well advanced, considering the cool weather.

AUGUST.—Generally favorable weather prevailed. Rye harvest was completed during the first decade, and harvesting of other small grains began during this period. Some reports of black stem rust were received, but almost invariably on late sown spring wheat. Threshing of rye was well advanced and good progress was being made at the close of the month of other small grains. A few reports of frost were received, but none of a damaging nature.

SEPTEMBER.—The month opened with generally favorable weather for farm work, and threshing, flax harvesting and other outdoor work made good progress during the first decade. Showers during the fore part of the second decade delayed threshing considerably, but improved pastures, ranges and harvested fields, affording abundant feed for livestock, and greatly benefited fall plowing. During the second decade numerous reports of frosts were received, but as corn was so far advanced, no serious damage resulted. Some delay occurred during the last decade to threshing, but at the close of the month most of the shock threshing was completed, and stack threshing well advanced.

OCTOBER.—Unusual conditions characterized the weather during October. The mean temperature for the State was the highest of record, the average precipitation was the highest of record, and it was the only October of record in the climatological history of the State with a prevailing wind direction southeast, all others being northwest. Practically all of the precipitation was confined to the period 4th to 13th, inclusive. Farm work made excellent progress from the 15th to the close of the month, threshing being nearly completed, and much fall plowing and seeding of winter rye accomplished. Fall feed was abundant, and livestock generally in excellent condition.

NOVEMBER.—Taken as a whole, the weather was favorable for farm and other outdoor work. During the first decade threshing was generally completed, some late winter rye planted and considerable fall plowing accomplished. During the second and third decades farm work was mostly confined to corn harvesting and grain marketing. Livestock ranged freely on pastures, ranges and harvested fields, and were in good condition.

DECEMBER.—Seasonable weather prevailed during the first thirteen days, and during that period rapid progress was made in corn harvesting and in grain marketing. Livestock ranged freely, and but little yard feeding was required. The latter part of the month, however, was unfavorable. A general storm on the 14-17th stopped farm work, delayed rail and highway traffic, and being accompanied by low temperature, caused much suffering to humans and to livestock. Only light precipitation occurred from the 18th to the close of the month, but the temperature remained low.

Climatological Summary, 1924.

Month.	Temperature in degrees Fahrenheit.				Precipitation, in inches.				Sky.			Prevailing direction of the wind.
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Snowfall.	Number of rainy days.	Clear.	Pt. cloudy.	Cloudy.	
January	2.6	−2.3	61	−42	0.23	−0.31	2.5	3	14	9	8	nw.
February	20.3	+12.4	67	−27	0.41	−0.08	4.2	3	14	6	9	nw.
March	25.5	+2.9	58	−20	0.45	−0.38	4.4	4	10	9	12	nw.
April	39.3	−2.4	84	6	2.55	+1.17	7.5	8	8	9	13	nw.
May	46.9	−5.7	84	15	0.79	−1.76	2.4	5	12	10	9	nw.
June	58.6	−4.2	89	26	4.17	+0.67	0	11	10	12	8	nw.
July	65.5	−2.0	99	32	1.95	−0.66	0	6	18	9	4	nw.
August	63.8	−1.6	102	28	1.65	−0.63	0	6	17	9	5	nw.
September	55.0	−1.4	98	20	2.31	+0.67	T.	7	15	7	8	nw.
October	50.3	+6.5	86	19	2.43	+1.43	0.3	7	17	5	9	se.
November	27.6	+1.0	69	−15	0.18	−0.40	1.9	2	11	9	10	nw.
December	2.8	−10.2	58	−46	0.43	−0.11	5.3	4	12	7	12	nw.
Annual	38.2	−0.6	102	−46	17.55	−0.39	28.5	66	158	101	107	nw.

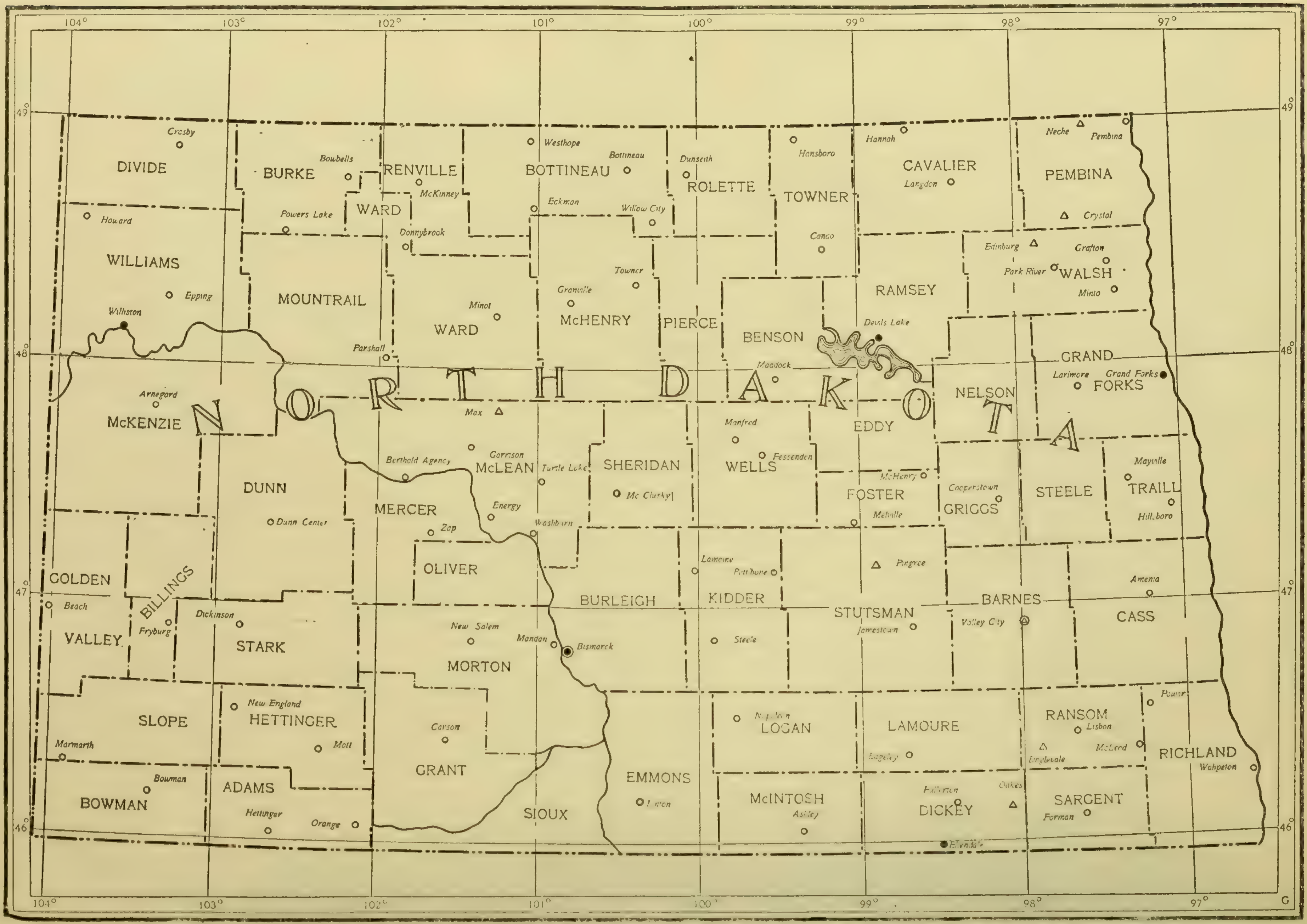
Killing Frosts.

STATIONS.	Last in Spring.	First in Autumn.	STATIONS.	Last in Spring.	First in Autumn.
Amenia	June 6	Oct. 3	Howard	May 27	Sept. 1
Amidon	May 25	Aug. 31	Jamestown	" 24	" 29
Arnegard	" 25	" 30	Langdon	June 6	" 23
Ashley	" 25	Sept. 28	Lamoine	May 30	Oct. 6
Beach	June 7	" 26	Larimore	" 21	Sept. 9
Berthold Agency	May 28	" 1	Linton	" 25	" 22
Bismarck	" 25	" 27	Lisbon	June 6	" 9
Bottineau	" 27	" 21	McClusky	" 8	" 1
Bowbells	June 11	" 21	McHenry	" 6	" 29
Bowman	May 25	" 5	McKinney	May 31	" 15
Cando	" 28	" 29	McLeod	" 25	" 29
Carson	" 30	Aug. 31	Maddock	June 6	" 29
Cooperstown	....	Sept. 28	Mandan	May 25	" 27
Crosby	May 27	" 21	Manfred	June 6	" 29
Devils Lake	" 27	Oct. 7	Mayville	" 6	" 29
Dickinson	" 31	Sept. 27	Melville	" 5	" 29
Donnybrook	" 31	....	Minot	" 2	" 29
Dunn Center	" 30	Sept. 1	Minto	" 7	" 28
Dunseith	June 6	" 21	Mott	May 30	" 21
Eckman	May 29	Aug. 31	Napoleon	" 30	" 28
Edgeley	June 6	Sept. 29	New England	" 25	" 15
Ellendale	May 25	" 29	New Salem	" 25	" 2
Energy	" 27	" 1	Park River	" 25	" 9
Epping	" 19	Aug. 31	Pembina	June 7	" 9
Fessenden	June 6	Sept. 29	Pettibone	" 6	" 29
Finley	May 25	Oct. 7	Power	" 6	....
Foxholm	" 25	Sept. 29	Richardton	May 25	Sept. 21
Fryburg	" 25	....	Steele	" 30	Oct. 6
Fullerton	" 25	Sept. 29	Towner	June 5	Sept. 1
Garrison	" 30	" 22	Turtle Lake	May 30	Sept. 22
Grafton	June 8	" 9	Valley City	June 6	Oct. 7
Grand Forks	May 24	Oct. 7	Wahpeton	May 29	" 10
Granville	June 6	Sept. 22	Washburn	" 25	....
Hansboro	" 11	" 9	Williston	" 25	Sept. 27
Hettinger	" 1	" 13	Willow City	June 6	" 1
Hillsboro	May 20	Oct. 21	Moorhead, Minn.	May 19	Oct. 10

Comparative Annual State Data.

Year.	Temperature.				Average precipitation.	Departure.
	Mean.	Departure.	Highest.	Lowest.		
1892	37.8	−1.0	108	−52	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	−2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	−48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	−44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60
1921	42.0	+3.2	110	−33	19.59	+1.65
1922	39.7	+0.9	115	−46	19.75	+1.81
1923	40.7	+1.9	103	−40	17.76	−0.18
1924	38.2	−0.6	105	−46	17.55	−0.39

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ●Meteorological observations (regular Weather Bureau stations). ○Meteorological observations (sub-stations). △Display or distribution of forecasts.

[WBO, Minneapolis, 2-10-25—1700]

NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIV BISMARCK, N. D., JANUARY, 1925 No. 1

GENERAL SUMMARY

The month opened with mild temperature general throughout the State, a condition that prevailed during the first decade. The second decade was considerably colder during the first half, but was warmer during the latter half, and except on the 25-27th was mild throughout the last decade. Only light snowfall occurred, the precipitation being below the normal in nearly all sections. The distribution was quite even geographically, as well as throughout the month. During the greater part of the month livestock ranged freely on pastures, ranges and harvested fields, and required but little feeding. Corn husking was practically completed, and much grain marketed. Main highways were in excellent condition generally, and at the close of the month most cross roads were open.

TEMPERATURE

The mean temperature for the State was 8.6°, or 3.7° above the normal, and 6.0° higher than the mean for January, 1924. The highest mean reported was 15.4° at Beach, Golden Valley County; the lowest was -0.5° at Pembina, Pembina County. The highest temperature reported was 52° at Berthold Agency, McLean County, on the 23d; the lowest was -35° at Napoleon, Logan County, on the 26th. The greatest monthly range of temperature was 79° at Epping, Williams County; the least was 53° at Maryville, Traill County. The greatest daily range was 58° at New Salem, Morton County, on the 27th.

PRECIPITATION

The average precipitation for the State was 0.22 inch, or 0.32 inch below the normal, and 0.01 inch less than the average for January, 1924. The greatest monthly amount reported was 1.17 inches at Fullerton, Dickey County; there was none at Bowbells, Burke County; Garrison, McLean County; Minot, Ward County; Washburn, McLean County, and Westhope, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 0.40 inch at Ashley, McIntosh County, Edgeley, LaMoure County, and Fullerton, Dickey County, on the 25th; at Hannah, Cavalier County, on the 18th, and at Pembina, Pembina County, on the 29th. The average snowfall for the State was 2.5 inches. The average number of days with 0.01 inch or more of precipitation was 3.

AURORAS

Auroras were observed at Ellendale on the 15th; at Howard and Stanton on the 16th; at Berthold Agency and New England on the 19th, and at Foxholm, McKinney, Napoleon and Sharon on the 23d.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.15	30.89	26	29.61	6	57	6,265	8.4	44	nw.	31
Devils Lake	30.10	30.85	26	29.38	6	44	7,700	10.3	35	w.	6
Ellendale	30.15	30.87	26	29.61	30	56	10,166	13.7	54	nw.	31
Grand Forks	30.13	30.89	26	29.46	6	90	....	......	47	s.	27
Williston	30.06	30.74	26	29.42	6	48	5,640	7.6	42	w.	6
Moorhead, Minn	30.16	30.90	26	29.58	31	58	6,576	8.8	32	s.	23
Av'ges and extremes	30.12	30.90	26	29.38	6	....	....	9.8	54	nw.	31

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	114.7	279.2	41	−12	86	76	78	54	23
Devils Lake	112.4	275.8	41	− 9	88	83	87	64	15†
Ellendale	169.1	282.9	60	......	84	81	....	68	21
Grand Forks	......	......	......	......	78	......	82	......	....
Williston	144.9	275.8	53	+ 2	84	73	75	43	26
Moorhead, Minn	122.7	279.2	44	− 9	82	76	78	64	13
Averages and extremes	132.8	278.6	48	− 7	84	78	80	43	26

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893...	0.8	−4.1	49	−48	0.98	+0.44	7	11	11	9	nw.
1894...	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895...	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896...	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897...	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898...	14.6	+9.7	69	−32	0.11	−0.43	2	8	8	15	nw.
1899...	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900...	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901...	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902...	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903...	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904...	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905...	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906...	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907...	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908...	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909...	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910...	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911...	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912...	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913...	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914...	14.8	+9.9	62	−38	0.50	−0.04	4	16	8	7	nw.
1915...	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916...	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917...	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918...	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919...	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920...	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921...	15.9	+11.0	58	31	0.24	−0.30	2	13	9	9	nw.
1922...	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.
1923...	10.1	+5.2	56	−35	0.53	−0.01	5	9	9	13	nw.
1924...	2.6	−2.3	61	−42	0.23	−0.31	3	14	9	8	nw.
1925...	8.6	+3.7	52	−35	0.22	−0.32	3	11	10	10	nw.

Climatological Data for January, 1925

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	30	1.8	−2.7	36	22	−26	13	52	0.10	−0.40	0.10	1.0	1	23	8	0	n.	E. T. Carley.
Amidon	Slope	...	12	17.0	...	45	24	−19	14	47	0.22	...	0.16	3.0	3	12	11	8	sw.	Charles Eastgate.
Arnegard	McKenzie	...	11	11.8^{b}	...	45^{b}	23	−16^{b}	13	37^{b}	0.25	...	0.20	2.5	2	23	4	4	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	9.8^{a}	+2.3	38^{a}	19†	−26^{a}	26	38^{a}	0.40	−0.15	0.40	4.0	1	13	5	13	nw.	R. C. Miles.
Beach	Golden Valley	2,579	20	15.4	+4.1	43	23	−20	14	46	0.22	−0.41	0.08	...	4	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	13.0	+5.5	52	23	−26	14	42	0.16	−0.24	0.10	1.8	3	14	10	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	12.0	+4.2	47	23	−29	26	46	0.32	0.22	0.18	7.3	5	6	7	18	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	4.8	+5.5	40	21	−28	14	40	0.18	0.28	0.06	...	8	10	4	17	se.	E. C. Evenson.
Bowbells	Burke	1,958	14	6.7	+3.5	42	24	−23	15	45	0.06	−0.67	0.00	0	0	22	0	9	...	G. H. Phelps.
Bowman	Bowman	2,961	12	14.4	...	43	23	−18	26	46	0.02	−0.48	0.02	0.2	1	13	8	10	nw.	R. Love, Jr.
Cando	Towner	1,488	25	6.0^{b}	+7.5	38^{b}	24	−25^{b}	26	55	0.08	−0.32	0.03	...	3	11	6	14	se.	A. J. Swanson.
Carson	Grant	2,500	14	8.2	−1.7	44	23	−30	14†	47	0.36	+0.02	0.30	3.6	3	10	14	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	...	...	...	...	...	...	...	0.35	−0.15	0.15	3.5	3	9	8	14	nw.	S. Friswold.
Crosby	Divide	1,954	19	3.0	+1.3	36	20	−25	14	31	0.15	−0.34	0.07	1.6	4	9	13	9	sw.	John Jensen.
Devils Lake	Ramsey	1,478	29	6.4	+6.1	40	23	−21	14	36	0.12	−0.48	0.05	2.2	4	7	11	13	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	11.2	+0.9	41	20	−27	14	43	0.50	+0.08	0.25	5.0	9	9	10	12	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	27	8.9	+5.5	44	23	−23	13†	51	0.12	−0.27	0.10	2.5	2	12	6	13	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	12.5	−1.3	45	23	25	13	44	0.10	−0.41	0.10	1.0	1	12	12	7	s.	W. H. Moede.
Dunseith	Rolette	1,682	30	5.0	+3.5	43	21	−28	13†	40	0.10	−0.37	0.05	1.0	2	9	9	13	ne.	J. G. Lamont.
Eckman	Bottineau	1,500	21	7.2	+6.6	42	21†	−25	16	39	0.05	−0.51	0.03	0.5	2	0	20	11	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	9.5	+1.7	40	19	−31	26	43	0.75	+0.46	0.40	7.5	5	4	9	18	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	8.8	−1.9	42	21	−24	26	49	0.42	+0.02	0.17	7.4	10	6	7	18	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	12.4	...	48	23	−22	13	49	0.24	−0.05	0.24	3.0	1	9	18	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	5.1	...	50	23	−29	14	48	0.02	−0.54	0.02	1.0	1	14	13	4	nw.	A. O. Wang.
Fessenden	Wells	1,610	14	6.4	+3.2	49	23	−22	13†	41	0.07	−0.53	0.03	0.8	5	14	10	7	sw.	T. D. Monsen.
Finley	Steele	1,461	2	7.3	...	37	19†	−24	26	33	0.36	...	0.18	2.3	4	9	5	17	nw.	G. J. Mustad.
Forman	Sargent	1,249	32	...	...	...	...	...	...	...	0.40	−0.13	0.20	4.0	2	...	...	...	...	O. Enger.
Foxholm	Ward	1,657	5	11.5	...	47	24	−23	13	46	0.13	...	0.06	1.8	4	5	14	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	...	...	...	...	...	...	...	0.55	...	0.20	6.0	5	13	14	4	sw.	Verne King.
Fullerton	Dickey	1,439	28	9.2	+1.4	40	19†	−27	26	40	1.17	+0.42	0.10	11.7	7	2	17	12	nw.	F. O. Alin.
Garrison	McLean	1,901	31	10.6	+4.1	48	23	−22	14	47	0.00	−0.43	0.00	0	0	17	9	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	5.7	+4.8	38	21	−24	26	44	0.28	−0.32	0.12	3.0	5	12	5	10	s.	A R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	5.3	+1.7	39	17†	−23	10†	33	0.20	−0.38	0.06	2.0	6	12	7	12	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	...	...	...	...	...	...	...	0.90	+0.18	0.40	9.0	3	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	18	1.3^{h}	+3.6	34^{n}	18	−33^{c}	12	37^{n}	...	...	...	...	...	...	...	...	...	C. E. Blackorby.
Hettinger	Adams	2,675	19	11.3	−1.2	45	23	−24	26	50	0.04	−0.28	0.04	...	1	16	4	11	nw.	C. J. Downey.
Hillsboro	Traill	901	20	6.7^{c}	+2.8	37^{c}	26	−21^{c}	26	37^{c}	0.05	--0.69	0.05	0.5	1	...	...	...	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	19	8.2	+6.7	40	23	−22	13†	32	0.35	−0.40	0.30	3.5	2	17	8	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	7.6	+1.1	42	19	−23	15	41	0.20	−0.44	0.15	2.0	2	17	3	11	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	7.8	+3.8	39	2	−24	14	39	T.	−0.61	T.	T.	0	15	5	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	2.7	+5.4	32	19†	32	26	52	0.30	−0.35	0.10	3.0	4	12	18	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	5.1	+2.5	38	19	−28	26	47	0.28	−0.43	0.10	2.8	4	16	5	10	n.	Reuben Gray.
Linton	Emmons	1,711	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Rev. O. Weber.
Lisbon	Ransom	1,091	22	8.6	+2.7	36	24	−24	26	33	T.	−0.70	T.	T.	0	17	12	2	...	W. S. Adams.
McClusky	Sheridan	1,943	8	7.3	...	43	23	−26	14	39	0.25	...	0.05	2.5	5	15	8	8	w.	Edw. Tapley.
McHenry	Foster	1,509	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	7.3	+4.1	40	23†	−30	12	40	0.10	0.26	0.10	1.0	1	3	19	9	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	9.6	+1.9	39	21	−24	6	31	0.15	−0.52	0.08	1.5	3	17	5	9	sw.	J. G. Carlson.
Maddock	Benson	1,604	10	10.2	...	43	23†	−24	13	40	0.04	−0.27	0.04	0.4	1	6	12	13	nw.	A. T. Felland.
Mandan	Morton	1,644	12	9.6	...	44	23	−31	26	39	0.19	−0.04	0.07	...	6	5	6	20	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	9.9	+5.9	45	23	−21	14	40	0.12	−0.53	0.04	1.5	4	5	16	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	14.8^{h}	+4.5	42^{b}	19†	−20^{a}	15†	44^{b}	0.29	−0.01	0.12	4.5	4	5	18	8	...	S. P. Grane.
Mayville	Traill	975	30	8.6	+2.5	40	19	−26	13	39	0.20	−0.29	0.20	2.0	1	15	5	11	nw.	R. Peterson.
Melville	Foster	1,590	28	10.0	+4.4	42	23	−23	15	39	0.15	−0.23	0.15	1.5	1	4	11	16	nw.	J. P. Kidder.
Minot	Ward	1,557	30	11.0	+6.0	48	23	−23	13†	42	0.00	−0.45	0.00	0	0	5	24	2	nw.	W. I. Faris.
Minto	Walsh	820	33	5.2	+3.4	38	19	−26	26	36	0.35	−0.14	0.13	5.8	8	12	11	8	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	10.4	+2.9	42	23	−22	26	55	0.58	−0.30	0.16	5.5	5	12	8	11	se.	O. H. Opland.
Napoleon	Logan	1,955	34	6.8	+0.9	40	15	−35	26	43	0.30	−0.15	0.20	3.0	2	8	4	19	s.	C. J. Hoof.
New England	Hettinger	2.400	32	10.8^{k}	−2.5	44^{k}	23	−25^{k}	14	36^{k}	0.08	−0.34	0.08	0.8	1	...	...	...	...	W. S. Jones.
New Salem	Morton	2,163	22	11.4	+3.7	45	23	−25	26	58	0.44	−0.19	0.18	...	4	9	14	8	nw.	J. Christiansen.
Park River	Walsh	998	22	5.2^{c}	+3.4	39^{c}	24	−24^{c}	26	36^{c}	0.07	−0.37	0.05	0.7	2	...	...	...	nw.	C. B. Wright.
Parshall	Mountrail	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	52	−0.5	+2.4	30	20†	−30	26	41	0.50	−0.14	0.40	5.0	2	14	7	10	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	7.3	+7.3	40	19	−28	14	40	0.10	−0.41	0.10	1.0	1	7	11	13	nw.	S. C. Shanks.
Power	Richland	1,020	32	...	...	...	...	...	...	...	0.30	−0.35	0.30	3.0	1	...	...	...	...	Frank B. Power.
Powers Lake	Burke	2,205	12	...	...	...	...	...	...	...	0.01	−0.77	0.01	0.5	1	23	5	3	sw.	Geo. B. Gee.
Richardton	Stark	2,467	10	13.0	...	44	23	−24	14	49	0.18	...	0.10	1.8	3	5	21	5	sw.	John Muggli.
Sharon	Steele	1,516	1	...	...	...	...	...	...	...	0.14	...	0.10	1.7	3	13	7	11	sw.	Neis O. Greisheim.
Stanton	Mercer	1,722	2	...	...	...	...	...	...	...	0.10	...	0.10	1.5	1	11	15	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	5.6	+2.0	41	19	−29	14†	32	0.07	−0.45	0.07	1.0	1	12	13	6	se.	H. S. Wood.
Towner	McHenry	1,482	24	10.4	+7.8	42	23	−26	13	53	0.15	−0.34	0.10	1.5	2	15	10	6	se.	B. Bagley.
Turtle Lake	McLean	1,899	11	10.2	...	44	23	−22	14	45	0.05	−0.36	0.05	0.5	1	17	5	9	s.	A. T. Anderson.
Valley City	Barnes	1,245	21	8.0	+3.2	36	19	−22	13†	35	0.15	−0.51	0.07	1.5	4	16	6	9	ne.	H. Twito.
Wahpeton	Richland	962	32	9.9	+2.1	39	21	−22	26	36	0.10	−0.41	0.10	1.0	1	15	0	16	nw.	C. G Luick.
Washburn	McLean	1,731	25	...	...	...	...	...	...	...	0.00	−0.39	0.00	0	0	...	...	...	...	Karl Klein.
Westhope	Bottineau	1,508	20	6.6	+8.0	35	21†	−25	14	47	0.00	−0.56	0.00	0	0	8	19	4	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	12.1	+5.7	50	23	−27	14	41	0.31	−0.27	0.17	2.9	6	9	12	10	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	5.4	+5.1	42	23	−30	14	44	0.50	−0.08	0.10	5.0	7	7	16	8	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	8.1	+4.3	40	21	−19	15	35	0.28	−0.43	0.08	3.3	6	11	10	10	n.	U. S. Weather Bureau.
Averages	...	...	...	8.6	+3.7	52	23	−35	26	58	0.22	−0.32	0.40	2.5	3	11	10	10	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for January, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red	.10				T.																											0.10
Amidon	Lit. Missouri		T.	T.	T.				.02	T.	T.		T.	T.												.16		T.				.04	0.22
Arnegard	Missouri												.05							T.												.20	0.25
Ashley	Missouri																									.40							0.40
Beach	Lit. Missouri				.04								.05		T.	.05									T.	.08						T.	0.22
Berthold Agency	Missouri				T.					T.			.10	T.						.01								T.				.05	0.16
Bismarck ***	Missouri		T.	T.	T.	T.				T.	.03	T.	.04	T.		T.									.06	.01		T.			T.	.18	0.32
Bottineau‖ ‖	Mouse	.01	T.		T.		.06	.02			.01	.01		T.				.02										T.	T.	T.	.02	.03	0.18
Bowbells ‖ ‖	Mouse																																0.00
Bowman	Grand										T.															.02							0.02
Cando	Devils Lake	T.							T.	.03	T.		T.		T.				.02													.03	0.08
Carson	Heart			.05												.01										.30							0.36
Cooperstown	Sheyenne	.10				.15	T.				T.	.10		T.																	T.		0.35
Crosby	Mouse													.02																.01	.05	.07	0.15
Devils Lake ***	Devils Lake	T.	T.			T	T.		.02	T.	T.	.02	T.	T.	T.				T.									T.		T.	.03	.05	0.12
Dickinson‖ ‖	Heart	.08		T.	.02	T.				.02	.02		.04	.03	.02						T.					.25		.02					0.50
Donnybrook	Mouse	T.			T.	T.	T.						T.	.02															T.	T.	T	.10	0.12
Dunn Center ‖‖	Knife																															.10	0.10
Dunseith	Mouse				T.		.05		T.					T.				T.				T.		T.	T.			T.	T.	T.	.05		0.10
Eckman	Mouse						.02						T.	T.		T.	T.												T.		.03		0.05
Edgeley	James	.10			.05						.10	.10														.40							0.75
Ellendale***	James	.02	.01		.03	T.				.01	.02	.08	.01	.01	T.											.17			T.	T.	T.	.06	0.42
Energy	Missouri		T.		T.								T.															T.				.24	0.24
Epping	Missouri											T.	T.							.02									T.			T.	0.02
Fessenden‖ ‖	James	.03				.01	.01	.01		T.		T.	T.	T.	.01														T.			T.	0.07
Finley	Red	.11		T.		.05	T.				T.	.18							T.									.02		T.	T.	T.	0.36
Forman	Sheyenne	.20																								.20							0.40
Foxholm	Mouse				.06		.02	T.					T.	T		T.				T.			T.						T.	.01	T.	.04	0.13
Fryburg	Heart			.20							.04		.05	T.												.18						.08	0.55
Fullerton	James	.34	T.		.12	T.				T.	.07	.19		.03	.02											.40		T.					1.17
Garrison	Missouri																																0.00
Grafton	Red	.05					.01			.03		.07																			.12		0.28
Grand Forks ***	Red	.04		T.	T.	.01	T.			.02	T.	.06			.02			T.	T.									T.		T.	T.	.05	0.20
Granville	Mouse																																
Hannah	Pembina	.20																	.40													.30	0.90
Hansboro	Devils Lake																																
Hettinger	Grand		T.																							.04							0.04
Hillsboro	Red	.05					T.					T.																			T.		0.05
Howard	Missouri					T.	T.						T.	T						T.								T	.05	T.		.30	0.35
Jamestown‖ ‖	James											.15	.05																				0.20
Lamoine	Missouri				T.								T.	T.																		T.	T.
Langdon‖ ‖	Pembina	.05								.10		.05																			.10		0.30
Larimore	Red	.10			.03					.05		.10																					0.28
Linton	Missouri																																
Lisbon ‖‖	Sheyenne														T.				T.							T.	T.	T.					T.
McClusky	Missouri	.05			T.					T.	.05	.05	T.		.05												T.			.05	T.	T.	0.25
McHenry	James																																
McKinney	Mouse	T.			T.	T.				T.				T.									T.					T.				.10	0.10
McLeod	Sheyenne	.04					T.	T.			.03		.08		T.				T.							T.		T.					0.15
Maddock	Sheyenne						.04				T.	T.																					0.04
Mandan‖ ‖	Missouri	.06				T.					.01	T.	.01	.03	.01	T.										.07							0.19
Manfred	James	T			.02		T.				.02	T.		T.	.04													.04			T.	T.	0.12
Marmarth	Lit. Missouri										.04		T.		.06										T.	.12		T.				.07	0.29
Mayville	Red												.20																				0.20
Melville	James	T.					T.					.15																					0.15
Minot‖ ‖	Mouse																																0.00
Minto	Red	.01			.02	.03			.01	.02		.10		T.				.03													.13		0.35
Mott	Cannon Ball			.11							.16	T				.06				T.										.16		.09	0.58
Napoleon ‖‖	Missouri		T.										.10													.20							0.30
New England	Cannon Ball		T.	T.																T.						.08							0.08
New Salem	Heart			.10	T.					T	T.		.06													.18		T.				.10	0.44
Park River	Red																											.05			.02		0.07
Parshall	Missouri																																
Pembina ‖ ‖	Red																	.10												.40			0.50
Pettibone	James											.10		T.																			0.10
Power	Sheyenne														.30				T.									T.					0.30
Powers Lake	Missouri																							.01									0.01
Richardton	Heart			.03							T.														.10							.05	0.18
Sharon	Red	.03		T.		.01	T.	T.			T.	.10		T.	T.				T.									T.		T.	T.	T.	0.14
Stanton	Missouri	.10			T.	T.								T.			T.			T.											T.	T.	0.10
Steele	Missouri	T.	T.		.07		T.				T.	T.		T.	T.	T.										T.				T.		T.	0.07
Towner	Mouse				T.		.05					T.																				.10	0.15
Turtle Lake	Missouri					.05																											0.05
Valley City	Sheyenne	.07				.03					.02	.03			T.																		0.15
Wahpeton	Red																									.10							0.10
Washburn	Missouri																																0.00
Westhope	Mouse																																0.00
Williston ***	Missouri				T.	T.	.02		T.	T.			.05	T.		T.				T.								.01	.02	T.	.04	.17	0.31
Willow City	Mouse	.10			.05		.10			T	T.			.05				.05										T.		.05	.10		0.50
Moorhead, Minn ***	Red	.08	T.		.04	.02	T.	T.	T.	T.		.05	T.		.01				T.									T.				.08	0.28

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for January, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	-3	14	33	21	20	18	33	27	8	11	12	-12	10	-12	-10	14	10	14	20	22	26	36	35	27	-6	-6	8	-2	16	8	12	12.5
	Minimum	11	-12	-1	-3	17	13	1	7	-4	-21	-11	-16	-26	-24	-20	-16	-11	-6	0	-2	-6	-1	-2	13	-9	-22	-17	-13	-22	-13	-18	-8.9
Arnegard	Maximum	20	24	27	30	33	34	22	21	18	26	26	0	4	-5	-2	18	30	37	37	37	....	....	45	27	14	26	35	17	14	39	22	[b]23.3
	Minimum	3	9	12	10	3	0	3	-1	-4	3	-7	-15	-16	-15	-15	-13	8	12	14	8	....	....	23	9	-10	11	2	0	2	12	-13	[b]0.4
Ashley	Maximum	6	23	27	26	25	29	22	23	21	15	31	5	3	-2	-2	8	26	19	38	35	38	28	37	32	21	0	22	21	19	....	19	[a]20.5
	Minimum	-6	-5	6	2	14	17	5	4	-4	2	-2	-19	8	20	-13	16	-2	2	12	0	22	10	8	9	-8	-26	-15	0	8	....	-4	-[a]1.1
Beach	Maximum	29	32	30	32	35	35	23	24	19	27	26	16	9	2	0	20	28	36	40	38	38	30	43	36	24	22	36	25	32	40	0	26.7
	Minimum	-17	14	9	12	4	15	4	9	10	0	-1	-5	-1	-20	-18	-10	15	13	12	6	26	22	24	24	-6	-12	4	12	11	-2	-12	4.0
Berthold Agency	Maximum	14	21	28	28	26	35	22	21	21	20	28	5	5	5	0	18	30	34	41	39	40	30	52	44	21	5	39	32	20	28	28	25.3
	Minimum	-5	-1	3	0	11	20	10	-5	1	2	3	-12	-25	26	-20	-20	10	5	21	2	29	6	17	10	-6	15	-3	-2	16	9	-12	0.7
Bismarck	Maximum	8	28	30	32	25	35	21	21	10	18	25	1	7	0	0	9	29	26	42	36	40	23	47	34	21	-2	41	20	32	28	28	23.1
	Minimum	-7	1	5	6	17	19	9	0	-1	5	-4	-15	-6	-21	-18	18	7	5	15	5	23	12	18	12	-16	-29	5	2	7	11	-11	0.9
Bottineau §§	Maximum	7	16	16	22	22	28	17	13	10	16	21	5	-4	-4	-4	4	20	20	30	33	40	21	36	33	13	5	28	21	17	5	2	16.4
	Minimum	-4	1	-7	-1	-7	12	-1	-5	-6	-8	-4	-21	-23	-28	-23	-17	4	7	11	7	19	-11	2	0	-18	-24	-9	-13	-1	-6	-23	-6.8
Bowbells §§	Maximum	3	18	18	24	18	33	18	14	15	6	1	-3	4	-3	-8	2	22	23	32	34	40	24	40	42	14	14	31	18	13	18	11	17.3
	Minimum	-7	3	5	8	2	6	-1	-6	-4	-6	-15	-17	-19	-17	-23	-9	-2	3	7	10	12	-4	-5	7	-5	-8	-6	-5	0	-4	-22	-3.9
Bowman	Maximum	14	30	28	28	32	32	21	23	20	28	28	18	12	1	0	22	30	35	39	32	36	28	43	32	20	0	32	22	34	40	39	25.8
	Minimum	14	6	11	4	1	9	3	8	-2	-2	-5	-5	0	-15	-15	-11	12	11	21	8	23	20	17	18	-9	-18	-9	9	8	18	-7	3.1
Cando	Maximum	7	17	18	4	24	....	14	13	10	20	....	16	4	0	2	4	13	19	33	32	36	28	36	38	19	7	22	29	19	10	10	[b]17.4
	Minimum	-7	7	2	9	5	....	2	6	-6	4	....	-19	-20	24	-23	-14	1	5	15	-2	24	-10	-19	3	-13	-25	-9	-8	5	14	-19	-[b]5.5
Carson	Maximum	0	32	30	25	30	22	20	20	10	10	10	0	2	-7	-5	10	25	28	40	32	34	25	44	35	16	-10	35	33	32	20	10	19.6
	Minimum	-13	-5	6	4	10	12	-5	0	-12	-7	-12	-16	-10	-30	-17	-20	0	10	16	2	15	10	14	6	-15	-30	-12	-3	-2	10	-15	-3.1
Crosby	Maximum	9	12	18	18	32	14	12	2	2	17	7	7	-6	-16	-5	5	15	29	10	36	20	-5	-15	15	4	12	28	12	11	16	-8	9.8
	Minimum	4	2	3	5	1	12	2	-6	-8	-2	-9	-17	-18	-25	18	-6	5	3	8	5	0	-16	-20	4	-13	-9	5	-5	6	1	-21	-3.8
Devils Lake	Maximum	8	20	24	26	23	29	15	18	5	15	22	-3	0	2	-2	11	20	22	37	33	38	18	40	23	7	5	27	12	20	6	-4	16.5
	Minimum	4	3	3	8	8	15	5	-4	-15	9	-9	-17	-19	-21	-16	11	7	8	8	1	18	7	4	5	-17	-21	-7	-3	-6	-5	-17	-3.7
Dickinson §§	Maximum	28	30	30	28	35	32	22	23	8	26	10	3	3	-5	-1	20	26	37	40	41	32	29	43	24	1	19	36	30	32	40	0	23.3
	Minimum	-11	15	10	1	-3	-5	-3	-4	-11	-8	4	-11	-15	-27	-26	16	7	6	21	5	10	17	17	14	0	-24	-10	0	15	13	-12	-1.0
Donnybrook	Maximum	14	22	26	25	23	30	22	19	9	18	28	16	4	1	0	14	27	31	35	37	34	34	44	37	37	12	32	15	20	15	1	22.0
	Minimum	-3	-1	8	8	1	12	2	-9	-8	1	-5	-16	-23	-23	-21	-21	-6	12	5	6	7	-6	10	-1	-14	-18	-11	1	5	0	-21	-4.2
Dunn Center §§	Maximum	17	28	31	31	25	34	21	26	15	20	28	0	9	1	-1	20	28	37	40	39	40	26	45	36	22	4	39	30	28	30	32	25.2
	Minimum	9	-5	12	6	-1	19	-1	4	5	4	-4	-10	-25	22	-18	-16	10	11	19	5	21	12	15	10	-5	21	-5	1	12	10	-12	-0.2
Dunseith	Maximum	6	19	24	24	23	31	18	15	12	18	22	9	-3	-2	5	4	20	19	33	30	43	26	35	39	13	-6	22	25	19	7	4	17.5
	Minimum	-6	2	-5	2	3	13	0	-4	-13	10	-10	20	-28	23	25	-17	-1	4	10	-7	22	14	4	1	-21	-28	12	-6	-3	-15	22	-7.5
Edgeley	Maximum	5	25	25	24	26	30	23	22	15	17	23	10	-1	0	0	11	28	22	40	36	39	32	39	34	23	-3	15	17	28	25	31	21.3
	Minimum	-4	10	6	4	13	17	8	3	-1	-6	8	-16	21	-17	-20	-18	-7	3	15	1	22	5	7	9	-6	-31	19	3	-3	3	-12	-2.3
Ellendale	Maximum	6	24	25	19	23	30	19	22	10	16	23	0	-3	1	-3	5	29	23	40	25	42	24	36	32	20	-7	15	16	23	37	39	19.7
	Minimum	-10	-13	13	3	17	17	12	-2	-4	-5	-4	-15	-12	-18	-17	-20	-7	-3	14	-3	21	8	14	15	-14	-24	15	3	-5	5	-10	-2.1
Fessenden §§	Maximum	10	26	29	27	30	26	20	25	15	15	15	2	5	7	2	13	27	29	4	37	36	18	49	27	-5	5	28	18	27	15	12	17.9
	Minimum	-10	-6	5	4	10	12	5	5	-5	-8	-10	-26	-22	-22	-21	-16	-11	9	17	1	0	3	2	8	-5	2	-20	-3	-2	-1	-17	5.0
Foxholm	Maximum	10	28	31	31	25	31	23	18	19	23	27	6	5	6	0	12	28	28	36	36	43	33	41	47	21	10	34	31	20	21	26	24.3
	Minimum	2	8	6	9	4	15	2	-6	-6	-6	-1	-15	-23	-22	-18	-10	10	12	19	4	21	-7	8	8	-14	17	4	-4	6	0	20	-1.3
Fullerton	Maximum	7	14	24	24	26	30	25	19	17	17	24	14	-1	1	-4	7	28	24	40	37	40	20	36	33	21	-5	14	16	23	22	29	20.1
	Minimum	-6	-10	7	5	9	17	10	-1	-2	-5	5	-15	-17	-16	-16	-15	-4	0	14	-1	14	8	9	13	-5	27	-16	0	-1	4	11	1.8
Garrison	Maximum	7	26	25	33	26	25	23	20	8	18	22	4	2	-5	-1	13	31	28	39	37	40	20	48	41	16	6	40	22	23	21	19	21.8
	Minimum	-7	-2	5	6	13	13	6	-4	-3	-4	3	15	-18	-22	-19	-12	8	4	18	6	22	2	14	7	-8	-21	-7	-6	12	5	-16	-0.6
Grafton	Maximum	9	13	24	25	22	26	21	16	8	10	14	10	-2	-3	-2	5	8	12	37	31	38	28	30	36	19	2	12	20	23	15	4	16.5
	Minimum	-1	7	-10	9	4	14	11	-3	-14	-20	4	-16	-17	-15	-20	-15	0	5	9	-4	1	-8	-4	6	10	-21	-12	-3	4	10	-15	-5.1
Grand Forks	Maximum	12	17	28	24	20	24	18	15	4	10	15	3	-2	-4	-3	4	12	15	39	28	39	11	35	32	11	0	11	12	24	9	0	15.0
	Minimum	2	7	2	12	12	14	0	2	-21	-23	1	-18	-20	-23	23	-16	-3	-3	9	0	15	-4	11	8	-17	-23	-8	0	-6	-6	-13	-4.4
Granville	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hansboro	Maximum	6	10	20	22	19	12	9	12	3	18	13	-3	....	....	....	-12	23	24	32	30	....	....	....	....	....	....	....	....	....	....	....	[n]14.0
	Minimum	-18	-10	-12	3	2	9	1	-12	-7	-7	-15	33	....	....	....	-18	5	0	3	-7	-3	5	-8	12	26	32	-28	-21	-14	-17	-22	-[c]11.4
Hettinger	Maximum	0	25	23	26	27	26	30	29	20	19	30	17	15	-2	-8	12	29	38	43	36	35	32	45	41	25	-1	37	27	26	34	3	23.9
	Minimum	-14	5	13	4	1	18	-1	9	4	-2	-9	-10	-2	-22	-15	-21	-16	-1	16	10	4	12	12	16	7	24	-13	4	6	3	-10	-1.3
Hillsboro	Maximum	9	14	23	24	22	28	23	20	15	8	10	10	-3	-5	-4	2	17	....	36	37	....	31	29	29	22	-3	1	....	21	24	13	[c]16.3
	Minimum	0	5	-1	9	14	18	10	1	-11	-18	3	-14	-19	-11	-19	-16	-6	....	-1	24	....	-4	4	11	-8	-21	-11	....	1	3	-11	-[c]2.9
Howard	Maximum	16	17	22	25	28	32	15	9	5	28	26	-2	-1	-12	3	12	22	34	32	35	37	21	40	23	5	16	28	19	19	23	7	18.6
	Minimum	-9	3	10	13	-2	10	-5	-9	-5	-3	-6	-17	-22	-31	-22	-12	5	13	12	5	18	15	15	0	-12	15	4	9	5	5	-22	-2.2
Jamestown §§	Maximum	12	22	27	24	30	32	18	22	8	18	24	0	2	-5	2	12	28	29	42	41	40	20	39	24	10	2	18	17	30	20	-2	19.5
	Minimum	-12	-5	-2	8	10	15	8	2	2	-11	-5	-16	-19	-21	-23	-19	-11	8	12	2	0	4	-2	10	-2	20	-22	-6	-4	-2	-14	-4.4
Lamoine	Maximum	18	23	23	24	21	28	16	11	6	13	22	7	7	2	-3	6	23	25	37	30	33	21	39	37	24	5	27	23	23	19	17	19.5
	Minimum	-15	-1	7	-1	9	16	5	3	-6	-9	2	-19	18	-24	-22	-16	1	2	14	-2	21	-2	5	1	-10	23	-12	-8	2	1	-17	-3.9
Langdon §§	Maximum	10	20	20	21	22	21	13	12	7	19	17	10	-5	-3	-4	5	10	20	32	30	31	18	32	24	15	6	22	15	18	10	7	15.3
	Minimum	-12	-2	4	0	4	4	6	-5	-20	-10	-7	-20	-22	-23	-27	-15	-7	0	0	-7	0	-15	15	9	24	-32	30	-12	-10	-15	-20	-9.9
Larimore §§	Maximum	10	20	20	23	23	29	15	17	10	17	15	0	-3	-7	1	10	15	20	38	38	37	8	35	20	6	3	14	15	25	10	-6	15.4
	Minimum	0	2	0	3	8	10	8	-3	-14	-10	0	20	-25	-17	-22	-15	5	7	12	1	8	7	12	6	-12	-28	-11	7	-1	-7	-19	-5.2
Linton	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Lisbon §§	Maximum	12	15	18	16	18	20	18	20	22	20	21	18	18	22	24	26	32	26	26	22	18	20	29	36	10	8	6	14	24	23	18	20.0
	Minimum	-10	-12	-6	-8	4	6	-2	0	-4	-6	-8	-10	-8	-4	-2	4	10	10	6	12	2	6	12	10	-12	24	-13	-3	-8	-10	-11	-2.8
McKinney	Maximum	12	12	25	26	25	18	16	10	8	20	21	0	0	0	1	15	26	28	32	37	37	25	40	40	20	32	15	10	10	10	9	18.7
	Minimum	0	0	5	8	-4	15	0	-12	-5	-5	0	-30	-25	-22	-19	-15	8	10	8	-1	-3	-7	9	8	-14	-1	-5	-5	-4	-2	20	-4.1
Maddock	Maximum	10	21	24	27	25	35	30	17	19	18	24	20	2	-2	2	6	23	21	37	35	41	30	43	43	22	21	29	31	22	21	12	22.8
	Minimum	-6	6	3	0	6	18	3	-7	-10	-9	7	-18	-24	-22	-22	-13	4	7	16	1	27	-6	3	6	-10	9	6	-5	4	3	-19	2.5
Melville	Maximum	5	22	28	28	24	29	26	20	12	14	24	9	-2	1	1	8	30	22	40	33	40	30	42	40	25	5	22	23	28	23	14	21.5
	Minimum	4	0	8	5	10	18	4	0	5	-14	7	-18	-20	-20	-23	-12	0	11	10	3	28	-2	3	7	-8	19	-12	2	3	-2	-16	1.6
Minot §§	Maximum	10	24	28	28	25	33	21	21	10	20	23	13	3	2	3	15	30	30	38	38	43	28	48	43	23	10	38	23	22	22	23	23.8
	Minimum	-3	8	0	4	8	10	3	-10	-2	-3	-2	-13	-23	-23	20	-12	6	12	12	3	22	-4	10	11	13	18	-4	-3	4	2	-18	-1.8
Mott	Maximum	24	26	22	25	28	27	26	28	24	23	23	15	10	2	-2	11	27	31	40	34	33	36	42	33	23	-4	16	13	11	20	20	22.2
	Minimum	-5	3	3	7	13	15	-2	2	5	-4	-12	-6	6	-21	-13	-19	-4	-4	7	-1	10	14	21	18	-8	-22	-16	8	5	0	-2	-1.5
Napoleon §§	Maximum	6	26	27	25	27	28	18	20	8	23	22	1	7	-10	3	10	27	24	40	31	38	20	38	25	4	1	25	15	28	28	3	18.8
	Minimum	-12	-6	3	3	5	16	0	-3	-10	-4	4	-23	-24	26	-27	-20	-4	4	10	3	20	1	5	2	0	-35	-18	-6	-5	5	-19	-5.3
New Salem	Maximum	6	22	30	30	27	29	20	20	19	17	25	4	3	-2	1	15	30	27	39	37	37	22	45	40	20	-4	41	29	35	24	31	23.1
	Minimum	-12	-3	12	7	11	7	12	2	-5	-9	0	-17	-9	-24	-19	-15	10	8	22	8	18	10	11	10	-13	25	-17	10	5	10	-15	-0.3
Pembina §§	Maximum	10	15	12	16	24	25	12	14	10	-10	8	10	-10	-6	-10	-5	-4	-6	24	30	24	22	21	30	24	-10	10	20	10	18	-2	10.5
	Minimum	-18	-5	10	8	-4	-10	-5	-10	-20	-25	-10	-18	-21	-15	-25	15	-17	-18	10	-5	-5	12	5	10	17	-30	-1	-10	0	-16	-15	-11.5
Steele	Maximum	18	20	25	30	25	23	16	18	15	18	20	9	4	-10	-2	-5	23	26	41	31	30	15	39	26	5	4	11	25	15	15	-5	16.7
	Minimum	-10	-5	2	2	9	2	-4	-4	-5	-6	0	-15	-15	-29	-24	-22	-5	-5	15	2	15	5	9	5	-8	-29	-5	-7	-10	-10	-12	-5.4
Towner	Maximum	16	24	22	23	24	31	28	31	28	25	25	3	5	3	0	10	20	28	35	41	40	36	42	38	28	31	28	20	25	28	20	24.5
	Minimum	13	-4	2	3	4	20	10	10	3	8	-5	-15	-26	-24	-22	-15	8	10	15	4	0	-2	-3	4	-5	-16	25	-15	5	4	-15	-3.6
Valley City	Maximum	12	10	26	22	20	28	15	17	10	2	19	10	10	3	-5	10	25	26	36	25	35	28	33	29	16	-2	10	15	26	21	15	17.5
	Minimum	0	0	8	12	10	15	6	0	-11	-11	-3	-12	-22	-18	-21	-10	3	7	17	21	21	2	4	6	-10	-22	-9	2	4	-4	-20	-1.6
Wahpeton	Maximum	12	20	25	25	25	33	28	23	18	10	19	19	11	5	0	5	24	25	38	35	39	34	34	32	24	-1	11	16	29	27	20	21.5
	Minimum	2	2	-3	10	3	20	5	1	-5	-20	2	-11	-16	-12	-20	-18	-4	6	10	-1	23	2	8	18	-4	-22	-20	5	-3	-3	-9	1.7
Westhope	Maximum	7	10	23	24	24	33	33	22	10	15	24	17	12	7	3	18	24	25	32	34	35	35	30	32	18	8	22	13	15	3	3	19.7
	Minimum	-17	0	-1	4	-1	15	0	-8	-8	-18	-4	-20	-24	-25	-20	-12	8	10	13	-4	10	-12	-1	-5	-16	-22	-8	-7	-2	-2	-22	-6.4
Williston	Maximum	22	26	29	28	37	31	22	16	9	28	21	1	4	-10	2	16	26	39	39	41	41	26	50	20	6	19	33	18	22	37	-4	22.4
	Minimum	4	10	9	10	2	14	5	-1	0	7	-4	-9	-13	-27	-10	-12	8	11	10	9	17	7	19	6	-7	-8	7	-2	11	-4	-13	1.8
Moorhead, Minn	Maximum	13	20	21	24	23	34	17	19	8	7	16	3	-5	-5	-4	2	22	15	38	31	40	23	31	27	19	-3	10	14	26	19	18	16.9
	Minimum	3	0	7	14	18	20	5	0	-13	-17	4	-12	-18	-17	-19	-14	-3	3	13	1	23	-1	13	16	-16	-21	-12	3	1	-1	-3	-0.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 2-26-25—965]

NNT
MAR 28 1925
UNIVERSITY OF ILLINOIS

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIV BISMARCK, N. D., FEBRUARY, 1925 No. 2

GENERAL SUMMARY

The weather conditions which prevailed over North Dakota during February were similar in many respects to those which characterized February, 1924. While the temperature was nearly four degrees lower, it was nearly nine degrees above the normal; there was but 0.31 inch of precipitation, and the wind movement was lower than during the February of the preceding year. No severe storms occurred, there was an abundance of sunshine, and few drifting winds, which allowed livestock to range freely on ranges and harvested fields, thus saving much feed and labor. Outdoor work progressed almost uninterruptedly. All of the main highways were open throughout the month, and many of the cross roads were continually passable. The snow covering was reduced to nil in many parts of the State, which was not conducive to best results for winter rye.

TEMPERATURE

The mean temperature for the State was 16.5°, or 8.6° above the normal, and 3.8° lower than the mean for February, 1924. The highest mean reported was 26.8° at Hettinger, Adams County; the lowest was 8.3° at Pembina, Pembina County. The highest temperature reported was 62° at Berthold Agency, McLean County, on the 5th; the lowest was −39° at Grafton, Walsh County, on the 2d. The greatest monthly range of temperature was 88° at Grafton, Walsh County; the least was 59° at Amidon and Marmarth, both in Slope County. The greatest daily range was 73° at McKinney, Renville County, on the 2d.

PRECIPITATION

The average precipitation for the State was 0.31 inch, or 0.18 inch below the normal, and 0.10 inch less than the average for February, 1924. The greatest monthly amount reported was 1.80 inches at Cando, Towner County; there was none at Bowbells, Burke County; Bowman, Bowman County; Hettinger, Adams County, and Westhope, Bottineau County. Seven other stations reported only a trace. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Cando, Towner County, on the 2d. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 3.6 inches.

AURORAS

Auroras were observed at Sharon on the 24th; at Pettibone on the 25th, and at Howard on the 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.08	30.56	10	29.58	24	57	5,712	8.5	38	nw.	25
Devils Lake	30.05	30.56	10	29.52	24	44	6,903	10.3	34	nw.	25
Ellendale	30.04	30.53	11	29.59	24	56	8,491	12.6	48	nw.	25
Grand Forks	30.04	30.55	1	29.58	24	90	....	......	33	nw.	25
Williston	30.02	30.53	26	29.56	23	48	5,038	7.5	28	w.	5
Moorhead, Minn	30.05	30.54	10	29.57	24	58	5,521	8.2	26	nw.	25
Av'ges and extremes	30.05	30.56	10	29.52	24	.....	....	9.4	48	nw.	25

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	136.1	299.8	47	−11	82	70	73	47	25
Devils Lake	139.6	297.9	49	− 7	88	79	85	58	16
Ellendale	138.5	290.3	48	......	89	71	....	51	14†
Grand Forks	......	......	......	......	83	.....	87	.....	....
Williston	141.8	297.9	49	− 4	81	68	72	46	23
Moorhead, Minn	127.7	299.8	44	−14	84	75	79	59	6†
Averages and extremes	136.7	297.1	46	......	84	73	79	47	25

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893	− 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904	− 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908	13.9	+6.0	62	−34	1.07	+0.58	5	12	7	10	nw.
1909	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw
1916	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917	− 0.7	−8.6	62	−48	0.66	+0.17	5	10	8	10	nw.
1918	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919	7.7	−0.2	58	−40	0.66	+0.17	5	10	8	10	nw.
1920	12.5	+4.6	53	−36	0.30	−0.19	3	11	9	9	nw.
1921	19.9	+12.0	64	−33	0.39	−0.10	3	11	10	7	nw.
1922	0.7	−7.2	45	−39	1.21	+0.72	5	13	6	9	nw.
1923	4.1	−3.8	48	−40	0.65	+0.16	4	13	7	8	nw.
1924	20.3	+12.4	67	−27	0.41	−0.08	3	14	6	9	nw.
1925	16.5	+8.6	62	−39	0.31	−0.18	3	10	9	9	nw.

Climatological Data for February, 1925

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.				Prevailing direction of wind.	Observers.
				Mean.	Departure.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall, unmelted.	With .01 or more precipitation.	Clear.	Pt. cloudy.	Cloudy.		
Amenia	Cass	954	30	10.0	+ 3.0	52	6	−28	2†	47	1.20	−0.80	0.60	12.0	4	20	8	0	n.	E. T. Carley.
Amidon	Slope		12	25.4		48	23	−11	16	49	0.03	−0.56	0.02	1.5	2	11	14	3	sw.	Charles Eastgate.
Arnegard	McKenzie		11	21.6		48	5†	−16	1	52	0.11		0.05	0.5	4	12	8	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	19.0	+11.3	47	4	−18	2	39	T.	−0.47	T.	T.	0	17	1	10	nw.	R. C. Miles.
Beach	Golden Valley	2,579	20	25.4	+11.8	53	21†	−11	16	51	T.	−0.51	T.	T.	0					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	22.2	+12.8	62	5	−17	1	48	0.07	−0.48	0.07	0.5	1	10	10	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	20.0	+ 9.7	50	3	−16	1	38	0.05	−0.45	0.04	2.3	2	2	13	13	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	10.9	+ 9.1	46	5	−25	2	42	0.42	+0.05	0.30		3	10	4	14	nw.	E. C. Evenson.
Bowbells	Burke	1,958	14	12.4	+ 6.6	48	5	−22	1†	43	0.00	−0.37	0.00	0	0	17	0	11		G. H. Phelps.
Bowman	Bowman	2,961	12	24.6		46	6†	−15	1	48	0.00	−0.31	0.00	0	0	13	10	5	nw.	R. Love, Jr.
Cando	Towner	1,488	25	11.6^{b}	+ 8.8	41^{b}	5	−32^{b}	2	45^{b}	1.80	+1.57	0.80	18.0	3	7	13	8	nw.	A. J. Swanson.
Carson	Grant	2,500	14	18.8	+ 5.1	50	6	−15	1†	45	0.08	−0.22	0.05	0.8	3	11	9	8	s.	J. W. Evens.
Cooperstown	Griggs	1,428	20								0.75	+0.44	0.40	7.5	3	8	12	8	nw.	S. Friswold.
Crosby	Divide	1,954	19	14.0	+ 6.9	42	3†	−18	1	55	0.10	−0.19	0.05	1.0	3	10	7	11	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	12.2	+ 7.7	45	5	−27	1	52	0.49	−0.04	0.37	8.0	7	8	7	13	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	20.8	+ 9.0	50	23	−16	16	53	0.17	−0.26	0.07	1.7	6	10	6	12	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	27	15.6	+ 8.6	47	5	−25	1	52	0.11	−0.40	0.05		3	9	5	14	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	21.2	+ 8.2	49	5	−13	1†	56	0.10	−0.46	0.10	1.0	1	13	11	4	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	10.7	+ 7.3	45	4	−30	2	62	0.10	−0.32	0.05	1.0	3	8	10	10	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	13.0	+ 6.6	47	5	−25	2	45	0.10	−0.25	0.04	2.2	4	1	15	12	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	18.6	+ 7.7	51	4	−23	2	38	0,30	−0.02	0.30	3.0	1	7	8	13	sw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	18.7	+ 7.0	51	4	−20	2	40	0.05	−0.43	0.03	0.5	3	2	14	12	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	19.2		51	6	−16	2	46	0.13	−0.13	0.08	3.0	2	4	18	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	17.4		47	3	−21	2	67	0.31	−0.04	0.20	2.2	3	19	4	5	sw.	A. O. Wang.
Fessenden	Wells	1,610	14	14.0	+ 6.1	56	6	−26	1	65	0.44	+0.11	0.17	5.1	4	11	6	11	nw.	T. D. Monsen.
Finley	Steele	1,461	2	14.1		48	4	−24	2†	35	0.46		0.15	6.8	5	13	8	7	nw.	G. J. Mustad.
Forman	Sargent	1,249	32								0.20	−0.33	0.10	2.0	2	13	6	9	n.	O. Enger.
Foxholm	Ward	1,657	5	15.8		48	5	−22	2	56	0.38		0.14	5.5	5	6	10	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								0.04		0.04	0.5	1	12	11	5	nw.	Verne King.
Fullerton	Dickey	1,439	28	19.6	+10.3	48	4	−20	2	38	0.05	−0.76	0.03	0.3	2	5	16	7	nw.	F. O. Alin.
Garrison	McLean	1,901	31	19.4	+11.0	59	7	−15	2	45	0.14	−0.39	0.14		1	20	2	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	11.6	+ 6.7	49	4	−39	2	48	0.26	−0.32	0.11	6.2	3	13	3	12	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	12.2	+ 5.7	50	4	−32	2	47	0.35	−0.18	0.22	3.3	6	13	10	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19																	W. A. Christianson.
Hannah	Cavalier	1,568	32								0.60	+0.04	0.40	6.0	3					J. Moffatt.
Hansboro	Towner	1,597	18					−26	26		0.14	−0.34	0.10	1.4	2	11	12	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	26.8	+13.6	47	22†	−16	15	34	0.00	−0.28	0.00	0	0	15	3	10	nw.	U. J. Downey.
Hillsboro	Traill	901	20	15.5^{b}	+ 7.0	51^{c}	6	−24^{a}	2	40^{c}	0.70	+0.02	0.30	7.0	4	6	18	4	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	19	15.4	+ 9.4	43	6	−22	1	58	T.	−0.69	T.	T.	0	7	13	8	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	15.5	+ 7.6	53	5	−25	27	53	0.58	0.00	0.25	5.8	3	10	5	13	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	17.8	+10.1	51	4†	−22	2	43	T	−0.39	T.	T.	0	16	1	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	8.4	+ 5.4	41	4	−32	2	58	0.05	−0.60	0.05	0.5	1	17	8	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	10.6	+ 5.4	46	4†	32	2	42	0.87	+0.40	0.30	8.8	5	7	8	13	n.	Reuben Gray.
Linton	Emmons	1,711	8																	Rev. O. Weber.
Lisbon	Ransom	1,091	22	16.0	+ 6.4	45	5	−23	2	43	0.30	−0.43	0.30	3.0	1	23	3	2		W. S. Adams.
McClusky	Sheridan	1,943	8	13.7		40	6	−21	2	41	0.65		0.40	6.5	3	14	8	6	nw.	Edw. Tapley.
McHenry	Foster	1,509	15																	F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	13.8	+ 8.7	45	4†	−30	2	73	0.20	−0.11	0.10	2.0	2	3	14	11	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	18.6	+ 7.2	47	3†	−25	2	39	0.54	−0.04	0.37	5.4	4	18	3	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	14.2		47	4	−29	2	50	0.17	−0.26	0.06	1.9	4	7	10	11	nw.	A. T. Felland.
Mandan	Morton	1,644	12	18.5	+ 8.0	48	23	−16	2	52	0.18	−0.32	0.15		3	8	5	15	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	15.8	+ 9.0	50	4†	−25	2	47	0.49	+0.06	0.15	6.2	6	6	14	8	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	42.1	+11.0	49	5†	−10	15	37	0.24	−0.15	0.11	3.3	5	8	12	8		S. P. Grane.
Mayville	Traill	975	30	14.7	+ 7.0	50	4†	28	2	41	1.00	+0.61	0.40	10.0	4	14	3	11	nw.	R. Peterson.
Melville	Foster	1,590	28	15.4	+ 8.8	51	6	−24	2	46	1.10	+0.77	0.50	11.0	3	9	7	12	nw.	J. P. Kidder.
Minot	Ward	1,557	30	16.3	+ 8.4	52	5	−22	2	55	0.20	−0.26	0.10	2.0	2	6	17	5	w.	W. I. Faris.
Minto	Walsh	820	33	11.4	+ 5.5	48	4	−32	2	43	0.31	−0.19	0.16		7	6	15	7	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	21.0	+ 9.2	48	6	−13	16	35	0.04	−0.53	0.02	0.5	2	10	8	10	se.	O. H. Opland.
Napoleon	Logan	1,955	34	16.7	+ 9.9	47	6	−26	2	62	0.30	−0.10	0.25	3.5	2	8	4	16	s.	C. J. Hoof.
New England	Hettinger	2,400	32	24.3	+12.2	50	6	−13	16	43	T.	−0.54	T.	T.	0	11	13	4	w.	W. S. Jones.
New Salem	Morton	2,163	22	20.2	+ 9.6	52	4	−18	2	49	0.06	−0.32	0.06	0.6	1	5	11	12	n.	J. Christiansen.
Park River	Walsh	998	22	13.2^{b}	+ 7.5	46^{b}	4	−21^{b}	26	37^{b}	0.26	−0.18	0.18	4.2	2				nw.	C. B. Wright.
Parshall	Mountrail		11																	J. A. Johnson.
Pembina	Pembina	789	52	8.3	+ 6.9	44	4†	−34	2	33	0.20	−0.51	0.10	2.0	2	13	6	9	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	15.8	+11.2	53	6	−28	2	43	0.70	+0.34	0.30	7.0	3	8	8	12	nw.	S. C. Shanks.
Power	Richland	1,020	32								0.85	+0.29	0.45	8.3	5	7	13	8	n.	Frank B. Power.
Powers Lake	Burke	2,205	12								0.17	−0.31	0.14	2.2	2	11	5	12	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	22.1^{a}		50^{a}	23	−10^{a}	1†	50^{a}	T.		T.	T.	0				nw.	John Muggli.
Sharon	Steele	1,516	1								0.30		0.10	5.3	5	11	7	10	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2								T.		T.	T.	0	8	14	6	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	16.6	+ 9.5	49	6	−15	1	40	0.30	−0.15	0.20	3.0	2	12	7	9	se.	H. S. Wood.
Towner	McHenry	1,482	24	15.2	+10.0	45	5	−21	26	40	0.60	+0.22	0.40	6.0	3	15	5	8	se.	B. Bagley.
Turtle Lake	McLean	1,899	11	17.2		52	6	−18	2	45	0.42	−0.02	0.30	4.2	3	18	5	5	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	14.0	+ 4.4	49	4	−27	26	40	0.25	−0.10	0.18	2.5	3	8	10	10	nw.	H. Twito.
Wahpeton	Richland	962	32	20.2	+10.3	54	4	−23	2	36	0.06	−0.47	0.05	3.0	2	15	0	13	nw.	C. G. Luick.
Washburn	McLean	1,731	25								0.39	0.00	0.18		4					Karl Klein.
Westhope	Bottineau	1,508	20	13.0	+ 9.7	49	5	−32	2	45	0.00	−0.19	0.00	0	0	7	18	3	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	19.6	+11.5	49	5	−20	1	50	0.18	−0.29	0.10	2.9	4	6	13	9	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	11.0	+ 8.3	44	5	−32	2	50	0.55	+0.09	0.20	5.5	4	7	8	13	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	14.0	+ 5.9	51	4	−23	2	39	0.97	+0.24	0.36	10.8	11	7	8	13	n.	U. S. Weather Bureau.
Averages				16.5	+ 8.6	62	5	−39	2	73	0.31	−0.18	0.80	3.6	3	10	9	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for February, 1925

Stations	Drainage Basin	Day of Month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Amenia ||||	Red		.10											T.				T.	.40	.10	.60	T.				T.							1.20
Amidon	Lit. Missouri										T.					T.										.02			.01				0.03
Arnegard	Missouri										.04					.01					.05							.01					0.11
Ashley	Missouri																T																T
Beach	Lit. Missouri									T.						T.																	T
Berthold Agency	Missouri	.07									T.								T.		T.												0.07
Bismarck ***	Missouri	T.													T.	T.			T.		.01				.04	T.			T.				0.05
Bottineau|| ||	Mouse											T.			T.		.02		.10	.30	T.	T.	T.	T.			T						0.42
Bowbells || ||	Mouse																																0.00
Bowman	Grand																																0.00
Cando	Devils Lake		.80																.40	T						.60		T.					1.80
Carson	Heart	.05														.02												.01					0.08
Cooperstown	Sheyenne	.15																	.20	T.	.40					T.							0.75
Crosby	Mouse										.05	T.								.02	T.	T.			T.	.03							0.10
Devils Lake ***	Devils Lake	.01								T.		.01	T.		T.			.03	.04	.01	.37	T.	T.		T.	.02							0.49
Dickinson|| ||	Heart	.07										.01				.03	.01				.02								.03				0.17
Donnybrook	Mouse																		.01	T.	.05				T.	.05							0.11
Dunn Center ||||	Knife																				.10												0.10
Dunseith	Mouse	.05		T.	T.	T.													.02			.03											0.10
Eckman	Mouse	.04										T.					T.		.04	.01	.01	T.			T.								0.10
Edgeley	James	.30						T.																	T.								0.30
Ellendale***	James	T.						T.		T.			T.	T.	T.	.01	T.		.01	T.	T.	T.			T.	T.	T.		.03				0.05
Energy	Missouri	.08																	T.		.05												0.13
Epping	Missouri										.07										.04						.20						0.31
Fessenden|| ||	James	.10							T.				T.					T.	.17	T.	T.	.16					.01		T.				0.44
Finley	Red	.10						.04						T.			T.		.15	.05	.12		T.	T.	T.			T.	T.				0.46
Forman	Sheyenne	.10																	.10														0.20
Foxholm	Mouse	.14				T.							T.		T.				.08	.04	.07	T.			.05								0.31
Fryburg	Heart															.04									T.				T.				0.04
Fullerton	James									T.						T.	T.		.03										.02				0.05
Garrison	Missouri																			T.	.14												0.14
Grafton	Red	.10																			.11					.05							0.26
Grand Forks ***	Red	.06						.02		T.			T.		T.	T.	.02		.02	T.	.22	T.	T.	T.	T.	.01		T.					0.35
Granville	Mouse																																.....
Hannah	Pembina		.40															T.								.10			.10				..60
Hansboro	Devils Lake		.04																							.10							0.14
Hettinger	Grand																																0.00
Hillsboro	Red	.10						T.											.20	.10	.30							T.					0.70
Howard	Missouri	T.									T.														T.	T.			T.				T.
Jamestown|| ||	James	.25																	.18		.15												0.58
Lamoine	Missouri					T.													T.						T.								T.
Langdon|| ||	Pembina																				T.	T.	.05										0.05
Larimore	Red	.30						.02											.20		.30					.05							0.87
Linton	Missouri																																.....
Lisbon ||||	Sheyenne	T.	T.														T.	T.	.30														0.30
McClusky	Missouri	.15											T.						.10	T.	.40												0.65
McHenry	James																																.....
McKinney	Mouse	.10																	.10	T.	T.	T.				T.							0.20
McLeod	Sheyenne	.08							.06										.37		T.	T.			T.				.03				0.54
Maddock	Sheyenne	.06							T.				T.					T.	.04	T.	.04	T.			T.	.03							0.17
Mandan|| ||	Missouri	.15														.02					.01				T.				T				0.18
Manfred	James	.10							T.				T					T.	.15	T.	.15	.04			.02	.03							0.49
Marmarth	Lit. Missouri									.02			.01		.07										.11			T.	.03				0.24
Mayville	Red	.30							.10										.20		.40												1.00
Melville	James	.30											T.			T.			.30		.50												1.10
Minot|| ||	Mouse	.10																			.10												0.20
Minto	Red	.06																.01	.01		.16				.01	.04		.02					0.31
Mott	Cannon Ball															02									.02								0.04
Napoleon ||||	Missouri	.25																									T.		.05				0.30
New England	Cannon Ball															T.	T.									T.			T.				T.
New Salem	Heart	.06														T	T									T.			T.				0.06
Park River	Red																				.18	T.						.08					0.26
Parshall	Missouri																																.....
Pembina|| ||	Red																										.10		.10				0.20
Pettibone	James	.30																	.30		.10				T.								0.70
Power	Sheyenne	.25						.02	.08							.05			.45														0.85
Powers Lake	Missouri																				.14				.03								0.17
Richardton	Heart	T.																															T.
Sharon	Red	.06						T.		T.			T.	T.	T.	T.	T.	T.	.08	.02	.10	T.		T.	.04	T.		T.					0.30
Stanton	Missouri																			T.	T.					T.							T.
Steele	Missouri	.20								T.					T.			T.	T.		.10												0.30
Towner	Mouse	.20																*	.40		T.							T.					0.60
Turtle Lake	Missouri																		.10	.02	.30												0.42
Valley City	Sheyenne	.05						T.										T.	.02		.18				T.								0.25
Wahpeton	Red								.01										.05														0.06
Washburn	Missouri	.18																.04			.13				.04								0.39
Westhope	Mouse																																0.00
Williston ***	Missouri								T.	.05	.02		T.	T.	T.					T.	.10				.01	T.		T.	T.				0.18
Willow City	Mouse	.20				T.				T.		T.	T.					.10	.15		.10	T.			T.			T.					0.55
Moorhead, Minn ***	Red	0.10						.16	.03								.02	.01	.25	.05	.32	T.	T.	T.	.01	.01			.01				0.97

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. \|\| Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	-8	-8	36	30	25	52	33	27	21	26	28	30	26	24	30	33	14	14	12	9	22	30	26	18	5	-16	-6	12	....	....	....	19.5
	Minimum...	-12	-28	8	15	22	20	23	10	8	10	12	2	3	6	0	-14	-8	-6	0	-3	6	6	7	5	-2	-24	-28	-20	....	....	....	0.6
Arnegard	Maximum...	1	42	47	44	48	48	42	35	27	29	26	32	31	18	11	12	31	36	31	43	37	37	47	40	13	39	33	29	....	....	....	32.5
	Minimum...	-16	-10	30	27	27	26	26	22	19	27	11	9	1	5	-9	-10	4	12	12	15	16	19	19	14	7	3	4	1	....	....	....	10.6
Ashley	Maximum...	-2	12	44	47	42	46	40	28	26	30	38	32	26	22	18	19	23	29	29	22	27	32	36	35	19	9	32	30	....	....	....	28.2
	Minimum...	-8	-18	12	31	23	28	29	22	18	10	10	19	0	11	-1	-8	5	15	11	5	15	20	16	19	2	-9	-7	8	....	....	....	9.9
Beach	Maximum...	12	45	45	46	47	45	46	36	29	38	42	25	32	27	17	16	25	39	43	48	53	49	53	43	19	20	41	33	....	....	....	36.2
	Minimum...	-10	-6	29	31	30	27	28	20	24	24	20	20	15	10	-10	-11	1	13	22	24	23	28	29	19	-4	-1	11	5	....	....	....	14.6
Berthold Agency	Maximum...	12	37	49	48	62	52	53	30	28	26	38	42	36	28	22	15	20	38	36	38	38	32	42	46	32	12	43	42	....	....	....	35.6
	Minimum...	-17	-11	20	28	25	30	28	20	18	18	18	18	4	-4	-14	-12	5	6	8	18	5	12	10	13	11	13	3	-10	....	....	....	8.8
Bismarck	Maximum...	-2	27	50	49	49	48	37	28	27	28	40	32	29	26	14	20	22	37	22	22	34	27	48	38	17	12	37	28	....	....	....	30.2
	Minimum...	-16	-10	23	28	28	28	23	17	18	15	15	14	1	13	5	-10	8	9	11	8	14	15	15	17	-2	-7	-1	6	....	....	....	9.8
Bottineau §§	Maximum...	8	13	43	42	46	42	36	30	24	30	28	27	25	26	10	10	2	19	20	10	12	19	23	32	14	0	25	26	....	....	....	23.3
	Minimum...	-21	25	12	22	12	21	12	9	7	1	8	6	-8	6	-18	-22	-14	-4	-4	-2	3	10	-9	7	-4	-24	-17	5	....	....	....	-1.5
Bowbells §§	Maximum...	-11	7	43	46	48	43	35	27	21	19	22	29	22	29	20	0	5	15	33	22	15	20	26	36	13	-1	8	28	....	....	....	22.2
	Minimum...	-22	-22	2	32	34	24	17	7	14	9	10	11	-2	9	-10	-10	-5	0	-10	7	2	6	4	8	-7	-16	-15	-2	....	....	....	2.7
Bowman	Maximum...	11	40	44	44	40	46	43	37	26	31	43	29	29	27	18	22	22	38	41	46	45	46	44	42	29	18	40	32	....	....	....	34.9
	Minimum...	-15	-8	31	29	27	22	26	12	23	26	16	20	18	11	-2	-11	0	8	18	24	25	30	27	24	0	0	16	6	....	....	....	14.2
Cando	Maximum...	11	13	39	40	41	39	34	....	26	26	27	27	23	23	....	13	3	17	16	14	13	13	24	31	12	3	20	20	....	....	....	[b]21.8
	Minimum...	22	32	13	28	17	30	17	....	13	14	13	8	-2	5	...	-5	-7	-2	-2	-3	-3	-4	4	10	-5	24	-18	-4	....	....	....	[b]1.5
Carson	Maximum...	-3	30	44	45	44	50	36	28	32	34	35	25	26	25	15	15	32	30	25	38	35	34	44	35	24	15	35	25	....	....	....	30.6
	Minimum...	-15	-15	24	28	25	26	24	16	14	12	10	16	-5	5	-10	-15	-3	6	8	8	5	18	15	16	-5	-8	-2	-5	....	....	....	6.9
Crosby	Maximum...	-5	39	42	35	40	34	26	28	22	26	20	22	20	16	-2	10	16	31	19	28	26	26	42	26	0	8	26	26	....	....	....	23.1
	Minimum...	-18	-16	22	20	22	22	21	22	18	16	17	13	1	-2	-16	-14	-6	-1	1	8	6	8	7	9	-8	-13	-4	-1	....	....	....	4.8
Devils Lake	Maximum...	-12	27	43	45	45	43	30	27	21	26	30	22	24	23	5	12	4	19	8	8	18	25	31	32	4	-2	20	18	....	....	....	21.3
	Minimum...	-27	-25	27	30	24	30	18	17	12	8	9	5	5	5	-9	-12	-4	1	-2	0	5	14	12	4	-13	-25	-16	-7	....	....	....	3.1
Dickinson §§	Maximum...	7	42	45	44	46	44	36	30	25	29	44	31	30	15	6	15	22	35	25	48	39	42	50	31	20	15	42	12	....	....	....	31.1
	Minimum...	-12	-11	20	27	26	24	24	23	20	21	10	13	2	4	3	-16	0	15	13	13	11	24	23	20	0	-3	4	5	....	....	....	10.6
Donnybrook	Maximum...	-3	34	45	46	47	40	37	30	22	24	31	25	26	21	21	13	10	29	23	22	19	30	34	29	29	8	14	23	....	....	....	26.1
	Minimum...	-25	-18	18	30	23	30	20	15	15	8	7	12	1	0	7	-13	-16	-5	-3	9	12	19	13	9	-2	-10	-24	-3	....	....	....	5.0
Dunn Center §§	Maximum...	2	43	46	45	49	46	37	31	26	27	43	34	30	28	21	18	21	35	30	38	31	37	48	40	20	21	41	36	....	....	....	33.0
	Minimum...	-13	13	25	31	25	26	27	24	20	10	10	17	0	6	7	-10	5	11	10	12	10	10	20	16	-2	-7	0	4	....	....	....	9.5
Dunseith	Maximum...	-2	32	40	45	40	42	37	29	26	30	32	29	24	24	15	10	9	18	12	10	12	23	22	31	15	11	12	23	....	....	....	23.2
	Minimum...	23	30	20	27	18	24	15	10	10	2	0	7	12	-10	-20	-26	-14	-6	-6	-7	0	12	18	6	-5	-24	-6	-21	....	....	....	-1.8
Edgeley	Maximum...	-1	11	46	51	42	47	34	36	31	32	36	34	28	24	21	22	22	29	27	22	26	30	35	37	18	7	29	30	....	....	....	28.8
	Minimum...	-13	23	10	31	24	31	27	20	17	9	8	19	1	12	0	-10	0	8	5	3	16	20	16	17	2	-10	-9	7	....	....	....	8.5
Ellendale	Maximum...	-4	14	46	51	41	47	34	35	24	31	34	32	26	25	17	20	23	27	20	32	31	34	38	37	15	5	30	30	....	....	....	28.4
	Minimum...	-19	-20	14	27	24	27	26	23	18	12	10	15	6	15	-3	7	7	17	6	6	17	20	17	13	-2	-8	-10	6	....	....	....	9.0
Fessenden §§	Maximum...	-1	40	45	54	55	56	30	27	23	30	28	26	24	25	30	22	14	25	16	15	25	25	32	21	10	4	33	17	....	....	....	26.8
	Minimum...	-26	-25	-1	22	20	5	24	6	17	3	4	12	0	-1	-11	-17	10	1	4	2	5	9	14	14	-1	-20	-17	-2	....	....	....	1.1
Foxholm	Maximum...	-1	34	45	46	48	47	31	27	29	27	31	33	26	32	18	15	12	29	30	15	17	23	32	40	20	5	31	30	....	....	....	27.6
	Minimum...	-17	-22	27	34	25	30	19	12	15	3	14	11	-4	5	-13	-12	-6	4	-4	2	4	13	10	9	-4	-17	-13	-2	....	....	....	4.1
Fullerton	Maximum...	-3	16	43	48	40	46	42	35	32	30	36	32	27	25	18	22	21	27	24	22	33	32	37	38	14	10	29	28	....	....	....	28.7
	Minimum...	-12	-20	16	27	24	29	25	23	18	12	9	20	5	14	2	-6	6	11	7	5	7	21	17	14	2	-8	9	8	....	....	....	10.6
Garrison	Maximum...	-4	29	47	50	50	52	59	39	36	29	36	30	30	25	12	18	19	34	28	28	27	39	41	38	16	9	38	33	....	....	....	31.9
	Minimum...	-13	-15	25	25	23	29	23	11	13	11	19	15	0	6	8	9	4	0	5	7	9	8	12	14	-4	-12	-7	1	....	....	....	6.9
Grafton	Maximum...	-7	9	41	49	40	41	34	26	25	28	33	33	25	25	15	12	13	19	19	13	13	24	21	24	11	3	11	16	....	....	....	22.0
	Minimum...	-17	-39	6	24	18	32	17	13	9	9	-1	15	0	5	-10	-13	-3	-1	-3	-1	5	9	4	10	-4	-22	-27	0	....	....	....	1.2
Grand Forks	Maximum...	-6	15	42	50	38	46	31	26	24	27	29	24	21	26	10	12	10	20	8	15	24	24	22	25	6	-2	18	19	....	....	....	21.6
	Minimum...	-25	-32	15	29	20	27	21	16	11	9	-2	7	0	6	-6	-11	0	2	-1	2	8	12	11	6	7	-22	-15	-2	....	....	....	2.8
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hansboro	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	-2	-8	5	20	15	10	5	-13	-9	2	2	-5	-7	-5	-20	-3	-8	-17	-20	-2	0	4	2	2	-10	-26	-22	-10	....	....	....	-4.2
Hettinger	Maximum...	36	41	38	45	42	45	46	33	34	29	34	40	32	31	16	16	18	37	40	42	38	47	47	30	36	40	38	37	....	....	....	36.0
	Minimum...	26	23	18	20	31	20	23	17	21	18	21	22	21	2	-16	-3	-8	23	27	32	21	24	22	2	18	16	28	26	....	....	....	17.7
Hillsboro	Maximum...	-6	8	43	47	43	51	42	24	24	27	28	28	25	24	17	13	16	....	14	18	18	28	26	26	....	....	18	18	....	....	....	[c]24.8
	Minimum...	-11	-24	8	28	22	30	23	17	16	10	1	17	1	9	-2	-9	2	....	0	4	9	16	18	12	4	-18	-22	7	....	....	....	[a]6.2
Howard	Maximum...	7	40	42	40	38	43	31	30	28	26	31	26	22	22	0	6	13	18	20	35	32	29	39	37	9	6	26	21	....	....	....	25.6
	Minimum...	-22	-18	28	25	25	25	22	25	18	16	20	1	-4	0	-16	-18	-5	6	4	10	9	13	9	6	-10	-14	-5	-3	....	....	....	5.2
Jamestown §§	Maximum...	40	48	51	44	53	29	34	27	30	38	30	28	23	0	20	17	28	13	17	28	26	34	32	17	7	7	17	17	....	....	....	27.0
	Minimum...	-13	28	16	28	22	24	27	20	17	9	4	4	0	0	-4	-12	-14	4	-5	-3	3	10	9	7	-10	-19	-25	-14	....	....	....	4.0
Lamoine	Maximum...	17	14	45	51	46	51	41	31	24	30	38	34	28	25	20	17	16	27	27	18	21	26	41	40	14	10	31	28	....	....	....	28.9
	Minimum...	-10	-22	19	27	20	24	24	16	15	18	18	15	10	7	-2	-14	-4	1	7	0	9	16	16	13	5	-18	-12	3	....	....	....	6.8
Langdon§§	Maximum...	5	26	35	41	37	40	30	21	20	25	26	21	22	15	10	12	5	15	16	10	20	21	29	15	12	8	15	8	....	....	....	20.0
	Minimum...	-22	-32	-12	-15	14	25	10	9	9	5	4	9	-5	0	-15	-18	-10	-6	-9	-6	-5	5	9	10	-5	-23	-20	7	....	....	....	-3.1
Larimore §§	Maximum...	-10	10	45	46	40	46	25	22	25	30	32	22	18	9	14	12	11	20	10	11	26	20	26	25	8	-1	15	16	....	....	....	20.2
	Minimum...	-18	-32	8	25	21	22	20	13	14	9	0	10	-1	-4	-9	-16	-3	-3	-4	-1	1	5	10	18	-2	-25	-17	-12	....	....	....	1.0
Linton	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Lisbon §§	Maximum...	10	6	23	40	45	42	32	35	25	31	32	35	30	30	33	31	28	30	29	28	28	31	38	35	18	24	18	28	....	....	....	29.1
	Minimum...	-15	-23	20	23	28	23	16	18	10	10	0	10	5	3	-5	-10	-8	3	6	8	4	-5	5	12	-17	2	-10	9	....	....	....	2.9
McKinney	Maximum...	20	43	43	45	45	40	38	20	25	25	30	22	25	25	10	10	10	26	24	10	15	20	30	28	15	5	30	25	....	....	....	25.1
	Minimum...	-10	-30	22	30	20	30	19	10	15	2	10	10	-5	7	-12	-15	8	-10	-6	4	2	2	10	10	-4	-17	-16	-1	....	....	....	2.5
Maddock	Maximum...	-6	17	45	47	45	46	40	28	26	30	31	30	26	27	18	17	16	22	23	10	15	27	27	34	20	7	27	30	....	....	....	25.9
	Minimum...	-20	-29	16	33	20	29	12	17	15	4	4	9	1	5	-11	-15	-4	-1	-1	1	5	13	10	12	-2	-23	-23	-2	....	....	....	2.6
Melville	Maximum...	-8	22	48	51	47	51	40	30	27	30	37	33	27	24	17	17	14	22	20	13	17	25	27	36	12	-2	27	27	....	....	....	26.1
	Minimum...	-15	-24	21	33	23	30	23	18	15	5	8	15	-2	8	-8	-14	-4	4	0	0	10	15	5	10	3	-22	-19	0	....	....	....	4.7
Minot §§	Maximum...	10	33	48	49	52	45	35	25	22	28	32	28	23	22	10	12	12	41	30	15	23	24	41	43	13	8	34	38	....	....	....	28.1
	Minimum...	-18	22	33	31	32	32	17	13	13	2	11	10	-6	6	-10	-15	-5	-3	0	3	3	8	15	11	-5	10	-13	-1	....	....	....	4.5
Mott	Maximum...	3	37	43	44	47	48	38	30	32	30	36	30	25	18	12	6	22	27	24	25	28	40	41	34	30	12	28	17	....	....	....	28.7
	Minimum...	-4	2	24	28	33	32	26	20	16	18	22	16	11	-2	0	-13	2	5	11	20	23	23	27	18	12	-1	0	2	....	....	....	13.3
Napoleon §§	Maximum...	-5	36	43	45	43	47	42	30	22	30	38	30	25	22	8	18	23	32	20	22	28	27	45	30	8	10	35	20	....	....	....	27.8
	Minimum...	-13	-26	11	30	19	23	25	22	16	3	5	15	-5	9	7	-15	-1	5	10	0	5	15	11	27	-3	-14	-10	1	....	....	....	5.6
New Salem	Maximum...	0	30	45	52	47	45	38	29	26	30	30	31	30	25	20	19	24	37	30	31	29	47	32	30	26	10	42	25	....	....	....	30.7
	Minimum...	-10	-18	30	35	25	30	25	12	16	14	13	17	0	10	-4	-12	-3	9	10	7	15	12	28	26	-2	8	-7	0	....	....	....	9.6
Pembina §§	Maximum...	-10	-10	26	44	44	38	36	24	22	18	22	28	18	22	18	4	5	18	15	8	8	22	20	20	12	2	8	15	....	....	....	17.8
	Minimum...	-16	-34	-5	24	24	25	15	12	5	7	-5	8	-2	-2	-4	-15	-10	-5	-12	-10	-10	5	0	10	0	18	-20	0	....	....	....	-1.2
Steele	Maximum...	-4	18	40	48	45	49	34	34	25	25	35	27	22	20	18	18	18	22	27	23	28	28	41	0	15	28	20	28	....	....	....	26.1
	Minimum...	-15	-10	18	22	5	25	25	18	15	9	5	17	9	4	-5	-13	-5	5	5	4	10	12	14	-10	0	15	15	4	....	....	....	7.1
Towner	Maximum...	25	27	38	41	45	44	35	30	25	24	30	26	24	24	10	25	20	22	25	24	21	22	28	35	12	10	25	25	....	....	....	26.5
	Minimum...	-15	-5	20	18	20	30	25	10	5	3	8	8	-8	4	-11	-5	10	2	-2	0	5	10	15	12	-4	-21	-6	2	....	....	....	3.8
Valley City	Maximum...	-4	12	42	49	40	43	35	25	25	29	31	30	25	20	12	15	16	20	18	13	20	26	20	31	12	0	21	20	....	....	....	23.1
	Minimum...	-17	-17	12	29	25	33	20	18	16	9	4	16	3	10	-5	-13	-3	0	-2	-1	7	14	9	12	0	-27	-19	0	....	....	....	4.8
Wahpeton	Maximum...	10	11	46	52	47	54	49	37	27	25	32	33	29	24	22	17	17	22	19	25	25	33	32	35	19	11	20	23	....	....	....	28.4
	Minimum...	-5	-23	10	30	24	28	30	20	19	7	0	18	4	10	5	-8	-1	4	5	8	15	22	10	19	5	-17	-13	11	....	....	....	12.0
Westhope	Maximum...	2	13	46	43	49	45	31	25	24	34	23	25	27	25	17	12	10	22	15	10	17	19	24	23	17	20	23	20	....	....	....	23.8
	Minimum...	-22	-32	15	30	19	31	19	8	12	0	10	7	-5	-4	-4	-14	-15	-3	-3	1	2	4	10	8	-4	-5	-4	0	....	....	....	2.2
Williston	Maximum...	-4	46	49	45	49	42	34	33	24	30	35	25	30	14	3	14	21	36	22	41	37	33	47	31	7	12	37	15	....	....	....	28.9
	Minimum...	-20	-4	31	28	30	26	23	23	21	20	18	7	2	-2	-9	-8	3	15	11	15	16	19	19	7	-3	-7	5	5	....	....	....	10.4
Moorhead, Minn	Maximum...	-5	12	46	51	41	50	36	26	24	27	28	30	19	24	10	16	10	17	16	21	24	29	27	30	7	-4	19	20	....	....	....	23.2
	Minimum...	-21	-23	13	28	24	31	26	19	12	9	4	9	2	8	-2	-5	0	3	3	5	11	9	11	5	-8	-17	-20	-2	....	....	....	4.8

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 3-25-25—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

OL. XXXIV BISMARCK, N. D., MARCH, 1925 No. 3

GENERAL SUMMARY

Taking conditions as a whole, mild and pleasant weather revailed in all sections during the greater part of the month. arm work over the southern portion of the State began about he 15th, and by the 22d was general throughout all sections. nows over the northern portion of the State during the first nd second decades delayed spring work in that section. During the latter part of the month much seeding of spring wheat as accomplished. Pastures and ranges afforded much forage r livestock during the month. Winter rye came through the inter in generally good condition, although some reports of inter killing due to lack of snow covering were received. onsidering the season of the year, highways were in exceptionally good condition.

TEMPERATURE

The mean temperature for the State was 27.4°, or 4.8° above he normal, and 1.9° higher than the mean for March, 1924. he highest mean reported was 34.4° at Ashley, McIntosh ounty; the lowest was 20.4° at Hansboro, Towner County. he highest temperature reported was 75° at Bismarck, Bureigh County, Ellendale, Dickey County, Fullerton, Dickey ounty, and Wahpeton, Richland County, on the 25th; the owest was −26° at Hansboro, Towner County, and Maddock, enson County, on the 1st; at Marmarth, Slope County, on the 3th, and at Willow City, Bottineau County, on the 14th. The reatest monthly range of temperature was 96° at Hettinger, dams County; the least was 67° Lisbon, Ransom County. he greatest daily range was 66° at Donnybrook, Ward County, n the 2d.

PRECIPITATION

The average precipitation for the State was 0.67 inch, or .16 inch below the normal, and 0.22 inch more than the verage for March, 1924. The greatest monthly amount reorted was 2.00 inches at Howard, Divide County; the least as 0.05 inch at Edgeley, LaMoure County, and Wahpeton, ichland County. The greatest amount recorded in any 24 onsecutive hours was 1.45 inches at Howard, Divide County. he average number of days with 0.01 inch or more of precipiation was 4. The average snowfall was 6.0 inches.

AURORAS

Auroras were observed at Linton, Power and Sharon on the st, and at New England on the 23d.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.06	30.67	13	29.38	9	57	9,113	12.2	48	nw.	20
Devils Lake	30.03	30.58	13	29.26	9	44	8,622	11.6	40	nw.	26
Ellendale	30.06	30.60	14	29.28	9	56	12,663	17.0	52	nw.	25†
Grand Forks	30.00	30.56	13	29.18	9	90	....	......	48	s.	2
Williston	30.01	30.67	13	29.48	9	48	7,123	9.6	39	w.	20
Moorhead, Minn	30.04	30.51	14	29.26	9	58	7,130	9.6	30	nw.	10
Av'ges and extremes	30.03	30.67	13	29.18	9	.....	....	12.0	52	nw.	25†

* For any five-minute period. †And other dates.

MAY 2 19

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	227.7	369.9	62	+6	75	55	56	15	30
Devils Lake	213.3	369.7	58	+2	82	73	76	35	30
Ellendale	237.7	370.0	63	......	81	50	....	18	30
Grand Forks	......	......	......	......	74	.....	71	.....	....
Williston	235.1	369.7	64	+8	77	60	62	30	27
Moorhead, Minn	238.9	369.9	65	+9	77	62	67	33	30
Averages and extremes	230.5	369.9	62	+6	78	60	66	15	30

† And other dates.

COMPARATIVE STATE DATA FOR MARCH

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P.cdy days	Cl'dy days	Wind Dir.
1892	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898	21.3	−1.3	79	−24	0.79	−0.04	5	13	8	10	nw.
1899	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905	32.5	+0.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915	23.3	+0.7	63	−23	0.22	−0.71	2	16	6	9	nw.
1916	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921	25.2	+2.6	75	−22	1.00	+0.17	6	9	12	10	nw.
1922	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.
1923	18.3	−4.3	65	−35	0.41	−0.42	4	10	10	11	nw.
1924	25.5	+2.9	58	−20	0.45	−0.28	4	10	9	12	nw.
1925	27.4	+4.8	75	−26	0.67	−0.16	4	14	9	8	nw.

Climatological Data for March, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	26.2	+2.6	70	30	−18	1	45	0.20	−0.37	0.10	2.0	2	25	4	2	s.	E. T. Carley.
Amidon	Slope		12	31.4		73	22	−17	14	55	0.38	−0.46	0.34	4.5	2	13	10	8	w.	Charles Eastgate.
Arnegard	McKenzie		11	27.0		64	29	−12	14	47	1.20		0.60	12.0	5	19	5	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	34.4^{c}	+12.4	74^{c}	25	−7^{c}	1	40^{c}	0.20	−0.99	0.20	2.0	1				nw.	R. C. Miles.
Beach	Golden Valley	2,579	20	30.8	+4.3	67	29	−21	13	42	0.40	−0.38	0.28	4.0	3					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	28.6	+3.9	65	29	−24	14	62	0.45	−0.39	0.25	4.5	2	23	3	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	31.6	+7.4	75	25	−8	14	44	0.46	−0.58	0.31	2.5	4	15	10	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	23.8	+6.1	64	30	−23	14	48	0.56	−0.24	0.20		5	17	1	13	nw.	E. C. Evenson.
Bowbells	Burke	1,958	14	21.2	+2.4	63	30	−21	14	35	0.60	+0.07	0.45		2	20	1	10		G. H. Phelps.
Bowman	Bowman	2,961	12	30.0		65	25†	−21	14	55	0.57	+0.12	0.45		3	12	13	6	nw.	R. Love, Jr.
Cando	Towner	1,488	25	25.4^{a}	+4.9	60^{a}	25†	−22^{a}	2	51^{a}	0.74	+0.11	0.43		4				se.	A. J. Swanson.
Carson	Grant	2,500	14	27.6	+3.1	72	25	−18	14	45	0.26	−0.40	0.20	2.4	3	15	9	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20								0.40	−0.14	0.40	4.0	1	22	5	4	nw.	S. Friswold.
Crosby	Divide	1,954	19	22.4	+0.4	64	29	−23	14	44	0.99	+0.41	0.80	12.2	7	8	14	9	sw.	John Jensen.
Devils Lake	Ramsey	1,478	29	24.6	+6.1	61	25	−21	1	46	0.80	−0.21	0.55	7.5	7	9	10	12	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	29.8	+5.4	66	28	−20	14	50	0.35	−0.49	0.25	3.5	4	17	7	7	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	27	26.8^{f}	+4.4	64^{f}	29†	−21	14	66^{f}	0.59	−0.18	0.27		3	12	6	13	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	29.2	+5.1	67	30	−25	14	56	0.69	−0.42	0.53	9.0	2	10	7	14	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	23.2	+4.4	62	28	−24	14	53	0.26	−0.51	0.12	3.0	7	12	11	8	ne.	J. G. Lamont.
Eckman	Bottineau	1,500	21	25.4	+3.3	65	29	−25	14	56	0.34	−0.16	0.20	3.0	5	2	21	8	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	31.6	+5.1	74	25	−9	1	42	0.05	−0.75	0.05	0.5	1	7	12	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	31.7	+6.1	75	25	−6	1†	40	0.45	−0.75	0.35	2.5	5	11	9	11	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	30.2		70	25	−20	14	53	0.58	−0.09	0.30	7.0	3	9	19	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	27.8		65	31	−22	14	43	0.95	+0.39	0.74	8.5	5	22	5	4	nw.	A. O. Wang.
Fessenden	Wells	1,610	14	25.4	+4.0	70	25	−19	14	52	0.55	−0.17	0.31	3.0	2	16	6	9	sw.	T. D. Monsen.
Finley	Steele	1,461	2	26.6		67	25	−23	2	45	0.99		0.72	6.8	5	13	9	9	nw.	G. J. Mustad.
Forman	Sargent	1,249	32								0.20	−0.70	0.20	1.0	1	17	9	5	s.	O. Enger.
Foxholm	Ward	1,657	5	25.4		64	30	−19	14	50	1.03		0.37	7.2	6	7	15	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								0.87		0.55	7.5	3	15	9	7	nw.	Verne King.
Fullerton	Dickey	1,439	28	32.0	+6.8	75	25	−4	1†	40	0.44	−0.78	0.35	1.4	2	8	17	6	nw.	F. O. Alin.
Garrison	McLean	1,901	31	27.2	+5.5	68	25	−18	14	51	0.56	−0.48	0.38		4	19	7	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	23.4	+4.2	61	29	−22	2	44	1.21	+0.52	0.80	9.5	6	22	3	6	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	24.7	+2.3	61	29	−17	1	42	1.12	+0.41	0.97	4.9	6	16	7	8	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19																	W. A. Christianson.
Hannah	Cavalier	1,568	32								1.48	+0.82	0.50	14.0	5					J. Moffatt.
Hansboro	Towner	1,597	18	20.4	−0.9	60	28†	−26	1	46	1.15	+0.49	0.60	13.0	4	21	6	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	30.8	+3.2	71	30	−25	14	41	0.46	−0.30	0.30	6.0	3	20	5	6	nw.	U. J. Downey.
Hillsboro	Traill	901	20	28.6	+3.9	69	25	−13	1†	36	0.50	−0.24	0.30	5.0	3	11	19	1	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	19	21.7	+0.9	52	31	−22	14	47	2.00	+0.86	1.45	19.9	4	10	16	5	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	27.3	+4.7	72	31	−16	2	60	0.30	−0.70	0.20	2.2	2	16	4	11	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	28.2	+5.2	67	25	−18	14	37	0.52	−0.25	0.30	5.0	4	15	5	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	20.6	+1.6	59	29	−23	1†	55	0.81	−0.03	0.25	9.0	5	17	9	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	25.4	+4.4	65	30	−23	1	43	1.01	+0.32	0.88	12.5	5	11	11	9	n.	Reuben Gray.
Linton	Emmons	1,711	8	29.9		66	24	−7	2†	53	0.52		0.17	3.0	8	15	0	16	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	31.4	+4.8	68	25	1	11	41	0.50	−0.06	0.30	5.0	2	15	15	1		W. S. Adams.
McClusky	Sheridan	1,943	8	24.6		61	29†	−21	14	41	0.35		0.25	3.5	2	16	9	6	se.	Edw. Tapley.
McHenry	Foster	1,509	15																	F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	23.2	+4.0	63	30	−20	14	47	0.76	+0.05	0.56	9.5	4	5	19	7	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	31.6	+5.7	73	25	−14	2	40	0.97	+0.34	0.67	3.0	4	23	3	5	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	27.0		69	26	−26	1	43	0.47	+0.04	0.20	2.3	5	12	10	9	nw.	A. T. Felland.
Mandan	Morton	1,644	12	30.7		72	25	−13	1	48	0.39		0.23		4	13	8	10	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	27.4		67	25	−18	14	42	0.75	0.03	0.25	6.0	5	13	7	11	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	31.5^{a}	+5.5	65^{a}	24	−26^{a}	13	57^{a}	0.58	+0.13	0.32	6.5	6	4	14	13		S. P. Grane.
Mayville	Traill	975	30	27.8	+4.6	70	25	−15	1†	44	0.90	+0.19	0.60	9.0	3	16	5	10	nw.	R. Peterson.
Melville	Foster	1,590	28	27.8	+5.5	68	25	−22	1	42	0.70	+0.02	0.50	7.0	2	10	12	9	nw.	J. P. Kidder.
Minot	Ward	1,557	30	26.0	+4.6	63	29	−21	14	51	0.70	−0.07	0.40	7.0	3	12	14	5	w.	W. I. Faris.
Minto	Walsh	820	33	23.6	+2.5	62	29	−21	1†	48	1.85	+1.03	0.81	9.0	6	15	12	4	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	28.4	+1.8	66	25	−18	14	50	0.50	−0.54	0.28	4.5	3	11	10	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	34	28.4	+7.1	73	25	−15	14	55	0.40	−0.53	0.15	5.5	4	14	3	14	s.	C. J. Hoof.
New England	Hettinger	2,400	32	30.4	+6.0	66	30	−22	14	48	0.40	−0.47	0.40	4.0	1	13	10	8	w.	W. S. Jones.
New Salem	Morton	2,163	22	31.2	+6.7	71	25†	−14	14	50	0.30	−0.66	0.22		2	16	11	4	nw.	J. Christiansen.
Park River	Walsh	998	22	23.5	+1.4	61	29	−20	1	39	1.04	+0.49	0.76	10.0	3	11	9	11	nw.	C. B. Wright.
Parshall	Mountrail		11								0.80		0.80	10.0	1					J. A. Johnson.
Pembina	Pembina	789	52	22.6	+6.6	60	29†	−22	11	34	1.32	+0.42	0.96	16.0	3	15	9	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	27.5^{a}	+3.7	69^{a}	25	−21^{a}	14	46^{a}	0.62	+0.08	0.30	6.0	4	10	9	12	nw.	S. C. Shanks.
Power	Richland	1,020	32								0.47	−0.23	0.25	3.2	3	12	12	7	n.	Frank B. Power.
Powers Lake	Burke	2,205	12								0.84	−0.04	0.60	12.0	4	16	7	8	se.	Geo. B. Gee.
Richardton	Stark	2,467	10	30.8		65	25	−17	14	35	0.20		0.20	2.0	1	4	22	5	nw.	John Muggli.
Sharon	Steele	1,516	1								0.87		0.59	4.8	5	12	7	12	nw.	Neis O. Gretsheim.
Stanton	Mercer	1,722	2								0.55		0.55	3.0	1	17	9	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	28.2	+6.1	70	25	−13	13	38	0.17	−0.76	0.12	0.5	2	10	17	4	nw.	H. S. Wood.
Towner	McHenry	1,482	24	26.2	+7.0	65	31	−22	13	46	0.60	−0.30	0.20	6.0	3	15	9	7	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11								0.80	−0.01	0.40	8.0	3					A. T. Anderson.
Valley City	Barnes	1,245	21	27.1	+1.0	72	25	−18	1	35	0.31	−0.19	0.29	0.2	2	14	9	8	nw.	H. Twito.
Wahpeton	Richland	962	32	34.0	+7.8	75	15	−12	2	40	0.05	−0.86	0.05	0.5	1	19	0	12	nw.	C. G. Luick.
Washburn	McLean	1,731	25								0.47	−0.18	0.24	5.0	2					Karl Klein.
Westhope	Bottineau	1,508	20	24.6^{b}	+3.7	61^{b}	29	−24^{b}	14	49^{b}	1.82	+1.33							nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	27.6	+4.7	66	29	−20	14	44	1.15	+0.47	0.69	11.5	8	8	16	7	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	23.8	+5.5	61	29†	−26	14	50	0.98	+0.25	0.50	7.7	6	9	14	8	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	29.6	+6.9	71	25	−13	2	38	0.73	−0.41	0.47	3.0	7	16	7	8	nw.	U. S. Weather Bureau.
Averages				27.4	+4.8	75	25	−26	1†	66	0.67	−0.16	1.45	6.0	4	14	9	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for March, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red							.10			.10									T.													0.20
Amidon	Lit. Missouri		T.					T		.34			.04				T.					T.										T	0.38
Arnegard	Missouri			.05		.05		.30		.60	.20								T.														1.20
Ashley	Missouri							T.		.20																							0.20
Beach	Lit. Missouri			T.			T.	.04	.08	.28		T.	T.									T.											0.40
Berthold Agency	Missouri							.20	.25		T.										T.												0.45
Bismarck ***	Missouri			.01			.08		T.	.31	T.								T.		T.	T.					T.					.06	0.46
Bottineau ‖‖	Mouse							.12		.10	.02	T.	T.			.20				.12	T.	T.										T	0.56
Bowbells ‖‖	Mouse					.15				.45																							0.60
Bowman	Grand							.10		.45												.02									T.		0.57
Cando	Devils Lake			T.							.43					.07				.13						T.						.11	0.74
Carson	Heart							.04		.20				.02																			0.26
Cooperstown	Sheyenne									.40						T.					T.												0.40
Crosby	Mouse			.02	.01		.08	T.		.80	.04	T.							.02			.02											0.99
Devils Lake ***	Devils Lake		T.		T.	T.	T.	.02		.55	.01	T.				.04			.06		.01	T.										.11	0.80
Dickinson ‖‖	Heart			T.				.04	T.	.25	.05		T.	.01																			0.35
Donnybrook	Mouse				T.		.07			.25	.27					T.			T.														0.59
Dunn Center ‖‖	Knife			T.			T.	.16		.53												T.											0.69
Dunseith	Mouse			.02	T.	T.		.01	.01	.12	.04									.04			T.	T.	T.	T.	T.					.02	0.26
Eckman	Mouse		T.					.04		.20	.04					.02			.04														0.34
Edgeley	James							.05																									0.05
Ellendale***	James			T.	.02			.03		.35	.01		T.				T.		.04		T.	T.					T.					T.	0.45
Energy	Missouri						T.	.20	T.	.30	.08	T.							T.		T.						T						0.58
Epping	Missouri						.08			.71		.05						.07				.01											0.95
Fessenden ‖‖	James					T.		.31		.24				T.																			0.55
Finley	Red					T.		.04		.72	.06	T.	T.			.02				T.	T.						T.					.15	0.99
Forman	Sheyenne									.20																							0.20
Foxholm	Mouse			T.		T.	.03	.23		.24	T.					.37			.14		T.	.02											1.03
Fryburg	Heart			T.			.12		T.	.55	.20		T.	T.																			0.87
Fullerton	James							.09		.35			T.						T.													T.	0.44
Garrison	Missouri			.02			.12			.38									.04			T.					T.						0.56
Grafton	Red			.02						.80	.25					.04				T.	.04											.06	1.21
Grand Forks ***	Red			T.	T			.03		.97	.01	T.				.01		T.		.04	T.						T.					.06	1.12
Granville	Mouse																																
Hannah	Pembina									.30						.50				.20	.40											.08	1.48
Hansboro	Devils Lake							.08		.60	.15								.32													T.	1.15
Hettinger	Grand												.30	.06									.10							T.			0.46
Hillsboro	Red							.10		.30	.10					T.											T.						0.50
Howard	Missouri		T.	.20	T.		.30		T.		1.45	T.							.05			T.										T.	2.00
Jamestown ‖‖	James						.20			.10						T.															T.		0.30
Lamoine	Missouri					T.		.10			.30											.10										.02	0.52
Langdon ‖‖	Pembina				.10		T.			.25	.20					.16			T.	.10													0.81
Larimore	Red							.02		.88						.04				.02	.05												1.01
Linton	Missouri			.05	.08	.05	.05			.07						.02			.03	.17							T.						0.52
Lisbon ‖‖	Sheyenne									.30	.20		T							T.			T.										0.50
McClusky	Missouri							.25											.10														0.35
McHenry	James																																
McKinney	Mouse							.08			.56								.08			.04											0.76
McLeod	Sheyenne							.13		.67	.14		T.							T.		.03					T.						0.97
Maddock	Sheyenne				T.			.03		.14	.04					T.			T.	.06	T.	T.										.20	0.47
Mandan ‖‖	Missouri			T.				.09		.23	.06									.01							T.					T.	0.39
Manfred	James			T.			T.	.25		.18	.08					.04			T.		T.	T.										.20	0.75
Marmarth	Lit. Missouri		.03				.07		.32	.04			.07	.05						T.													0.58
Mayville	Red							.15			.60									.15													0.90
Melville	James							.50		.20																							0.70
Minot ‖‖	Mouse							.20		.40					.10																		0.70
Minto	Red									.81	.70					.05				.04	.12						T.					.13	1.85
Mott	Cannon Ball								.09	.28			.13																				0.50
Napoleon ‖‖	Missouri							.15		.05	.15									.05			T.										0.40
New England	Cannon Ball			T.					T.	.40																							0.40
New Salem	Heart						T.	.08	T.	.22									T.		T.	T.											0.30
Park River	Red									.76		T.				.06																.22	1.04
Parshall	Missouri									.80																							0.80
Pembina ‖‖	Red									.20	.96					.16																	1.32
Pettibone	James			.10				.30		.20									T.			T.										.02	0.62
Power	Sheyenne							.20		.25									.02		T.						T.						0.47
Powers Lake	Missouri							.01		.60								.20									.03						0.84
Richardton	Heart									.20											T												0.20
Sharon	Red							.05		.59	T.	T.				.02				.01	T.						T.					.20	0.87
Stanton	Missouri			T.	T.			T.		.55												T.					T.						0.55
Steele	Missouri		T.	T			.05	T.											T.													.12	0.17
Towner	Mouse		T.		.20					T.							.20		.20		T.	T.											0.60
Turtle Lake	Missouri			.10				.30		.40																							0.80
Valley City	Sheyenne			T.				.02	T.	.29	T.					T.				T.	T.	T.										T.	0.31
Wahpeton	Red									.05																							0.05
Washburn	Missouri							.23		.24																							0.47
Westhope	Mouse																																1.82
Williston ***	Missouri		.06				.25	.02	T.	.69		.01		T.	.03	.03			.06	T.	T.	T.				T.	T.						1.15
Willow City	Mouse				.03	T.		.10		.50	.10					.15	T.		.10		T.	T.										T.	0.98
Moorhead, Minn ***	Red		T.	.02			.03	.11	T.	.47	.04								T.	.03	.03	T.					T.					T.	0.73

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24 hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for March, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	27	32	40	46	48	30	36	32	22	21	25	17	16	14	21	27	32	30	33	30	28	50	48	57	63	47	50	48	68	70	56	37.5
	Minimum...	-18	-12	6	15	23	26	22	19	21	12	-6	5	-10	-12	6	10	13	12	13	17	12	16	32	30	30	36	26	22	30	30	36	14.9
Arnegard	Maximum...	10	49	40	47	40	25	27	31	31	25	18	12	16	17	29	39	31	35	40	40	38	57	42	58	40	55	52	61	64	57	52	38.0
	Minimum...	-10	2	22	27	22	19	15	14	17	-7	-11	-10	-6	-12	9	15	13	15	17	17	14	27	30	32	30	24	29	35	44	35	29	16.0
Ashley	Maximum...	16	32	41	48	50	46	30	32	32	32	....	....	....	22	47	51	48	39	43	46	36	63	55	64	74	66	59	62	64	61	62	[c]47.2
	Minimum...	-7	-6	17	21	35	28	22	23	27	9	....	....	....	8	12	22	24	12	17	25	13	23	33	25	36	30	23	24	35	33	39	[c]21.5
Beach	Maximum...	25	45	41	45	43	32	29	32	32	17	30	17	10	22	39	43	36	37	47	47	42	64	42	63	61	42	57	64	67	60	61	41.8
	Minimum...	12	11	27	27	27	25	15	25	17	4	-5	10	-21	-20	20	23	21	22	18	20	20	31	29	29	39	26	22	27	36	44	36	19.9
Berthold Agency	Maximum...	22	48	49	48	48	48	32	35	28	28	26	26	10	18	28	40	47	44	40	40	36	58	58	62	60	56	60	61	65	62	48	42.9
	Minimum...	-13	-14	26	24	24	22	22	11	4	4	-10	-5	-12	-24	2	-3	18	12	8	25	24	25	32	27	20	25	30	30	38	36	36	14.3
Bismarck	Maximum...	11	42	43	51	50	35	30	33	34	20	33	21	10	23	39	48	35	38	47	41	38	65	49	68	75	48	55	64	67	64	57	43.0
	Minimum...	-5	-2	29	25	29	23	21	24	20	1	-2	7	-2	-8	14	22	19	18	23	21	18	27	33	27	38	31	24	32	38	42	40	20.2
Bottineau §§	Maximum...	10	33	36	42	39	35	32	28	33	25	20	15	8	14	37	30	29	30	31	32	25	41	42	54	51	44	49	50	63	64	56	35.5
	Minimum...	-21	-15	18	13	31	20	11	16	21	0	-15	-4	-15	-23	-4	1	0	6	13	20	0	19	32	23	38	32	23	29	33	35	34	12.0
Bowbells §§	Maximum...	10	12	42	36	44	39	26	31	26	25	4	16	-7	1	15	19	31	20	32	30	29	36	38	39	51	52	40	49	52	63	62	31.1
	Minimum...	-15	-10	7	19	26	19	14	12	15	-3	-11	-16	-15	-21	-10	1	9	8	12	8	10	15	21	28	34	30	25	27	32	42	33	11.2
Bowman	Maximum...	15	47	39	45	46	34	31	28	28	19	27	25	10	22	42	43	35	37	47	42	43	62	48	63	65	40	54	60	60	53	65	41.1
	Minimum...	-8	-8	29	30	34	28	19	23	19	-2	-11	9	-17	-21	14	24	25	21	23	24	22	30	30	27	32	25	22	27	33	45	39	18.9
Cando	Maximum...	....	29	37	43	43	35	32	30	30	25	21	16	10	13	31	31	28	30	34	32	26	43	44	54	60	55	50	51	60	57	50	[a]36.7
	Minimum...	....	-22	13	24	30	24	16	20	25	5	-8	-4	-10	-19	-2	4	15	6	15	19	-1	23	33	27	34	28	26	19	24	28	35	[a]14.2
Carson	Maximum...	10	35	44	50	54	35	30	25	34	20	30	30	20	20	40	47	35	20	40	30	28	65	50	65	72	45	54	64	52	62	60	40.8
	Minimum...	-10	-9	24	18	18	18	15	18	18	0	-10	5	-10	-18	5	20	12	12	16	20	12	20	27	20	34	24	15	23	28	45	34	14.3
Crosby	Maximum...	8	40	38	41	44	31	36	31	28	28	23	1	2	8	25	32	27	31	30	30	37	43	44	49	51	50	51	56	64	63	62	35.6
	Minimum...	-15	-1	21	22	31	18	17	8	18	-16	-8	-9	-13	-23	-7	-7	9	14	14	15	14	17	29	28	30	28	30	34	33	37	40	13.2
Devils Lake	Maximum...	2	33	35	42	45	31	32	30	31	17	21	10	9	12	32	32	29	32	35	34	26	48	43	55	61	45	48	50	60	55	47	34.9
	Minimum...	-21	-13	24	23	31	21	17	26	17	-6	-6	-2	-8	-15	-1	6	10	8	18	10	2	22	31	28	37	31	27	29	34	32	31	14.4
Dickinson §§	Maximum...	10	50	44	48	44	33	28	31	32	26	30	17	5	30	34	45	33	40	47	35	43	64	44	64	62	35	50	66	60	60	55	40.8
	Minimum...	-6	0	20	24	30	27	20	19	26	7	-12	-1	-5	-20	15	19	22	21	20	30	17	30	32	25	32	29	27	25	35	42	32	18.8
Donnybrook	Maximum...	5	50	45	50	44	30	....	....	....	....	....	....	....	....	....	....	....	....	33	32	33	45	40	54	58	45	51	53	64	64	58	[l]44.9
	Minimum...	-16	-16	24	28	28	18	2	-3	-5	-2	-4	-8	-16	-21	-10	-5	-2	-5	-4	3	0	15	32	28	33	27	22	25	31	40	30	8.7
Dunn Center §§	Maximum...	54	14	43	50	48	35	26	30	34	20	29	24	8	23	42	38	34	38	43	39	38	59	50	61	64	39	55	61	65	67	60	41.6
	Minimum...	-2	-7	24	25	34	24	15	19	18	-3	-11	2	-8	-25	10	19	5	21	18	21	16	29	32	26	34	26	17	26	36	51	31	16.9
Dunseith	Maximum...	12	31	36	40	41	41	35	32	28	25	19	15	13	8	28	29	30	30	26	38	34	41	50	48	53	51	56	62	46	54	52	35.6
	Minimum...	-20	-22	15	28	31	10	20	21	22	-1	-20	-18	-12	-24	-11	-7	-5	12	16	-4	10	16	38	21	33	27	22	34	36	34	36	10.9
Edgeley	Maximum...	19	29	43	49	53	47	29	33	33	34	35	33	14	23	47	52	45	38	43	50	37	59	56	65	74	71	52	61	61	62	68	45.6
	Minimum...	-9	-7	26	20	32	28	22	22	27	7	-5	11	0	-7	6	16	25	12	17	21	8	25	32	25	39	32	25	20	28	25	26	17.7
Ellendale	Maximum...	8	30	43	48	54	35	29	36	35	25	38	24	12	23	50	53	39	38	43	50	36	58	53	65	75	48	52	64	66	64	65	43.8
	Minimum...	-6	-6	30	22	33	27	23	26	25	5	-1	4	0	-4	11	17	18	15	20	18	12	26	31	30	44	34	27	24	29	31	37	19.5
Fessenden §§	Maximum...	-4	35	40	46	47	31	36	33	32	14	28	18	11	22	36	37	20	34	42	36	35	48	42	53	70	47	51	56	66	64	54	38.1
	Minimum...	-18	-12	-2	20	22	25	18	17	27	9	-8	2	-8	-19	-16	3	5	8	14	21	3	13	34	26	33	31	26	25	31	32	34	12.8
Foxholm	Maximum...	13	43	45	45	44	41	30	29	33	25	18	19	7	10	22	28	29	34	35	37	26	45	46	54	59	55	49	53	63	64	55	37.8
	Minimum...	-15	-7	25	21	33	21	15	16	18	-2	-17	-2	-15	-19	-5	2	14	6	12	17	3	18	32	29	38	32	25	24	32	40	32	13.6
Fullerton	Maximum...	9	29	42	47	50	40	30	36	34	32	36	31	17	22	47	52	40	40	42	50	39	59	52	63	75	60	52	63	67	63	65	44.6
	Minimum...	-4	-4	25	21	32	21	25	21	29	11	-1	15	1	-3	9	18	17	14	18	27	13	28	32	26	39	27	27	23	27	25	38	19.3
Garrison	Maximum...	14	47	42	50	46	30	29	30	34	23	26	19	7	18	24	35	31	35	39	33	33	57	49	59	68	49	52	63	65	63	58	39.6
	Minimum...	-11	-4	24	23	25	22	-16	21	23	0	-7	-2	-12	-18	5	0	16	12	8	21	14	24	32	28	37	30	24	28	36	39	34	14.7
Grafton	Maximum...	10	22	37	38	48	42	35	36	34	31	14	14	11	13	27	32	32	25	33	33	25	39	45	52	54	52	50	52	61	58	57	35.9
	Minimum...	-21	-22	16	12	27	20	17	14	27	3	-16	-4	-20	20	-16	0	6	-5	11	21	4	12	33	29	35	25	33	25	32	30	32	11.0
Grand Forks	Maximum...	6	26	36	40	47	34	34	34	32	23	12	8	12	14	33	29	30	32	32	36	22	42	44	53	60	49	48	54	61	58	60	35.5
	Minimum...	-17	-16	18	12	34	25	22	21	23	-6	-11	-8	-10	-14	-5	6	6	-3	14	17	4	19	33	30	38	35	32	27	37	32	35	13.9
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hansboro	Maximum...	12	30	36	44	47	36	36	30	29	25	26	11	8	10	23	36	28	23	40	28	23	20	44	51	56	49	51	60	60	60	53	35.0
	Minimum...	-26	-10	7	11	29	12	3	9	7	-2	-20	-11	-20	-22	0	-7	-5	1	5	0	-2	-5	12	18	28	28	24	30	30	29	28	5.8
Hettinger	Maximum...	28	30	36	38	43	37	34	40	37	30	34	36	28	16	36	40	46	42	48	50	51	42	56	66	56	46	48	46	44	71	60	42.4
	Minimum...	-8	-10	-4	15	32	26	24	26	28	4	10	28	0	-25	15	22	30	26	30	12	18	20	35	26	30	32	26	30	32	36	28	19.2
Hillsboro	Maximum...	15	22	35	41	49	48	32	34	34	32	22	20	9	14	34	37	31	32	34	40	29	46	47	55	69	64	60	59	60	58	57	39.3
	Minimum...	-13	-12	21	5	32	27	25	25	28	10	10	2	-7	-13	-1	12	21	9	15	29	10	24	34	31	37	35	32	34	32	27	34	17.9
Howard	Maximum...	7	42	37	41	40	29	32	23	26	17	19	10	0	3	22	31	22	22	34	40	33	45	42	42	50	39	50	51	50	50	52	32.3
	Minimum...	-19	-5	17	19	22	17	14	8	17	-11	-11	10	-16	-22	-3	1	7	10	8	12	11	22	22	25	32	27	21	26	31	38	35	11.1
Jamestown §§	Maximum...	-4	36	48	50	40	31	32	34	30	33	18	10	21	40	46	36	37	41	47	35	56	49	62	33	45	53	56	66	61	62	72	41.2
	Minimum...	-15	-16	-12	23	23	28	20	18	21	14	10	-7	-3	-12	-13	13	17	13	15	15	18	8	25	24	25	31	25	25	29	28	26	13.4
Lamoine	Maximum...	10	36	36	45	46	42	28	28	33	32	23	21	21	17	31	38	34	33	35	36	26	55	45	60	67	62	52	65	64	62	53	39.9
	Minimum...	-12	-1	28	20	32	25	17	12	26	4	-10	1	-8	-18	-2	4	18	12	18	22	5	24	32	36	36	30	20	38	35	36	37	16.4
Langdon §§	Maximum...	10	30	36	39	26	34	26	34	26	25	17	12	10	12	22	33	30	22	34	25	33	41	43	50	53	44	49	50	59	53	58	33.4
	Minimum...	-23	-18	-5	-16	21	11	15	15	25	8	-15	-10	-15	-23	-12	3	11	-2	7	7	-4	10	24	25	30	31	27	28	30	30	31	7.9
Larimore §§	Maximum...	5	30	37	42	47	32	30	35	32	13	20	10	9	16	35	33	30	33	35	35	37	42	45	55	62	45	55	60	63	65	55	36.9
	Minimum...	-23	-13	17	27	32	25	17	25	15	10	-13	-5	-12	-19	-5	5	11	0	9	25	0	25	32	30	34	35	31	25	35	30	30	14.0
Linton	Maximum...	18	35	44	51	52	45	31	32	33	34	36	31	20	25	46	52	46	39	47	45	35	62	62	66	65	57	45	54	53	52	50	44.0
	Minimum...	-5	-7	28	18	30	30	23	21	21	10	-7	14	4	-7	10	16	16	14	13	27	13	13	13	13	13	8	4	33	31	39	42	15.8
Lisbon §§	Maximum...	18	26	48	24	53	39	31	37	36	25	35	29	18	32	46	38	40	40	41	48	44	48	59	60	68	67	49	52	54	60	62	42.8
	Minimum...	11	12	21	2	31	23	25	25	26	12	1	12	12	5	5	10	21	14	14	31	12	31	38	25	35	27	23	25	36	26	28	20.0
McKinney	Maximum...	10	40	40	43	40	35	30	30	30	20	15	10	0	12	20	30	25	30	30	25	25	45	40	50	50	52	52	59	62	63	60	34.3
	Minimum...	-15	-7	24	20	32	20	15	12	20	-5	-10	-2	-15	-20	-10	-8	10	10	10	10	-5	20	32	25	33	26	27	25	32	40	32	12.2
Maddock	Maximum...	15	31	37	45	49	43	34	31	34	32	22	20	12	13	31	33	33	35	35	36	28	53	50	57	64	69	51	52	64	59	57	39.5
	Minimum...	-26	-12	22	20	34	24	16	22	26	4	-7	1	-11	-19	-7	-1	15	8	15	22	-1	24	33	28	36	31	26	26	31	33	36	14.5
Melville	Maximum...	13	31	35	45	48	38	31	31	33	32	31	22	7	20	33	36	34	35	40	39	31	58	51	61	68	61	51	54	63	57	52	40.0
	Minimum...	-22	-11	25	18	34	25	17	21	29	3	-8	3	-11	-15	0	7	19	17	18	20	6	25	33	26	31	30	25	25	30	30	35	15.6
Minot §§	Maximum...	3	44	45	49	41	33	34	30	30	20	20	21	5	10	23	33	33	35	37	35	30	50	47	60	61	53	57	60	63	60	57	38.0
	Minimum...	-13	-7	15	22	33	22	15	10	20	-3	-8	2	-13	-21	-10	-10	13	5	13	16	0	21	33	28	37	33	24	37	42	43	37	13.9
Mott	Maximum...	4	36	37	40	38	28	39	32	33	11	-4	10	4	32	40	44	34	48	47	31	38	47	43	56	66	41	52	62	63	58	64	38.2
	Minimum...	-1	-5	18	24	25	27	24	18	11	-4	-6	-8	-10	-18	11	27	23	30	30	22	17	28	30	37	38	31	19	34	29	26	37	18.5
Napoleon §§	Maximum...	10	37	40	48	51	33	29	32	33	21	33	18	11	21	41	49	35	38	43	45	37	63	48	64	73	43	55	63	65	62	62	42.0
	Minimum...	-12	-7	20	20	25	25	17	14	21	9	-11	7	-7	-15	15	16	20	10	12	20	6	8	30	22	28	28	18	25	28	34	33	14.8
New Salem	Maximum...	16	47	45	53	50	38	35	29	35	29	31	30	10	19	27	47	37	41	46	45	40	61	16	65	71	48	51	65	71	69	71	44.1
	Minimum...	-8	-3	25	25	38	28	20	17	25	1	-8	1	-5	-14	7	18	20	19	18	21	17	25	31	25	35	33	21	25	36	41	35	18.4
Pembina §§	Maximum...	12	8	28	33	44	45	26	34	38	28	8	12	6	10	14	32	24	30	28	22	38	36	38	40	54	50	44	50	60	59	60	32.6
	Minimum...	-20	-15	8	10	31	25	24	25	25	5	-22	-5	-18	-15	-5	5	10	10	20	-2	10	20	4	31	34	35	32	24	32	34	32	12.5
Steele	Maximum...	12	27	41	46	37	34	36	34	36	18	30	10	20	34	38	46	32	34	39	34	40	46	48	57	70	51	51	60	65	60	58	40.1
	Minimum...	-9	-7	19	29	27	20	20	19	18	9	-8	-9	-13	0	15	15	20	21	15	10	15	10	28	22	33	27	21	28	37	35	39	16.3
Towner	Maximum...	28	36	40	36	40	38	36	30	30	26	10	16	18	22	25	31	25	31	36	36	32	40	45	50	54	65	60	58	56	60	65	37.9
	Minimum...	4	-10	22	18	25	20	15	18	25	0	-11	0	-22	-17	-3	6	16	20	21	23	-5	10	22	25	30	35	28	30	35	36	35	14.6
Valley City	Maximum...	2	21	33	41	41	34	27	32	32	32	27	23	8	15	34	40	34	34	36	42	26	33	58	58	72	60	55	53	60	55	60	38.0
	Minimum...	-18	-3	21	20	31	24	19	23	25	-3	-8	-3	-7	-14	5	12	22	12	17	23	6	22	28	27	40	30	29	26	32	28	35	16.2
Wahpeton	Maximum...	19	28	37	47	53	47	36	42	40	37	31	35	24	21	47	55	50	39	48	56	43	55	57	62	75	72	54	60	62	63	60	46.9
	Minimum...	-9	-12	21	20	33	31	30	29	29	15	0	15	5	-2	10	19	30	15	22	31	14	27	33	27	41	36	28	21	31	27	37	21.1
Westhope	Maximum...	12	40	40	44	45	....	30	31	30	22	21	20	20	11	24	25	25	....	35	49	27	43	47	49	55	44	45	53	61	56	59	[b]36.7
	Minimum...	-5	-9	24	22	30	....	20	16	20	-10	-17	-19	-20	-24	0	-4	14	....	0	5	-2	22	30	37	36	33	30	30	30	35	35	[b]12.4
Williston	Maximum...	10	46	41	46	42	29	29	31	31	14	25	8	5	16	27	39	25	35	40	39	37	57	44	62	58	43	55	57	66	63	55	37.9
	Minimum...	-9	2	22	28	28	21	19	17	14	-3	-3	-4	-13	-20	10	2	15	17	17	22	18	31	31	30	35	29	24	34	39	47	36	17.3
Moorhead, Minn	Maximum...	3	25	35	42	51	34	32	36	35	32	29	18	9	16	42	46	35	34	34	46	29	52	48	59	71	52	49	54	60	56	60	39.5
	Minimum...	-10	-13	23	18	34	27	27	27	31	2	0	1	0	-4	11	22	18	15	21	17	12	29	35	31	40	35	31	27	36	31	36	19.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 4-25-28=1000]

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JUN 2 1925
UNIVERSITY OF ILLINOIS

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIV Bismarck, N. D., April, 1925 No. 4

GENERAL SUMMARY

The month opened with mild temperatures and generally dry weather, a condition which obtained during the first decade. During the second decade the temperatures were lower, light to killing frosts being reported, and there were abundant scattered showers. The third decade opened with cloudy weather, mild temperatures, and light to moderate precipitation, but fair weather generally prevailed during the last days of the month. Taken as a whole, the weather was favorable for the germination and growth of crops, as well as for farm and other outdoor work. At the close of the month spring wheat, oats, and barley were up to good stand and color, flax seeding and potato planting were well advanced, and much spring plowing for corn was accomplished. Highways were generally in excellent condition, and much road work was being done.

TEMPERATURE

The mean temperature for the State was 47.8°, or 6.1° above the normal, and 8.5° higher than the mean for April, 1924. The highest mean reported was 52.1° at Wahpeton, Richland County; the lowest was 44.0° at Howard, Divide County. The highest temperature reported was 85° at four stations on the 10th and other dates; the lowest was 10° at Hansboro, Towner County, on the 29th. The greatest monthly range of temperature was 68° at Hansboro, Towner County; the least was 50° at Epping, Williams County. The greatest daily range was 58° at McLeod, Ransom County, on the 10th.

PRECIPITATION

The average precipitation for the State was 1.64 inches, or 0.26 inch above the normal, and 0.91 inch less than the average for April, 1924. The greatest monthly amount reported was 4.24 inches at McLeod, Ransom County; the least was 0.63 inch at Eckman, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 1.50 inches at McLeod, Ransom County, on the 18th. The average number of days with 0.01 inch or more of precipitation was 6. The greatest snowfall was 1.0 inch at McClusky, Sheridan County, the average for the State being a trace.

AURORAS

Auroras were observed at Eckman and Foxholm on the 15th; at Foxholm on the 20th, and at Arnegard on the 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.99	30.46	4	29.25	23	57	8,578	11.9	44	s.	20
Devils Lake	29.98	30.52	3	29.20	24	44	8,468	11.8	35	n.	28
Ellendale	30.01	30.44	4	29.31	23	56	11,003	15.3	50	nw.	12
Grand Forks	29.97	30.49	4	29.28	24	90	....	......	39	se.	5
Williston	29.95	30.44	28	29.16	23	48	7,947	11.0	42	w.	25
Moorhead, Minn	29.98	30.48	4	29.31	24	58	5,230	7.3	25	se.	5
Av'ges and extremes	29.98	30.52	3	29.16	23	.....	....	11.5	50	nw.	12

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	257.4	408.5	63	+5	75	41	41	13	10
Devils Lake	233.1	410.5	57	−1	78	50	51	23	10
Ellendale	262.8	407.2	65	+7	80	45	....	19	11
Grand Forks	......	......	......	......	77	.....	61	.....	....
Williston	225.1	410.5	55	−2	81	49	50	23	9†
Moorhead, Minn	266.6	408.5	65	+7	77	48	54	20	11
Averages and extremes	249.0	409.0	61	+3	....	47	....	13	10

† And other dates.

COMPARATIVE STATE DATA FOR APRIL

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893...	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894...	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895...	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896...	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897...	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898...	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899...	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900...	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901...	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902...	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903...	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904...	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905...	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906...	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907...	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908...	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909...	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910...	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911...	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912...	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913...	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914...	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915...	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916...	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918...	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919...	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920...	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921...	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922...	42.3	+0.6	89	− 2	0.92	−0.46	6	10	9	11	se.
1923...	38.7	−3.0	89	−15	1.45	+0.07	5	13	8	9	nw.
1924...	39.3	−2.4	84	6	2.55	+1.19	9	8	9	13	nw.
1925...	47.8	+6.1	85	10	1.64	+0.26	6	11	10	9	se.

Climatological Data for April, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	47.2	+4.9	83	10	21	15†	48	2.91	+1.03	1.20	0	7	13	15	2	nw.	E. T. Carley.
Amidon	Slope	....	12	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Charles Eastgate.
Arnegard	McKenzie	....	11	48.0	....	80	11	25	15	40	1.08	....	0.40	0	7	15	6	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	49.2	+6.7	78	11†	22	30	45	2.38	+0.41	0.67	0	7	17	4	9	nw.	R. C. Miles.
Beach	Golden Valley	2,579	20	48.8	+6.3	79	11	23	29	42	0.87	−0.55	0.27	0	6	....	....	....	....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	48.4	+4.7	78	12†	22	30	41	....	....	....	....	....	....	....	....	....	C. L. Hall.
Bismarck	Burleigh	1,674	51	51.0	+8.9	83	10	24	30	47	0.86	−1.02	0.28	T.	10	14	11	5	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	46.8	+7.4	79	11	20	14	43	1.37	+0.50	0.75	T.	9	12	7	11	nw.	E. C. Evenson.
Bowman	Bowman	2,961	12	48.4	....	78	11	23	29†	38	1.31	+0.07	0.27	0	11	14	10	6	se.	R. Love, Jr.
Cando	Towner	1,488	25	47.0^{b}	+6.4	77^{b}	10	21^{b}	16	48	1.51	+0.62	0.77	0	3	....	....	....	ne.	A. J. Swanson.
Carson	Grant	2,500	14	48.6	+6.6	85	11	18	29†	50	1.07	−0.48	0.25	T.	9	12	16	2	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	....	....	....	....	....	....	....	2.50	+1.45	1.30	0	3	18	5	7	nw.	S. Friswold.
Crosby	Divide	1,954	19	45.8	+5.2	84	11	26	30	44	0.81	−0.38	0.19	T.	7	5	14	11	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	46.6	+8.4	79	10	23	16	36	1.79	−0.24	1.03	0.2	6	10	13	7	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	47.2	+4.3	29	11	20	30	44	1.26	+0.03	0.62	T	7	13	8	9	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	27	46.0	+5.6	74	10	16	30	41	1.01	−0.04	0.38	0	5	6	6	18	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	46.4	+3.8	73^{c}	9	20^{b}	30	42^{c}	1.24	−0.08	0.45	T.	5	4	12	14	e.	W. H. Moede.
Dunseith	Rolette	1,682	30	48.6	+8.2	75	23	22	30	39	1.39	+0.56	0.53	T.	7	12	11	7	n.	J. G. Lamont.
Eckman	Bottineau	1,500	21	46.6	+5.0	76	10	19	30	39	0.63	−0.42	0.27	0	3	0	26	4	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	49.1	+5.9	83	10	20	16	51	2.18	+0.30	0.68	0	4	1	16	13	se.	O. A. Thompson.
Ellendale	Dickey	1,449	27	49.3	+5.7	81	10	25	16	45	2.27	+0.44	1.06	T.	7	6	8	16	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	49.4	....	80	11	21	15	45	2.55	+1.41	1.12	0	7	9	19	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	47.2	....	72	7	22	15	33	1.12	−0.03	0.50	T.	9	16	10	4	nw.	A. O. Wang.
Fessenden	Wells	1,610	14	47.7	+7.5	85	10	18	16	45	1.89	+0.35	0.72	0	9	8	11	11	se.	T. D. Monsen.
Finley	Steele	1,461	2	47.6	....	81	10	24	16	41	2.62	....	1.26	T.	7	12	6	12	ne.	G. J. Mustad.
Forman	Sargent	1,249	32	....	....	....	....	....	....	....	2.72	+0.53	0.76	T.	10	10	15	5	se.	O. Enger.
Foxholm	Ward	1,657	5	46.6	....	75	10	21	30	37	1.11	....	0.50	....	6	6	15	9	ne.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	....	....	....	....	....	....	....	1.42	....	0.37	0.5	13	11	11	8	nw.	Verne King.
Fullerton	Dickey	1,439	28	49.8	+7.0	81	10	23	15†	46	2.79	+0.79	1.23	0	6	6	17	7	nw.	F. O. Alin.
Garrison	McLean	1,901	31	48.4	+5.8	80	10	21	30	45	1.92	+0.72	0.98	0	8	11	11	8	se.	Wm. H. Robinson.
Grafton	Walsh	827	34	47.5^{a}	+7.2	81^{c}	10	20	16†	48^{c}	1.45	−0.03	0.80	0	6	16	9	5	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	48.0	+6.0	82	10	24	16	45	1.58	−0.35	0.86	0	8	19	7	4	n.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	W. A. Christianson.
Hannah	Cavalier	1,568	32	....	....	....	....	....	....	....	1.66	+0.40	1.08	0	3	....	....	....	....	J. Moffatt.
Hansboro	Towner	1,597	18	43.8	+3.9	78	10	10	29	44	1.80	+0.51	0.85	T.	4	12	13	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	47.2	+2.4	76	12†	16	20	55	0.36	−0.80	0.16	0	3	20	5	5	nw.	U. J. Downey.
Hillsboro	Traill	901	20	49.3	+5.7	83	10	24	4†	45	2.48	+0.47	1.04	0	6	12	12	6	nw.	F. E. Mayall.
Howard‡‡	Williams	2,275	19	44.0	+4.2	72	9†	20	15	39	1.14	−0.26	0.68	T.	7	5	9	16	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	46.4	+3.9	81	9	22	30	53	1.45	−0.29	0.58	T.	7	13	3	14	....	S. Calvelage.
Lamoine	Kidder	1,936	21	48.4	+5.8	81	10	20	15	39	0.86	−0.11	0.56	T.	3	16	3	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	45.4	+7.3	78	9	18	16	48	1.30	−0.03	0.49	T.	5	17	10	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	46.2	+5.8	84	9	20	16	44	2.39	+0.77	0.80	T.	9	12	8	10	n.	Reuben Gray.
Linton	Emmons	1,711	8	....	....	82	10†	....	....	....	1.05	....	0.42	T.	6	14	6	10	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	47.8	+5.1	83	11	25	16	47	2.73	+0.84	1.00	0	7	15	10	5	nw.	W. S. Adams.
McClusky	Sheridan	1,943	8	44.3	....	80	10	17	30	43	1.63	....	0.60	1.0	10	15	9	6	se.	Edw. Tapley.
McHenry	Foster	1,509	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	F. D. Cannon.
McKinney‡‡	Renville	1,640	32	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	N. P. Swenson.
McLeod	Ransom	1,075	14	49.0	+5.7	83	10	20	12†	58	4.24	+1.85	1.50	T.	10	14	7	9	se.	J. G. Carlson.
Maddock	Benson	1,604	10	47.9	....	81	10	19	16	42	1.87	+0.45	1.13	T.	7	3	21	6	se.	A. T. Felland.
Mandan	Morton	1,644	12	49.8	+7.7	81	10	22	30	48	0.94	−0.61	0.28	T.	8	10	7	13	e	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	48.0	+6.2	81	10	18	16	39	1.71	+0.44	0.77	0	5	12	10	8	se.	P. B. Anderson.
Marmarth	Slope	2,714	17	48.5^{a}	+5.7	78^{a}	11	19^{a}	28	42^{a}	1.36	+0.23	0.49	0.1	10	7	7	16	....	S. P. Grane.
Mayville	Traill	975	30	49.8	+6.6	84	10	22	4	53	2.13	+0.38	0.90	0	6	15	5	10	n.	R. Peterson.
Melville	Foster	1,590	28	48.0	+7.9	81	10	21	30	42	1.92	+0.81	0.90	0	4	9	11	10	se.	J. P. Kidder.
Minot	Ward	1,557	30	47.4	+5.7	80	10	21	30	38	0.76	−0.56	0.39	0	3	10	14	6	e.	W. I. Faris.
Minto	Walsh	820	33	46.8	+6.2	81	10	18	16	47	1.24	−0.33	0.50	0	7	11	13	6	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	49.6	+7.0	84	11	19	30	38	1.09	−0.41	0.51	0	6	8	13	9	se.	O. H. Opland.
Napoleon	Logan	1,955	34	47.8	+6.3	82	10	17	30	49	1.18	−0.49	0.37	0	7	9	0	21	e.	C. J. Hoof.
New England	Hettinger	2,400	32	47.8	+4.7	77	11	18	29	42	0.77	−0.25	0.20	0	5	11	15	4	w.	W. S. Jones.
New Salem	Morton	2,163	22	49.9^{a}	+7.4	85^{a}	11	18^{a}	30	44^{a}	0.78	−0.45	0.30	0	7	12	14	4	....	J. Christiansen.
Park River	Walsh	998	22	48.1	+6.6	81	10	23	16	41	1.27	−0.04	0.76	0	5	11	6	13	se.	C. B. Wright.
Parshall	Mountrail	....	11	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. A. Johnson.
Pembina	Pembina	789	52	46.5	+8.6	80	9	20	17	49	0.70	−0.91	0.40	0	3	15	8	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	46.9^{a}	+5.0	81^{a}	10	18^{a}	15†	47^{a}	1.57	+0.17	0.70	0.5	6	11	9	10	se.	S. C. Shanks.
Power	Richland	1,020	32	....	....	....	....	....	....	....	3.31	+1.48	1.04	0	6	8	14	8	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	....	....	....	....	....	....	....	2.54	+0.98	0.84	0	4	11	9	10	e.	Geo. B. Gee.
Richardton	Stark	2,467	10	49.0^{a}	....	79^{a}	10†	24^{a}	29†	39^{a}	1.15	....	0.47	0	7	4	19	7	nw.	John Muggli.
Sharon	Steele	1,516	1	....	....	....	....	....	....	....	2.26	....	1.00	....	8	10	11	9	se.	Nels O. Gretsheim.
Stanton	Mercer	1,722	2	....	....	....	....	....	....	....	1.52	....	0.90	....	4	17	8	5	se.	J. H. Giffey.
Steele	Kidder	1,857	30	47.1	+2.7	80	11	20	16†	41	1.26	+0.15	0.52	T.	4	7	15	8	se.	H. S. Wood.
Towner	McHenry	1,482	24	50.2	+8.8	78	11	20	16	48	0.87	−0.23	0.45	0	4	17	5	8	se.	B. Bagley.
Turtle Lake	McLean	1,899	11	47.9	....	80	10	20	30	44	1.59	+0.39	0.90	T.	7	11	16	3	e.	A. T. Anderson.
Valley City	Barnes	1,245	21	48.4	+4.6	85	10	22	15	47	2.40	+0.81	1.15	T.	4	13	10	7	nw.	H. Twito.
Wahpeton	Richland	962	32	52.1	+7.8	85	10	21	16	50	2.77	+0.54	0.87	0	8	19	0	11	se.	C. G. Luick.
Washburn	McLean	1,731	25	....	....	....	....	....	....	....	1.56	+0.46	0.74	T.	5	....	....	....	....	Karl Klein.
Westhope	Bottineau	1,508	20	47.1	+7.4	75	10	22	30	40	0.84	−0.22	0.48	0	3	10	11	9	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	47.6	+5.6	76	11	27	29	39	1.45	+0.22	0.70	0.4	12	11	7	12	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	45.6	+5.4	76	10	20	16†	42	1.29	+0.34	0.63	0	3	9	15	6	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	49.7	+9.1	84	10	27	16	41	1.99	−0.34	0.75	0	9	16	7	7	se.	U. S. Weather Bureau.
Averages	....	....	....	47.8	+6.1	85	10†	10	10	58	1.64	+0.26	1.50	T.	6	11	10	9	se.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for April, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red																		1.20	.15	.10	.33	.03	.10					1.00				2.91
Amidon	Lit. Missouri																																
Arnegard	Missouri												.01				T	.09	.19	.02	.29			.40	.08								1.08
Ashley	Missouri								.43						.09		.06	.08	.50		.55							T.	.67				2.38
Beach	Lit. Missouri														.20		T.		.10		.27	.08	.03					.19					0.87
Berthold Agency	Missouri																																
Bismarck ***	Missouri							T.					.04		.05		.11	.04	.14		.28	.02	.02	T	T.			.12	.04				0.86
Bottineau ‖ ‖	Mouse							T.											.24	.18		.75	.05	.05	.02	.06	.01	.01					1.37
Bowman	Grand							.18	.06				T.	.02	.27		T.	.15			.05	.22	.04	.25	.04			.03					1.31
Cando	Devils Lake							T.										.77			.70	.04							T				1.51
Carson	Heart							.05					.03				.12	.10	.05		.24	.03						.25	.20				1.07
Cooperstown	Sheyenne																		1.30		.60							.60					2.50
Crosby	Mouse		.17	.11				.04										.11	.08				T.		.19	T.		.11					0.81
Devils Lake ***	Devils Lake							T.					.03	.01		.01			1.03	.02	.69	T.		T.	T.				T.				1.79
Dickinson ‖ ‖	Heart								.07					.02	.10	T.	T.	T.	.09			.62	.06	.30									1.26
Donnybrook	Mouse																		.34		.38	.04		.10	.15								1.01
Dunn Center ‖ ‖	Knife																		.42		.45		.06	.27		.04							1.24
Dunseith	Mouse			T.				.06						T.	T.				.53	.05	.52	.20		.02	.01				T.				1.39
Eckman	Mouse			T.				T.						T.					.22		.27	.14				T.							0.63
Edgeley	James								T.									.30	.63		.57	T.	T.						.68				2.18
Ellendale***	James						T.		T.						.02		.26	.47	.04		.40	T.	T.		T.	T.		.68	.40				2.27
Energy	Missouri		.27				.02		T.				.02	T.			.13	T.	1.12		.97	T.	T.		.02			T.	T.				2.55
Epping	Missouri		.05	.03						T.			.03	T.			T.		.50	.07	.15	T.	.10	.16	.03								1.12
Fessenden ‖ ‖	James	.22						.02						.01					.72	.17		.48	.01	.05					.21				1.89
Finley	Red	T.									T.			.05	T	T.			1.26	.08	.61	.03	T.			T.	T.	.23	.36				2.62
Forman	Sheyenne								.10						.08		.05	.25	.63	.16	.76		.02	.05					.62				2.72
Foxholm	Mouse		.01					.06					T.	.01					.41		.50	.12			T.	T.							1.11
Fryburg	Heart								.16	.08			T.	.04	.11		T.	.12	.08	T.	.22	.04	.02	.37	.03			.12	.03				1.42
Fullerton	James								.05								.12	.30			1.06		.03			T.			1.23				2.79
Garrison	Missouri		.09				.04						.06	T.					.98		.62	.03	.01		.09								1.92
Grafton	Red													.23					.80	.04	.19							.10	.09				1.45
Grand Forks ***	Red	.02									T.		.06						.86	.04	.10	.02		.23		T.	T.	.25					1.58
Granville	Mouse																																
Hannah	Pembina																		.54			1.08	T.							T.	.04		1.66
Hansboro	Devils Lake															T.			.85		.50	.25		.20						T.			1.80
Hettinger	Grand							.10	.10				.16																				0.36
Hillsboro	Red																		1.04	.33	.15	T.		.13	T.			.08	.75				2.48
Howard	Missouri	T.	T.	.20				T.					T.	T.	T.		T.		.68		.01	T.	.01	.18	.03	.03	T.	T.					1.14
Jamestown ‖ ‖	James		T.													.03		.05	.18	.07	.58	.37							.17				1.45
Lamoine	Missouri								T.					T.	T.		T.		.18		.56	T.	T.					.12					0.86
Langdon ‖ ‖	Pembina	.12																	.23	.49		.43	.03	T.									1.30
Larimore	Red	.11										.05		.10					.80	.35	.03	.60		.25					.10				2.39
Linton	Missouri														.07		.05	.05	.42		.21	T.	T.		T.				.25				1.05
Lisbon ‖ ‖	Sheyenne																	.14	.81	T.	.33	.27		.08					1.00	.10			2.73
McClusky	Missouri						T.		.03					.05	T.		.11		.60	.03	.50	.11	.08	.07	.05	T.							1.63
McHenry	James																																
McKinney	Mouse																																
McLeod	Sheyenne							T.					T.		.09			.14	1.50	.74	.59	.03	.10	.09	.03	T.			.93				4.24
Maddock	Sheyenne							.11	.03					T.					1.13	.08	.48	.01	T.	.03									1.87
Mandan ‖ ‖	Missouri													.03		.02		.11	.21	T.	.28	.04		T.					.22	.03			0.94
Manfred	James						.02	T.						T.					.77		.52	T.		.10				.30	T.				1.71
Marmarth	Lit. Missouri	.04	.03					.49	.03					.33		.02		.16			.13			.04		T.		.09	T.				1.36
Mayville	Red													.20	.20				.90	.44	.30			.09									2.13
Melville	James													T.			T.		.90		.70	.05	T.					.27					1.92
Minot ‖ ‖	Mouse																		.35			.39		.02									0.76
Minto	Red									T.				.33					.50	.14	.14			.06			.04	.03					1.24
Mott	Cannon Ball										.04	T.	.03				.35	.02	T.	.14			.51						T.				1.09
Napoleon ‖ ‖	Missouri													T.	.07			.16	.37	.03	.10	.20							.25				1.18
New England	Cannon Ball							T					T.	T.	.20			.12			.12	.15	T.	.18					T.				0.77
New Salem	Heart												.01	T.	T.	.23	.02	T.	T.	T.	.30	.05	T.	.06	T.			T.	.11				0.78
Park River	Red													.08					.76	.05	.32			.06									1.27
Parshall	Missouri																																
Pembina ‖ ‖	Red																				.20	.10	.40	T.					T.				0.70
Pettibone	James													T.	T.		.05	T.	.65		.70	.05	T.					.10	.02				1.57
Power	Sheyenne															T.	T.	1.00	.75	.45			.07					*	1.04				3.31
Powers Lake	Missouri																		.48		.68			.84					.54				2.54
Richardton	Heart								.07						.05				.17		.47	.16	.04	.19									1.15
Sharon	Red										T.			.04	.03				1.00	.09	.63	.01	T.					.15	.31				2.26
Stanton	Missouri		T.				T.						.01				.01		.90		.60												1.52
Steele	Missouri		T.											T.	.10	.22		.52	T.		.42	T.						T.					1.26
Towner	Mouse																	.45			.27	.08	.07										0.87
Turtle Lake	Missouri												T.	.05			.09		.90	T.	.48	.01			.05	T			.01				1.59
Valley City	Sheyenne														T.		T		1.15		.67	.04						T.	.54				2.40
Wahpeton	Red															.05		.05	.50	.42	.04			.87	.27				.57				2.77
Washburn	Missouri																.12		.74	.03	.42							.25					1.56
Westhope	Mouse		T.				T.	T.											.48		.26	.10					T.						0.84
Williston ***	Missouri		.24	T.				.06					.02	.03			.06	.51	.19	.01	.14	T.	.02	.03	.14	T.	T.	T.					1.45
Willow City	Mouse													T.					.63		.51	.15	T.		T.								1.29
Moorhead, Minn ***	Red										T.				T.			.06	.70	.09	.04	T.		.12	.20	.01		.25	.52				1.99

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	68	76	68	60	58	66	68	66	73	83	79	70	68	51	53	51	54	54	64	50	53	63	75	60	60	56	64	50	48	55	....	62.1
	Minimum	32	28	30	22	29	27	36	35	32	35	32	34	40	28	21	21	26	38	36	38	38	40	44	42	31	32	27	36	29	27	....	32.2
Arnegard	Maximum	70	53	53	65	70	65	63	70	74	79	80	67	62	50	54	39	52	55	63	51	52	52	66	55	53	58	58	51	57	55	....	59.7
	Minimum	32	43	35	32	46	42	43	38	45	46	40	40	33	32	25	27	33	43	34	35	37	42	46	37	33	32	37	27	28	26	....	36.3
Ashley	Maximum	72	68	59	61	70	69	70	64	71	75	78	78	70	60	56	48	51	65	65	64	48	56	71	69	60	59	57	52	51	54	....	62.8
	Minimum	29	34	33	28	35	40	42	43	33	35	38	33	42	35	26	29	33	46	34	44	39	45	53	40	32	32	31	35	25	22	....	35.5
Beach	Maximum	72	62	68	72	74	73	72	73	74	76	79	67	60	50	55	64	60	54	66	60	53	52	65	57	60	52	57	56	60	50	....	63.1
	Minimum	33	36	37	36	32	34	39	41	37	36	43	45	40	34	26	34	31	33	31	39	36	41	38	33	31	29	36	27	23	28	....	34.6
Berthold Agency	Maximum	45	70	51	64	71	71	57	62	74	72	69	78	78	52	50	55	56	55	56	57	58	53	63	68	59	58	57	45	47	51	....	60.2
	Minimum	27	45	34	29	43	39	43	36	35	36	36	37	44	28	26	24	24	46	42	36	40	43	43	43	52	32	32	41	42	22	....	36.7
Bismarck	Maximum	75	67	55	64	76	69	69	68	76	83	82	76	62	51	56	39	55	65	67	60	67	60	74	60	57	58	64	51	54	54	....	63.8
	Minimum	28	45	35	31	43	47	47	47	40	43	37	42	37	35	28	25	36	44	36	45	45	48	51	43	33	35	38	33	27	24	....	38.3
Bottineau §§	Maximum	66	63	50	57	67	66	64	70	76	78	79	68	69	51	51	50	58	58	63	52	50	53	75	51	58	55	64	54	47	52	....	60.5
	Minimum	29	36	31	32	35	40	41	41	38	36	36	35	35	20	21	22	27	36	38	41	40	39	46	39	27	27	34	26	24	21	....	33.1
Bowman	Maximum	71	69	64	65	70	64	60	66	70	75	78	69	60	51	55	62	55	56	64	63	54	54	61	58	55	58	60	47	57	55	....	61.6
	Minimum	33	45	35	30	40	45	43	35	38	41	37	40	40	34	25	34	34	42	28	36	41	42	37	35	30	28	37	28	23	23	....	35.3
Cando	Maximum	65	62	47	55	..	67	62	71	75	77	74	..	58	52	54	49	58	56	64	62	58	58	72	70	57	55	63	55	47	55	....	[b]60.6
	Minimum	35	35	33	28	..	30	38	37	27	40	34	..	39	25	23	21	23	36	46	39	39	41	45	42	33	28	36	33	24	23	....	[b]33.3
Carson	Maximum	72	67	68	65	73	66	68	72	70	81	85	75	66	50	60	42	54	60	66	66	65	55	60	61	50	60	66	55	60	50	....	63.6
	Minimum	30	38	37	45	54	40	40	36	34	38	35	39	34	26	20	27	28	35	27	38	38	40	38	44	28	26	29	26	18	18	....	33.5
Crosby	Maximum	68	42	41	62	66	63	58	68	72	71	84	62	56	49	50	46	56	57	63	51	54	54	61	57	53	57	56	51	52	56	....	58.2
	Minimum	28	32	29	35	32	37	38	37	30	36	40	36	33	27	29	31	34	34	36	34	31	37	42	37	33	37	31	33	24	26	....	33.5
Devils Lake	Maximum	67	51	45	55	65	65	60	70	72	79	71	61	58	52	52	49	52	59	63	46	55	61	73	55	56	53	59	48	44	52	....	58.3
	Minimum	31	34	31	28	33	43	41	40	39	44	38	36	34	27	26	23	29	40	39	40	40	41	52	43	35	28	34	29	24	25	....	34.9
Dickinson §§	Maximum	72	66	59	65	72	61	63	68	73	78	79	70	60	49	55	48	54	54	63	57	54	52	65	57	55	57	61	49	55	53	....	60.8
	Minimum	38	38	33	28	43	44	41	36	34	38	35	37	40	35	22	30	31	44	29	33	38	42	40	34	28	28	24	28	22	20	....	33.5
Donnybrook	Maximum	61	48	48	63	68	62	57	69	73	74	71	67	66	52	50	50	61	56	58	64	50	51	70	51	56	61	58	51	52	55	....	59.2
	Minimum	26	35	32	30	32	37	36	32	39	43	41	35	34	24	22	20	20	39	40	34	42	41	38	37	31	31	35	31	28	16	....	32.7
Dunn Center §§	Maximum	70	62	54	65	71	59	64	70	73	78	..	..	50	..	38	45	52	59	63	58	49	56	67	57	56	56	60	49	58	57	....	[c]59.1
	Minimum	25	46	31	28	43	40	42	38	36	36	..	44	38	..	21	23	30	40	30	32	36	41	45	37	30	29	36	28	21	20	....	[b]33.8
Dunseith	Maximum	65	63	51	58	64	67	61	70	72	74	72	70	56	56	52	56	59	57	69	62	51	57	75	62	60	57	66	62	65	52	....	62.0
	Minimum	31	34	30	32	34	42	39	40	39	36	33	51	28	24	27	26	28	37	38	39	38	39	54	47	39	27	36	32	30	22	....	35.1
Edgeley	Maximum	74	68	60	59	69	75	67	67	77	83	82	75	70	59	59	52	51	71	68	52	48	59	65	72	68	59	57	49	58	55	....	64.3
	Minimum	28	36	29	22	27	41	36	41	33	36	31	30	45	32	22	20	32	45	35	42	40	45	41	42	33	34	32	37	27	22	....	33.9
Ellendale	Maximum	74	67	59	59	69	72	70	60	72	81	79	77	64	54	56	44	55	67	67	56	52	58	73	62	62	58	57	46	50	53	....	62.4
	Minimum	29	35	31	27	34	45	42	42	33	38	37	41	38	32	25	25	37	44	38	42	41	49	46	40	35	36	31	34	31	27	....	36.2
Fessenden §§	Maximum	71	56	48	60	68	69	63	71	75	85	79	78	60	55	57	51	60	66	68	49	62	61	74	58	60	58	59	50	49	56	....	62.5
	Minimum	28	31	30	26	29	38	41	39	35	41	35	33	40	25	19	18	29	38	36	41	40	42	43	41	32	31	31	32	22	22	....	32.9
Foxholm	Maximum	61	58	50	62	70	65	59	67	73	75	71	65	59	50	49	49	60	56	63	57	50	55	68	58	56	56	61	52	48	51	....	59.1
	Minimum	25	34	33	29	33	38	37	35	42	49	41	33	34	27	26	22	26	40	39	35	43	38	47	39	35	31	34	30	28	21	....	34.1
Fullerton	Maximum	75	68	59	59	70	70	74	64	74	81	79	70	66	54	56	53	53	66	68	63	55	58	74	62	63	58	60	48	50	53	....	63.4
	Minimum	29	39	30	25	32	40	48	45	34	36	40	35	44	35	23	23	34	46	36	44	41	38	54	41	36	36	33	35	28	27	....	36.2
Garrison	Maximum	72	59	50	63	71	67	63	71	75	80	79	71	59	52	54	47	59	62	66	57	57	56	69	65	55	59	63	51	52	54	....	61.9
	Minimum	27	38	33	27	39	43	41	39	40	41	35	41	37	29	24	22	34	42	34	39	39	41	51	37	32	31	38	28	25	21	....	34.9
Grafton	Maximum	61	60	52	54	64	64	62	68	74	81	73	60	60	56	53	51	59	53	67	58	51	67	76	73	60	51	..	..	..	56	....	[c]61.7
	Minimum	37	37	33	28	30	36	36	32	37	33	32	21	38	28	25	20	20	37	41	37	39	42	51	43	35	31	30	39	28	26	....	33.3
Grand Forks	Maximum	67	61	49	56	67	66	66	65	74	82	76	62	60	53	50	50	56	52	65	43	52	69	76	56	60	54	63	58	46	56	....	60.3
	Minimum	34	36	33	26	31	40	41	40	36	37	36	35	38	28	29	24	31	42	44	37	40	44	52	45	39	33	30	37	28	28	....	35.8
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Hansboro	Maximum	66	60	63	55	60	63	60	70	72	78	72	66	65	57	51	51	56	50	65	52	55	57	72	63	57	53	66	50	45	52	....	60.1
	Minimum	27	30	32	20	20	33	28	32	35	36	28	28	30	28	22	12	16	30	30	35	33	32	40	37	26	23	30	23	10	16	....	27.4
Hettinger	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Hillsboro	Maximum	70	69	58	56	65	64	66	69	74	83	78	70	65	59	54	52	51	56	64	58	54	64	75	74	64	58	63	50	46	54	....	62.9
	Minimum	30	38	31	24	28	40	44	38	33	38	38	36	42	30	25	24	29	44	40	38	41	43	52	47	38	34	32	36	30	28	....	35.7
Howard	Maximum	65	49	44	61	65	60	55	67	72	72	65	62	55	47	51	42	51	54	60	54	53	54	54	51	51	55	52	49	52	54	....	56.0
	Minimum	26	33	29	30	41	36	37	34	40	45	40	40	30	26	20	24	30	38	31	32	33	30	43	30	35	26	25	26	24	22	....	31.9
Jamestown §§	Maximum	52	53	59	69	72	62	69	75	81	79	69	62	53	55	48	53	69	68	45	48	60	62	66	62	58	58	44	42	58	58	....	60.4
	Minimum	29	30	29	27	29	33	43	42	28	33	32	37	40	30	24	23	26	35	28	38	39	40	43	41	34	34	27	33	24	22	....	32.4
Lamoine	Maximum	68	60	58	61	69	65	61	68	70	81	77	68	60	50	55	55	56	63	65	61	60	59	71	68	57	58	58	49	50	56	....	61.9
	Minimum	30	34	28	29	37	42	45	41	40	42	40	36	35	27	20	24	30	43	32	40	40	42	51	38	32	35	30	31	22	28	....	34.8
Langdon §§	Maximum	66	50	45	52	59	68	59	75	78	72	67	63	62	57	55	54	57	54	63	49	57	59	71	48	59	51	61	56	59	56	....	59.4
	Minimum	33	35	30	26	31	42	36	35	30	33	32	33	33	22	21	18	23	27	35	37	37	39	41	40	32	28	31	34	25	23	....	31.4
Larimore §§	Maximum	56	44	57	65	63	64	68	74	84	73	64	60	55	52	50	53	50	66	43	51	67	74	55	60	55	60	48	45	50	60	....	58.9
	Minimum	30	32	32	25	35	36	38	36	40	36	33	30	42	28	24	20	27	35	35	38	38	40	45	45	38	30	32	35	27	25	....	33.6
Linton	Maximum	64	59	57	54	59	42	45	43	72	82	82	76	69	43	40	35	36	46	49	46	34	38	73	70	57	61	64	75	57	57	....	56.2
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Lisbon §§	Maximum	62	60	59	60	62	54	50	54	81	83	79	68	74	62	57	53	52	64	68	42	52	62	76	65	62	60	60	46	49	52	....	60.9
	Minimum	38	34	28	30	26	38	36	42	32	34	36	38	34	38	34	25	34	38	35	38	37	38	47	42	33	33	28	38	30	28	....	34.7
McKinney	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Maddock	Maximum	67	66	57	57	70	68	64	70	75	81	76	75	63	55	54	51	57	60	63	63	59	58	72	71	57	56	59	53	51	54	....	62.7
	Minimum	28	38	31	27	34	40	39	36	33	42	32	35	38	25	22	19	24	40	37	41	39	41	50	40	32	28	28	31	21	23	....	33.1
Melville	Maximum	70	60	51	56	68	65	62	69	72	81	77	68	68	58	53	48	55	65	66	65	58	60	72	67	57	55	59	49	47	52	....	61.6
	Minimum	28	33	27	25	32	38	42	39	34	42	38	35	42	27	23	23	31	42	33	40	46	42	51	42	33	30	33	33	23	21	....	34.3
Minot §§	Maximum	60	57	47	65	72	68	68	70	73	80	71	68	58	53	53	50	60	63	66	58	53	55	71	62	55	50	63	53	51	54	....	60.9
	Minimum	25	33	33	29	38	38	38	32	36	43	36	32	35	27	23	23	28	28	39	37	43	39	49	41	35	37	37	31	27	21	....	33.8
Mott	Maximum	65	61	65	63	70	68	63	70	75	76	84	70	63	58	42	41	50	57	65	68	66	63	68	70	67	63	44	38	41	40	....	61.1
	Minimum	32	37	37	40	43	36	38	43	42	43	46	44	46	40	36	28	35	30	36	40	47	44	42	40	43	44	36	30	20	19	....	38.0
Napoleon §§	Maximum	76	66	55	62	71	72	70	68	75	82	80	75	68	63	56	39	55	68	67	53	58	58	74	62	62	60	63	50	55	54	....	63.9
	Minimum	27	34	30	28	32	38	41	40	30	35	31	37	39	28	18	22	23	35	32	35	43	43	42	38	29	31	27	30	18	17	....	31.8
New Salem	Maximum	74	67	71	65	65	..	73	69	82	81	85	77	62	50	59	49	54	68	68	69	64	57	74	65	62	59	62	52	57	52	....	[a]65.2
	Minimum	30	30	32	25	41	..	42	41	42	42	42	42	44	33	25	24	30	42	33	36	42	38	44	37	32	30	33	29	24	18	....	[a]34.6
Pembina §§	Maximum	65	58	62	61	60	64	70	62	80	65	68	60	55	54	52	54	62	58	63	45	55	66	66	54	54	57	64	58	58	54	....	60.1
	Minimum	35	40	30	38	33	32	31	28	31	36	40	28	35	25	26	22	20	25	36	37	36	40	45	47	44	30	29	32	34	22	....	32.9
Steele	Maximum	58	57	52	60	62	69	64	67	69	70	80	70	60	48	41	46	48	52	62	64	65	64	70	68	59	55	62	49	52	50	....	59.8
	Minimum	31	34	31	32	38	41	41	40	35	41	39	41	40	30	21	20	33	34	35	42	41	41	44	41	31	31	33	31	21	20	....	34.4
Towner	Maximum	70	69	65	65	68	67	62	71	73	76	78	73	68	65	70	65	63	62	63	60	65	68	70	68	60	55	60	64	48	54	....	65.5
	Minimum	30	27	27	25	36	44	40	40	45	42	40	43	36	25	22	20	36	42	40	40	42	40	40	42	38	31	34	32	26	22	....	34.9
Valley City	Maximum	62	60	55	52	68	82	65	73	78	85	78	66	61	51	54	48	55	63	64	47	48	58	72	62	61	56	59	47	45	53	....	60.9
	Minimum	34	39	25	30	38	35	40	40	40	50	35	35	40	38	22	23	34	43	37	38	37	43	52	42	35	31	34	36	27	26	....	36.0
Wahpeton	Maximum	75	73	69	61	65	73	72	67	76	85	82	80	72	69	57	56	55	62	64	66	60	60	76	75	64	60	64	59	52	55	....	66.8
	Minimum	37	39	31	31	31	30	41	40	41	35	34	37	45	34	24	21	48	46	38	40	40	50	58	47	39	34	32	37	32	30	....	37.4
Westhope	Maximum	61	48	43	45	50	61	62	72	73	75	69	63	63	60	56	54	62	59	65	55	52	62	72	63	65	68	65	54	59	58	....	60.5
	Minimum	31	35	32	35	34	36	40	32	38	38	37	33	33	30	25	23	26	40	37	42	41	38	48	37	31	29	35	28	26	22	....	33.7
Williston	Maximum	69	49	50	64	68	63	61	69	73	75	76	66	52	48	53	41	53	55	60	53	58	54	65	55	52	58	57	48	55	54	....	58.5
	Minimum	30	40	36	36	48	39	43	39	42	44	39	47	34	30	28	32	34	40	35	37	37	44	44	36	35	33	33	31	27	30	....	36.8
Moorhead, Minn	Maximum	70	66	56	54	64	69	65	68	75	84	78	65	62	52	53	49	54	58	63	41	57	62	77	61	62	56	63	48	47	53	....	61.1
	Minimum	36	41	34	30	33	40	44	43	41	43	37	37	43	33	27	27	39	46	39	38	40	51	53	47	40	35	32	38	31	31	....	38.3

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 5-26-28—1000]

NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIV BISMARCK, N. D., MAY, 1925 No. 5

GENERAL SUMMARY

The weather at the opening of the month was too cool for best results, frosts and freezing temperatures being frequent, a condition which prevailed during the first and second decades. Farm work, however, made rapid advancement during this period. Much higher temperature prevailed during the third decade, and spring wheat, oats, barley, speltz and flax made rapid growth. Rain was needed in most sections for the germination of late planted corn and flax, although early planted were up to good stand and color. Pastures, ranges and meadows were in good to excellent condition, although rains would be beneficial Highways were in excellent condition, and more than the usual amount of road construction was under way at the close of the month.

TEMPERATURE

The mean temperature for the State was 53.6°, or 1.0° above the normal, and 6.7° higher than the mean for May, 1924. The highest mean reported was 56.2° at Epping, Williams County; the lowest was 50.0° at Donnybrook, Ward County, and at Hansboro, Towner County. The highest temperature reported was 111° at Westhope, Bottineau County, on the 30th; the lowest was 10° at Hansboro, Towner County, on the 16th. The greatest monthly range of temperature was 97° at Westhope; the least was 66° at Marmarth, Slope County. The greatest daily range was 61° at Bottineau, Bottineau County, on the 11th.

PRECIPITATION

The average precipitation for the State was 1.44 inches, or 1.11 inches below the normal, and 0.65 inch more than the average for May, 1924. The greatest monthly amount reported was 4.85 inches at Finley, Steele County; the least was 0.38 inch at Foxholm, Ward County. The greatest amount recorded in any 24 consecutive hours was 2.50 inches at Amenia, Cass County, on the 22d. The average number of days with 0.01 inch or more of precipitation was 4. Snow fell at a number of stations, the greatest fall being 0.5 inch at Dunseith, Rolette County.

AURORAS

Auroras were observed at Powers Lake on the 13th; at Ellendale on the 25th, and at Fessenden and Grand Forks on the 27th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.99	30.49	16	29.29	31	57	7,514	10.1	48	se.	21
Devils Lake	29.96	30.44	16	29.33	22	44	8,081	10.9	38	n.	30
Ellendale	30.01	30.38	17	29.33	22	56	10,393	14.0	46	s.	22
Grand Forks	29.94	30.35	16	29.29	22†	90	....	......	40	se.	22
Williston	29.95	30.48	16	29.37	21	48	6,257	8.4	32	n.	15
Moorhead, Minn	29.96	30.35	17	29.31	31	58	5,367	7.2	30	ne.	23
Av'ges and extremes	29.97	30.49	16	29.29	22†	.....	....	10.1	48	se.	21

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	342.7	467.3	73	+15	69	38	37	13	19†
Devils Lake	339.8	471.0	72	+15	64	39	40	13	18
Ellendale	340.4	463.8	73	+15	70	39	....	20	20
Grand Forks	....	....	......	......	60	.....	42	.....	....
Williston	324.8	471.0	69	+14	70	38	37	15	19
Moorhead, Minn	364.0	467.3	78	+20	69	43	44	14	6
Averages and extremes	342.3	468.1	73	+16	67	39	40	13	18†

† And other dates.

COMPARATIVE STATE DATA FOR MAY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916	51.0	−1.6	95	7	2.72	+0.23	8	11	11	9	nw.
1917	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921	52.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.
1923	54.1	+1.5	100	13	1.77	−0.78	6	15	10	6	nw.
1924	46.9	−5.7	84	15	0.79	−1.76	5	12	10	9	nw.
1925	53.6	+1.0	111	10	1.44	−1.11	4	17	9	5	nw.

Climatological Data for May, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	50.8	−3.3	89	19	19	6	45	2.73	−0.11	2.50	0	3	20	10	1	n.	E. T. Carley.
Amidon	Slope		12	54.1		94	21	16	16	42	1.35	−1.02	0.46	0	6	18	10	3	s.	Charles Eastgate.
Arnegard	McKenzie		11	55.4		96	21	19	16	47	0.47		0.25	0	3	24	4	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	54.2	+1.5	94	20	23	8	47	0.99	−1.47	0.30	0	5	22	6	3	nw.	R. C. Miles.
Beach	Golden Valley	2,579	20	54.4	+4.3	95	21	22	7	50	1.19	−1.62	0.63	0	4					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	54.4	+0.7	92	29†	18	16	50	0.88	−1.58	0.30	0	4	21	8	2	s.	C. L. Hall.
Bismarck	Burleigh	1,674	51	55.6	+1.1	96	30	22	16	45	1.14	−1.36	0.50	0	5	24	3	4	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	55.6	+4.3	110	30	19	16	61	1.26	−0.78	0.44	0	6	19	5	7	nw.	E. C. Evenson.
Bowman	Bowman	2,961	12	54.6		93	30	22	10†	43	1.38		0.30	0	7	18	10	3	nw.	R. Love, Jr.
Cando	Towner	1,488	25	50.6^{c}	−0.9	89^{c}	19	19^{c}	16	55^{c}	1.33	−1.07	0.97	0	3				ne.	A. J. Swanson.
Carson	Grant	2,500	14	54.1	+1.8	94	20†	16	16	46	2.73	+0.09	0.95	0	6	17	11	3	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20								3.51	+1.30	2.20	0	4	16	10	5	nw.	S. Friswold.
Crosby	Divide	1,954	19	54.2	+3.8	93	21†	23	7	46	1.40	−0.60	0.48	0	5	15	10	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	52.6	−0.1	96	30	18	16	40	1.27	−0.93	0.80	0.1	5	17	9	5	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	53.9	+1.7	95	21†	20	1†	47	0.89	−1.54	0.40	0	6	19	6	6	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	27	50.0	−0.1	94	21	14	11†	54	0.68	−1.56	0.51	T.	3	16	7	8	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	51.8^{1}	−1.5	95^{b}	21	15^{b}	16	55^{b}	0.98	−1.56	0.40	0	5				se.	W. H. Moede.
Dunseith	Rolette	1,682	30	55.6	+3.7	94	30	20	16	47	1.92	+0.22	0.90	0.5	4	9	14	8	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	53.4	+2.8	96	30	12	16	48	0.88	−1.30	0.56	T.	5	1	24	6	n.	C. E. Strock.
Edgeley	LaMoure	1,468	25	53.6	+0.1	96	30	20	6	41	0.55	−2.12	0.27	0	3	5	18	8	n.	O. A. Thompson.
Ellendale	Dickey	1,449	27	53.6	−2.1	95	30	24	17	45	0.71	−2.30	0.28	T.	7	12	13	6	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	55.2		98	30	17	16	49	1.00	−1.20	0.35	0	7	12	16	3	n.	H. S. Solenberger.
Epping	Williams	2,224	18	56.2		106	30	18	16	60	0.96	−1.35	0.31	0	5	29	2	0	nw.	A. O. Wang.
Fessenden	Wells	1,610	14	53.9	+2.4	100	30	17	16	52	1.16	−1.12	0.60	0	5	19	5	7	se.	T. D. Monsen.
Finley	Steele	1,461	2	52.4		93	30	25	6†	38	4.85		1.79	T.	6	21	6	4	nw.	G. J. Mustad.
Forman	Sargent	1,249	32								1.42	−1.56	0.97	0	5	18	8	5	n.	O. Enger.
Foxholm	Ward	1,657	5	53.8		92	21	18	16	40	0.38		0.38	T.	1	15	7	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								1.01		0.57	0	5	17	12	2	se.	Verne King.
Fullerton	Dickey	1,439	28	54.7	+1.4	97	30	23	6	50	1.96	−1.28	0.93	0.2	6	25	3	3	s.	F. O. Alin.
Garrison	McLean	1,901	31	54.0	+1.4	94	30	15	16	44	0.74	−1.43	0.34	0	5	17	10	4	se.	Wm. H. Robinson.
Grafton	Walsh	827	34	53.2	+0.3	98	30	17	17	58	1.44	−0.67	1.10	0	4	23	3	5	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	52.2	−1.2	93	22	22	6	43	2.77	+0.23	1.43	T.	5	25	2	4	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19																	W. A. Christianson.
Hannah	Cavalier	1,568	32								1.80	−0.30	1.10	T.	3					J. Moffatt.
Hansboro	Towner	1,597	18	50.0	−0.3	93	30	10	16	53	2.00	−0.08	0.80	0	5	13	13	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19																	C. J. Downey.
Hillsboro	Traill	901	20	53.9	+0.7	93	30	24	6	45	2.20	−1.32	1.80	0	4	17	12	2	n.	F. E. Mayall.
Howard‡‡	Williams	2,275	19	51.6	+2.2	92	21†	20	10	43	0.64	−1.54	0.22	T.	4	11	11	9	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	53.8	+0.3	96	29	24	16	54	0.92	−1.77	0.37	0	5	19	0	12	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	53.4^{a}	+2.7	96^{a}	30	18^{a}	16	52^{a}	1.49	−0.87	1.24	T.	3	26	2	3	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	30	52.2	+1.4	95	29†	22	16	59	0.83	−1.42	0.45	0	2	25	4	2	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	53.0	+0.6	96	19†	20	6	51	1.73	−0.74	1.00	0	4	19	4	8	n.	Reuben Gray.
Linton	Emmons	1,711	8			87	20				1.04		0.39	0	7	15	7	9	n.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	53.4	+0.5	95	30†	20	17	46	1.38	−1.81	0.90	0	5	22	5	4		W. S. Adams.
McClusky	Sheridan	1,943	8	51.2		96	30	16	17	53	1.28		0.90	T.	3	23	4	4	nw.	Edw. Tapley.
McHenry	Foster	1,509	15																	F. D. Cannon.
McKinney‡‡	Renville	1,640	32	53.0	+1.0	90	21†	12	16	52	0.40	−1.55	0.40	0	1	13	11	7	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	55.4	+1.3	94	19	20	6	52	1.92	−1.86	1.51	T.	4	20	8	3	sw.	J. G. Carlson.
Maddock	Benson	1,604	10	53.3		96	30	13	16	46	1.06	−0.97	0.63	0	3	11	16	4	nw.	A. T. Felland.
Mandan	Morton	1,644	12	54.7	+0.8	97	30	23	16	47	1.18	−1.32	0.22	0	10	18	5	8	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	53.2	+1.6	95	30	17	16	47	1.10	−1.26	0.75	0	3	20	8	3	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	52.0^{b}	+2.0	90^{b}	19†	24^{b}	5†	39^{b}	3.01	+0.73	2.10	0	7	9	11	11		S. P. Grane.
Mayville	Traill	975	30	54.4	−0.1	96	31	18	6	55	2.27	−0.70	1.75	0	3	21	6	4	n.	R. Peterson.
Melville	Foster	1,590	28	52.2^{h}	−0.3	96^{h}	30	21^{h}	6	40^{h}	0.72	−1.95	0.20	T.	4				sw.	J. P. Kidder.
Minot	Ward	1,557	30	55.2	+2.9	93	21†	18	16	47	0.57	−1.40	0.35	0	4	20	6	5	e.	W. I. Faris.
Minto	Walsh	820	33	52.6	−0.8	96	30	16	17	55	1.75	−0.59	1.52	T.	5	16	11	4	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	55.4	+3.8	93	30	21	1	37	1.47	−0.89	0.71	0	4	11	9	11	se.	O. H. Opland.
Napoleon	Logan	1,955	34	52.2	−0.2	95	30	19	8	47	0.87	−1.53	0.34	0	7	17	5	9	sw.	C. J. Hoof.
New England	Hettinger	2,400	32	55.8	+4.2	96	30	16	16	46	1.41	−0.74	0.50	0	6	10	12	9	w.	W. S. Jones.
New Salem	Morton	2,163	22	55.6	+4.3	99	30	16	16	45	1.15	−1.22	0.75	0	5	19	10	2	n.	I. Christiansen.
Park River	Walsh	998	22																	C. B. Wright.
Parshall	Mountrail		11								1.56		1.09	0	5					J. A. Johnson.
Pembina	Pembina	789	52	51.6	−0.9	93	30	19	9	53	3.00	−0.78	2.10	0	3	20	7	4	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	51.6	+1.1	94	30	15	5	49	0.95	−1.90	0.35	0	4	17	8	6	nw.	S. C. Shanks.
Power	Richland	1,020	32								1.98	−0.91	1.89	0.1	6	19	10	2	n.	Frank B. Power.
Powers Lake	Burke	2,205	12								2.34	+0.54	0.60	0	6	18	8	5	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	55.6		98	30	19	16	44	0.85		0.30	0	5	9	18	4	nw.	John Muggli.
Sharon	Steele	1,516	1								2.82		1.64	0	5	16	10	5	n.	Nels O. Gretsheim.
Stanton	Mercer	1,722	2								0.75		0.47	0	2	18	6	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	52.6	−1.2	96	30	21	16	44	1.52	−0.97	0.65	0	4	13	13	5	nw.	H. S. Wood.
Towner	McHenry	1,482	24	55.5	+3.2	99	30	18	16	47	1.25	−1.07	0.75	0	2	21	6	4	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	54.0		98	21	16	16	45	1.05	−1.22	0.78	0	3	15	13	3	s.	A. T. Anderson.
Valley City	Barnes	1,245	21	53.2	+0.6	94	30	21	6	41	0.67	−2.46	0.55	T.	2	20	7	4	nw.	H. Twito.
Wahpeton	Richland	962	32	55.1	−0.2	95	30	21	17	46	1.35	−1.46	1.00	0	4	21	0	10	se.	C. G. Luick.
Washburn	McLean	1,731	25								1.33	−1.05	0.64	0	6					Karl Klein.
Westhope	Bottineau	1,508	20	54.2^{d}	+2.8	111^{c}	30	14^{e}	15	53^{e}	0.72	−1.32	0.60	0	2	22	6	3	n.	W. A. Meddaugh.
Williston	Williams	1,878	47	54.9	+0.9	94	21	23	16	47	2.12	−0.14	1.18	0	6	14	12	5	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	52.4	+0.9	93	30	16	16	53	1.58	−0.34	0.96	T.	3	20	8	3	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	53.2	−1.9	94	30	25	6	47	1.98	−0.97	1.89	0	4	20	7	4	n.	U. S. Weather Bureau.
Averages				53.6	+1.0	111	30	10	16	61	1.44	−1.11	2.50	T.	4	17	9	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for May, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red																.20						T	2.50	.03			T.					2.73
Amidon	Lit. Missouri			.13			T.		.15							.01				T.		.45	.15				.46						1.35
Arnegard	Missouri			.12												T.				T.				.10			.25				T	T.	0.47
Ashley	Missouri			.17												.15							.30	.07			.30						0.99
Beach	Lit. Missouri															.83				T.		T.	.04				.37					.15	1.19
Berthold Agency	Missouri																						.30	.30	.10		.18				T.		0.88
Bismarck ***	Missouri			.10	.01				T.							.35						T.	T.	.18			.50					T.	1.14
Bottineau ‖	Mouse															.02								.27	.26		.05	.44				.22	1.26
Bowman	Grand			.04					.25						T	.30							.30			.18	.29				.02		1.38
Cando	Devils Lake																							.97			.19	.17					1.33
Carson	Heart			.16												.55						.95	.20	.15			.72						2.73
Cooperstown	Sheyenne															.45								.76			.10					2.20	3.51
Crosby	Mouse			T.	T.									.46										.48			.36				.05	.05	1.40
Devils Lake ***	Devils Lake					T.										.02						T.	.17	.63			.20					.25	1.27
Dickinson ‖	Heart			.06	T.	T.										.02	T.						.40	.16	.02		.23	T.					0.89
Donnybrook	Mouse														.12									.51			.05						0.68
Dunn Center ‖	Knife															.10							.20	.40	.04		.24						0.98
Dunseith	Mouse					.05																		.65			.90				.32		1.92
Eckman	Mouse				.09											.03							T.	.56			.03				.17	T.	0.88
Edgeley	James																.27							.21			.07						0.55
Ellendale***	James		T.	.06	T.						T.					.09						.19	.09	.12			.12					.04	0.71
Energy	Missouri			.02	.25											.03						T.	.02	.25	.08		.35						1.00
Epping	Missouri		T.	.16												.03						T.		.31			.30				.16		0.96
Fessenden ‖	James																.08							.07	.34			.60				.07	1.16
Finley	Red					T.										.39							1.78	.80			.04	.05				1.79	4.85
Forman	Sheyenne																.07						.97	.23	.03							.12	1.42
Foxholm	Mouse				T.											T.							T.	.38			T.				T.		0.38
Fryburg	Heart			.06					T.							.20				T.			.09	.09			.57				T.		1.01
Fullerton	James			T.	T.						.02					.15							.51	.22			.13					.93	1.96
Garrison	Missouri				.06																		.04	.34			.24				.06		0.74
Grafton	Red																						.03	1.10			.05	.26					1.44
Grand Forks ***	Red					T.				T.	T.					.77						T.	1.43	.46			.04	.07					2.77
Granville	Mouse																																
Hannah	Pembina					T.										.07							1.10		T.		.63						1.80
Hansboro	Devils Lake															T.								.80			.65	.35		.10		.10	2.00
Hettinger	Grand																																
Hillsboro	Red		.04													.26							T.	1.80				.10					2.20
Howard	Missouri	T.	T.	.06	T.		T.								T.	.18						T.	T.	.18		T.	.22						0.64
Jamestown ‖	James *																.29						.01	.07	.37			.18					0.92
Lamoine	Missouri				T											.12								.13			1.24					T	1.49
Langdon ‖	Pembina																							.38				.45					0.83
Larimore	Red																.50							1.00				.08				.15	1.73
Linton	Missouri			.15	.01											.29							.11	.07	.02		.39						1.04
Lisbon ‖	Sheyenne															T.	.20						.05	.90	.20			.03					1.38
McClusky	Missouri					T.										.11						T.	T.	.27			.90						1.28
McHenry	James																																
McKinney	Mouse				T.											T.								.40			T.				T.	T.	0.40
McLeod	Sheyenne		T.			T.											.14						.06		1.51	.21							1.92
Maddock	Sheyenne															T.							T.	.33			.63	.10					1.06
Mandan ‖	Missouri			.02	.13	.04										.15	.09							.03	.15		.22	.17				.18	1.18
Manfred	James															.09								.26			.75					T.	1.10
Marmarth	Lit. Missouri			.05					.22	T.					.35							.10	.05			.14					T.	2.10	3.01
Mayville	Red															.32								1.75				.20					2.27
Melville	James			T.	T.	T.										.20							T.	.20			.12					.20	0.72
Minot ‖	Mouse					.01																		.06	.35			.15					0.57
Minto	Red					T.										T.							.08	1.52			.01	.10				.04	1.75
Mott	Cannon Ball														.25	.71							.11				.40						1.47
Napoleon ‖	Missouri			.02	.13											.08	.34							.03	.09			.18					0.87
New England	Cannon Ball								T.							T.							.45	T.			.30				.15	.50	1.41
New Salem	Heart			.04	T.											.12							T.	.12	.12		.75						1.15
Park River	Red																																
Parshall	Missouri																						.10	1.09	.02		.25					.10	1.56
Pembina ‖	Red																							2.10				.70	.20				3.00
Pettibone	James															.20							.05	.35			.35					T.	0.95
Power	Sheyenne					.01										.02							.01	1.89	.01		.04						1.98
Powers Lake	Missouri															.10						.35		.60				.58			.30	.41	2.34
Richardton	Heart			.11																			.30	.17	.02		.25						0.85
Sharon	Red															.69							*	1.64			T.	.09				.40	2.42
Stanton	Missouri			T.																	T.	T.		.28			.47						0.75
Steele	Missouri		T		T.											.65					.40		T.	.15	T.		.32	T.			T.		1.52
Towner	Mouse															T.								.50				.75				T.	1.25
Turtle Lake	Missouri																						T.	.25	.02		.78				T.		1.05
Valley City	Sheyenne					T.										.12							T.	.55			T.	T.					0.67
Wahpeton	Red																.13						.10	1.00	.12								1.35
Washburn	Missouri			.16	.07											.32								.12	.64	.02							1.33
Westhope	Mouse																						.60								.12		0.72
Williston ***	Missouri	T.	T.	.21				T.		T.					.06							T.	T.	.18		T.	.33			.16	T.	1.18	2.12
Willow City	Mouse					T.										T.							T.	.53			.96	.09			T.		1.58
Moorhead, Minn ***	Red		T.			T.										.04							1.25	.67			.02						1.98

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for May, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	61	60	58	50	57	57	56	63	70	55	72	74	60	68	55	51	60	80	89	82	83	82	54	53	58	55	50	70	68	85	88	65.8
	Minimum	28	30	34	27	24	19	23	26	36	34	27	37	35	31	38	28	27	35	47	52	41	54	43	33	34	42	42	38	44	54	61	36.4
Arnegard	Maximum	70	69	57	53	55	52	55	62	64	54	73	77	78	76	63	56	74	84	90	89	96	77	60	63	71	59	73	81	93	84	71	70.3
	Minimum	28	45	32	32	33	33	37	33	27	24	27	45	49	52	33	19	27	37	54	55	55	58	37	36	40	47	42	47	57	60	52	40.4
Ashley	Maximum	59	68	55	52	54	63	55	58	64	62	67	76	72	71	66	52	64	75	93	94	93	90	75	54	64	68	65	73	82	93	88	69.8
	Minimum	25	35	35	30	31	26	28	23	40	28	26	46	40	35	36	25	26	28	54	56	48	60	32	36	50	52	39	37	48	60	62	38.6
Beach	Maximum	70	68	59	53	55	60	59	60	58	62	75	76	77	74	70	56	74	84	87	90	95	59	50	62	76	65	76	80	93	85	70	70.8
	Minimum	30	48	36	31	28	28	22	27	23	28	29	43	37	51	41	25	29	34	50	57	49	42	39	34	41	45	38	46	50	60	55	38.5
Berthold Agency	Maximum	62	68	70	60	58	58	54	60	58	60	75	76	75	76	65	55	72	82	82	78	82	82	65	52	50	48	65	82	92	92	72	68.6
	Minimum	28	34	42	38	30	23	29	23	25	26	25	45	33	55	40	18	28	55	55	54	58	62	35	34	34	34	50	47	55	68	65	40.3
Bismarck	Maximum	63	70	56	54	52	58	55	60	66	54	72	78	74	71	59	55	68	84	92	89	93	75	62	60	68	54	70	76	87	96	82	69.5
	Minimum	30	43	42	37	34	29	32	26	39	29	27	48	39	47	31	22	27	41	57	60	58	60	37	37	39	46	44	48	59	66	60	41.7
Bottineau §§	Maximum	60	68	58	57	55	80	54	61	64	55	87	89	71	89	77	54	70	88	92	86	92	89	51	58	68	52	78	89	90	110	90	73.6
	Minimum	28	32	36	36	30	25	25	27	28	33	26	38	40	42	45	19	25	33	44	52	54	51	34	34	36	43	45	44	50	56	53	37.5
Bowman	Maximum	70	68	61	57	57	58	56	55	60	54	75	76	75	67	60	54	70	82	88	90	92	89	63	57	76	58	70	77	91	93	75	69.9
	Minimum	27	42	40	32	25	24	27	35	37	22	32	44	40	48	36	22	28	40	57	52	54	53	39	35	35	47	37	45	50	57	55	39.3
Cando	Maximum	59	67	60	64	56	56	55	62	65	54	72	74	..	76	67	54	52	83	89	84	80	57	62	57	65	57	67	78	86	..	..	[c]66.1
	Minimum	24	37	29	33	21	24	25	24	33	33	27	34	..	35	33	19	21	28	49	52	62	36	41	33	35	42	47	44	51	..	..	[c]31.7
Carson	Maximum	64	66	62	60	55	50	62	62	62	58	64	82	73	82	65	62	68	80	90	94	94	75	60	60	70	60	72	76	89	91	90	70.9
	Minimum	28	34	38	34	24	26	23	26	32	18	30	44	36	38	32	16	26	37	62	52	58	52	32	29	33	40	35	40	50	70	60	37.3
Crosby	Maximum	63	69	64	59	54	55	60	64	58	61	74	78	79	68	41	64	71	85	87	87	93	80	64	62	68	62	78	82	93	80	64	69.9
	Minimum	34	43	42	31	30	31	23	33	26	28	28	44	34	41	30	26	31	39	43	57	59	48	33	38	42	44	38	40	55	58	43	38.6
Devils Lake	Maximum	57	66	56	52	48	53	53	60	64	52	72	74	67	74	57	51	68	83	89	82	86	84	51	56	62	57	64	76	85	96	76	66.8
	Minimum	26	41	34	30	28	24	23	27	34	33	32	41	33	40	27	18	31	44	56	55	48	49	36	32	36	47	47	47	52	61	58	38.4
Dickinson §§	Maximum	62	67	58	55	55	54	55	57	63	54	73	76	75	65	58	54	70	82	90	89	95	69	59	61	72	59	71	79	92	95	74	69.0
	Minimum	20	39	39	31	30	30	26	26	29	23	26	53	34	49	47	20	28	37	51	52	55	59	39	35	37	45	38	40	52	59	54	38.8
Donnybrook	Maximum	50	68	59	51	50	55	54	53	63	55	37	73	70	68	55	55	71	85	89	86	91	86	62	59	68	58	80	83	80	75	73	66.6
	Minimum	17	22	38	36	34	22	20	20	23	28	14	34	35	33	32	14	26	37	35	50	54	55	33	32	32	46	42	40	42	42	45	33.4
Dunn Center §§	Maximum	57	66	59	54	54	51	56	60	64	54	74	77	75	70	57	54	..	..	88	89	95	70	54	60	71	57	72	78	91	94	75	[b]68.1
	Minimum	23	35	38	33	29	24	27	20	27	22	19	33	32	41	49	15	19	..	..	55	54	54	36	34	35	41	34	38	50	58	52	[b]35.5
Dunseith	Maximum	63	63	64	70	68	68	70	65	63	52	61	70	68	74	77	52	70	87	86	82	86	81	55	59	67	68	69	77	86	91	72	70.5
	Minimum	33	36	35	36	26	38	39	30	22	31	38	40	42	50	50	20	28	40	50	57	55	51	32	32	36	46	44	54	52	60	58	40.7
Edgeley	Maximum	57	71	65	57	50	59	57	59	66	62	69	76	72	73	66	53	66	78	92	92	90	88	69	68	63	62	67	75	86	96	92	70.8
	Minimum	25	35	32	28	24	20	25	22	35	25	25	42	31	33	35	24	23	39	53	54	45	59	38	50	30	40	44	37	43	54	62	36.5
Ellendale	Maximum	57	70	57	53	46	58	55	58	64	55	68	76	69	72	67	52	63	74	90	90	90	85	62	55	62	64	61	73	84	95	90	68.4
	Minimum	32	33	37	31	28	25	28	26	38	29	27	47	38	36	32	27	24	32	45	56	48	62	39	39	33	44	45	41	46	63	68	38.7
Fessenden §§	Maximum	61	67	57	55	50	59	60	65	70	60	75	80	75	77	62	61	71	88	92	87	97	85	50	70	71	52	70	78	87	100	81	71.4
	Minimum	22	35	32	34	30	20	21	20	24	27	26	37	31	37	52	17	19	41	53	51	45	62	36	32	32	45	45	14	44	61	52	36.4
Foxholm	Maximum	63	68	63	52	52	54	54	53	64	53	71	74	71	75	68	51	68	81	87	84	92	89	62	57	66	59	70	78	90	91	74	68.8
	Minimum	24	43	36	38	30	26	23	23	38	28	33	37	31	41	35	18	31	43	58	55	56	58	32	34	34	45	42	49	57	58	50	38.9
Fullerton	Maximum	68	70	60	55	48	58	55	62	66	57	70	77	69	76	67	53	67	78	93	92	90	87	68	57	65	65	66	75	88	97	94	70.7
	Minimum	29	32	36	30	30	23	29	25	43	27	30	47	37	37	35	26	24	33	43	59	48	62	40	43	34	43	45	40	44	59	67	38.7
Garrison	Maximum	62	68	60	54	53	55	55	63	66	55	73	76	75	73	59	55	72	85	89	87	89	79	64	62	70	57	72	77	84	94	78	69.7
	Minimum	24	39	40	36	32	26	26	23	31	24	30	41	32	44	38	15	28	42	55	53	52	58	33	31	35	45	41	45	53	64	52	38.4
Grafton	Maximum	60	70	61	52	49	55	56	64	69	54	73	75	70	76	70	53	70	84	94	83	84	90	67	57	63	65	65	78	84	98	89	70.3
	Minimum	26	32	35	30	28	21	27	24	32	32	25	36	34	33	33	24	17	44	56	56	26	62	37	32	30	42	49	38	47	57	56	36.2
Grand Forks	Maximum	60	70	58	47	51	54	56	63	75	52	72	79	65	73	53	51	66	80	91	77	83	93	53	54	60	63	59	73	80	92	83	67.3
	Minimum	26	32	33	28	26	22	24	25	34	29	30	42	31	32	32	29	25	44	52	55	45	50	38	34	36	43	47	38	47	58	61	37.0
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Hansboro	Maximum	60	68	60	57	50	53	54	64	55	58	70	69	68	78	70	53	75	86	90	85	85	83	70	58	65	58	70	79	83	93	83	69.4
	Minimum	18	38	26	18	24	14	17	15	25	22	24	28	22	28	24	10	35	45	50	52	40	50	30	25	25	35	42	43	50	40	40	30.7
Hettinger	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Hillsboro	Maximum	63	68	62	52	48	54	55	61	68	56	71	78	73	73	69	51	66	79	92	88	83	92	72	55	62	63	62	74	81	93	90	69.5
	Minimum	29	33	36	29	29	24	27	28	40	30	31	41	35	33	33	30	25	41	47	54	47	60	39	34	35	42	50	40	46	58	62	38.3
Howard	Maximum	57	66	61	52	54	51	54	58	57	53	70	72	74	79	44	55	68	81	86	85	92	68	54	60	66	59	73	80	92	74	72	66.7
	Minimum	25	33	40	30	26	24	31	24	30	20	30	37	36	40	39	21	32	38	46	50	52	54	34	33	37	47	36	46	55	48	48	36.5
Jamestown §§	Maximum	70	68	51	56	69	70	71	67	54	70	76	75	70	58	51	62	79	80	88	88	87	50	68	56	61	64	81	87	96	91	71	70.5
	Minimum	26	32	37	35	34	26	32	35	31	30	29	38	37	34	35	24	25	30	39	47	46	50	47	36	35	37	46	37	44	53	60	37.0
Lamoine	Maximum	..	67	65	63	48	56	58	60	65	68	71	76	71	75	64	52	66	82	87	87	87	75	65	57	85	84	66	76	84	96	87	[a]71.4
	Minimum	..	20	30	28	28	23	24	25	32	20	28	41	36	36	35	18	24	37	53	50	55	50	35	34	36	32	45	41	45	55	50	[a]35.5
Langdon §§	Maximum	65	56	49	66	55	68	62	64	51	69	68	64	72	62	60	68	83	88	78	81	82	55	55	64	57	61	77	83	95	73	95	68.6
	Minimum	27	36	32	24	25	32	25	32	30	25	25	37	31	37	41	22	24	35	37	54	47	55	34	30	31	36	46	40	48	58	57	35.9
Larimore §§	Maximum	69	65	50	48	52	55	62	65	55	73	78	68	75	60	53	68	83	96	80	84	90	50	56	63	61	62	77	82	96	87	82	69.1
	Minimum	23	32	30	26	25	20	24	23	35	24	30	40	34	34	45	24	25	45	56	58	45	50	40	40	31	38	48	41	47	58	57	37.0
Linton	Maximum	63	72	57	46	43	44	49	52	57	54	60	64	58	56	43	39	50	72	83	87	86	73	59	50	55	53	56	64	76	76	74	60.4
	Minimum	58	60	44	40	39	39	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Lisbon §§	Maximum	52	72	60	59	42	59	56	63	67	64	72	79	69	75	64	52	64	79	92	91	88	91	57	55	63	62	62	78	87	95	95	69.8
	Minimum	30	29	34	28	25	21	24	26	39	24	30	49	37	34	47	28	20	34	48	48	42	57	32	36	33	43	47	35	43	58	67	37.0
McKinney	Maximum	64	68	60	55	50	50	55	65	58	50	75	75	74	76	65	57	68	84	87	85	90	80	65	66	65	65	80	80	90	84	84	69.8
	Minimum	18	40	40	38	34	24	20	20	38	20	30	30	30	32	32	12	26	32	55	52	50	60	34	34	36	40	43	46	54	54	50	36.3
Maddock	Maximum	59	68	66	56	53	56	55	60	58	57	73	77	72	75	74	54	68	83	91	85	88	87	70	58	65	65	67	76	85	96	93	70.6
	Minimum	22	38	28	29	29	20	19	20	35	37	30	37	31	35	35	13	22	38	53	53	44	50	35	31	32	45	47	45	50	57	56	36.0
Melville	Maximum	57	66	63	53	50	55	53	61	66	55	70	75	70	72	68	51	65	78	88	86	86	82	68	54	62	55	..	..	85	96	88	[b]68.2
	Minimum	24	37	37	28	28	21	22	25	35	30	31	40	30	37	32	22	28	42	56	46	47	60	35	33	32	42	..	..	45	52	54	[b]36.2
Minot §§	Maximum	65	70	60	53	54	58	58	63	63	53	77	77	76	77	60	57	73	83	89	83	93	83	63	60	70	60	76	81	93	78	78	70.5
	Minimum	25	44	38	39	31	24	22	23	38	28	31	36	32	46	53	18	29	36	55	55	59	62	35	36	35	46	44	49	52	64	50	39.8
Mott	Maximum	57	59	57	48	54	58	60	67	62	65	62	66	75	56	61	45	61	70	78	91	92	79	41	68	78	71	80	86	92	93	79	68.2
	Minimum	21	38	35	37	30	27	25	31	40	34	32	36	43	39	39	23	36	41	48	57	65	42	35	41	50	50	56	61	68	70	66	42.5
Napoleon §§	Maximum	62	70	55	53	48	60	58	63	67	55	70	78	74	74	53	52	67	79	90	89	93	82	43	62	65	56	68	76	86	96	81	68.5
	Minimum	24	34	35	29	25	20	25	19	35	20	24	41	30	39	48	20	20	38	52	51	52	55	40	33	29	43	38	34	47	55	54	35.8
New Salem	Maximum	52	69	56	57	52	59	58	63	67	69	72	80	75	75	57	57	69	84	93	91	92	93	75	62	71	59	70	77	90	99	82	71.8
	Minimum	24	42	42	35	31	28	25	25	31	24	28	40	35	45	35	16	28	45	55	60	51	57	60	35	35	45	40	44	49	58	54	39.4
Pembina §§	Maximum	64	68	70	46	49	54	55	64	65	52	72	70	68	75	52	51	72	86	91	80	85	86	58	56	68	63	64	76	83	93	74	68.1
	Minimum	22	22	40	30	34	28	24	21	19	36	30	35	32	33	37	21	25	34	38	56	40	44	58	32	33	36	43	42	48	53	62	35.1
Steele	Maximum	51	66	55	55	49	56	52	55	64	51	70	79	72	71	44	49	55	78	89	93	73	78	56	57	61	54	67	82	86	96	80	65.9
	Minimum	31	36	39	39	37	25	29	31	25	22	25	36	34	41	35	21	41	34	54	55	46	56	35	35	39	34	43	49	64	64	64	35.4
Towner	Maximum	65	68	65	52	54	68	65	67	68	68	72	78	75	68	66	50	75	78	88	82	86	84	78	68	69	68	70	85	90	99	87	72.8
	Minimum	40	48	31	36	30	21	20	27	22	29	28	40	38	36	38	18	28	38	54	56	56	46	40	38	42	40	45	56	54	48	42	38.2
Valley City	Maximum	55	68	58	52	46	55	53	59	66	53	70	78	69	72	61	49	65	78	91	89	84	89	66	55	59	59	60	79	88	94	88	67.8
	Minimum	30	36	32	24	22	21	22	23	38	28	29	48	40	36	30	34	25	41	54	49	47	60	38	30	35	43	48	49	66	55	67	38.5
Wahpeton	Maximum	60	73	69	61	53	63	58	60	65	64	72	78	76	70	73	55	65	78	93	92	86	89	86	58	63	67	63	74	83	95	93	71.9
	Minimum	25	34	35	30	27	23	23	25	40	31	27	48	39	38	43	32	21	38	48	52	48	60	40	34	35	45	45	37	47	50	68	38.3
Westhope	Maximum	65	69	63	57	54	58	58	65	60	..	74	73	75	90	59	71	74	85	89	84	92	80	60	67	70	57	78	..	..	111	94	[c]72.6
	Minimum	26	35	32	36	30	23	23	25	37	..	28	36	30	41	14	..	25	35	52	50	50	..	32	31	37	42	47	..	..	58	59	[c]35.9
Williston	Maximum	70	67	60	63	55	51	54	60	61	55	73	75	76	76	56	56	71	83	87	87	94	71	48	62	69	60	73	80	92	79	68	68.5
	Minimum	37	41	42	36	36	27	37	27	31	27	33	46	44	53	30	23	32	36	52	54	61	48	38	37	44	45	41	53	60	56	52	41.3
Moorhead, Minn	Maximum	57	70	58	47	44	54	54	60	65	52	70	78	66	69	63	51	64	77	93	84	86	87	60	52	59	63	59	72	81	94	90	67.0
	Minimum	32	33	38	30	28	25	27	28	36	30	31	46	41	36	33	30	28	41	46	50	52	60	39	36	38	46	47	38	49	62	65	39.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 6-22-28 – 1000]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIV BISMARCK, N. D., JUNE, 1925 No. 6

GENERAL SUMMARY

The month opened with light to heavy beneficial rains in all parts of the State, and with the exception of the 9th, this condition obtained until the 18th. Scattered showers also occurred during the period 22d-26th. The average rainfall for the month was, with but two exceptions, the heaviest of record for the State. The precipitation was well distributed geographically, and all sections reported precipitation in excess of the normal. In many parts of the State droughty conditions prevailed at the opening of the month, but these were all relieved by the copious rains. Crops of all kinds made rapid growth, and at the close of the month presented an outlook for yields above the normal. Heavy rains, however, damaged crops considerably in the extreme eastern portion of the State, where much ground was under water. Some losses from hail were reported, but in no instance was the area large. Pastures, ranges, meadows and livestock were excellent at the close of the month.

TEMPERATURE

The mean temperature for the State was 61.5°, or 1.3° below the normal, and 2.9° higher than the mean for June, 1924. The highest mean reported was 65.4° at McLeod, Ransom County; the lowest was 57.6° at Hansboro, Towner County. The highest temperature reported was 98° at New Salem, Morton County, on the 21st; the lowest was 30° at Hansboro, Towner County, on the 27th. The greatest monthly range of temperature was 64° at Epping, Williams County; the least was 44° at Linton, Emmons County. The greatest daily range was 51° at Epping, Williams County, on the 20th.

PRECIPITATION

The average precipitation for the State was 6.07 inches, or 2.57 inches above the normal, and 1.90 inches more than the average for June, 1924. The greatest monthly amount reported was 12.97 inches at Fullerton, Dickey County; the least was 3.37 inches at New England, Hettinger County. The greatest amount recorded in any 24 consecutive hours was 3.57 inches at Ellendale on the 22-23d. The average number of days with 0.01 inch or more of precipitation was 14.

AURORAS

Auroras were observed at New England on the 11th; at Ellendale and Howard on the 12th; at Ellendale and Donnybrook on the 13th; at Ellendale on the 17th; at Sharon on the 22d; at Fessenden on the 24th; at Ellendale on the 25th; at Arnegard and Donnybrook on the 27th, and at Howard on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.89	30.24	29	29.35	1	57	7,502	10.4	36	n.	7
Devils Lake	29.84	30.24	29	29.26	1	44	7,169	10.0	40	nw.	18
Ellendale	29.88	30.31	29	29.23	8	56	8,967	12.5	57	e.	11
Grand Forks	29.82	30.27	29	29.14	1	90	......	......	26	nw.	9
Williston	29.85	30.24	24	29.41	12	48	7,276	10.1	34	se.	10
Moorhead, Minn	29.83	30.29	29	29.25	1	58	5,177	7.2	28	nw.	8
Av'ges and extremes	29.85	30.31	29	29.14	1	.....	....	10.0	57	e.	11

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p.c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	296.2	475.1	62	0	82	59	54	32	27
Devils Lake	263.9	478.7	55	−5	83	65	68	38	20
Ellendale	268.9	470.9	57	−4	86	65	....	40	20
Grand Forks	......	......	......	......	80	.....	73	.....	....
Williston	299.8	478.7	63	+2	86	53	53	24	9
Moorhead, Minn	275.7	475.7	55	−8	80	62	69	32	27
Averages and extremes	280.9	475.8	58	−3	83	61	63	24	9

† And other dates.

COMPARATIVE STATE DATA FOR JUNE

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P.cdy days	Cl'dy days	Wind Dir.
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.
1922	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.
1923	66.1	+3.3	100	30	3.82	+0.32	8	13	12	5	se.
1924	58.6	−4.2	89	26	4.17	+0.67	11	10	12	8	nw.
1925	61.5	−1.3	98	30	6.07	+2.57	14	11	10	9	nw.

Climatological Data for June, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	60.4	−3.1	83	20	36	10	32	7.63	+3.76	1.88	0	19	9	19	2	se.	E. T. Carley.
Amidon	Slope	....	12	61.6	....	93	20	35	9	34	6.04	+3.07	2.05	0	10	17	8	5	w.	Charles Eastgate.
Arnegard	McKenzie	....	11	61.8^a	....	92^a	20	37^a	9	40^a	5.51	....	2.04	0	15	16	8	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	62.2	+0.2	90	1	41	27	32	10.84	+7.35	2.03	0	13	14	7	9	nw.	R. C. Miles.
Beach	Golden Valley	2,579	20	61.8	+0.7	96	19†	34	9	45	4.12	+0.64	1.38	0	14	....	....	....	....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	61.0	−1.6	90	20	38	9	....	7.98	+4.10	3.50	0	13	16	8	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	63.2	−0.5	89	31	43	9	34	6.82	+3.28	3.10	0	12	14	10	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	62.1^b	+1.1	89^a	3	35^a	27	44^a	4.21	+1.07	1.10	0	13	10	6	14	nw.	E. C. Evenson.
Bowman	Bowman	2,961	12	61.4	....	91	20	34	9	38	5.77	....	1.36	0	13	17	8	5	nw.	R. Love, Jr.
Cando	Towner	1,488	25	60.8^b	−0.4	87^b	30	37^b	9†	33^b	4.79	+0.91	0.93	0	14	....	....	....	nw.	A. J. Swanson.
Carson	Grant	2,500	14	59.2	−3.8	89	21†	34	9	37	9.35	+5.48	2.00	0	12	14	12	4	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	....	....	....	....	....	....	....	6.27	+2.63	1.50	0	12	12	12	6	nw.	S. Friswold.
Crosby	Divide	1,954	19	58.8	−1.8	83	29	36	5	35	3.92	+0.57	1.49	0	8	9	13	8	ne.	John Jensen.
Devils Lake	Ramsey	1,478	29	60.8	−1.8	86	30	39	10	29	4.48	+0.95	1.73	0	18	8	12	10	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	61.4	+0.1	92	20	36	9	43	4.31	+1.27	1.05	0	14	11	4	15	w.	Leroy Moomaw.
Donnybrook	Ward	1,760	27	60.4	−0.1	88	20	38	27	37	4.79	+1.93	1.10	0	14	10	9	11	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	60.1	−1.8	94	20	35	9	50	4.46	+0.16	1.12	0	8	12	6	12	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	59.4	−1.8	86	20†	34	27	35	4.33	+1.37	0.87	0	15	6	15	9	e.	J. G. Lamont.
Eckman	Bottineau	1,500	21	61.2	−0.1	88	19	40	10†	37	5.28	+2.52	1.41	0	16	0	20	10	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	62.4	−0.4	89	1	38	27	36	8.03	+4.67	2.22	0	12	3	15	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	62.3	−3.7	86	21	41	10	29	11.81	+8.81	3.57	0	13	5	9	16	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	62.2	....	89	19	42	9	38	6.88	+3.27	2.30	0	10	8	19	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	64.6	....	96	20	32	10	51	4.93	+1.59	3.30	0	12	11	7	12	se.	A. O. Wang.
Fessenden	Wells	1,610	14	62.4	+1.4	92	30	39	10	39	5.43	+1.38	2.25	0	16	10	8	12	nw.	T. D. Monsen.
Finley	Steele	1,461	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	G. J. Mustad.
Forman	Sargent	1,249	32	....	....	....	....	....	....	....	8.44	+4.83	1.60	0	15	....	....	....	sw.	O. Enger.
Foxholm	Ward	1,657	5	60.5	....	86	20	38	10	33	4.42	....	1.12	0	14	5	16	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	....	....	....	....	....	....	....	4.11	....	0.81	0	16	12	12	6	nw.	Verne King.
Fullerton	Dickey	1,439	28	63.3	+0.6	90	21	42	11†	31	12.97	+9.69	3.00	0	14	13	8	9	nw.	F. O. Alin.
Garrison	McLean	1,901	31	61.0	+1.2	87	20	38	9	36	6.76	+3.44	2.17	0	13	9	14	7	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	61.5	−1.0	82	1†	33	10	32	7.76	+4.52	1.83	0	21	13	6	11	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	62.0	−0.9	85	21	34	10	28	9.52	+6.13	1.62	0	21	9	11	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	61.4	−1.7	87	19	42	9†	35	4.52	+1.77	1.15	0	11	8	16	6	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	....	....	....	....	....	....	....	4.44	+1.00	1.67	0	11	....	....	....	....	J. Moffatt.
Hansboro	Towner	1,597	18	57.6	−2.8	90	30	30	27	50	5.27	+2.58	1.10	0	17	4	18	8	s.	C. E. Blackorby.
Hettinger	Adams	2,675	19	60.1^a	−2.0	92^a	20	34^a	10†	42^a	6.10	+2.86	2.25	0	10	13	5	12	nw.	C. J. Downey.
Hillsboro	Traill	901	20	63.6	−0.8	89	1	38	10	27	8.75	+5.40	1.34	0	23	8	15	7	nw.	F. E. Mayall.
Howard‡‡	Williams	2,275	19	58.2	−1.5	87	20	33	9	37	4.02	+1.43	1.73	0	13	6	16	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	62.0	−1.1	88	29	42	6	43	6.03	+2.25	1.17	0	17	11	5	14	n.	S. Calvelage.
Lamoine	Kidder	1,936	21	60.6	+0.1	86	30	38	10	35	4.29	+0.97	1.05	0	11	15	7	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	58.8	−0.9	83	30	34	3	36	4.44	+0.94	1.30	0	15	16	7	7	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	61.8	−0.3	87	19	34	10	36	9.41	+5.91	2.20	0	18	11	3	16	s.	Reuben Gray.
Linton	Emmons	1,711	8	58.0	....	85	21†	41	9†	41	6.18	....	1.80	0	12	14	8	8	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	61.6	−1.5	94	1	34	10	40	6.38	+2.09	1.32	0	15	18	5	7	....	W. S. Adams.
McClusky	Sheridan	1,943	8	60.1	....	85	18	40	9†	34	4.43	....	1.35	0	13	17	6	7	se.	Edw. Tapley.
McHenry	Foster	1,509	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	F. D. Cannon.
McKinney‡‡	Renville	1,640	32	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	N. P. Swenson.
McLeod	Ransom	1,075	14	65.4	+0.4	93	1	39	27	39	8.00	+3.80	1.74	0	12	11	5	14	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	61.0	....	87	21†	40	10†	34	5.28	+2.08	1.45	0	16	2	19	9	nw.	A. T. Felland.
Mandan	Morton	1,644	12	62.0	−2.2	89	19†	40	9	35	7.34	+4.18	3.04	0	12	11	6	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	61.2	−0.3	87	30	41	12	31	4.33	+0.75	1.25	0	14	10	13	7	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	61.3	+1.0	93	21	38	8	36	5.26	+2.15	1.95	0	14	6	10	14	....	S. P. Grane.
Mayville	Traill	975	30	62.9	−1.6	90	1	34	10	33	8.34	+4.83	1.73	0	18	12	5	13	nw.	R. Peterson.
Melville	Foster	1,590	28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. P. Kidder.
Minot	Ward	1,557	30	62.0	−0.5	93	19	40	8†	42	3.56	+0.30	1.06	0	15	10	10	10	w.	W. I. Faris.
Minto	Walsh	820	33	61.6	−2.3	84	1†	33	10	35	6.94	+3.64	1.21	0	17	9	11	7	se.	C. M. Evans.
Mott	Hettinger	2,424	19	68.9	+5.9	91	30	41	8	30	4.52	+1.12	1.25	0	9	10	7	13	se.	O. H. Opland.
Napoleon	Logan	1,955	34	60.4	−1.8	87	21	35	27	33	5.31	+1.69	1.03	0	16	11	5	14	nw.	C. J. Hoof.
New England	Hettinger	2,400	32	62.9	+0.9	94	20	35	9	37	3.37	+0.68	1.11	0	6	12	10	8	se.	W. S. Jones.
New Salem	Morton	2,163	22	62.2	−0.6	98	21	38	9	37	5.90	+1.19	1.78	0	13	14	11	5	nw.	J. Christiansen.
Park River	Walsh	998	22	62.8	−0.4	82	18	35	10	27	6.61	+3.28	1.78	0	15	5	11	14	nw.	C. B. Wright.
Parshall	Mountrail	....	11	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. A. Johnson.
Pembina	Pembina	789	52	61.6	−1.0	88	5	37	10	33	9.35	+6.07	1.90	0	12	11	12	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	....	....	....	....	....	....	....	4.72	+1.50	1.32	0	....	....	....	....	....	S. C. Shanks.
Power	Richland	1,020	32	....	....	....	....	....	....	....	7.61	+3.65	1.43	0	14	10	13	7	s.	Frank B. Power.
Powers Lake	Burke	2,205	12	....	....	....	....	....	....	....	5.58	+2.72	1.15	0	12	13	6	11	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	62.2^b	....	91^b	20	35^b	10	39^b	4.51	....	1.33	0	12	10	15	5	nw.	John Muggli.
Sharon	Steele	1,516	1	....	....	....	....	....	....	....	7.84	....	1.57	0	20	9	8	13	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2	....	....	....	....	....	....	....	6.18	....	2.03	0	5	15	7	8	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	61.2	−1.2	90	4	40	10†	40	4.68	+1.35	1.48	0	14	8	12	10	nw.	H. S. Wood.
Towner	McHenry	1,482	24	62.2	0.0	89	30	34	10	38	4.80	+1.72	1.50	0	12	15	11	4	sw.	B. Bagley.
Turtle Lake	McLean	1,899	11	59.6	....	86	19†	37	1	43	5.63	+1.95	1.44	0	16	8	16	6	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	62.0	−1.2	94	21	37	27	37	6.72	+3.41	1.17	0	16	5	19	6	nw.	H. Twito.
Wahpeton	Richland	962	32	62.6	−2.2	90	21	35	10	38	5.24	+1.29	1.00	0	15	16	0	14	se.	C. G. Luick.
Washburn	McLean	1,731	25	....	....	....	....	....	....	....	6.43	+2.88	1.61	0	11	....	....	....	....	Karl Klein.
Westhope	Bottineau	1,508	20	61.8	+0.2	89	20†	35	27	42	3.16	+0.22	0.64	0	11	17	5	8	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	61.3	−1.4	92	20	38	9	38	4.18	+0.61	1.77	0	15	10	12	8	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	59.4	−1.6	86	19	32	27	38	3.55	+0.37	1.02	0	15	7	12	11	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	64.4	0.0	90	21	40	10	33	5.62	+1.49	1.35	0	18	8	12	10	nw.	U. S. Weather Bureau.
Averages	....	....	....	61.5	−1.3	98	21	30	27	51	6.07	+2.57	3.57	0	14	11	10	9	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for June, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red	.24	.64	.12	.17	.30	.46	.35	1.48	.12		.05	.25			.07	1.01		1.88		.06			.12	.03	.25	.03						7.63
Amidon	Lit. Missouri	.95		.17	.03	.38		.70	.50		.49	.07				T.	1.00						2.05										6.64
Arnegard	Missouri	2.04				.20	.02	.35	.10		.08	.85	.16	.09	.02		1.42	.02				T.		.05	.06						.05		5.51
Ashley	Missouri	.54	.10		.22	.40	.90	1.90	1.36		.18	1.71	T.	.05			.70					T.	2.03	.75									10.84
Beach	Lit. Missouri	1.38	.09	.05	.02	.05	.12	.23	.07		.62	.52			.34								.17	.37							.09		4.12
Berthold Agency	Missouri	1.40	T.		1.00	.15	.15	.45	.55		.50	.05	.05		.08		.09	.01						3.50									7.98
Bismarck ***	Missouri	.23		.03		.39	.01	2.71	.81		.27	.11	T.	.11			1.12	T.					.49	.54			T.						6.82
Bottineau ‖	Mouse		.37						1.10	.22		.02	.02	.05	.21	1.02	T.	.63	.02	.23					.29			.03			T.		4.21
Bowman	Grand	.64	.30	.12		.34		.71	.08		.20	.23			T.		1.24		.13				1.36	.39	.03								5.77
Cando	Devils Lake	.53	.93		.03	T.	.03	.47	.93	T.	T.	T.		.27	.20	T.	.02	.69	.31					T.	.11	.09	.18						4.79
Carson	Heart	.95	.02		.21	.15	.17	2.00	1.00		.92	.25					1.40						1.75	.53									9.35
Cooperstown	Sheyenne	.20				1.20	.20	.85	.45		.05	.70			.35		1.50		.50					.17		.10							6.27
Crosby	Mouse	1.49									.20	.75	.08	.49	.07	.65								.19									3.91
Devils Lake ***	Devils Lake	.61	.16	.01	T	.15	T.	.84	1.09	.03	.16	.21	T.	.03	.19		.62	.02	.21					.01	.01	.07	.06						4.48
Dickinson ‖	Heart	.95	.14	.06	.03		.23	.09	1.05			.51	T.		.03	.19	.50	.40					.12	T.		.01							4.31
Donnybrook	Mouse	.22	.06			.21		.81	.91		.13	.26	.04	.26	.46		1.10	.10	.08					.15									4.79
Dunn Center ‖	Knife	1.12	.12				.29	T.	1.11			.56					1.10	.04					.12										4.46
Dunseith	Mouse		.23	.01	.24	.07		.73	.52		.10		.05	.29	.63		.87		.21					.20		.11	.07						4.33
Eckman	Mouse	.30	.05			T.	.09	.24	1.41		.09	.03	.12	.06	1.12	.16	.80	.36	T.					.40		.04	.01				T.		5.28
Edgeley	James	.48	.16				1.46	2.22	1.68		.09	.50	.10				.45	.18					.27	.44									8.03
Ellendale***	James	.15	.57		1.82	1.12	.83	.88	.23		.15	1.12	T.				1.05	T.	.01				3.54	.84		T.	T.						11.81
Energy	Missouri	2.30			.06	.07		1.05	.75		.70	T.	.30	.23			1.17	T.				T.		.25	T.		T.						6.88
Epping	Missouri	3.30			.10	.05	.04	.03				1.00		.06	.02	.07							T.	.13	.03		T.				.10		4.93
Fessenden ‖	James	.04	.33	T.			.15	.37	2.25	.10		.38	.25	.09	.24	.12	.02	.50		.30					.25		.04	T.					5.43
Finley	Red																																
Forman	Sheyenne	1.60	.47		.55	1.33	.41	.92	.46		.06	.84					.63	.32	.06				.36	.40		.03							8.41
Foxholm	Mouse	.25		T.		.13		.37	1.03		.25	.10	.04	.21	.56		1.12	.15	.02					.18	.01		T.				T.		4.42
Fryburg	Heart	.81	.22	.05	.04	.40	.03	.65	.26		.49	.05	.05	T.	.12	T.	.78	T.					.16	.04	.02						T.		4.11
Fullerton	James	.27	.05		.97	.11	1.55	2.00	2.02		.12	3.00		.07			1.12	T.	.47				.30	.92		T.							12.97
Garrison	Missouri	2.17			.03	.08		.74	1.30		.51	.02	.09	.46	.05		1.13	T.	.12					.06									6.76
Grafton	Red	.40	.38		.03		.35	.53	1.83	.42		.20	.21		.60	.03	.06	1.10	.23		.85	.05		.03	.08	.08	.27	.03					7.76
Grand Forks ***	Red	.32	.14	.23	T.	1.00	.59	.84	1.62	.09	.02	.57	.46	.25	.02		1.45		.02	1.42		T.		.13	.06	.04	.20	.05			T.		9.52
Granville	Mouse					.14		1.15	.76		.10	T.	.15	.61	.43	.15	.52		.18					.33							T.		4.52
Hannah	Pembina	.50			.18		.06		1.67	T.				.25	T.	.89		.35		.30		T.		T.			.05			.11	.08		4.44
Hansboro	Devils Lake	.10	.75					.90	1.10	.18	.05	.17	.15	.17	.35	.06	.66		.18			.03		.12			.25				.05		5.27
Hettinger	Grand	.30	T.	.21		.05	.20	1.52			.10	.30						1.15					2.25		.02								6.10
Hillsboro	Red	1.02	.07	.19	.08	.22	1.09	1.34	.57	.09	T.	.25	.27		.03	.74	.15	.86	.47	.56		.02		.06	.05	.16	.41	.05	T.				8.75
Howard	Missouri	1.73	T.	.18	.28	T.	T.		.04	.02	.40	.19	T.	.01	T.		.45	T.	.06			T.	T.	.25	.05						.36		4.02
Jamestown ‖	James	.24	.07	.04	.31		1.10	1.04	1.17	.17			.69	.01			.01	.77		.17			T.	.02	.18	.01	.03						6.03
Lamoine	Missouri					*	*	2.25	.02		.18	.22	.07	.12		1.05		T.					T.	.30		.08							4.29
Langdon ‖	Pembina	.36	.38				.06	.07	.85	.43		.05			.08			1.30		.15	.12	T.			.04	.05	.15	.35					4.44
Larimore	Red	.15	.35	.10			.70	.15	2.20	1.30		.06	1.20		.40	.20		1.45		.15	.25				.20	.05	.10	.40					9.41
Linton	Missouri	.31		T.	.11	.07	.44	1.25	.23		.06	.61	T.		.14		.86						1.80	.30			T.						6.18
Lisbon ‖	Sheyenne	.25	.22	.25	.70	.22	.62	.38	1.32	.05		.36	.32					.90		.45				T.	.30		.04	T.					6.38
McClusky	Missouri	.05				T.	.35	1.35	.75		.55	.05	.04	.15	.08		.70	.03						.18	.15								4.43
McHenry	James																																
McKinney	Mouse																																
McLeod	Sheyenne	.76	.28	.33	.80	.62	.19		1.74			.60						1.11	.59				T.	.93		.05	T.						8.00
Maddock	Sheyenne	.10	.39				.12	1.30	1.45	.18		.22		.09	.07	.23	.22	.46	.19					.15		.09	.02						5.28
Mandan ‖	Missouri		.04	.05	T.		.31	.65	3.04		T	.23	.02		.11		1.26	.04					.89	.70	T.								7.34
Manfred	James	T.	.22			.10	.05	1.25	1.10	T.	.25	.31	.09	.11	.09		.48	.02	.12					.14		T.	T.						4.33
Marmarth	Lit. Missouri	.11		.05	T.	.25		.47	.03		.34		T.	T.	.36	.66	.69	.03				1.95	.20	.10						.02			5.26
Mayville	Red		.09	.18		.25	1.73	.45	1.15	.01		.05	.95		.03	.54	.59	1.20		.24				.06	.06	.25	.51						8.34
Melville	James	.80				.37		1.10	.57																								
Minot ‖	Mouse	.20		.01		.10		1.06	.25		.17		.35	.10	.28	.04	.62	.05	.09					.22							.02		3.56
Minto	Red		.72	.12	.04		.65	.60	1.21	.28		.18	.25		.28	.27		1.02			.78				.17	.11	.24		.02				6.94
Mott	Cannon Ball	.97		.31	.15			1.25				.26					.80	.13	.07				.58										4.52
Napoleon ‖	Missouri	.26	.12	.05	.03		.78	1.03	.45	.06		.16	.75	.04			.06	.63					.18	.49	.22								5.31
New England	Cannon Ball					.30	T.	.87	T.		.20						.87						1.11	.02	T.								3.37
New Salem	Heart	.66	.01	.06	.04	.05	.05	1.78	.68		.30	.04	T.	.10	T.		1.14						.56	.48									5.90
Park River	Red	.16	.38				.34	.64	1.78	.23	.30		.15	.08	.69		.07	.94	.16	.20				T.	T.	T.	.49						6.61
Parshall	Missouri																																
Pembina ‖	Red	1.90	.70				.50		1.00	1.65			.20	T.				2.00		.20	.40				.10		T.	.60	.10				9.35
Pettibone	James																																4.72
Power	Sheyenne	1.43	.22	.88	.10	.54	.28	.69	.98		.16	.24					.81		.88					.28		.12							7.61
Powers Lake	Missouri	.46						.34	.77		.58	.56	.08	.41	.48	1.15							.36	.12				.27					5.58
Richardton	Heart	1.33		.15	.06	.21		1.12		.35		.35	.02	.02			.78						.11	.01									4.51
Sharon	Red	1.57			.07		1.18	.82	.96	.01	.07	.49	.30	.05	.05	.32	.65	.62	.26			.10		.10	.03	.08	.11						7.84
Stanton	Missouri	2.03		T.		T.			1.92		.75		T.				1.10	T.						.38									6.18
Steele	Missouri	.30	.07		.07	.05	.04	1.30	.23	.04	.10	.20	T.	T.	T.	T	1.48	.20	T.			T.	T.	.55	T.	.05							4.68
Towner	Mouse	.50			.15	T.	.05	.80	1.50				.01		1.00	.30			.15			.03		.25		.05							4.80
Turtle Lake	Missouri	.89	.03		.04	.05	.01	1.44	.82	T.	.48	.02	.06	.38	.02		1.20	.01	T.			.01		.17									5.63
Valley City	Sheyenne	.07	.48	.07	.15	.17	1.17	.75	1.08	.05	.06		.93	.07			T.	.75	.72					.12	T.	.08	T.						6.72
Wahpeton	Red	.25	.15	.13	.14	.25		.60	1.00			.50					.35	.95		.50				.02	.10	.20	.10						5.24
Washburn	Missouri	.52	.04		.06			1.61	1.39		.64		.10	.66			.96		.05					.40									6.43
Westhope	Mouse	.13	.12			.14		.18	.63				.08	.17	.25		.35	.64						.47									3.16
Williston ***	Missouri	1.77		.03	.06	.09	T.	.22			.60	.17	.01	.05	.02	T.	.82	.01				.05	T.	.19	T.						.09		4.18
Willow City	Mouse	.12	.33		.01	T.	.05	.47	1.02		T.	T.	T	.34	.29	.13	.15	.16	.15					.25		.02	.06				T.		3.55
Moorhead, Minn ***	Red	.19	.16		.65	.42	.32	1.20	.18	.01	.01	.21			.14		1.12		.43			.03		.12	.07	.28	.08						5.62

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for June, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	71	63	74	80	71	68	70	60	55	54	60	68	70	70	65	68	70	80	80	83	70	72	67	78	77	69	70	68	78	78	....	70.2
	Minimum ...	61	51	50	58	60	60	58	55	42	36	44	51	48	51	52	43	50	49	58	52	62	51	54	48	45	38	40	42	52	57	....	50.6
Arnegard	Maximum...	60	67	74	75	60	67	65	63	67	56	66	70	73	72	74	71	74	81	87	92	82	76	79	72	..	82	75	79	86	85	....	[a]73.4
	Minimum ...	48	43	47	50	43	48	46	47	37	45	48	45	48	47	45	55	53	54	52	52	67	65	61	49	..	53	49	42	53	62	....	[a]50.1
Ashley	Maximum...	90	68	77	82	83	71	68	65	65	51	65	68	72	70	77	68	67	82	84	84	88	78	64	66	79	73	70	71	73	84	....	73.4
	Minimum ...	59	46	51	50	54	50	56	48	46	42	45	48	47	53	49	52	53	50	53	57	64	61	58	52	48	48	41	48	46	56	....	51.0
Beach	Maximum...	70	73	70	74	55	60	54	62	67	72	63	71	72	67	71	68	79	81	96	96	89	80	82	72	82	78	78	80	87	85	....	74.5
	Minimum ...	53	48	44	43	43	45	48	42	34	48	49	47	50	42	44	54	53	49	51	51	58	62	58	50	47	46	47	45	58	63	....	49.1
Berthold Agency	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	52	48	54	58	50	45	47	43	38	47	46	48	42	46	44	47	52	50	47	56	54	48	50	50	50	45	44	46	55	60	....	48.7
Bismarck	Maximum...	67	68	75	82	71	68	60	61	67	54	66	70	71	72	77	68	74	85	89	88	88	74	70	70	83	75	75	77	77	89	....	73.7
	Minimum ...	51	47	54	62	51	48	47	47	43	47	47	50	48	50	51	54	55	55	55	57	65	64	58	53	51	51	48	48	55	62	....	52.6
Bottineau §§	Maximum...	69	62	89	84	68	71	..	..	..	..	..	..	..	..	..	..	75	..	..	..	..	..	69	72	78	69	71	71	77	86	....	.....
	Minimum ...	50	44	45	54	51	44	50	43	..	42	45	46	42	48	45	54	54	54	55	52	58	60	56	50	49	44	35	45	52	58	....	[a]49.1
Bowman	Maximum...	67	66	67	74	70	60	56	64	65	70	67	70	70	67	70	71	74	80	88	91	90	78	77	71	79	76	77	74	85	84	....	73.3
	Minimum ...	51	41	43	54	43	38	48	43	34	48	48	46	48	47	46	54	54	53	50	55	61	58	59	52	47	46	50	50	53	61	....	49.4
Cando	Maximum...	76	64	76	77	78	71	69	59	64	58	59	65	73	67	76	76	73	82	84	83	..	85	74	71	73	70	69	..	77	87	....	[b]72.7
	Minimum ...	55	48	50	57	48	54	50	38	37	37	46	47	47	48	46	51	55	53	51	53	..	57	52	51	48	50	38	..	45	55	....	[b]48.8
Carson	Maximum...	74	68	70	77	60	66	60	62	67	55	66	70	71	68	76	70	72	83	78	84	89	72	76	70	78	70	75	74	74	89	....	72.1
	Minimum ...	46	39	45	46	40	39	42	46	34	42	40	42	39	45	43	49	49	56	48	47	56	56	52	49	47	56	40	44	48	68	....	46.4
Crosby	Maximum...	54	64	78	75	62	68	68	56	72	64	65	69	73	70	80	70	74	70	75	80	70	71	63	63	64	69	78	79	83	80	....	70.2
	Minimum ...	45	44	48	48	36	41	44	44	38	42	46	42	46	44	45	46	48	54	52	55	54	53	50	48	48	58	54	47	52	54	....	47.5
Devils Lake	Maximum...	69	64	75	79	74	71	60	51	61	55	60	65	73	68	74	66	72	82	83	81	85	77	69	68	78	70	69	70	75	86	....	71.1
	Minimum ...	53	50	52	59	50	54	48	43	42	39	47	50	47	47	50	53	54	56	51	56	59	58	54	53	51	44	42	46	50	57	....	50.6
Dickinson §§	Maximum...	56	66	70	74	57	63	51	64	64	59	67	70	74	72	75	72	74	83	89	92	90	79	81	73	83	77	76	79	86	89	....	73.5
	Minimum ...	51	46	49	50	45	44	50	44	36	47	48	45	45	46	44	57	53	52	47	49	59	60	58	59	49	45	42	43	57	62	....	49.4
Donnybrook	Maximum...	70	63	76	74	79	67	65	65	64	55	64	65	72	68	75	65	74	77	85	88	83	78	75	71	78	71	72	80	80	87	....	72.9
	Minimum ...	48	44	45	48	45	46	47	45	39	40	45	47	44	46	46	54	52	56	51	51	51	54	58	48	54	45	38	45	53	53	....	47.9
Dunn Center §§	Maximum...	54	64	72	74	63	65	55	60	65	54	70	70	72	71	73	71	72	84	88	94	85	77	80	72	84	76	74	88	83	87	....	73.2
	Minimum ...	50	45	48	52	46	47	48	46	35	45	45	40	40	44	42	51	52	47	48	52	55	63	57	48	48	40	38	38	48	52	....	47.0
Dunseith	Maximum...	63	63	75	76	67	70	63	50	62	63	56	64	72	66	73	67	74	79	83	86	80	79	75	69	75	67	68	72	77	86	....	70.7
	Minimum ...	50	45	41	58	45	42	45	45	41	40	43	44	47	47	45	54	51	55	48	52	55	57	55	57	58	47	34	45	47	54	....	48.2
Edgeley	Maximum...	89	75	76	83	79	73	70	67	65	60	63	68	73	74	75	72	68	81	83	83	87	80	65	68	79	73	74	72	73	75	....	74.1
	Minimum ...	60	47	53	60	55	53	57	46	43	39	45	50	49	51	50	50	53	52	54	55	62	64	58	52	49	45	38	47	42	46	....	50.8
Ellendale	Maximum...	76	64	74	81	75	71	76	60	63	52	62	68	72	73	74	71	68	79	82	82	86	72	64	66	79	73	66	70	72	81	....	71.7
	Minimum ...	51	49	50	60	56	55	60	48	45	41	48	50	52	52	55	54	55	50	60	60	62	63	56	55	52	48	44	51	49	52	....	52.9
Fessenden §§	Maximum...	72	70	77	83	76	75	56	53	67	53	57	70	79	82	78	79	74	87	85	79	89	80	69	71	83	83	77	77	88	92	....	75.4
	Minimum ...	56	46	50	57	49	52	53	47	42	39	45	46	44	47	49	56	53	52	50	55	52	60	55	51	46	44	42	42	47	56	....	49.4
Foxholm	Maximum...	72	64	74	79	69	68	68	53	62	56	67	65	72	67	74	68	72	80	85	86	83	77	73	68	79	71	69	75	77	85	....	71.9
	Minimum ...	48	44	47	58	46	48	47	45	39	38	45	47	43	48	46	53	51	56	52	54	57	55	56	49	53	47	44	45	53	60	....	49.1
Fullerton	Maximum...	80	68	77	83	75	73	75	63	63	67	64	70	72	74	75	70	68	82	86	88	90	73	65	67	80	72	73	73	76	80	....	74.1
	Minimum ...	59	49	52	60	58	54	58	46	44	48	42	50	50	55	54	52	52	55	56	60	60	62	58	54	49	42	50	49	46	50	....	52.5
Garrison	Maximum...	67	66	73	77	62	67	63	56	64	59	65	69	73	70	75	71	73	82	86	87	86	78	73	70	81	74	70	77	77	86	....	72.6
	Minimum ...	51	45	52	58	46	45	47	43	38	44	43	46	43	47	46	53	52	54	53	51	59	63	57	49	52	46	41	42	52	60	....	49.3
Grafton	Maximum...	82	72	76	76	78	77	74	56	60	62	65	69	74	67	76	67	75	82	81	82	82	77	74	70	73	62	69	69	73	81	....	72.7
	Minimum ...	62	52	53	57	54	58	53	47	40	33	38	51	50	46	49	46	55	49	56	58	57	60	60	55	50	45	37	43	45	51	....	50.3
Grand Forks	Maximum...	76	68	76	76	80	78	74	60	58	60	63	67	73	70	74	74	74	79	80	81	85	77	68	66	77	57	68	65	72	79	....	71.8
	Minimum ...	63	56	55	60	58	60	56	44	40	34	48	52	50	49	54	51	52	54	58	60	61	60	54	56	53	46	41	48	44	52	....	52.3
Granville	Maximum...	70	68	78	80	69	69	64	62	65	57	58	67	74	70	77	64	74	82	87	86	85	78	72	70	80	72	69	77	77	82	....	72.8
	Minimum ...	48	48	48	60	46	49	52	45	42	42	47	47	48	49	45	59	54	57	52	52	56	57	57	54	52	45	44	42	48	58	....	50.1
Hansboro	Maximum...	66	66	78	74	78	73	67	60	62	60	57	64	72	62	66	76	80	80	83	81	80	75	70	72	70	67	70	77	75	90	....	71.7
	Minimum ...	47	43	49	50	40	47	42	40	37	32	32	40	44	40	46	48	50	50	48	50	48	50	53	52	40	40	30	38	38	40	....	43.5
Hettinger	Maximum...	81	69	72	68	69	74	72	69	71	68	64	71	73	69	71	78	68	76	85	92	89	72	76	76	82	74	81	84	87	..	....	[a]75.2
	Minimum ...	39	41	38	44	39	48	36	36	38	34	37	34	39	41	39	48	43	42	52	56	52	48	48	51	47	67	56	54	58	..	....	[a]45.0
Hillsboro	Maximum...	89	66	74	81	82	77	75	64	58	58	63	67	74	73	75	73	74	78	79	83	85	84	76	67	78	69	68	69	73	78	....	73.7
	Minimum ...	63	63	55	60	62	59	59	51	40	38	49	52	50	50	54	50	55	53	56	60	63	63	52	56	59	47	42	49	46	53	....	53.6
Howard	Maximum...	60	62	70	70	60	60	56	60	65	62	66	62	70	69	72	61	76	76	79	87	80	74	72	70	78	74	71	73	85	80	....	70.0
	Minimum ...	42	42	40	48	40	45	43	39	33	42	44	45	40	44	44	53	50	56	52	56	55	54	58	45	48	41	39	42	48	60	....	46.3
Jamestown §§	Maximum...	76	80	82	71	70	71	60	61	60	61	68	74	74	74	65	72	74	83	84	84	71	70	74	80	76	71	71	74	88	85	....	73.5
	Minimum ...	60	49	43	45	48	42	60	60	50	53	45	47	48	51	50	54	53	51	49	58	60	63	57	44	47	51	46	44	45	45	....	50.6
Lamoine	Maximum...	70	68	74	82	78	68	75	56	62	50	59	66	68	73	68	68	82	83	82	81	84	74	67	68	80	72	80	72	75	86	....	72.4
	Minimum ...	50	46	48	50	48	55	50	45	40	38	45	43	43	44	54	52	54	52	52	54	52	62	51	50	48	41	45	45	48	55	....	48.7
Langdon§§	Maximum...	61	75	70	76	70	58	55	58	61	59	63	68	64	74	71	70	78	79	78	79	74	73	68	68	66	66	68	77	80	83	....	69.7
	Minimum ...	55	48	34	55	48	55	47	46	40	36	45	49	46	46	50	51	53	53	50	53	55	54	50	53	46	46	35	42	45	50	....	47.9
Larimore §§	Maximum...	66	66	76	78	75	66	57	60	60	65	67	72	70	75	68	74	82	85	87	84	80	67	74	74	67	70	70	76	81	85	....	72.6
	Minimum ...	62	52	52	56	55	56	57	50	43	34	40	50	52	50	50	49	53	54	55	56	61	57	50	55	58	45	38	46	45	50	....	51.0
Linton	Maximum...	65	58	68	80	76	68	65	59	65	63	60	69	69	61	74	69	54	68	71	71	85	75	64	60	68	60	68	74	72	81	....	68.0
	Minimum ...	46	49	52	55	52	50	53	45	41	44	47	44	49	48	43	44	50	46	47	52	65	60	49	53	45	45	42	41	42	44	....	48.1
Lisbon §§	Maximum...	94	83	65	76	83	75	72	75	57	62	54	57	75	75	72	78	72	68	81	83	83	90	75	64	66	80	75	69	72	76	....	73.6
	Minimum ...	60	49	52	57	60	56	52	49	45	34	45	48	52	50	53	48	53	48	45	52	52	62	59	50	46	42	35	46	39	49	....	49.6
McKinney	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Maddock	Maximum...	82	65	74	80	80	71	69	52	62	61	58	65	72	69	74	73	72	82	86	85	87	80	71	69	81	72	70	73	75	87	....	73.2
	Minimum ...	51	47	47	58	48	52	48	45	41	40	45	45	45	47	46	51	52	52	52	51	54	58	54	51	50	47	40	44	46	53	....	48.8
Melville	Maximum...	76	68	76	78	77	70	68	58	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	67	72	72	85	....	.....
	Minimum ...	58	44	58	58	50	52	53	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	36	43	42	52	....	.....
Minot §§	Maximum...	67	78	81	65	70	58	51	68	58	58	68	75	71	77	67	76	81	90	93	85	80	75	75	81	73	73	79	80	88	88	....	74.3
	Minimum ...	45	45	59	47	48	51	46	40	40	45	47	45	47	45	55	52	56	50	51	54	59	58	50	53	47	42	43	51	63	54	....	49.6
Mott	Maximum...	74	77	76	78	86	88	75	70	72	74	76	80	79	76	78	75	73	82	88	90	89	78	82	75	76	78	82	88	87	91	....	79.8
	Minimum ...	48	50	55	60	63	58	46	41	43	48	52	60	57	53	57	54	55	61	63	66	62	55	63	61	63	62	70	72	70	73	....	58.0
Napoleon §§	Maximum...	77	68	76	82	75	71	60	59	66	55	63	68	71	72	75	68	69	82	83	84	87	71	64	68	80	73	71	74	73	86	....	72.4
	Minimum ...	55	44	45	57	48	48	53	43	38	40	44	44	45	48	48	50	52	50	52	52	58	63	54	49	47	43	35	45	46	55	....	48.4
New Salem	Maximum...	78	78	75	80	74	71	69	61	68	58	68	74	75	71	76	70	70	84	87	90	98	74	75	74	77	76	75	76	83	94	....	76.0
	Minimum ...	50	46	42	55	47	46	45	42	38	45	45	45	44	45	48	52	54	55	52	53	61	59	57	49	42	41	42	45	51	57	....	48.4
Pembina §§	Maximum...	79	68	78	76	88	73	63	55	60	63	62	69	69	63	71	69	57	81	81	83	81	78	81	78	74	60	69	71	77	83	....	72.0
	Minimum ...	61	59	52	58	54	56	54	52	39	37	41	51	59	45	51	49	56	55	50	52	58	55	56	55	52	51	41	38	43	53	....	51.1
Steele	Maximum...	74	70	70	90	70	70	65	60	64	50	60	70	70	70	75	67	67	82	86	83	85	87	70	65	79	75	76	75	75	86	....	72.9
	Minimum ...	59	45	52	56	50	52	50	44	42	40	42	43	42	50	55	54	52	54	54	54	60	60	60	52	46	46	40	41	45	46	....	49.5
Towner	Maximum...	70	75	80	78	77	75	70	68	66	68	68	70	69	75	78	70	76	86	72	88	82	78	75	85	80	75	70	80	86	89	....	76.0
	Minimum ...	46	50	56	46	50	56	56	46	41	34	40	42	44	48	46	48	47	49	51	50	50	52	48	52	50	51	40	50	52	60	....	48.4
Valley City	Maximum...	80	67	77	80	74	74	68	75	78	60	51	60	76	65	78	71	68	78	87	89	94	78	73	65	80	71	70	69	75	80	....	73.7
	Minimum ...	56	50	52	57	56	54	55	48	41	40	46	49	48	48	50	50	54	56	52	54	59	62	53	52	48	45	37	45	44	50	....	50.4
Wahpeton	Maximum...	83	69	78	89	86	83	86	78	59	64	57	71	75	76	77	77	71	85	82	85	90	89	73	65	80	74	67	69	75	80	....	76.4
	Minimum ...	61	52	55	63	64	53	54	40	40	35	40	40	45	40	40	41	43	55	55	58	60	60	58	53	44	45	36	46	38	50	....	48.8
Westhope	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Williston	Maximum...	53	65	73	73	60	67	56	61	66	55	66	72	74	72	75	65	75	81	87	92	84	78	75	72	80	74	72	78	84	80	....	72.2
	Minimum ...	47	44	47	47	45	51	50	42	38	50	48	46	46	48	47	55	54	57	55	54	59	65	56	52	52	49	43	46	57	61	....	50.4
Moorhead, Minn	Maximum...	79	66	75	85	77	76	80	59	59	57	62	74	77	81	77	76	73	82	84	88	90	76	70	65	53	70	72	68	78	81	....	74.7
	Minimum ...	63	53	56	63	63	63	56	52	44	40	50	52	52	51	56	53	56	55	57	63	65	66	53	56	50	46	42	50	45	53	....	54.1

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 7-28-28 - 1000]

N N I

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

OL. XXXIV   BISMARCK, N. D., JULY, 1925   No. 7

GENERAL SUMMARY

The month opened with temperature somewhat above the ormal, and with abundant sunshine, a condition which pre- ailed throughout the first decade, with the exception of the eriod, 6th to 8th, inclusive, when scattered showers occurred. he second decade was generally hot and dry, the high temper- tures of the 10th to 14th, inclusive, causing considerable dam- ge to small grains, but very beneficial for corn The third ecade was considerably cooler, with general showers from the 3d to the 26th, inclusive. At the close of the month harvest- ng of barley and rye was well advanced, and early wheat har- est was under way. Rain was generally needed in all sections f the State for corn, late flax, pastures and ranges.

TEMPERATURE

The mean temperature for the State was 66.7°, or 0.8° below ie normal, and 1.2° higher than the mean for July, 1924. he highest mean reported was 69.6° at Richardton, Stark ounty; the lowest was 61.6° at Hansboro, Towner County. he highest temperature reported was 106° at Beach, Golden alley County, on the 14th, and at Fessenden, Wells County, n the 12th; the lowest was 29° at Carson, Grant County, on ie 30th and 31st. The greatest monthly range of tempera- ire was 70° at Beach, Golden Valley County; the least was 1° at Amenia, Cass County. The greatest daily range was 63° Fessenden, Wells County, on the 12th.

PRECIPITATION

The average precipitation for the State was 1.34 inches, or .27 inches below the normal, and 0.61 inch less than the verage for July, 1924. The greatest monthly amount re- orted was 4.35 inches at Moorhead; the least was 0.33 inch at unn Center, Dunn County, Linton, Emmons County, and Iandan, Morton County. The greatest amount recorded in any 4 consecutive hours was 2.94 inches at Moorhead on the 5th. he average number of days with 0.01 inch or more of precipi- tion was 6.

AURORAS

Auroras were observed at Howard on the 10th and 13th; at ew England on the 14th; at Finley, McLeod, Sharon, West- ope and Willow City on the 21st; at Willow City on the 22d, nd at Sharon on the 26th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.03	30.40	31	29.68	5	57	5,559	7.5	38	nw.	7
Devils Lake	29.98	30.33	31	29.65	5	44	6,098	8.2	34	n.	19
Ellendale	30.01	30.30	31	29.60	5	56	8,245	11.1	50	n.	13
Grand Forks	29.95	30.24	31	29.67	18	90	....	......	37	nw.	15
Williston	29.98	30.36	31	29.55	5	48	5,389	7.2	43	nw.	12
Moorhead, Minn	29.96	30.24	31	29.61	5	58	4,819	6.5	25	nw.	15
Av'ges and extremes	29.98	30.40	31	29.55	5	.....	....	8.1	50	n.	13

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	340.8	479.2	71	0	77	43	44	21	19
Devils Lake	334.3	483.1	69	+ 1	82	50	56	24	19
Ellendale	336.5	475.2	71	0	81	52	....	31	19
Grand Forks	......	......	......	......	80	.....	64	......	....
Williston	390.3	483.1	81	+11	80	42	40	18	14
Moorhead, Minn	416.1	479.2	87	+16	78	53	62	29	19
Averages and extremes	363.6	480.0	76	+ 6	80	48	53	18	14

† And other dates.

COMPARATIVE STATE DATA FOR JULY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918	65.5	2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.
1923	71.2	+3.7	103	35	3.14	+0.53	8	16	11	4	se.
1924	65.5	−2.0	99	32	1.95	−0.66	6	18	9	4	nw.
1925	66.7	−0.8	106	29	1.34	−1.27	6	18	9	4	nw.

Climatological Data for July, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	66.4	−2.3	94	13†	43	28†	45	1.65	−1.36	1.10	0	5	23	7	1	n.	E. T. Carley.
Amidon	Slope		12																	H. M. Critchfield.
Arnegard	McKenzie		11	66.6		101	14	38	29	47	1.58		1.05	0	5	26	4	1	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	68.0^{a}	−0.4	97^{a}	12	40^{a}	22	36^{a}	1.12	−1.54	0.79	0	3	23	5	3	nw.	R. C. Miles.
Beach	Golden Valley	2,579	20	67.8	+0.5	106	14	36	30	52	1.28	−0.52	0.75	0	5					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	65.5	−3.4	100	14	38	30†	42	1.14	−0.83	0.85	0	4	22	7	2	s.	C. L. Hall.
Bismarck	Burleigh	1,674	51	68.6	−1.2	100	12	44	30	38	0.42	−1.72	0.36	0	6	19	9	3	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	65.8	0.0	98	14	41	30	43	2.10	−0.18	1.40	0	9	17	4	10	nw.	E. C. Evenson.
Bowman	Bowman	2,961	12	67.8		100	11†	37	31	48	0.98	−1.78	0.59	0	3	20	10	1	nw.	R. Love, Jr.
Cando	Towner	1,488	25																	A. J. Swanson.
Carson	Grant	2,500	14	64.7	−3.4	100	12	29	30†	53	0.34	−1.60	0.10	0	5	21	9	1	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20								0.63	−2.10	0.46	0	3	23	5	3	nw.	S. Friswold.
Crosby	Divide	1,954	19	67.6	+1.7	103	12†	39	31	45	0.72	−1.49	0.38	0	5	21	8	2	se.	John Jensen.
Devils Lake	Ramsey	1,478	29	65.8	−2.3	97	14	40	22	37	1.40	−2.38	0.74	0	8	17	7	7	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	67.6	−0.4	102	12	37	31	51	1.29	−1.03	0.60	0	8	18	6	7		Leroy Moomaw.
Donnybrook	Ward	1,760	27	67.2	+1.4	99	12	40	21	43	1.34	−1.29	0.42	0	5	15	6	10	ne.	H. Feldner.
Dunn Center	Dunn	2,191	27	64.8	−3.2	101	11	35	31	50	0.33	−1.72	0.21	0	3	21	6	4	ne.	W. H. Moede.
Dunseith	Rolette	1,682	30	65.2	+0.8	96	14	41	30	41	2.87	+0.53	1.16	0	11	14	11	6	s.	J. G. Lamont.
Eckman	Bottineau	1,500	21	65.7	−0.1	99	12†	39	29†	43	1.68	−0.76	0.66	0	6	0	28	3	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	67.3	−1.2	96	11†	38	22	51	2.26	−0.54	1.63	0	3	6	21	4	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	66.9	−3.8	94	12	42	22	36	1.22	−1.68	0.72	0	8	10	15	6	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	66.5		99	12	39	30†	41	1.19	−0.99	0.94	0	4	12	18	1	n.	H. S. Solenberger.
Epping	Williams	2,224	18	69.2		100	14	38	21	52	0.99	−0.93	0.33	0	6	24	2	5	w.	A. O. Wang.
Fessenden	Wells	1,610	14	67.6	+0.5	106	12	38	22	63	0.84	−1.63	0.41	0	8	18	8	5	nw.	T. D. Monsen.
Finley	Steele	1,461	2	66.0		93	12	43	27	33	0.72		0.31	0	6	19	9	3	nw.	G. J. Mustad.
Forman	Sargent	1,249	32								1.46	−1.57	0.79	0	2	22	8	1	n.	O. Enger.
Foxholm	Ward	1,657	5	66.5		97	12†	40	30	40	0.96		0.21	0	9	14	13	4	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								1.40		0.45	0	8	22	9	0	nw.	Verne King.
Fullerton	Dickey	1,439	28	68.2	−0.2	98	13†	42	22	38	0.90	−2.42	0.48	0	3	20	9	2	nw.	F. O. Alin.
Garrison	McLean	1,901	31	65.1	−3.0	99	12	38	30	44	0.82	−1.28	0.47	0	5	16	13	2	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	66.4^{a}	−1.1	94^{a}	14	41^{a}	29	37^{a}	1.78	−0.70	0.45	0	7	17	7	7	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	65.8	−1.6	92	13	42	27	31	1.32	−1.43	0.69	0	11	18	10	3	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19																	W. A. Christianson.
Hannah	Cavalier	1,568	32								0.79	−1.67	0.25	0	5					J. Moffatt.
Hansboro	Towner	1,597	18	61.6	−3.8	97	14	30	22	50	2.31	+0.33	0.95	0	7	14	15	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	67.7^{a}	−1.8	99^{a}	14	33^{a}	30	54^{a}	1.34	−1.45	0.50	0	4	23	3	5	nw.	U. J. Downey.
Hillsboro	Traill	901	20	67.9	−1.6	94	13†	44	29	35	0.78	−1.85	0.31	0	5	16	12	3	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	19	64.4	−1.1	102	14	38	30	47	1.10	−0.50	0.54	0	5	14	11	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	66.8	−1.7	98	14	43	30	46	1.71	−1.04	0.97	0	9	17	2	12	nw.	S. Calvelage.
Lamoine	Kidder	1,936	21	66.2	+0.3	98	12†	42	25†	39	2.78	+0.23	2.30	0	3	23	3	5	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	63.7	−0.8	93	13	41	22†	41	1.63	−0.93	0.50	0	7	25	4	2	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	66.2	−0.5	98	13	41	29	40	1.68	−1.31	0.70	0	9	20	3	8	n.	Reuben Gray.
Linton	Emmons	1,711	8	66.8		101	14	40	9†	59	0.33		0.14	0	3	20	4	7	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	67.4	−0.8	97	14	40	22	43	2.13	−1.40	1.24	0	7	23	8	0	nw.	W. S. Adams.
McClusky	Sheridan	1,943	8	65.9		98	12	38	30	39	1.74		1.10	0	6	21	5	5	se.	Edw. Tapley.
McHenry	Foster	1,509	15	64.5	−3.1	95	10†	39	29	47	0.67	−2.52	0.40	0	4	16	0	15	nw.	F. P. Cannon.
McKinney ‡‡	Renville	1,640	32	63.7	−2.3	95	13	38	21	45	2.40	+0.24	1.10	0	8	12	16	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	69.1	−1.1	96	11†	41	22	42	1.03	−2.40	0.82	0	6	21	6	4	ne.	J. G. Carlson.
Maddock	Benson	1,604	10	66.7		100	12	36	22	41	1.52	−1.12	0.56	0	8	14	8	9	nw.	A. T. Felland.
Mandan	Morton	1,644	12	68.0	−2.8	101	12	44	30	41	0.33	−2.63	0.10	0	6	15	5	11	nw.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	23	66.0	−0.9	100	12	39	22	43	0.40	−1.90	0.25	0	3	19	8	4	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	68.2	+0.4	98	12	42	20†	40	1.79	+0.13	0.80	0	5	15	10	6		S. P. Crane.
Mayville	Traill	975	30	67.8	−1.6	97	11†	40	28	42	0.83	−2.14	0.45	0	6	19	3	9	nw.	R. Peterson.
Melville	Foster	1,590	28	67.2^{c}	−0.7	97^{c}	12†	41^{c}	27†	46^{c}	1.06	−1.68	0.55	0	4				sw.	J. P. Kidder.
Minot	Ward	1,557	30	66.6	−1.5	100	14	40	27†	48	1.00	−0.85	0.48	0	7	18	12	1	w.	W. I. Faris.
Minto	Walsh	820	33	65.9	−1.2	95	13	39	29	41	1.07	−1.69	0.46	0	6	13	12	6	nw.	C. M. Evans.
Mott	Hettinger	2,424	19	69.0	−0.1	98	14	40	28†	40	3.07	+0.70	1.76	0	6	12	11	8	n.	O. H. Opland.
Napoleon	Logan	1,955	34	66.0	−2.3	99	12	36	22	43	1.75	−0.73	0.85	0	9	17	8	6	s.	C. J. Hoof.
New England	Hettinger	2,400	32	68.3	−0.2	102	12	37	31	44	1.20	−0.81	0.65	0	3	19	9	3	nw.	W. S. Jones.
New Salem	Morton	2,163	22	69.2	−0.1	102	12	38	30	41	0.34	−1.76	0.18	0	5	22	9	0	nw.	J. Christiansen.
Park River	Walsh	998	22								1.25	−1.13	0.40	0	7					C. B. Wright.
Parshall	Mountrail		11																	J. A. Johnson.
Pembina	Pembina	789	52	65.7	−2.0	95	14	39	27†	39	1.10	−1.28	0.90	0	2	22	7	2	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17								0.54	−2.21	0.26	0	4					S. C. Shanks.
Power	Richland	1,020	32								1.97	−1.41	1.19	0	6	20	8	3	s.	Frank B. Power.
Powers Lake	Burke	2,205	12								2.39	+0.61	1.22	0	3	26	5	0	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	69.6		101	11†	41	31	39	0.86		0.32	0	6	18	11	2	nw.	John Muggli.
Sharon	Steele	1,516	1								0.97		0.38	0	10	18	9	4	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	2								0.91		0.70	0	3	22	6	3	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	66.8	−2.6	100	11†	41	30	45	0.42	−2.46	0.22	0	3	17	10	4	nw.	H. S. Wood.
Towner	McHenry	1,482	24	67.1	0.0	103	12	40	7	45	2.28	+0.05	0.83	0	5	22	5	4	sw.	B. Bagley.
Turtle Lake	McLean	1,899	11	66.2		98	11†	40	30	41	1.07	−1.39	0.35	0	8	14	14	3	s.	A. T. Anderson.
Valley City	Barnes	1,245	21	66.7	−1.3	94	11†	40	29	40	0.98	−1.86	0.64	0	6	14	15	2	nw.	H. Tweto.
Wahpeton	Richland	962	32	68.0	−1.3	96	11	40	22	41	1.29	−2.51	0.72	0	5	22	0	9	nw.	C. G. Lueck.
Washburn	McLean	1,731	25								0.68	−1.62	0.32	0	5					Karl Klein.
Westhope	Bottineau	1,508	20	66.0	−0.1	100	14	39	30	43	1.52	−0.43	0.75	0	5	24	5	2	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	67.2	−1.7	101	14	41	31	43	1.18	−0.85	0.53	0	8	16	14	1	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	64.6	−0.8	100	14	38	22	48	2.56	+0.47	0.99	0	10	16	13	2	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	68.2	+0.1	98	11	45	22	37	4.35	+0.61	2.94	0	7	23	5	3	nw.	U. S. Weather Bureau.
Averages				66.7	−0.8	106	12†	29	30†	63	1.34	−1.27	2.94	0	6	18	9	4	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used i determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for July, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red						.20		.10	.02															1.10				T.		.23		1.65
Amidon	Lit. Missouri																																......
Arnegard	Missouri		.02				1.05	.15																	T.		.35	.01					1.58
Ashley	Missouri	.21							.79															.12									1.12
Beach	Lit. Missouri						.75	.25											.14					.06	T.	.08	T.						1.28
Berthold Agency	Missouri		.15				.11	.85																T.	T.		.03						1.14
Bismarck ***	Missouri		.02			T.	T.	.27	.09					.01		T					T.			.01		.02	T.	T.		T.			0.42
Bottineau‖ ‖	Mouse			.04					.13	.10									.10						1.40	.20			.02		.09	.02	2.10
Bowman	Grand	T.					.59	.07	T.															.32									0.98
Cando	Devils Lake																																......
Carson	Heart			.10			.08	.09															.02	.05									0.34
Cooperstown	Sheyenne		.12						.05															.46									0.63
Crosby	Mouse	.09	.02					.22																.38			.01						0.72
Devils Lake ***	Devils Lake		T.	.01			.08	.32						T.					.02		T.			.44	.42				.03	.08			1.40
Dickinson‖ ‖	Heart			.25			T.	.17	.19	.01									T.					T.	.02	.01	.04	.60	T.				1.29
Donnybrook	Mouse		.42										T.								T.			.30	.40		.17			.05			1.34
Dunn Center ‖‖	Knife							.21						.04													.08						0.33
Dunseith	Mouse		.05					.19		.23		.02							.12		.04			.76	1.16		.02		.04	.24			2.87
Eckman	Mouse						T.	.29											.50					.07	.66		.06			.10			1.68
Edgeley	James	.53													.10									1.63									2.26
Ellendale***	James	.11				.71	.01	.16	.07					T.		T.			T.				T.	.14			.01		.01	T.			1.22
Energy	Missouri		T.				T.	.94						.05							T.			.15	.05	T.	T.			T.			1.19
Epping	Missouri	.02					.31	T.						.07										.33	.02		.24	T.					0.99
Fessenden‖ ‖	James			.18					.06					.05					.02						.41	.06		.03			.03		0.84
Finley	Red							.01	.05				T.	T.					T.		.01			.24	.10		T.		T.	.31			0.72
Forman	Sheyenne						.79																	.67									1.46
Foxholm	Mouse		.06	.01			.05	.21						.21							T.			.12	.11		.16			.03			0.96
Fryburg	Heart		.03	.09			.26	.16	.09										.04				T.		.45	T.	.28						1.40
Fullerton	James					.48								.07		T.								.35	T.					T.	T.	T.	0.90
Garrison	Missouri		.08				.02	.03						.47							T.			T.	T.		.22						0.82
Grafton	Red	.36	.45	.24					.20								.03							.05	.45			T.		T.			1.78
Grand Forks ***	Red			.09		.12	T.	.69	.06				T.			.08	.02				T.			.06	.10			.01	.02	.07			1.32
Granville	Mouse																																......
Hannah	Pembina	.20	.08			T.	T.		.11															.25		.15							0.79
Hansboro	Devils Lake		.05					.30		.17											.08			.50	.95					.26			2.31
Hettinger	Grand		.50			.06	.40																.38										1.34
Hillsboro	Red								.31					.02										.29	.10				T.	.06			0.78
Howard	Missouri	.15					T.	.54				.20	T.	T.					T.		T.			.10		T.	.11						1.10
Jamestown‖ ‖	James					.03			.38	.16					.01				.10					.02	.97			.03			.01		1.71
Lamoine	Missouri							2.30																T.	T.		.27			.21			2.78
Langdon‖ ‖	Pembina			.12					.29					T.								.15			.50	.17	.08			.32			1.63
Larimore	Red	.10		.25				.02	.35													.05			.70	.10		.03			.08		1.68
Linton	Missouri					.14																	.11	.08	T.								0.33
Lisbon ‖‖	Sheyenne	.15					.35		.03					.06					T.	.24					1.24			T.		T.	T.	.06	2.13
McClusky	Missouri							.05	1.10					.13										T.	.16		.23			.07			1.74
McHenry	James			T.				T.						.02					.15					.40	T.				T.	.10			0.67
McKinney	Mouse		1.10	.10			.10	.10										.10					.20	.40		.30		T.	T.	T.			2.40
McLeod	Sheyenne	.03				T.			T.										.07			.07		.82	.02		.02		T.	T.			1.03
Maddock	Sheyenne			.07			.10		.26										.07		T.			.56	.24		.15			.07			1.52
Mandan‖ ‖	Missouri			.02				.04	.10					.07												T.	.09				.01		0.33
Manfred	James			.03			T	T.																.12	.25								0.40
Marmarth	Lit. Missouri	.80	T.			T.	.27	.04										T.					.18				.50						1.79
Mayville	Red			.15					.07															.05	.45				.05		.06		0.83
Melville	James					T.		.55	T.										.15					.25	T.					.11			1.06
Minot‖ ‖	Mouse		.02					.48										.03					.06	.18	.02		.21						1.00
Minto	Red			.27					.10															.12	.46				.03	.09			1.07
Mott	Cannon Ball		1.76			.02	.11	.27																.51			.40						3.07
Napoleon ‖‖	Missouri	.12				.01			.85	.03					.10									.02	.55					.04	.03		1.75
New England	Cannon Ball		.30				.25	T																.65									1.20
New Salem	Heart		T.	.02			.04	.18	.08																	T.	.02						0.34
Park River	Red			.24					.25															.09	.40		.03		.18	.04			1.23
Parshall	Missouri																																......
Pembina ‖ ‖	Red			.90				T	.20	T.															T.	T.							1.10
Pettibone	James			.02				.03	.26															.23									0.54
Power	Sheyenne	.06				.23			.07										.16			T.		1.19					T.		.26		1.97
Powers Lake	Missouri			.41				1.22															.76										2.39
Richardton	Heart		.16	.05			.11	.32	.12															.10									0.86
Sharon	Red		T.	.06			T.	.01	.06					T.					.02		.05			.14	.22		.01	T.	.02	.38			0.97
Stanton	Missouri		.16				T.	.05	.70														T.	T.									0.91
Steele	Missouri			T.	T.	.15	T.	T.	.22					T.	T.	T.							T.	T.	.05		T.			T.			0.42
Towner	Mouse		.83				T.	.43											.20					.70	.12								2.28
Turtle Lake	Missouri			.05				.18	.06					.22										.10	.10		.35			.01			1.07
Valley City	Sheyenne													.09					.10					.64	.09		.01			.05			0.98
Wahpeton	Red						.12		.72															.36	.02		.07						1.29
Washburn	Missouri		.07					.15	.32	.04				.10																			0.68
Westhope	Mouse		.08					.25	T.															.30	.75		.14						1.52
Williston ***	Missouri		.07				.53	.02				.02	.09											.03		.02	.38						1.18
Willow City	Mouse		.05	.02			T.	.03		.02			.06						.31					.92	.99		T.	T.	.05	.11			2.56
Moorhead, Minn ***	Red	.02				2.94		T.	.12					.15					T.			.01		.99	T.			T.		.12	T.		4.35

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	83	93	84	86	85	85	76	76	87	91	90	92	94	94	89	84	80	79	78	73	71	78	63	68	79	76	67	70	68	67	75	80.0
	Minimum...	57	57	61	50	56	55	56	60	45	46	50	61	67	62	64	54	44	55	50	52	53	44	51	56	51	56	44	43	43	47	50	52.9
Arnegard	Maximum...	87	87	70	78	81	72	81	71	90	93	99	98	86	101	80	83	90	81	82	76	79	78	84	78	75	74	72	77	77	86	82	82.2
	Minimum...	48	59	50	58	64	57	56	47	54	57	56	69	42	54	58	53	49	54	42	47	44	43	56	57	47	54	45	42	38	42	43	51.1
Ashley	Maximum...	81	82	79	83	88	79	80	75	83	95	95	97	88	95	87	79	80	91	83	74	74	75	....	71	75	80	74	75	79	67	77	[a]81.4
	Minimum...	67	62	60	51	59	59	50	54	47	60	59	70	68	63	68	51	47	55	47	49	47	40	...	55	52	54	50	51	48	42	49	[a]54.5
Beach	Maximum...	74	80	76	81	89	89	84	76	90	96	104	104	97	106	80	85	92	85	81	72	81	78	82	76	77	80	74	78	75	74	83	83.8
	Minimum...	45	47	46	44	49	50	48	48	50	53	87	80	59	54	65	45	55	51	52	46	51	49	53	55	48	53	54	52	43	36	40	51.9
Berthold Agency	Maximum...	90	80	82	82	80	76	82	70	90	92	93	97	93	100	94	87	88	78	80	62	62	65	71	68	64	64	64	67	67	66	73	78.3
	Minimum...	54	52	54	58	65	56	56	50	50	54	55	64	60	58	68	54	48	64	44	50	43	42	62	59	46	56	46	47	43	38	38	52.7
Bismarck	Maximum...	85	84	79	84	86	78	82	70	86	95	98	100	96	98	81	80	84	91	83	70	76	74	75	66	78	74	72	74	73	68	79	81.3
	Minimum...	63	61	56	50	65	57	56	51	52	63	60	72	68	64	63	54	52	60	53	51	49	49	60	56	48	53	54	49	49	44	47	55.8
Bottineau §§	Maximum...	86	85	77	82	83	72	78	71	85	92	91	97	97	98	79	76	86	80	79	70	74	78	63	70	75	66	69	70	69	67	76	78.7
	Minimum...	55	61	49	51	60	48	53	48	42	57	65	69	70	63	63	51	46	59	45	55	49	47	56	55	48	54	47	44	45	41	45	52.9
Bowman	Maximum...	84	88	80	85	79	75	87	74	89	93	100	100	95	99	91	83	87	85	84	70	78	78	81	74	84	83	74	77	75	70	78	83.2
	Minimum...	61	58	48	53	61	58	57	47	49	56	52	69	64	54	64	47	51	57	44	42	41	53	53	50	49	54	55	53	44	42	37	52.4
Cando	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carson	Maximum...	84	82	79	79	80	70	82	80	85	95	97	100	98	98	84	84	86	91	85	70	80	66	80	74	81	83	70	78	72	72	82	82.2
	Minimum...	56	64	48	49	60	48	49	60	44	45	44	60	70	70	52	44	45	49	39	39	45	40	46	45	37	42	42	42	30	29	29	47.2
Crosby	Maximum...	84	78	75	85	80	82	78	78	91	93	96	103	98	103	87	88	90	81	78	71	64	80	75	81	72	68	75	76	75	75	84	82.1
	Minimum...	51	53	49	51	53	50	49	51	58	60	66	68	67	58	50	52	53	64	63	45	48	48	53	56	54	56	44	43	45	46	39	53.0
Devils Lake	Maximum...	83	87	76	79	86	77	79	69	84	91	88	96	96	97	81	75	82	87	80	67	73	77	64	67	78	65	68	69	68	65	77	78.4
	Minimum...	59	61	56	48	57	52	58	50	48	64	64	66	65	62	60	51	50	57	51	53	49	40	53	55	50	48	42	45	44	44	47	53.2
Dickinson §§	Maximum...	90	78	81	87	85	79	86	72	90	95	101	102	99	101	84	85	90	89	84	73	80	81	83	77	78	79	72	76	77	72	77	84.0
	Minimum...	50	57	50	49	62	56	56	48	51	51	50	68	69	52	63	44	49	57	45	48	39	49	50	51	45	51	53	50	43	41	37	51.1
Donnybrook	Maximum...	80	87	75	89	75	76	80	75	89	95	94	99	98	92	92	80	89	78	80	74	77	79	73	72	75	68	71	73	72	71	77	80.8
	Minimum...	57	55	56	54	48	56	53	49	46	50	60	73	66	65	62	51	50	65	52	51	40	43	54	56	50	58	45	43	42	57	56	53.6
Dunn Center §§	Maximum...	87	85	72	85	80	69	81	70	93	93	101	99	96	100	79	79	89	83	81	68	76	76	76	71	75	71	74	74	67	66	77	80.4
	Minimum...	52	52	47	48	61	53	51	47	47	47	51	65	66	53	61	45	43	62	47	44	42	45	56	56	42	48	42	41	39	37	35	49.1
Dunseith	Maximum...	81	84	72	81	83	72	77	68	82	86	89	92	92	96	86	76	84	82	71	67	72	78	71	71	75	67	83	68	67	65	75	77.8
	Minimum...	56	61	48	53	59	58	50	46	46	52	58	66	68	63	63	52	44	64	56	53	47	42	53	54	51	50	42	42	43	41	42	52.5
Edgeley	Maximum...	82	83	81	85	89	81	82	74	94	94	96	96	96	96	94	81	80	92	85	80	75	78	72	64	72	80	71	73	72	67	76	82.0
	Minimum...	50	62	59	48	49	55	50	55	60	43	60	61	72	62	66	53	44	54	48	49	48	38	55	56	49	53	49	46	43	42	53	52.6
Ellendale	Maximum...	80	80	78	79	88	76	80	67	81	92	93	94	92	93	84	77	79	90	82	69	72	74	64	67	76	80	68	71	74	66	77	78.8
	Minimum...	68	64	60	53	59	58	58	54	50	56	61	65	67	63	61	55	49	51	49	51	50	42	59	57	52	51	48	47	51	46	53	55.2
Fessenden §§	Maximum...	89	90	79	85	96	81	89	93	98	98	99	106	102	104	83	80	87	96	85	70	79	81	65	65	80	73	75	77	73	74	83	85.0
	Minimum...	56	56	55	45	60	47	47	52	52	50	46	43	67	60	62	46	46	58	44	48	47	38	53	55	48	56	43	47	39	44	43	50.1
Foxholm	Maximum...	83	83	73	83	80	78	79	72	88	90	93	97	95	97	87	77	86	82	79	71	73	78	73	67	75	72	70	72	71	66	76	79.5
	Minimum...	55	59	52	48	64	55	50	47	48	60	57	65	72	63	62	53	52	65	53	53	46	45	54	55	50	55	49	45	43	40	44	53.5
Fullerton	Maximum...	85	85	78	85	87	78	83	73	84	96	95	97	98	98	85	78	81	91	84	76	74	78	64	65	79	80	70	72	72	68	78	81.2
	Minimum...	53	65	63	50	65	56	60	57	48	58	63	64	63	68	62	54	47	55	58	50	49	42	58	57	51	52	52	46	47	45	54	55.2
Garrison	Maximum...	83	88	86	83	76	68	81	71	88	94	96	99	95	95	78	78	84	82	80	67	77	74	71	69	77	81	71	83	75	68	79	80.5
	Minimum...	57	58	55	52	46	52	52	47	44	61	56	61	66	65	61	49	46	51	47	47	42	43	43	43	42	42	42	42	40	38	48	49.7
Grafton	Maximum...	86	88	77	77	84	83	79	72	....	92	87	86	93	94	86	74	81	83	81	71	73	78	72	70	81	71	69	70	67	66	79	[a]79.0
	Minimum...	60	55	60	50	58	53	57	55	...	49	60	61	62	65	64	58	44	57	51	57	56	45	42	58	54	57	45	45	41	47	52	[a]53.9
Grand Forks	Maximum...	84	86	75	76	84	79	79	68	80	91	88	86	92	91	82	72	77	82	82	70	70	76	70	67	80	67	68	68	65	64	78	77.3
	Minimum...	62	59	57	51	53	56	62	54	50	63	64	63	66	66	61	52	48	56	53	53	54	46	50	58	52	46	42	44	43	47	52	54.3
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Hansboro	Maximum...	85	86	81	80	80	77	76	70	90	90	89	90	94	97	81	70	85	76	71	70	75	78	73	70	77	71	70	68	65	65	78	78.3
	Minimum...	52	58	44	40	55	40	44	45	40	45	52	60	58	55	58	47	38	40	40	40	35	30	38	59	42	50	38	38	40	39	42	41.8
Hettinger	Maximum...	79	81	84	86	72	81	79	84	94	94	96	99	97	99	88	83	86	88	86	78	84	82	74	74	84	84	91	93	88	87	...	[a]85.8
	Minimum...	49	58	46	44	66	53	54	47	58	53	50	64	62	52	55	41	46	42	40	40	41	50	50	56	46	47	49	48	48	33	...	[a]49.6
Hillsboro	Maximum...	84	86	84	78	84	81	81	80	83	92	92	88	94	94	92	79	80	84	84	82	72	79	76	65	85	84	70	68	70	67	79	81.2
	Minimum...	64	57	62	52	58	55	61	53	48	57	63	64	68	66	63	57	47	50	50	52	56	47	50	51	53	52	46	46	44	47	51	54.6
Howard	Maximum...	85	76	74	86	72	72	79	72	80	91	95	99	96	102	73	87	91	86	68	69	74	80	66	68	78	71	69	75	72	69	77	78.8
	Minimum...	54	50	48	50	55	54	46	46	49	50	51	65	63	55	59	60	45	57	52	46	42	45	56	48	50	51	44	43	41	38	41	50.1
Jamestown §§	Maximum...	85	85	81	80	87	84	79	69	78	96	94	96	96	98	85	78	82	88	83	70	74	76	76	62	78	75	79	74	73	75	76	81.0
	Minimum...	59	57	60	54	57	49	51	56	46	50	58	63	66	62	64	53	44	52	47	50	54	43	49	47	50	54	48	50	44	42	48	52.6
Lamoine	Maximum...	85	84	86	85	84	79	79	72	84	91	93	98	94	98	80	82	80	81	82	78	74	78	70	65	78	70	70	72	70	77	80	80.6
	Minimum...	48	50	50	48	50	48	50	48	45	57	60	65	67	70	63	64	64	60	48	46	44	45	56	55	42	45	45	44	42	44	45	51.9
Langdon §§	Maximum...	83	83	74	77	82	80	75	69	79	92	88	87	93	92	78	70	81	83	79	64	70	73	68	68	78	62	67	63	61	61	74	76.1
	Minimum...	50	56	52	45	60	49	52	51	46	51	61	65	62	60	60	50	45	58	48	55	52	41	49	55	49	54	41	43	42	43	45	51.3
Larimore §§	Maximum...	85	90	79	88	85	83	82	70	86	95	92	91	98	96	82	74	82	85	82	70	72	82	68	65	80	62	69	67	67	64	78	79.6
	Minimum...	57	55	55	48	52	53	55	55	47	58	60	63	63	65	70	55	42	56	55	51	52	41	47	56	50	53	42	44	41	47	59	52.9
Linton	Maximum...	89	82	82	79	82	75	82	80	86	99	98	98	95	101	99	84	87	98	87	75	81	76	81	73	83	85	76	71	76	79	66	84.0
	Minimum...	44	44	44	49	62	59	52	51	40	40	52	63	61	55	70	52	44	65	41	43	45	41	51	49	47	47	52	49	45	41	44	49.7
Lisbon §§	Maximum...	84	85	81	83	89	83	85	67	85	95	95	96	95	97	88	80	84	89	85	74	73	83	65	68	82	81	71	72	73	67	70	81.5
	Minimum...	49	59	59	51	55	57	52	59	43	60	56	67	62	65	63	54	42	50	47	49	56	40	55	50	52	62	48	46	41	53	52	53.4
McKinney	Maximum...	86	87	76	70	70	75	75	68	90	90	94	92	95	84	80	86	75	82	70	75	80	77	65	75	70	65	70	66	67	70	76	77.5
	Minimum...	45	47	45	45	48	46	65	45	45	54	60	67	60	60	50	50	55	55	50	55	38	56	50	50	40	40	50	44	45	43	45	49.9
Maddock	Maximum...	86	87	85	80	86	77	79	81	88	91	92	100	98	98	98	78	84	88	82	76	75	76	75	65	78	76	70	69	69	65	78	81.6
	Minimum...	56	54	51	44	58	43	47	75	75	60	55	65	64	59	62	49	43	56	44	50	50	36	49	57	48	53	39	42	39	41	44	51.8
Melville	Maximum...	82	87	78	....	82	....	88	82	87	96	96	97	97	95	95	83	....	87	82	75	72	77	72	67	77	72	68	70	77	67	77	[c]81.6
	Minimum...	58	59	56	....	53	....	42	58	45	60	62	66	60	66	66	48	....	55	48	48	51	42	55	54	47	55	41	46	48	41	47	[c]52.8
Minot §§	Maximum...	88	87	77	87	89	72	84	71	90	100	93	103	93	100	83	80	88	83	80	73	78	81	70	68	77	71	72	74	73	70	80	81.8
	Minimum...	57	51	47	64	51	52	49	46	55	52	65	71	58	60	51	52	63	50	52	41	42	54	56	4	56	45	40	41	46	43	43	51.5
Mott	Maximum...	89	88	79	78	80	77	80	82	84	88	93	97	97	98	94	81	80	78	78	69	78	80	76	77	78	76	75	72	78	82	80	82.0
	Minimum...	72	66	70	63	60	58	62	47	49	69	73	76	70	80	72	66	60	53	50	43	48	44	43	46	47	43	44	40	42	43	40	56.1
Napoleon §§	Maximum...	83	84	83	80	85	81	80	70	83	95	98	99	95	98	85	81	85	94	85	70	76	78	65	63	76	78	71	74	74	68	80	81.2
	Minimum...	62	57	57	43	51	55	51	51	47	60	58	63	64	57	68	45	42	56	43	42	42	36	51	53	48	50	48	45	45	38	41	50.7
New Salem	Maximum...	84	85	81	85	81	90	82	75	88	96	100	102	97	98	88	82	88	92	92	88	86	79	79	66	72	72	76	77	76	72	80	84.2
	Minimum...	60	61	52	50	62	50	52	48	51	64	62	70	65	62	64	61	48	54	58	52	45	51	58	50	50	53	54	49	44	38	42	54.2
Pembina §§	Maximum...	85	88	76	85	82	81	80	71	82	92	90	87	94	95	80	71	84	85	78	71	73	80	78	74	82	67	69	68	65	70	78	79.4
	Minimum...	56	58	57	46	55	51	50	51	50	54	61	62	65	64	65	56	46	52	53	55	51	43	40	53	52	55	39	39	45	45	43	52.0
Steele	Maximum...	86	87	84	84	88	79	80	72	81	98	100	100	97	97	81	80	87	90	88	78	76	78	70	64	74	72	70	73	70	67	75	81.5
	Minimum...	61	56	59	56	51	55	54	56	54	60	60	65	66	67	63	47	43	46	43	46	45	44	44	54	41	46	49	50	46	41	46	52.2
Towner	Maximum...	89	88	86	89	80	83	79	72	91	95	94	103	101	101	99	77	88	84	81	78	79	80	75	70	71	75	76	71	70	73	80	83.2
	Minimum...	50	60	50	48	47	46	40	41	46	55	60	70	65	60	60	50	64	60	50	51	52	50	48	49	47	47	46	41	42	42	43	51.0
Valley City	Maximum...	87	89	86	80	80	80	77	72	85	92	94	91	94	93	85	75	80	83	85	70	70	77	75	65	78	74	72	71	75	65	76	79.9
	Minimum...	64	60	59	51	59	55	55	51	45	61	61	65	68	66	66	50	42	44	47	45	52	43	54	55	48	57	53	44	40	45	50	53.5
Wahpeton	Maximum...	84	87	84	80	88	82	85	82	84	93	96	93	94	95	92	84	80	82	85	75	75	81	79	70	83	84	73	74	74	71	79	82.9
	Minimum...	60	56	55	49	55	60	52	60	48	56	60	61	60	60	64	51	43	52	48	49	49	40	50	55	52	61	46	45	41	42	66	53.2
Westhope	Maximum...	90	82	76	85	80	75	79	72	87	94	94	99	97	100	79	79	88	80	78	72	78	82	62	72	76	67	71	70	70	69	78	80.0
	Minimum...	52	60	52	45	63	50	59	48	44	53	58	69	68	79	54	50	45	48	50	54	45	43	55	56	50	55	49	42	43	39	43	52.0
Williston	Maximum...	86	82	77	87	79	75	82	73	90	94	99	97	98	101	78	82	90	77	80	68	75	77	73	75	75	67	70	73	72	69	78	80.6
	Minimum...	56	54	52	53	64	60	52	49	47	59	57	70	65	60	60	52	58	57	52	50	44	52	59	57	53	54	48	46	45	42	41	53.8
Moorhead, Minn	Maximum...	86	90	80	83	87	82	84	66	88	95	98	90	94	94	90	77	82	83	87	75	71	78	66	67	78	77	67	68	68	64	77	80.4
	Minimum...	63	62	60	55	58	58	60	56	51	58	64	66	72	69	61	55	50	56	53	54	53	45	52	57	55	54	46	47	48	46	54	56.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 8-24-28—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

OL. XXXIV   BISMARCK, N. D., AUGUST, 1925   No. 8

GENERAL SUMMARY

The month opened with generally cool and dry weather, a ondition which prevailed during the first and second decades, lthough occasional high temperatures were reported during ne first decade. During this period rapid progress was made 1 the harvesting of late grain and flax, and rye threshing nade good progress. High temperatures were general through- it the last decade, and caused late corn and flax to deterio- ite. Ranges, pastures and meadows suffered considerably om drought during this period. At the close of the month rm work was considerably ahead of the season. In the east- n part of the State fall plowing was well under way, but the il was too dry in west and central portions for best results. ivestock at the close of the month was in good condition.

TEMPERATURE

The mean temperature for the State was 67.9°, or 2.5° above e normal, and 4.1° higher than the mean for August, 1924. ne highest mean reported was 72.1° at Wahpeton, Richland ounty; the lowest was 62.4° at Hansboro, Towner County. ne highest temperature reported was 110° at Linton, Em- ons County, on the 5th; the lowest was 29° at Carson, Grant ounty, on the 25th. The greatest monthly range of tempera- re was 75° at Linton, Emmons County; the least was 48° at mbina, Pembina County. The greatest daily range was 60° Hettinger, Adams County, on the 27th.

PRECIPITATION

The average precipitation for the State was 1.07 inches, or 21 inches below the normal, and 0.58 inch less than the erage for August, 1924. The greatest monthly amount re- rted was 3.40 inches at Pembina, Pembina County; the least is 0.05 inch at Arnegard, McKenzie County. The greatest nount recorded in any 24 consecutive hours was 2.10 inches Manfred, Wells County, on the 17th. The average number days with 0.01 inch or more of precipitation was 5.

AURORAS

Auroras were observed at Arnegard, Howard and Willow City the 7th; at Foxholm on the 8th; at Arnegard and McLeod the 9th; at Howard on the 16th; at Foxholm and Willow ty on the 17th; at Fessenden on the 21st; at Bismarck, Dev- Lake, Ellendale, Foxholm, Larimore, McLeod and Willow ty on the 22d; at Bowman, Ellendale, Howard and Napoleon the 23d; at Fullerton and Howard on the 24th, and at Na- leon on the 26th.

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BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.97	30.59	25	29.53	23	57	5,966	8.0	34	n.	29
Devils Lake	29.94	30.48	25	29.50	23	44	6,069	8.2	30	ne.	21
Ellendale	30.00	30.49	25	29.57	23	56	8,915	12.0	48	se.	17
Grand Forks	29.92	30.48	26	29.57	28	90	....	......	44	s.	27
Williston	29.92	30.50	25	29.44	23	48	5,204	7.0	42	w.	28
Moorhead, Minn	29.91	30.45	26	29.62	23	58	5,654	7.6	30	sw.	20
Av'ges and extremes	29.94	30.59	25	29.44	23	.....	....	8.6	48	se.	17

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	361.9	439.4	82	+17	75	42	38	18	2
Devils Lake	302.7	442.0	68	+ 3	84	43	53	23	29
Ellendale	353.4	437.4	81	+16	81	42	....	21	6
Grand Forks	......	......	......	......	......	......	....	......	....
Williston	345.4	442.0	78	+ 9	74	39	34	17	2
Moorhead, Minn	387.0	439.4	89	+22	81	46	50	28	30
Averages and extremes	350.1	440.0	80	+13	79	42	44	17	2

† And other dates.

COMPARATIVE STATE DATA FOR AUGUST

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	- 0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918...	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919...	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920...	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921...	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922...	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.
1923...	63.0	−2.4	97	28	1.90	−0.38	8	14	12	5	nw.
1924...	63.8	−1.6	102	28	1.65	−1.45	6	17	9	5	nw.
1925...	67.9	+2.5	110	29	1.07	−1.21	5	20	8	3	nw.

Climatological Data for August, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	68.2	+1.9	96	23	38	21	47	0.50	−2.22	0.35	0	3	25	5	1	s.	E. T. Carley.
Amidon	Slope		12	68.8^{a}		102^{a}	22	45^{a}	13†	47^{a}	0.62	−1.12	0.24	0	4	21	7	0	nw.	H. M. Critchfield.
Arnegard	McKenzie		11	68.6		102	22	35	25	49	0.05		0.03	0	3	23	6	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	69.6^{a}	+3.7	105^{a}	23	43^{a}	2	45^{a}	0.93	−1.27	0.36	0	4	26	2	3	nw.	R. C. Miles.
Beach	Golden Valley	2,579	20	68.8	+3.8	104	22	36	25	49	0.46	−1.59	0.22	0	4					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	67.2	−0.5	105	22	35	25	53	1.05	−0.72	0.35	0	4	19	11	1	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	69.6	+2.3	100	22	45	25	46	1.69	−0.29	0.45	0	9	25	5	1	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	65.2	+1.6	93	27	35	20	45	1.01	−1.20	0.42	0	6	19	5	7	e	E. C. Evenson.
Bowman	Bowman	2,961	12	69.4		102	22	36	25	46	0.66	−0.29	0.30	0	4	25	5	1	nw.	R. Love, Jr.
Cando	Towner	1,488	25	67.2^{a}	+3.3	99^{a}	23	40^{a}	20	42^{a}	0.28	−1.93	0.11	0	4				nw.	A. J. Swanson.
Carson	Grant	2,500	14	65.8	−1.8	101	22	29	25	57	0.96	−0.44	0.48	0	5	23	7	1	se.	J. W. Evens.
Cooperstown	Griggs	1,428	20								1.55	−1.11	0.70	0	4	22	9	0	nw.	S. Friswold.
Crosby	Divide	1,954	19	66.0	+2.3	96	3	36	25	45	1.10	−1.00	0.70	0	6	16	13	2	se.	John Jensen.
Devils Lake	Ramsey	1,478	29	67.8	+2.7	103	23	40	20	42	0.89	−1.87	0.39	0	6	17	8	6	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	67.8	+1.5	102	22	34	25	51	1.30	−0.65	0.57	0	8	26	2	3		Leroy Moomaw.
Donnybrook	Ward	1,760	27	67.4^{i}	+4.1	96^{i}	21	40^{i}	13	50^{i}	0.77	−1.37	0.52	0	5					H. Feldner.
Dunn Center	Dunn	2,191	27	65.4	−1.2	101	22	34	25	54	0.62	−0.95	0.20	0	6	23	5	3		W. H. Moede.
Dunseith	Rolette	1,682	30	65.0	+1.4	91	27	34	20	44	1.66	−0.75	0.90	0	7	10	12	9	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	64.3	+1.0	96	27	33	20	48	0.73	−1.59	0.31	0	5	0	27	4	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	69.8	+3.4	106	23	41	21†	50	0.39	−1.75	0.39	0	1	12	17	2	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	70.4	+1.6	103	23	43	21	44	1.45	−0.81	0.68	0	7	17	10	4	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	67.4		102	22	37	25	50	1.19	−0.76	0.27	0	8	16	15	0	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	66.6		96	6†	32	25	54	0.24	−1.91	0.10	0	4	20	5	6	se.	A. O. Wang.
Fessenden	Wells	1,610	14	68.6	+3.6	106	23	40	20	55	1.42	−0.96	0.40	0	6	18	9	4	se.	T. D. Monsen.
Finley	Steele	1,461	2	68.1		99	23	44	20	37	2.84		0.87	0	5	19	10	2	nw.	G. J. Mustad.
Forman	Sargent	1,249	32								1.55	−1.16	0.68	0	5	21	7	3	s.	O. Enger.
Foxholm	Ward	1,657	5	66.3		96	21†	38	20	48	0.65		0.19	0	7	15	13	3	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								0.61		0.15	0	6	22	9	0	nw.	Verne King.
Fullerton	Dickey	1,439	28	70.9	+4.6	102	23	42	21	45	2.29	−0.24	0.55	0	7	22	7	2	s.	F. O. Alin.
Garrison	McLean	1,901	31	67.1^{c}	+1.4	102	22	39^{f}	20†	49^{f}	0.63	−1.37	0.24	0	5	23	7	1	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	68.8^{b}	+4.3	101^{b}	23	41	26	44^{b}	1.70	−0.89	0.44	0	10				nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	68.2	+3.3	96	23	42	21	39	1.96	−0.50	0.79	0	10	17	5	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	64.6	+0.7	98	22	36	20	40	0.18	−1.91	0.12	0	2	13	18	0	se.	W. A. Christianson.
Hannah	Cavalier	1,568	32								0.43	−1.42	0.20	0	3					J. Moffatt.
Hansboro	Towner	1,597	18	62.4	−0.4	95	27	35	21	45	0.85	−1.37	0.30	0	4	17	11	3	s.	C. E. Blackorby.
Hettinger	Adams	2,675	19	69.0	+2.0	104	21	37	25†	60	0.41	−0.84	0.21	0	2	25	5	1	nw.	C. J. Downey.
Hillsboro	Traill	901	20	71.2	+4.3	101	23	41	21	43	1.30	−1.64	0.58	0	7	18	12	1	s.	F. E. Mayall.
Howard ‡‡	Williams	2,275	19	65.8	+2.3	97	22	34	25	46	0.19	−1.70	0.16	0	3	22	9	0	se.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	34	69.1	+2.9	105	24	41	31	54	0.71	−2.03	0.34	0	5	21	0	10	s.	S. Calvelage.
Lamoine	Kidder	1,936	21	67.1	+3.2	103	22	38	20	47	1.41	−0.57	0.72	0	3	21	7	3	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	65.4	+3.7	93	23	41	20	44	1.72	−0.93	0.55	0	8	22	4	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	68.6	+4.3	104	22	40	21	54	1.36	−1.24	0.35	0	8	19	5	7	s.	Reuben Gray.
Linton	Emmons	1,711	8	71.8		110	5	35	29	60	1.52		1.13	0	5	20	5	6	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	70.0	+3.5	107	23	38	21	48	1.43	−0.83	0.64	0	8	13	14	4		W. S. Adams.
McClusky	Sheridan	1,943	8	67.2		102	23	39	20†	48	0.73		0.23	0	5	21	7	3	se.	Edw. Tapley.
McHenry	Foster	1,509	15	66.6^{a}	+1.9	99^{a}	23	41^{a}	20	53^{a}	1.10	−2.08	0.50	0	6	21	0	7	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	63.8	+0.3	95	21	40	4†	55	1.20	−0.58	0.35	0	7	14	14	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	70.6	+3.0	102	23	40	21	48	1.45	−0.90	0.39	0	9	27	2	2	ne.	J. G. Carlson.
Maddock	Benson	1,604	10	66.7		105	23	33	20	55	0.64	−1.58	0.17	0	7	10	16	5	nw.	A. T. Felland.
Mandan	Morton	1,644	12	68.8	+1.0	101	23	41	25	51	1.31	+0.09	0.33	0	11	19	5	7	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	66.2	+1.9	100	23	42	16†	41	2.61	+0.15	2.10	0	4	18	11	2	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17																	S. P. Grane.
Mayville	Traill	975	30	70.2	+3.9	100	23	41	26	51	1.17	−1.77	0.90	0	3	24	5	2	sw.	R. Peterson.
Melville	Foster	1,590	28	68.2^{c}	+1.8	103^{c}	23	40^{c}	20	46^{c}	1.26	−0.73	0.65	0	4				se.	J. P. Kidder.
Minot	Ward	1,557	30	66.5	+1.4	97	21†	40	24	42	0.77	−1.43	0.25	0	6	26	3	2	e.	W. I. Faris.
Minto	Walsh	820	33	68.0	+3.4	99	23	40	21	49	1.75	−0.66	0.48	0	7	22	5	4	se.	C. M. Evans.
Mott	Hettinger	2,424	19	69.6	+3.7	101	22	40	15	44	1.35	−0.29	0.91	0	3	15	8	8	nw.	O. H. Opland.
Napoleon	Logan	1,955	34	69.2	+3.2	107	23	41	20†	55	0.73	−1.66	0.31	0	4	18	10	3	s.	C. J. Hoof.
New England	Hettinger	2,400	32	69.0	+2.3	101	22	38	25	50	0.40	−1.37	0.40	0	2	22	8	1	se.	W. S. Jones.
New Salem	Morton	2,163	22	70.2	+3.8	104	22	40	25	48	1.22	−0.45	0.61	0	4	22	8	1	se.	J. Christiansen.
Park River	Walsh	998	22																	C. B. Wright.
Parshall	Mountrail		11																	J. A. Johnson.
Pembina	Pembina	789	52	65.9	+1.8	93	23	45	20†	40	3.40	+1.27	0.80	0	7	20	5	6	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17																	S. C. Shanks.
Power	Richland	1,020	32								0.74	−1.73	0.27	0	5	23	8	0	s.	Frank B. Power.
Powers Lake	Burke	2,205	12								0.06	−1.53	0.03	0	3	25	5	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	70.2^{a}		102^{a}	22	39^{a}	25	45^{a}	1.33		0.78	0	4	21	8	2	nw.	John Muggli.
Sharon	Steele	1,516	1								1.81		0.72	0	6	23	7	1	s.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2								0.45		0.43	0	2	25	6	0	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	68.7	+1.9	104	23	40	26	50	2.25	−0.09	1.50	0	5	17	12	2	nw.	H. S. Wood.
Towner	McHenry	1,482	24	67.0	+2.6	100	27	33	19	53	0.07	−2.02	0.05	0	2	25	5	1	sw.	B. Bagley.
Turtle Lake	McLean	1,899	11	67.4		101	22	42	20†	50	1.09	−0.79	0.39	0	8	17	11	3	s.	A. T. Anderson.
Valley City	Barnes	1,245	21	70.2	+4.6	102	23	43	20	46	0.65	−1.60	0.25	0	4	14	16	1	se.	H. Twito.
Wahpeton	Richland	962	32	72.1	+5.2	100	23	40	21	46	1.76	−1.14	0.50	0	8	25	0	6	se.	C. G Luick.
Washburn	McLean	1,731	25								1.24	−0.09	0.40	0	6					Karl Klein.
Westhope	Bottineau	1,508	20	64.9	+0.8	95	21†	36	20	54	1.23	−1.00	0.74	0	5	26	3	2	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	67.4	+1.3	96	22	40	25	44	0.74	−0.57	0.68	0	3	22	8	1	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	64.1	+0.6	97	27	34	31	57	0.42	−1.66	0.27	0	6	18	10	3	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	70.7	+4.6	99	23	43	21	42	0.25	−2.85	0.12	0	7	22	8	1	s.	U. S. Weather Bureau.
Averages				67.9	+2.5	110	5	29	25	60	1.07	−1.21	2.10	0	5	20	8	3	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for August, 1925

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Amenia ‖	Red					.35														.05								.10					0.50
Amidon	Lit. Missouri											.13			.10														.15	.24			0.62
Arnegard	Missouri											.01			.01			.03															0.05
Ashley	Missouri					.23	.12					.30	T.														.22						0.87
Beach	Lit. Missouri				.15										.03													.06	.22				0.46
Berthold Agency	Missouri				.10										.30				.30											.35			1.05
Bismarck ***	Missouri				T.							.45			.08			.37		.10		.19		T			.01	.20	.11	.18			1.69
Bottineau ‖	Mouse							.42	.32	.07			.02										.15						.03				1.01
Bowman	Grand											.11								T								.10	.15	.30			0.66
Cando	Devils Lake							.10	T.	T			.11			.02							.05										0.28
Carson	Heart				.02							.48			.10			.34												.02			0.96
Cooperstown	Sheyenne							.15				.20				.50		.70															1.55
Crosby	Mouse				.06			.70					.04					.09						T	.01				.20				1.10
Devils Lake ***	Devils Lake				T.			T.				.39	T.		.21	.04	.04	.14				T		T.				T	T	.07			0.89
Dickinson ‖	Heart					.05						.17	.57	T.		T.				.08								.02	.03	.34	.04		1.30
Donnybrook	Mouse				.12			.52				.05	.04																.04				0.77
Dunn Center ‖	Knife					.20									.05					.04									.08	.17	.08		0.62
Dunseith	Mouse				.05			.90	.07	.01												.47			.01				.15				1.66
Eckman	Mouse				.04			.31				.23	.09																.06				0.73
Edgeley	James											.39																					0.39
Ellendale***	James				.08		.68					.21				.02		.06		T.				T	T.		.27			.13			1.45
Energy	Missouri				.27			T				.15	.12		.07			.07		.12									.13	.26			1.19
Epping	Missouri				.04																			T.	.10				.05	.05			0.24
Fessenden ‖	James												.40	.32		.06			.38											.17	.09		1.42
Finley	Red							.80				.30				T.	.25	T	.87					.62					T	T.			2.84
Forman	Sheyenne					.08		.22				.15							.68								.42						1.55
Foxholm	Mouse				.12			.01				.18	.12			T.	.02	T.						.01	T				.19				0.65
Fryburg	Heart				.03							T	T.		.14					.04			T.					T.	.11	.14	.15		0.61
Fullerton	James				.35		T.	.08				.55						.42						.38			.35				.16		2.29
Garrison	Missouri				.24							.06	.03		.14														T.	.16			0.63
Grafton	Red					.01		.41		.03		.01	.37			.31	.05	.12				.01	.35										1.70
Grand Forks ***	Red				T.			.79		.01		.08	.07		.07	.09	T.	.16				.35		.20	.14		T.	T.					1.96
Granville	Mouse				.06							T.	T			.12		T.	T.										T.	T.			0.18
Hannah	Pembina					.20							T.									.08		.15								T.	0.43
Hansboro	Devils Lake							.27	.15	.13						.30																	0.85
Hettinger	Grand											.20															.21	T.	T.				0.41
Hillsboro	Red					.05			.14							.07	.28	T.	.58						.06			.12					1.30
Howard	Missouri				T.			T.					T.		.02			T.						T.	.01				.16	T.			0.19
Jamestown ‖	James					.10		.07					.34						.01	.19													0.71
Lamoine	Missouri				.05															.72										.63			1.41
Langdon ‖	Pembina								.16		T.		.30	.06		.55	.08		.06		T.				.47					.04			1.72
Larimore	Red								.10				.25			.10	.04	.02	.20				.35		.30								1.36
Linton	Missouri											1.13	.12					.08									.17		.02		T.		1.52
Lisbon ‖	Sheyenne					.17			.64				.12						T.	.03	T.				.10	.05		.20			.12		1.43
McClusky	Missouri				.11							.15	T.		T.			.23		.05				T.						.19	T.		0.73
McHenry	James						.14					.50					T.	.02	T.					.23				.10	T.	.11			1.10
McKinney	Mouse				.20			.35	T.			.35				.10		.05						T.	T				.10	.05			1.20
McLeod	Sheyenne					.20	.39	.34				T.						.07		.07					.06		.15	.09			.08		1.45
Maddock	Sheyenne				T.			T.				.03	.12		.06	.16	.03	.07												.17			0.64
Mandan ‖	Missouri					.02						.12	.18			.06		.02	.33	.12			.17					.10		.18	.01		1.31
Manfred	James				T.							.16	T.	T.		T.	.10	2.10												.25			2.61
Marmarth	Lit. Missouri																											T	.25				0.25
Mayville	Red								.12										.90						.15								1.17
Melville	James						.20					.28	T.					.65	T.								T.	T.		.13			1.26
Minot ‖	Mouse						.17					.21	.02		.03													.09	.25				0.77
Minto	Red							.31					.12			.20		.46	.12				.48		.06								1.75
Mott	Cannon Ball											.91			.16															.28			1.35
Napoleon ‖	Missouri											.07	.30								.05							.31					0.73
New England	Cannon Ball																												*	.40			0.40
New Salem	Heart				T.			T.				.61						.09										.02		.50			1.22
Park River	Red				T.		.59		.03			.07			.30		.20	.02				.38		.50		T.							2.09
Parshall	Missouri																																
Pembina ‖	Red						.50						.60	.10		.60	.40						.80	T.	.40					T.			3.40
Pettibone	James											.33			.02			.02	.47	.20													1.04
Power	Sheyenne				.04		.27								T.					.26				T.	.06		T.	.11		T.			0.74
Powers Lake	Missouri								.02								.03								.01								0.06
Richardton	Heart											.78			.11					.18										.26			1.33
Sharon	Red							.72		T.		.27	.15			T.	.04	T.	.06	T.				T.	.57		T.	T.	T.				1.81
Stanton	Missouri			.02								T.			T.		T.			T										.43			0.45
Steele	Missouri											1.50	T.		T.	T.	T.	.25	.20	.15				T.			T.	T.	.15	T.			2.25
Towner	Mouse				.05											.02													T.				0.07
Turtle Lake	Missouri				.16							.05	.09			.13	.15	.03		.09				T.						.39			1.09
Valley City	Sheyenne				.10			.25					.10										.20										0.65
Wahpeton	Red					.18		.21											.50	.08					.50	.05	.09				.15		1.76
Washburn	Missouri				.32										.34					.12								.02		.40	.04		1.24
Westhope	Mouse				T.			.74	.03			.35	.06			.05																	1.23
Williston ***	Missouri				T.		T.				T.	T.	T.		T.			.05				T.		T.	.01			T.	.68				0.74
Willow City	Mouse				.02			.27	.02				.03			T.		T.		T.		.03			T.				.05	T.			0.42
Moorhead, Minn ***	Red				T.			.01								T.		T.		.02				.03	0.3		.11	.01	T.	.04			0.25

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for August, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	79	84	84	90	86	86	86	86	83	80	70	80	74	86	86	90	87	86	76	68	82	90	96	86	81	71	88	93	91	86	90	83.9
	Minimum...	50	49	51	56	60	60	57	55	49	54	53	53	52	47	51	60	55	54	55	45	38	45	62	67	50	42	48	60	60	48	43	52.5
Arnegard	Maximum...	84	91	96	89	95	91	77	79	82	91	82	76	83	93	82	82	83	83	80	83	96	102	79	85	82	91	92	86	76	77	95	85.9
	Minimum...	45	46	52	64	52	57	60	51	50	59	57	51	42	50	53	40	45	52	52	44	59	57	54	45	35	56	70	56	48	44	[illegible]	51.4
Ashley	Maximum...	86	84	89	81	92	95	93	83	80	85	73	74	75	89	88	93	88	86	80	....	89	98	105	91	78	76	92	88	87	82	90	[a]86.4
	Minimum...	45	43	50	57	54	56	54	52	51	47	57	52	51	46	57	56	52	50	53	....	45	58	68	62	46	48	62	66	58	46	45	[a]52.9
Beach	Maximum...	90	93	98	94	94	88	82	74	85	90	84	75	86	92	84	82	84	85	80	87	97	104	80	76	85	92	90	86	71	84	94	86.6
	Minimum...	46	60	58	65	55	51	50	44	48	50	61	50	40	56	51	40	48	45	50	43	50	70	55	49	36	55	62	54	45	43	50	51.1
Berthold Agency	Maximum...	68	90	88	85	96	93	87	84	84	84	78	80	77	99	89	85	80	83	85	90	97	105	88	84	78	80	97	80	78	78	95	86.0
	Minimum...	44	42	54	52	62	59	62	46	48	43	46	48	45	55	56	42	40	43	42	40	55	52	60	42	35	42	56	60	48	38	42	48.4
Bismarck	Maximum...	83	87	92	81	96	94	84	81	79	84	71	73	78	92	84	89	75	84	80	75	92	100	98	79	79	77	97	83	81	79	94	84.5
	Minimum...	47	50	58	62	50	59	59	50	53	49	61	55	52	54	58	54	53	50	58	49	54	62	63	56	45	55	63	61	56	48	52	54.7
Bottineau §§	Maximum...	80	85	88	78	90	85	75	71	72	80	78	72	75	86	84	86	81	80	76	74	88	90	88	68	71	78	93	76	77	74	88	80.2
	Minimum...	47	51	56	60	50	61	59	49	51	46	55	51	44	49	58	50	51	46	46	35	50	54	61	56	38	41	54	60	45	39	43	50.2
Bowman	Maximum...	85	90	95	90	95	95	85	80	82	87	85	74	81	93	82	83	82	89	81	80	96	102	92	78	82	95	94	84	77	80	89	86.6
	Minimum...	49	52	55	65	58	56	59	46	46	50	60	49	41	55	48	46	53	48	50	51	54	58	64	51	36	56	62	57	50	40	53	52.3
Cando	Maximum...	91	80	82	87	91	91	86	78	74	83	81	74	77	84	85	87	80	80	77	72	86	94	99	74	72	75	95	89	79	....	87	[a]83.0
	Minimum...	49	50	49	52	55	53	58	48	51	47	45	57	45	45	59	52	51	50	52	40	41	57	66	57	41	45	54	65	55	....	43	[a]51.3
Carson	Maximum...	84	88	91	85	98	96	85	82	83	82	70	74	79	91	86	88	76	86	82	87	93	101	98	81	79	81	98	85	85	83	95	86.4
	Minimum...	42	46	49	53	44	50	49	40	48	44	50	40	49	49	46	40	44	39	46	39	43	44	54	44	29	50	56	55	40	36	46	45.3
Crosby	Maximum...	91	93	96	90	95	92	77	73	78	87	80	70	82	90	82	75	78	81	78	79	76	85	77	76	78	85	95	80	71	75	90	82.4
	Minimum...	53	53	52	63	55	51	63	50	58	51	56	53	44	48	46	45	41	46	44	39	58	55	45	43	36	48	50	56	43	44	47	49.5
Devils Lake	Maximum...	79	85	86	90	91	88	82	76	74	82	70	74	75	84	85	87	74	80	76	69	89	95	103	79	71	76	94	87	81	76	88	82.1
	Minimum...	49	51	52	54	56	60	60	51	52	50	59	51	48	49	61	59	52	56	52	40	48	60	61	57	47	47	58	61	57	47	46	53.4
Dickinson §§	Maximum...	84	89	94	89	95	93	82	83	84	91	84	75	83	94	80	83	78	83	78	81	95	102	87	79	82	88	93	83	79	77	[illegible]	85.9
	Minimum...	45	52	51	62	54	58	52	47	45	46	57	50	44	44	55	49	45	44	53	42	53	52	53	51	34	56	50	59	49	46	45	49.8
Donnybrook	Maximum...	86	92	90	88	93	89	80	73	74	86	79	71	81	90	82	84	83	83	79	80	96	94	....	....	....	....	....	....	....	....	....	[i]84.2
	Minimum...	55	52	59	53	55	52	57	52	49	58	54	52	40	59	55	44	42	42	45	44	46	49	....	....	....	....	....	....	....	....	....	[i]50.6
Dunn Center §§	Maximum...	84	89	93	82	89	91	76	78	79	87	81	72	78	90	90	80	88	81	78	78	96	101	85	76	80	85	93	80	76	75	94	84.0
	Minimum...	40	40	45	55	45	49	56	44	47	42	50	49	41	45	54	46	41	45	51	38	[illegible]	50	57	53	31	42	56	65	49	40	40	46.9
Dunseith	Maximum...	79	83	86	78	79	86	90	76	74	80	84	73	76	85	84	84	83	80	78	73	86	87	88	66	70	75	91	88	77	71	85	80.5
	Minimum...	45	50	54	57	60	57	54	47	52	47	55	50	43	47	56	50	51	47	47	34	45	51	55	52	41	44	50	60	47	39	41	49.4
Edgeley	Maximum...	81	86	87	91	91	94	95	85	82	86	81	76	75	90	91	94	90	88	82	71	98	95	105	98	72	68	94	93	89	81	91	87.2
	Minimum...	56	49	47	47	53	57	52	51	53	47	52	54	51	45	56	54	50	51	52	45	41	60	65	61	48	47	58	67	66	47	41	52.4
Ellendale	Maximum...	81	86	88	90	91	94	92	83	79	83	67	77	74	90	90	94	92	86	79	69	86	93	103	94	77	73	91	92	86	82	89	85.5
	Minimum...	50	52	49	55	56	55	57	56	56	50	56	54	55	46	61	58	55	55	55	47	43	62	68	64	49	48	67	64	59	50	47	54.8
Fessenden §§	Maximum...	87	91	92	90	98	95	90	82	80	90	71	76	77	87	89	90	76	84	80	75	92	101	106	89	80	73	97	90	87	81	96	86.9
	Minimum...	42	47	47	50	49	55	57	45	45	43	57	53	48	42	50	51	47	54	55	40	46	61	66	51	43	46	58	66	55	43	41	50.2
Foxholm	Maximum...	82	87	91	83	91	87	75	74	76	84	80	73	75	89	82	81	78	79	76	75	96	93	85	72	73	78	96	81	73	72	90	81.5
	Minimum...	51	51	51	53	54	55	58	49	50	49	56	51	45	51	55	49	48	52	49	38	51	61	56	55	41	45	48	59	56	45	48	51.1
Fullerton	Maximum...	82	89	88	94	92	97	95	84	80	85	76	77	75	91	91	93	93	85	78	70	87	94	102	[illegible]	77	69	92	97	91	87	83	86.8
	Minimum...	48	51	50	64	55	58	55	53	52	49	57	57	51	46	60	57	54	53	54	46	42	60	68	70	48	49	60	68	64	58	44	55.0
Garrison	Maximum...	93	89	91	91	92	90	86	76	78	86	71	75	79	87	83	86	77	82	79	77	96	102	93	73	79	77	97	79	81	77	91	84.4
	Minimum...	....	....	....	....	....	....	62	50	45	44	59	52	41	44	54	47	44	45	52	39	54	58	60	55	39	47	56	64	49	44	42	49.8
Grafton	Maximum...	82	84	85	87	89	87	79	78	76	82	74	78	75	83	88	87	81	....	82	71	84	91	101	93	....	78	94	91	85	82	86	[b]83.9
	Minimum...	48	48	52	54	63	61	55	50	54	50	54	61	52	46	62	55	55	....	53	47	42	61	66	49	....	41	57	69	59	51	44	[b]53.8
Grand Forks	Maximum...	80	83	84	88	89	86	81	79	80	80	68	78	72	80	89	86	80	80	78	70	82	85	[illegible]	82	73	76	87	89	82	78	84	81.5
	Minimum...	48	48	52	57	64	63	62	56	55	52	56	60	52	46	66	58	54	55	52	45	42	59	66	65	50	45	61	62	60	50	45	55.0
Granville	Maximum...	83	89	92	78	94	90	88	75	76	81	80	83	76	90	86	86	79	82	78	75	84	98	97	67	74	77	98	66	58	55	69	80.8
	Minimum...	43	47	49	51	47	53	58	43	49	59	55	53	41	48	56	44	41	48	48	36	51	58	58	49	38	48	50	42	48	42	43	48.4
Hansboro	Maximum...	80	85	88	86	90	92	76	70	70	83	80	75	85	80	82	85	78	80	76	73	80	85	90	70	70	72	95	80	80	80	85	80.7
	Minimum...	40	45	44	45	46	48	50	40	48	44	42	42	40	38	58	40	48	45	45	42	35	40	50	45	40	36	50	50	50	38	40	44.0
Hettinger	Maximum...	86	89	96	91	89	95	96	91	87	88	81	74	83	94	83	86	89	83	94	91	104	98	82	86	91	97	97	89	98	89	[illegible]	90.1
	Minimum...	51	48	49	51	56	64	48	43	46	41	58	47	42	53	51	47	42	45	49	56	61	60	39	43	37	46	37	46	40	46	41	47.8
Hillsboro	Maximum...	81	84	87	90	88	93	89	82	80	83	81	81	75	85	89	92	92	84	81	76	84	91	101	97	88	76	92	96	87	83	89	86.4
	Minimum...	50	50	52	56	65	63	57	59	54	51	54	61	55	47	65	61	56	58	58	47	41	62	68	67	52	44	58	70	62	51	46	56.1
Howard	Maximum...	92	90	96	88	92	90	74	62	81	89	75	63	80	90	85	81	82	72	80	96	96	97	81	74	80	89	92	86	70	76	90	83.6
	Minimum...	46	48	48	66	51	55	54	43	45	47	55	50	45	50	46	45	44	46	46	40	48	53	50	[illegible]	31	52	52	54	44	39	45	48.0
Jamestown §§	Maximum...	82	85	82	91	93	90	94	90	88	84	66	78	74	81	89	93	82	86	78	69	89	92	[illegible]	107	84	70	95	96	86	82	86	85.8
	Minimum...	50	47	50	56	55	58	57	51	57	56	50	54	51	46	50	56	58	53	51	47	42	49	[illegible]	61	60	46	53	65	59	47	41	52.4
Lamoine	Maximum...	77	87	89	85	93	86	80	84	87	84	67	72	75	90	88	88	77	82	80	78	90	103	101	87	78	72	95	87	81	77	94	84.3
	Minimum...	45	50	55	55	55	55	46	50	48	46	41	46	46	46	50	55	50	49	55	38	48	60	56	52	50	39	55	55	56	48	47	49.9
Langdon §§	Maximum...	77	85	87	90	92	85	82	73	77	81	75	72	72	83	84	85	76	77	74	67	81	89	93	69	67	75	87	82	81	76	88	80.1
	Minimum...	47	48	50	56	56	56	57	47	47	45	46	58	47	46	50	53	55	52	49	41	44	57	60	57	46	45	52	60	55	44	44	50.6
Larimore §§	Maximum...	84	84	92	91	90	90	82	80	85	68	77	80	82	87	91	80	84	78	70	87	93	104	80	71	75	93	94	85	90	89	88	84.6
	Minimum...	48	50	53	51	62	61	55	55	54	50	55	60	50	50	45	57	60	55	51	41	40	[illegible]	60	62	48	41	52	53	60	50	45	52.6
Linton	Maximum...	89	90	95	95	110	105	100	92	85	90	85	76	88	95	90	90	87	88	85	80	92	104	107	91	82	84	97	86	88	84	94	91.1
	Minimum...	40	45	45	50	69	75	40	41	44	46	61	56	50	51	51	51	50	48	53	48	47	61	72	72	69	64	67	45	35	40	45	52.6
Lisbon §§	Maximum...	82	90	93	95	94	98	98	83	79	85	72	80	77	92	95	100	94	90	86	71	90	94	107	97	79	68	95	99	90	85	94	88.6
	Minimum...	45	45	48	53	56	53	51	54	50	47	53	59	51	39	53	54	56	53	51	45	38	52	68	[illegible]	49	44	54	54	60	45	39	51.3
McKinney	Maximum...	82	91	91	80	90	85	80	70	65	70	70	70	70	85	78	80	80	79	77	75	95	96	[illegible]	70	70	80	90	80	70	75	83	79.2
	Minimum...	60	44	50	40	40	50	50	50	50	55	52	58	55	54	43	50	40	55	50	45	40	45	[illegible]	57	50	[illegible]	40	57	50	43	40	48.3
Maddock	Maximum...	82	80	88	85	94	93	88	78	76	83	82	73	77	90	85	88	86	81	79	75	91	100	105	81	75	73	98	93	81	78	99	84.8
	Minimum...	45	44	48	48	47	55	58	45	50	43	56	53	41	40	55	51	46	51	52	33	[illegible]	57	67	51	42	44	45	64	54	43	35	48.6
Melville	Maximum...	82	....	88	95	94	92	85	79	75	85	80	73	75	87	87	....	90	80	73	73	88	100	103	91	[illegible]	70	91	88	82	....	88	[c]84.7
	Minimum...	45	....	50	52	50	56	53	50	51	46	56	55	48	46	63	....	52	53	56	40	42	61	60	58	41	43	55	63	58	....	45	[c]51.8
Minot §§	Maximum...	86	91	94	80	93	89	76	75	78	83	81	74	80	89	85	87	80	82	78	75	97	96	82	72	77	78	97	81	78	75	92	83.4
	Minimum...	48	50	55	50	55	58	46	51	45	55	51	43	48	53	44	44	48	52	39	52	55	55	53	46	47	50	63	50	44	[illegible]	51	49.6
Mott	Maximum...	87	82	86	90	95	91	93	82	80	78	78	76	80	80	84	[illegible]	[illegible]	[illegible]	76	87	91	101	88	86	91	92	97	88	83	[illegible]	[illegible]	85.6
	Minimum...	47	45	50	57	63	60	56	51	47	48	43	44	46	42	40	[illegible]	[illegible]	[illegible]	50	62	70	72	61	53	55	[illegible]	63	55	58	[illegible]	[illegible]	53.5
Napoleon §§	Maximum...	85	88	90	91	98	98	95	86	82	88	65	75	78	94	90	[illegible]	[illegible]	[illegible]	80	75	93	106	107	98	81	[illegible]	[illegible]	91	86	[illegible]	[illegible]	88.2
	Minimum...	43	43	45	53	46	54	54	44	46	43	57	51	48	44	54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	50.3
New Salem	Maximum...	88	90	95	88	101	95	86	83	85	89	79	76	78	90	85	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	87.3
	Minimum...	46	49	49	58	53	56	63	55	48	49	54	51	48	50	56	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	53.2
Pembina §§	Maximum...	79	84	88	90	90	80	75	75	73	82	80	77	76	83	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	80.7
	Minimum...	47	50	53	58	55	60	53	53	52	51	52	50	49	49	49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	51.1
Steele	Maximum...	84	91	91	82	95	96	92	82	82	87	70	64	72	92	82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	84.5
	Minimum...	45	52	55	55	55	55	56	56	46	43	60	56	56	50	56	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	52.9
Towner	Maximum...	81	89	91	89	95	90	85	84	71	86	84	87	80	92	89	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	86.2
	Minimum...	46	50	56	52	52	56	46	44	51	43	44	45	42	43	45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	47.8
Valley City	Maximum...	79	85	89	94	92	91	91	88	79	83	87	81	81	92	93	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	86.9
	Minimum...	48	50	51	56	56	60	57	50	50	47	45	57	53	57	65	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	53.4
Wahpeton	Maximum...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	89.6
	Minimum...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	54.6
Westhope	Maximum...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	81.6
	Minimum...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	48.2
Williston	Maximum...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	82.1
	Minimum...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	52.6
Moorhead, Minn	Maximum...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	84.1
	Minimum...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	57.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 9-21-25—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

OL. XXXIV   BISMARCK, N. D., SEPTEMBER, 1925   NO. 9

GENERAL SUMMARY

The month opened with hot dry weather which caused late orn and flax to ripen rapidly and allowed threshing to make apid progress. Light to heavy showers occurred from the 4th the 20th, inclusive, and during this period much delay was aused to most kinds of outdoor work, but greatly improved e soil for fall plowing and for the seeding of winter rye rom the 20th to the 27th, inclusive, rapid progress was made threshing and other farm work. Showers were general dur-g the last three days of the month, being quite heavy in some ections. At the close of the month threshing was well ad-anced, much fall plowing was accomplished, and seeding of inter rye was completed, early sown being up to good stand. orn cutting and silo filling was also well advanced.

TEMPERATURE

The mean temperature for the State was 58.1°, or 1.7° above e normal, and 3.1° higher than the mean for September, 1924. he highest mean reported was 63.8° at Wahpeton, Richland ounty; the lowest was 52.4° at McKinney, Renville County. he highest temperature reported was 103° at Fessenden, ells County, on the 3d; the lowest was 20° at Linton, Emmons ounty, on the 28th. The greatest monthly range of tempera-re was 81° at Linton, Emmons County; the least was 52° at rand Forks, Grand Forks County. The greatest daily range as 73° at Linton, Emmons County, on the 3d.

PRECIPITATION

The average precipitation for the State was 2.74 inches, or .10 inches above the normal, and 0.43 inch more than the verage for September, 1924. The greatest monthly amount re-orted was 7.26 inches at Mayville, Traill County; the least as 0.46 inch at Dickinson, Stark County. The greatest mount recorded in any 24 consecutive hours was 3.11 inches evils Lake, Ramsey County, on the 8-9th. Snow, ranging om a trace to 0.5 inch, occurred at four stations. The average umber of days with 0.01 inch or more of precipitation was 8.

AURORAS

Auroras were observed at Bismarck, Howard and Willow City n the 1st; at Carson on the 12th; at Arnegard, Carson, Devils ake, Foxholm, Howard, New England and Willow City on e 13th; at Arnegard, Bowman, Foxhom, Howard, McLeod, ew England and Willow City on the 14th; at Carson, Foxholm nd Willow City on the 15th; at Fessenden on the 16th; at tanton on the 19th; at Arnegard, Ellandale, Towner, Willis-n and Willow City on the 20th; at Crosby and New England n the 21st; at Crosby and Sharon on the 22nd; at Arnegard, ismarck, Bowman, Carson, Crosby, Ellendale, Fessenden, oxholm, Grand Forks, Howard, Larimore, McKinney, cLeod, Minto, New England, Sharon, Stanton, Williston, Wil-w City and Moorhead (Minn.) on the 23rd; at Bismarck, rosby, Devils Lake, Epping, Grand Forks and McClusky on e 24th; at Crosby on the 25th, at Dickinson on the 26th; at oward and Valley City on the 27th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.97	30.45	28	29.43	16	57	6,134	8.5	34	w.	19
Devils Lake	29.95	30.50	28	29.40	16	44	6,538	9.1	40	ne.	29
Ellendale	29.97	30.39	28	29.39	16	56	8,183	11.4	58	nw.	4
Grand Forks	29.91	30.45	28	29.43	8	90	....	......	40	nw.	20
Williston	29.95	30.47	28	29.44	16	48	5,046	7.0	28	nw.	16
Moorhead, Minn	29.93	30.42	28	29.40	17	58	5,599	7.8	44	sw.	1
Av'ges and extremes	29.95	30.50	28	29.39	16	.....	....	8.8	58	nw.	4

* For any five-minute period. †And other dates.

OCT 30

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p.c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	221.3	376.6	59	− 3	83	53	52	16	3
Devils Lake	196.3	377.2	52	− 6	89	61	71	31	23
Ellendale	181.7	376.0	45	−17	92	58	....	19	3
Grand Forks	......	......	......	......	86	....	70	.....	....
Williston	184.0	377.2	49	− 9	86	56	58	17	3
Moorhead, Minn.	248.2	376.6	66	+ 4	90	61	65	27	3
Averages and extremes	......	......	54	− 7	88	58	62	16	3

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P'cdy days	Cl'dy days	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	101	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	51.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919...	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920...	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921...	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.
1922...	59.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw.
1923...	60.1	+3.7	99	15	2.39	+0.75	6	14	8	8	nw.
1924...	55.0	−1.4	98	20	2.31	+0.67	7	15	7	8	nw.
1925...	58.1	+1.7	103	20	2.74	+1.10	8	12	8	10	nw.

Climatological Data for September, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	59.4	+2.1	99	3	29	22	47	3.77	+1.80	1.40	0	8	18	3	9	n.	E. T. Carley.
Amidon	Slope	...	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. M. Critchfield.
Arnegard	McKenzie	...	11	57.5	...	95	3	26	21	42	2.09	...	0.70	0	11	14	5	11	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	63.8	+6.5	100	3	29	21	44	4.18	+3.16	1.00	0	8	15	6	9	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	57.0	+0.7	95	3	27	21	42	0.60	−0.67	0.30	0	3	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	58.7	+1.7	96	2†	22	21	53	1.00	−0.44	0.45	0	3	17	6	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	59.8	+1.7	98	3	29	21	43	0.85	−0.34	0.28	0	10	15	6	9	e.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	34	56.8	+1.3	95	2	25	21	42	1.50	−0.07	0.51	T.	9	10	9	11	ne.	T. M. Street.
Bowman	Bowman	2,961	12	59.1	...	98	3	29	21	50	0.68	−0.62	0.30	0	6	15	3	12	nw.	R. Love, Jr.
Cando	Towner	1,488	25	57.6^{b}	+2.0	92	2†	28^{b}	21†	41^{b}	3.10	+1.67	1.24	0	9	...	...	...	e.	A. J. Swanson.
Carson	Grant	2,500	14	55.7	−0.7	100	3	22	30	53	1.52	−0.21	0.60	0	6	18	6	6	nw.	I. W. Evens.
Cooperstown	Griggs	1,428	20	...	...	...	...	...	...	...	5.21	+3.55	2.57	0	8	13	11	6	w.	S. Friswold.
Crosby	Divide	1,954	19	55.6	+1.9	95	2	29	21	52	3.63	+2.24	1.42	0	9	8	11	11	sw.	John Jensen.
Devils Lake	Ramsey	1,478	29	56.2	+0.6	92	3	32	21	38	6.63	+5.21	3.11	0	13	9	9	12	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	56.2	−0.3	96	3	24	22	51	0.46	−0.61	0.15	0	10	12	5	13	nw.	Leroy Moomaw.
Donnybrook	Ward	1,760	27	...	...	95	2	...	...	...	3.63	+1.97	2.10	0	8	...	...	...	...	H. Feldner.
Dunn Center	Dunn	2,191	27	56.3	−0.8	95	3	21	21	49	1.35	+0.23	0.49	0	5	13	2	15	se.	W. H. Moede.
Dunseith	Rolette	1,682	30	55.7	+0.9	93	2	26	22	41	1.92	+0.35	0.67	0	7	6	11	13	nw.	L. G. Lamont.
Eckman	Bottineau	1,500	21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. E. Strock.
Edgeley	LaMoure	1,468	25	60.8	+3.3	99	3	28	21	39	4.16	+2.50	1.50	0	10	3	15	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	60.4	+2.0	95	1	32	21	39	3.01	+1.66	0.80	0	10	5	14	11	ne.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	58.8	...	96	3	25	21	47	1.35	−0.19	0.58	0	5	7	11	12	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	57.4	...	92	2†	27	21	43	2.03	+0.57	0.52	0	9	14	7	9	ne.	A. O. Wang.
Fessenden	Wells	1,610	14	58.7	+3.6	103	3	27	21	53	2.75	+1.03	0.70	0	8	10	10	10	nw.	T. D. Monsen.
Finley	Steele	1,461	2	57.7	...	93	3	32	21	36	5.38	...	1.27	0	13	14	6	10	nw.	G. J. Mustad.
Forman	Sargent	1,249	32	...	...	...	...	...	...	...	2.93	+1.11	1.00	0	9	11	10	9	e.	O. Enger.
Foxholm	Ward	1,657	5	56.6	...	94	2†	30	21	41	2.67	...	0.88	0	11	9	10	11	nw.	E. C. Beerbaum.
Fryburg	Billings	2,790	8	...	...	...	...	...	...	...	0.49	...	0.14	0.5	6	14	7	9	nw.	Verne King.
Fullerton	Dickey	1,439	28	60.8	+4.1	98	3	31	21	39	3.09	+1.02	1.08	0	7	10	12	8	nw.	F. O. Alin.
Garrison	McLean	1,901	31	57.6	+0.8	98	3	25	21	52	1.85	+0.49	0.60	0	9	14	8	8	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	58.0	+2.1	88	2†	31	21	42	6.24	+1.42	1.98	0	13	15	7	8	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	58.0	+1.8	85	2†	33	22	36	4.73	+2.87	1.20	0	12	12	6	12	nw.	U. S. Weather Bureau
Granville	McHenry	1,504	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. A. Christianson.
Hannah	Cavalier	1,568	32	...	...	...	...	...	...	...	2.61	+0.47	1.02	0	5	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	18	54.0	−0.1	95	2	22	21	49	3.13	+1.23	1.30	0	6	16	9	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	U. J. Downey.
Hillsboro	Traill	901	20	61.3	+2.3	95	3	34	22	38	4.33	+1.84	1.30	0	12	9	12	9	n.	F. E. Mayall.
Howard ‡‡	Williams	2,275	19	54.6	+0.8	92	2	29	21	42	3.18	+1.81	1.66	T.	9	13	4	13	nw.	C. P. Amsbaugh
Jamestown	Stutsman	1,390	34	57.6	+0.9	100	2	29	22	52	2.06	+0.53	1.03	0	6	12	2	16	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	58.9^{d}	+2.3	97^{d}	3	23^{d}	21	58^{d}	1.72	+0.44	0.69	0	4	...	...	...	...	E. V. Virgin.
Langdon	Cavalier	1,615	30	54.6	+1.1	91	2	30	21†	45	3.78	+1.79	1.35	0	10	20	2	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	56.6	+1.4	90	2†	30	21	47	4.17	+2.28	0.90	0	9	8	5	17	n.	Reuben Gray.
Linton	Emmons	1,711	8	57.1	...	101	3	20	28	73	2.44	...	1.00	0	8	10	5	15	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	59.9	+2.2	102	3	26	22	47	3.73	+1.58	1.10	0	10	9	12	9	...	W. S. Adams.
McClusky	Sheridan	1,943	8	57.3	...	96	3	24	21	46	3.05	...	1.35	0	6	16	5	9	nw.	Eda Tagley.
McHenry	Foster	1,509	15	56.5	+2.1	96	3	25	21	50	3.08	+1.43	0.90	0	6	13	0	17	nw.	F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	52.4	−1.7	90	3	28	21	50	3.53	+2.00	2.20	0	8	4	14	12	ne.	N. P. Swenson.
McLeod	Ransom	1,075	14	62.5	+5.6	100	3	28	21	42	3.67	+1.13	0.83	0	9	17	4	9	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	57.4	...	97	3	27	21	52	3.74	+1.48	1.75	0	10	10	9	11	nw.	A. T. Felland.
Mandan	Morton	1,644	12	59.4	+1.3	99	3	28	21	45	0.97	−0.49	0.24	0	9	14	0	16	nw.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	23	56.0	+0.1	93	3	28	21	40	3.56	+2.21	1.93	0	10	11	10	9	ne.	P. B. Anderson.
Marmarth	Slope	2,714	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	S. P. Crane.
Mayville	Traill	975	30	60.1	+2.7	98	3	32	21†	43	7.26	+4.98	2.11	0	9	15	4	11	n.	R. Peterson.
Melville	Foster	1,590	28	59.0	+2.6	97	3	28	21	43	2.70	+1.32	1.25	0	7	10	8	12	se.	J. P. Kidder.
Minot	Ward	1,557	30	56.8	+0.1	95	2†	26	20	50	2.23	+0.6[illegible]	0.85	0	8	11	9	10	e.	W. I. Faris.
Minto	Walsh	820	33	57.6	+1.2	91	3	30	21	42	5.26	+3.26	2.75	0	9	10	12	8	ne.	C. M. Evans
Mott	Hettinger	2,424	19	61.0	+4.7	95	1	28	29	40	0.76	−0.81	0.51	0	5	9	7	14	nw.	O. H. Opland
Napoleon	Logan	1,955	34	58.8	+1.9	102	3	23	21	51	1.83	+0.59	0.66	0	12	11	6	13	s.	C. J. Hoof.
New England	Hettinger	2,400	32	61.2	+4.4	94	3	26	21	42	1.17	+0.05	1.17	0	1	9	9	12	se.	W. S. Jones.
New Salem	Morton	2,163	22	60.6	+3.4	101	3	27	21	54	0.70	−0.65	0.15	0	7	14	9	7	nw.	J. Christiansen
Park River	Walsh	998	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. B. Wright.
Parshall	Mountrail	...	11	...	...	...	...	...	...	...	0.65	...	0.18	0	9	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	52	54.6	+0.8	89	2†	32	20	35	2.70	+1.01	1.30	0	3	12	9	9	s.	C. W. Shumaker
Pettibone	Kidder	1,856	17	56.6^{e}	+2.9	99^{e}	3	24^{e}	21	50	0.86	−0.53	0.34	0	6	...	...	...	e.	S. C. Shanks.
Power	Richland	1,020	32	...	...	...	...	...	...	...	4.07	+2.01	0.99	0	9	15	10	5	s.	Frank B. Power.
Powers Lake	Burke	2,205	12	...	...	...	...	...	...	...	2.91	+1.82	1.20	0	6	20	6	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	59.4^{e}	...	97^{f}	3	30	21	42^{f}	0.81	...	0.45	0	3	11	10	9	nw.	John Muggli.
Sharon	Steele	1,516	1	...	...	...	...	...	...	...	4.49	...	1.39	0	11	11	10	9	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	2	...	...	...	...	...	...	...	1.43	...	0.48	0	5	17	6	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	59.4	+1.6	95	1†	29	21	40	3.34	+2.10	1.25	0	9	6	15	9	nw.	H. S. Wood
Towner	McHenry	1,482	24	59.2	+3.4	98	3†	26	21	49	2.26	+0.61	0.60	T.	8	15	8	7	sw.	B. Bagley.
Turtle Lake	McLean	1,899	11	57.8	...	95	2†	25	21	46	1.33	−0.11	0.33	0	8	15	7	8	w.	A. T. Anderson.
Valley City	Barnes	1,245	21	60.2	+2.0	98	3	26	21	42	3.69	+2.05	1.70	0	11	5	21	4	nw.	H. Twito.
Wahpeton	Richland	962	32	63.8	+5.2	101	3	30	21	41	2.27	+0.05	0.64	0	8	14	0	16	se.	C. G. Lueck.
Washburn	McLean	1,731	25	...	...	...	...	...	...	...	1.72	+0.53	0.55	0	6	...	...	...	...	Karl Klein.
Westhope	Bottineau	1,508	20	55.7	+0.9	94	2†	29	10	48	2.66	+1.47	0.94	0	7	15	6	9	ne.	W. A. McGaugh.
Williston	Williams	1,878	47	56.0	−0.6	92	3	30	21	41	2.47	+1.56	1.13	0	10	13	3	14	ne.	U. S. Weather Bureau
Willow City	Bottineau	1,471	34	55.2	+0.9	96	2	24	21	49	2.14	+0.59	0.52	0	12	12	7	11	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	60.6	+2.4	98	3	29	21	39	2.88	+0.58	1.12	0	11	6	6	18	s.	U. S. Weather Bureau
Averages	...	...	...	58.1	+1.7	103	3	20	28	73	2.74	+1.10	3.11	T.	8	12	8	10	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for September, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red					.90	.10	T.		1.10	.05		.02							T.	.30									.68	.62		3.77
Amidon	Lit. Missouri																																
Arnegard	Missouri	.05			.12		.06		.04	.07	.30	.03	.04							.32	.36						T.	T.	T.	.70	T.		2.09
Ashley	Missouri				.56	.40		.82		.95				1.00	.14					.10									.21				4.18
Beach	Lit. Missouri								.30	.20	.10						T.												T.				0.60
Berthold Agency	Missouri												.15							.40										.45			1.00
Bismarck ***	Missouri				.28		.02	.17	.01		.02	.02	.10							.03	T.								.05	.15	T.		0.85
Bottineau‖‖	Mouse									.40	.06		.05	.02			.03				.51								.11	.12	.20		1.50
Bowman	Grand					.15			.30	.05								.08				.05						T.	.05				0.68
Cando	Devils Lake							.21	.82	.06	.11		.08				.06			.48	.04								T.	1.24			3.10
Carson	Heart				.40			.05		.60			.17																.03	.27			1.52
Cooperstown	Sheyenne				.15				.67	.33	.15		.10		.04					2.57										1.20			5.21
Crosby	Mouse						.51	.02	.11							T				1.42	.35							.10	.01	1.08	.03		3.63
Devils Lake ***	Devils Lake	1.68	T.				.32		2.86	.26	.12		.03						.01	.12	.05							.05	.11	.96	.03		6.63
Dickinson‖‖	Heart								.01	.03	.07	.01	.03					.03		.06	.03									.15	.04		0.46
Donnybrook	Mouse	T.				.05	.29	.10	T.	.06	.06		.05								2.10										.92		3.63
Dunn Center ‖‖	Knife										.08		.43								.28									.49	.07		1.35
Dunseith	Mouse							.05	.32											.23	.67							.07		.33	.25		1.92
Eckman	Mouse																																
Edgeley	James					1.50		1.23	.01	.20			.19	.44						.08									.08	.35	.08		4.16
Ellendale***	James				.35	.05		.72	.46	.21	T.		.02	.79			T.		T.	.06									.20	.15	T.		3.01
Energy	Missouri						T.		.16		.03		.28			T.		T	T.	.58	T							T.	T.	.30	T		1.35
Epping	Missouri	T.			.13		.11	T.	.06	.41		T.					T.			.40	.52							.03	.35		.02		2.03
Fessenden‖‖	James					.12				.70	.22		.23								.54	.03								.28	.63		2.75
Finley	Red	T.			.05		.12		.05	.86	.09		.08		.03	.03			T.	2.20								.04	.19	.37	1.27		5.38
Forman	Sheyenne				.50	.06		1.00		.17				.67						.12									.10	.05	.26		2.93
Foxholm	Mouse	T.			T.		.07	.14	.18	.02	.06		.03			T.				.88	.50							.12	T.	.50	.17		2.67
Fryburg	Heart				T.				.04	T.	.04					T.		T.		T.	.10			T.			T.	T.	.12	.14	.05		0.49
Fullerton	James				.33	T.		1.08	T.				.28	.80		T.													.36	.18	.06		3.09
Garrison	Missouri								.60	.03	.12		.26			T.				.39	.09							T.	.03	.31	.02		1.85
Grafton	Red	.35	.45						1.98	.25	.10		.02			.18			.68	.30	.30								.05	.68	.90		6.24
Grand Forks ***	Red	.93	.06		T.		.01		1.20	.35	T.		.01		T.		T.			.63	.04							.02	.62	.60	.26		4.73
Granville	Mouse																																
Hannah	Pembina		.28						.50											.74									.07		1.02		2.61
Hansboro	Devils Lake								.95			.08								1.30								.10		.20	.50		3.13
Hettinger	Grand																																
Hillsboro	Red	.03			T.	.37	.44		.04	1.30	.08		.03		.05					.88									.02	.39	.70		4.33
Howard	Missouri	T.					.13		.01	T.	.07	T.				T.	T.			T	1.66							.03	T.	1.28	T		3.18
Jamestown‖‖	James				.18			.26					.11							.18	.30									1.03			2.06
Lamoine	Missouri				T				.69	.09			.39													.55				T.	T.		1.72
Langdon‖‖	Pembina	.16	.25				.02			.72	.08			.03							.74								.03	.40	1.35		3.78
Larimore	Red			.65			.02			.70	.10					.05				.70									.20	.85	.90		4.17
Linton	Missouri				.05	T.	T.	1.00	.29	.32	T.		.03	.52						T.									.14	.09	T.		2.44
Lisbon ‖‖	Sheyenne	.10				.69	.05	.68	T.	.62			.04	.25	T.					.10								T.	1.10	.10	T.		3.73
McClusky	Missouri				T.		T.		1.35	.15			.25							.87	T.								T.	.35	.08		3.05
McHenry	James			T.			.90		.46		.18		.10							.59									.85				3.08
McKinney	Mouse						.10		T.	.18	T.		.10				.20			*	2.20							.15			.60		3.53
McLeod	Sheyenne	.02			.43	.24		.83		.45				.76						.10									.06		.78		3.67
Maddock	Sheyenne		.07				.11		1.75	.32			.24						.05	.16	.22									.73	.09		3.74
Mandan‖‖	Missouri				.01	.21		.21		T.	.01		.05	.04			T.			.08			T.							.24	.12		0.97
Manfred	James				.06		.15		1.93		.20		.26					.02	.40										.20	.26	.08		3.56
Marmarth	Lit. Missouri																																
Mayville	Red	.13				.13	.30			1.10	.15									2.10									.90	.34	2.11		7.26
Melville	James				T.				.22		.13		.22						T.	1.25	.13									.42	.33		2.70
Minot‖‖	Mouse						.05		.17	.18		.02				.20				.85									.11	.65			2.23
Minto	Red	T.	.62						1.70	1.05	.10					.09				.29	.05									.72	.64		5.26
Mott	Cannon Ball				.09				.51	T.																			.03	.07	.06		0.76
Napoleon ‖‖	Missouri					.09	.11	.35	.01	.66	.02		.10	.05						.03									.30	.05	.06		1.83
New England	Cannon Ball								1.17																			T.	T.	T.			1.17
New Salem	Heart				.11			.15		.11			.05							.14									.04	.10			0.70
Park River	Red																																
Parshall	Missouri						.05	.06	.02		.12									.10	.06					.18	.02		.04				0.65
Pembina‖‖	Red		.20								T.											1.30									1.20		2.70
Pettibone	James				.10	.12		.26												T.									.02	.31	.02		0.86
Power	Sheyenne	.60			.40	.16		.54	T.	.63										.29									.21	.99	.25		4.07
Powers Lake	Missouri				.07								.02			.06				1.20	.70								.86				2.91
Richardton	Heart							T.	T.											.30	.06									.45			0.81
Sharon	Red	T.			T.	T.	.85		.05	.81	.05		.12		T.	.05			T.	1.39	.06								.10	.35	.66		4.49
Stanton	Missouri						T.		.29				.37			.48				.24								T.	.05	T.			1.43
Steele	Missouri	T.			.10		.10	.55	T.		T.		.54		.10	T.				1.25	T.								.15	.40	.15		3.34
Towner	Mouse	.02							.50				.08							.50	.60							.05	.25	.26	T.		2.26
Turtle Lake	Missouri								.33	T.	.09		.25							.24	.08								.04	.29	.01		1.33
Valley City	Sheyenne	.35			.80		.05	.02		.25	.01		.16							.10									.10	1.70	.15		3.69
Wahpeton	Red							.45		.40				.15						.64								.18	.25	.02	.18		2.27
Washburn	Missouri								.46							.37				.55	.16									.10	.14		1.72
Westhope	Mouse								.46				T.			.15				.94	.51							.18		.30	.12		2.66
Williston ***	Missouri	T.			.04	.04	.06		T	.50	.01	T.			T.		T.			1.11	.02							.02	.31	.33			2.47
Willow City	Mouse	.05						.07	.25	.05	.05		.01				.22			.45	.52							T.	.05	.34	.05		2.14
Moorhead, Minn ***	Red	.01			.54	.01	.01	.04	.32	.57	.01		.01	T.	T.		T.		T.	.10								.01	.04	.80	.41		2.88

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	92	93	99	85	84	82	76	74	76	70	67	67	68	79	72	80	77	78	69	50	52	74	76	67	77	68	66	50	49	49	....	71.9
	Minimum	45	63	56	55	55	56	54	52	57	50	38	40	51	53	50	50	52	48	41	40	30	29	40	41	41	44	44	47	43	46	....	47.0
Arnegard	Maximum	82	93	95	89	84	70	72	66	72	62	58	58	68	74	85	90	68	85	64	46	59	74	80	82	77	57	50	43	40	40	....	69.4
	Minimum	56	54	48	54	55	54	50	53	48	46	47	42	40	49	52	50	57	43	42	33	26	39	46	40	52	52	39	39	37	35	....	45.6
Ashley	Maximum	96	95	100	94	80	84	79	78	80	79	71	79	70	79	79	91	91	77	80	71	55	66	84	78	84	74	73	69	55	57	....	78.3
	Minimum	66	60	56	65	60	62	52	57	55	54	36	45	50	52	50	57	53	45	58	40	29	39	40	37	46	46	42	44	42	42	....	49.3
Beach	Maximum	92	91	95	80	68	72	74	68	61	62	71	67	76	84	82	80	70	83	71	45	45	64	78	72	86	72	45	43	43	46	....	69.5
	Minimum	58	50	68	51	53	52	59	50	49	34	38	39	40	46	44	47	45	45	43	36	27	38	43	42	44	42	39	37	38	36	....	44.4
Berthold Agency	Maximum	95	96	96	90	82	88	78	85	80	70	58	70	68	76	83	92	88	84	60	60	56	60	82	82	85	78	58	42	48	55	....	74.8
	Minimum	42	52	48	50	54	54	44	52	45	42	33	46	38	35	52	52	52	42	50	38	22	32	32	33	40	48	40	40	38	33	....	42.6
Bismarck	Maximum	93	96	98	73	77	78	69	70	73	67	59	66	65	74	80	91	70	80	73	52	50	67	82	76	88	76	67	46	47	45	....	71.6
	Minimum	65	61	55	60	61	57	54	58	51	47	37	48	46	51	55	54	50	48	46	41	29	30	42	39	50	49	43	40	41	33	....	48.0
Bottineau §§	Maximum	86	95	92	88	80	70	68	61	68	62	60	60	66	71	81	85	61	75	69	51	60	70	79	71	79	63	47	52	52	48	....	69.0
	Minimum	58	53	50	52	57	55	47	50	46	46	30	34	39	43	51	56	48	42	50	32	25	30	47	42	50	43	42	42	40	34	....	44.6
Bowman	Maximum	84	94	98	82	71	76	67	77	77	62	77	78	64	74	83	87	74	85	68	49	44	62	78	82	90	80	64	43	64	50	....	72.8
	Minimum	63	53	55	64	58	52	54	52	53	48	36	40	46	45	50	52	44	45	39	36	29	39	38	40	40	43	39	38	37	35	....	45.4
Cando	Maximum	91	92	92	82	92	..	75	65	68	64	60	56	..	68	78	81	73	72	73	70	68	66	75	78	79	73	59	58	49	52	....	[b]71.8
	Minimum	54	58	51	54	52	..	45	49	51	48	33	42	..	38	51	54	50	38	41	31	28	33	41	38	46	46	39	41	37	28	....	[b]43.5
Carson	Maximum	92	96	100	77	75	82	70	75	72	70	62	76	66	72	80	92	72	84	83	72	45	64	82	77	82	75	77	35	46	45	....	73.2
	Minimum	60	46	47	50	49	45	42	49	40	40	28	36	35	36	42	45	40	47	42	28	23	24	34	30	39	38	32	28	28	22	....	38.2
Crosby	Maximum	86	95	93	80	82	75	63	65	64	66	63	68	67	67	83	82	70	82	69	49	54	71	72	74	71	60	45	49	46	48	....	68.6
	Minimum	44	43	47	48	45	52	50	52	41	40	37	43	33	44	53	53	46	43	40	36	29	36	48	45	49	43	37	40	33	31	....	42.7
Devils Lake	Maximum	90	91	92	76	75	74	68	62	68	63	58	57	63	69	77	79	64	72	58	49	56	61	78	67	82	63	57	46	41	42	....	66.8
	Minimum	60	60	54	54	55	54	48	48	52	41	35	44	40	42	55	56	44	42	44	38	32	37	47	37	47	45	41	41	38	37	....	45.6
Dickinson §§	Maximum	86	93	96	82	73	75	75	73	70	67	60	72	76	75	88	90	70	82	73	47	50	66	80	81	85	69	76	45	46	46	....	72.2
	Minimum	52	50	48	51	48	46	42	40	48	50	33	27	38	39	44	47	43	38	47	37	24	24	40	31	34	33	33	39	36	37	....	40.1
Donnybrook	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Dunn Center §§	Maximum	84	94	95	81	81	66	71	68	71	62	52	68	61	72	84	89	61	80	73	56	54	56	80	81	85	70	62	56	42	39	....	69.9
	Minimum	49	51	47	52	56	51	52	52	47	50	32	40	39	34	35	58	48	43	47	37	21	26	42	32	47	45	38	38	38	35	....	42.7
Dunseith	Maximum	84	93	91	90	78	75	66	66	70	66	60	60	65	69	81	84	78	74	70	50	57	66	76	72	78	72	57	49	48	42	....	69.6
	Minimum	57	54	50	55	51	55	41	46	42	45	30	39	38	41	47	51	45	39	44	31	28	26	44	34	44	39	38	37	33	29	....	41.8
Edgeley	Maximum	95	93	99	90	80	85	76	69	72	70	63	69	66	75	74	86	83	76	66	63	51	63	81	70	81	71	67	58	52	51	....	73.2
	Minimum	61	62	65	60	58	60	51	50	57	52	35	44	47	51	57	54	54	43	57	39	28	32	46	37	42	43	38	44	41	42	....	48.3
Ellendale	Maximum	95	91	95	93	70	84	64	73	77	68	62	70	59	76	74	90	72	76	74	51	49	62	81	70	79	71	66	52	53	50	....	71.7
	Minimum	61	65	62	63	61	63	54	55	55	47	39	45	53	51	54	52	50	46	53	36	32	39	41	42	40	41	45	45	44	36	....	49.1
Fessenden §§	Maximum	95	101	103	81	84	75	73	66	75	67	65	72	69	75	81	88	69	77	66	53	60	69	82	74	90	66	64	45	43	42	....	72.3
	Minimum	58	59	50	55	54	58	48	45	50	50	33	43	40	45	50	52	52	38	48	38	37	30	38	36	41	45	44	41	39	37	....	45.1
Foxholm	Maximum	84	94	94	85	80	79	67	65	69	60	60	60	64	70	73	86	76	77	71	51	54	57	77	75	75	68	57	47	48	44	....	68.9
	Minimum	49	54	53	51	50	56	50	49	48	48	32	45	35	38	50	58	49	39	45	34	30	36	51	38	53	41	39	39	35	32	....	44.2
Fullerton	Maximum	94	91	98	93	85	84	67	72	77	68	63	69	58	70	75	86	75	76	72	56	72	65	86	68	78	74	66	60	54	57	....	72.7
	Minimum	62	63	61	64	65	60	52	51	56	50	38	50	51	50	56	53	50	47	55	36	31	37	44	40	39	39	43	45	43	33	....	48.9
Garrison	Maximum	88	97	98	82	82	72	74	66	70	64	60	70	65	72	83	87	72	80	67	50	56	69	81	76	85	70	50	43	43	42	....	70.5
	Minimum	60	52	46	53	52	53	52	57	46	45	34	46	37	39	53	52	48	45	49	36	27	33	45	36	50	47	39	40	37	34	....	44.7
Grafton	Maximum	81	88	88	78	77	82	70	63	72	67	61	55	62	68	75	81	74	64	61	58	59	64	77	65	84	71	61	52	50	48	....	68.5
	Minimum	60	61	51	58	56	60	50	45	54	52	39	42	45	40	55	56	57	38	52	42	31	34	50	41	42	46	46	45	40	40	....	47.6
Grand Forks	Maximum	82	85	85	79	76	78	71	70	72	68	64	61	69	72	76	79	72	70	62	52	55	63	78	62	80	60	62	50	46	48	....	68.2
	Minimum	62	62	59	58	52	61	53	49	57	46	38	39	46	48	56	55	45	37	56	38	35	33	48	39	41	47	45	44	42	42	....	47.9
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Hansboro	Maximum	93	95	94	85	80	70	70	65	70	70	60	62	70	80	80	78	70	68	65	60	63	65	75	70	75	70	68	65	60	48	....	71.6
	Minimum	48	50	45	45	46	45	35	40	40	38	26	30	26	40	47	47	30	32	30	28	22	28	40	28	40	[illegible]	40	35	30	25	....	36.4
Hettinger	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Hillsboro	Maximum	90	91	95	91	75	84	79	71	74	69	65	58	68	77	76	82	78	71	72	61	77	65	81	71	80	76	67	56	47	47	....	72.6
	Minimum	65	63	62	53	60	69	53	51	58	52	40	41	49	52	53	55	60	42	57	44	35	[illegible]	48	42	43	43	45	44	44	42	....	50.0
Howard	Maximum	83	92	90	79	82	62	68	62	64	60	60	67	65	71	84	85	65	73	60	45	57	67	76	80	70	53	41	45	41	34	....	65.3
	Minimum	55	52	48	56	47	51	48	51	42	40	38	44	38	38	38	54	44	44	44	44	28	25	45	38	44	39	35	38	31	30	....	42.8
Jamestown §§	Maximum	96	100	99	70	80	67	68	76	69	61	64	66	76	73	87	70	77	69	50	55	65	80	74	84	72	[illegible]	52	76	47	43	....	71.0
	Minimum	44	62	56	50	60	60	51	51	55	50	37	38	44	46	52	52	54	42	44	40	[illegible]	23	31	[illegible]	40	42	40	43	40	31	....	45.1
Lamoine	Maximum	95	91	97	88	87	87	78	63	72	70	70	69	68	72	84	..	..	..	..	70	61	65	76	81	86	81	78	70	68	69	....	[d]76.7
	Minimum	61	36	53	55	54	52	48	52	45	48	32	34	40	47	40	..	..	..	..	37	23	28	[illegible]	36	45	40	38	35	31	26	....	[d]41.1
Langdon §§	Maximum	90	91	87	82	87	69	62	68	64	62	52	61	69	77	82	66	66	59	47	66	65	75	68	79	60	50	50	42	40	46	....	66.1
	Minimum	49	61	51	56	51	54	43	44	51	46	32	32	43	40	41	57	55	39	47	36	26	[illegible]	37	35	40	44	42	41	36	35	....	43.2
Larimore §§	Maximum	88	90	90	84	79	80	70	65	75	62	65	60	66	65	65	80	68	70	65	58	62	70	80	65	82	64	64	47	45	47	....	64.0
	Minimum	50	60	58	54	50	52	50	45	52	52	34	38	40	42	45	50	52	38	40	42	30	35	38	40	35	44	41	41	41	37	....	44.3
Linton	Maximum	98	97	101	92	80	85	75	74	76	69	66	79	71	75	71	74	91	76	82	72	68	64	81	77	80	72	73	66	52	51	....	76.4
	Minimum	36	39	28	44	37	32	29	35	27	25	30	46	49	47	46	44	44	49	35	38	24	40	31	31	19	42	40	20	42	41	....	37.8
Lisbon §§	Maximum	98	91	102	97	75	84	69	70	79	68	64	66	64	81	76	80	73	75	72	69	65	72	70	74	70	72	[illegible]	65	68	63	....	74.7
	Minimum	51	53	57	63	57	50	51	50	50	50	35	40	45	49	53	45	43	45	43	40	28	26	[illegible]	40	45	[illegible]	49	41	42	39	....	45.1
McKinney	Maximum	80	85	90	80	80	65	65	65	60	60	52	60	60	70	80	80	71	75	50	50	60	60	75	75	73	61	50	50	45	40	....	65.5
	Minimum	43	45	40	42	43	52	45	40	40	48	30	38	30	30	50	51	40	36	35	34	28	[illegible]	48	33	40	30	38	40	35	33	....	39.2
Maddock	Maximum	91	95	97	92	78	75	70	66	71	68	60	62	63	71	78	83	81	75	71	56	56	65	79	71	81	78	62	45	46	42	....	71.1
	Minimum	60	57	45	50	52	54	46	43	51	51	33	41	38	41	52	52	53	37	52	35	27	22	46	35	44	38	44	41	37	35	....	43.7
Melville	Maximum	93	95	97	87	75	87	79	65	74	65	61	64	64	72	75	83	80	75	69	61	55	64	79	78	85	70	65	72	41	42	....	71.8
	Minimum	63	57	55	60	58	50	48	47	53	50	32	47	40	50	54	52	54	40	45	36	28	32	46	36	42	46	43	42	46	38	....	46.1
Minot §§	Maximum	90	95	95	87	82	71	71	67	68	68	61	62	62	73	83	83	70	83	70	48	66	68	80	78	80	57	59	46	40	54	....	70.3
	Minimum	50	45	47	54	47	50	51	45	49	33	46	36	35	50	58	50	39	53	35	26	35	48	33	49	39	40	45	40	33	[illegible]	....	43.2
Mott	Maximum	95	94	88	75	78	73	78	72	68	66	78	81	84	87	83	80	82	86	77	63	55	69	74	78	83	75	70	53	45	43	....	71.4
	Minimum	62	54	50	46	48	44	49	47	50	50	51	57	58	62	55	52	53	60	50	37	30	39	38	54	52	43	42	40	25	30	....	47.7
Napoleon §§	Maximum	97	97	102	87	77	84	71	73	77	69	68	75	65	77	78	80	72	78	71	56	52	65	83	77	85	75	74	45	50	43	....	73.4
	Minimum	66	51	53	65	57	56	49	48	51	48	30	40	43	46	48	54	50	43	48	36	23	28	32	34	38	42	32	38	37	38	....	44.1
New Salem	Maximum	95	98	101	84	80	82	69	79	68	69	66	69	66	70	81	99	82	83	76	61	50	68	84	78	[illegible]	95	70	50	48	45	....	75.4
	Minimum	60	58	58	63	57	58	52	50	39	51	56	39	48	42	48	50	42	53	41	37	27	30	45	37	45	41	35	40	38	35	....	45.8
Pembina §§	Maximum	82	89	89	78	75	76	70	64	71	64	61	54	63	68	60	58	62	60	67	68	64	62	71	68	60	58	63	56	61	54	....	66.5
	Minimum	47	62	54	56	52	48	49	45	46	52	38	38	39	36	37	40	34	45	38	32	42	51	42	38	35	37	34	36	38	36	....	42.6
Steele	Maximum	95	93	95	82	79	90	70	72	70	70	62	66	67	66	79	87	71	75	65	55	49	62	80	78	83	77	72	45	45	45	....	71.5
	Minimum	65	67	55	60	64	65	55	55	50	46	34	44	43	50	55	52	50	30	[illegible]	36	29	31	41	29	60	45	45	40	39	39	....	47.3
Towner	Maximum	92	95	98	98	95	80	70	68	72	69	70	67	65	68	84	89	80	70	67	66	62	68	[illegible]	84	82	79	68	64	63	60	....	75.6
	Minimum	48	50	57	49	46	48	50	50	48	49	31	46	38	40	42	50	46	50	40	37	26	34	40	40	41	40	38	37	37	33	....	42.7
Valley City	Maximum	88	94	98	91	75	80	73	70	84	67	60	70	66	76	75	81	76	71	67	61	54	64	86	66	84	78	73	64	50	45	....	72.9
	Minimum	64	61	56	60	59	64	50	50	55	49	33	42	51	50	55	53	55	42	55	39	26	30	45	36	44	43	39	39	40	40	....	47.5
Wahpeton	Maximum	96	94	101	99	84	82	85	77	78	72	70	65	67	78	77	85	85	77	79	74	55	64	82	79	79	77	66	64	59	55	....	76.8
	Minimum	55	65	60	64	61	65	55	55	61	51	40	41	41	41	51	58	64	42	61	46	30	34	45	44	45	50	53	56	49	43	....	50.9
Westhope	Maximum	81	94	94	89	83	70	67	59	62	63	62	61	78	78	84	85	64	79	58	52	62	70	72	70	73	60	45	47	43	42	....	68.7
	Minimum	58	47	46	47	64	52	45	45	48	29	30	39	39	49	48	49	44	38	45	36	31	35	46	46	45	40	38	38	33	32	....	42.7
Williston	Maximum	78	92	92	83	79	62	68	65	67	60	57	67	66	73	82	82	64	79	60	47	58	67	78	82	73	56	41	45	40	40	....	66.9
	Minimum	51	52	53	50	52	53	52	51	50	42	41	44	39	46	57	54	49	48	39	34	30	38	48	41	50	44	38	40	35	30	....	45.0
Moorhead, Minn	Maximum	89	88	98	79	75	83	66	75	75	69	58	64	67	77	76	82	80	75	68	57	54	64	80	65	79	72	68	53	53	51	....	71.3
	Minimum	65	66	59	60	60	58	54	56	56	50	41	43	52	54	51	58	52	46	57	36	29	31	47	43	45	49	48	45	41	42	....	49.9

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis. 10 26 25—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIV   BISMARCK, N. D., OCTOBER, 1925   No. 10

GENERAL SUMMARY

The month of October, 1925, was the coldest of record in the climatological history of North Dakota, the mean temperature being 33.3°, or 10.5° below the normal. The nearest approach to this low mean was in 1919, when 33.5° was recorded. The lowest temperature recorded was −16° at Carson, Grant County, on the 29th, and this is also a record for low temperature in North Dakota for October. The month opened with cloudy and threatening weather, and frequent snows occurred during the first three weeks, interfering greatly with late threshing, potato digging and corn husking. During the last week there was a great improvement, and these activities were resumed with good results. Livestock was generally in good condition, and much shipping was done during the month.

TEMPERATURE

The mean temperature for the State was 33.3°, or 10.5° below the normal, and 17.0° lower than the mean for October, 1924. The highest mean reported was 37.6° at McLeod, Ransom County; the lowest was 28.0° at Carson, Grant County. The highest temperature reported was 66° at Hettinger, Adams County, on the 10th; the lowest was −16° at Carson, Grant County, on the 29th. The greatest monthly range of temperature was 80° at Carson, Grant County; the least was 49° at Finley, Steele County. The greatest daily range was 66° at Dickinson, Stark County.

PRECIPITATION

The average precipitation for the State was 0.78 inch, or 0.22 inch below the normal, and 1.65 inches less than the average for October, 1924. The greatest monthly amount reported was 2.53 inches at Powers Lake, Burke County; the least was 0.05 inch at Edgeley, LaMoure County, and Lisbon, Ransom County. The greatest amount recorded in any 24 consecutive hours was 1.10 inches at Howard, Williams County, on the 3d. The average snowfall was 3.7 inches; the greatest fall reported was 14.0 inches at Finley, Steele County. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at McLeod on the 6th; at Ellendale, Energy and Foxholm on the 8th; at Ellendale, Foxholm and McKinney on the 9th; at Devils Lake and Willow City on the 10th; at Crosby, Energy, Foxholm, Stanton and Willow City on the 11th; at Ellendale and Fullerton on the 13th; at Ellendale, Foxholm and McKinney on the 15th; at Foxholm and McLeod on the 21st; at Grand Forks on the 22d; at Eckman, Foxholm, Grand Forks, Howard, McKinney, McLeod, New England, Sharon and Williston on the 23d; at Arnegard on the 24th; at Epping and McKinney on the 28th; at Epping and Foxholm on the 30th, and at McKinney, New England and Williston on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.14	30.67	9	29.58	25	57	6,514	8.8	38	nw.	22
Devils Lake	30.06	30.57	9	29.56	15	44	6,995	9.4	27	nw.	5
Ellendale	30.09	30.59	9	29.59	25	56	9,199	12.4	48	nw.	5
Grand Forks	30.04	30.56	9	29.63	15	90	....	......	48	s.	30
Williston	30.11	30.65	27	29.47	25	48	6,065	8.2	31	nw.	13
Moorhead, Minn	30.06	30.58	9	29.55	15	58	5,989	8.0	26	n.	5
Av'ges and extremes	30.07	30.67	9	29.47	25	.....	....	9.4	48	nw.	5†

* For any five-minute period. †And other dates.

NOV 30 [illegible]

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	153.9	336.9	46	−14	86	62	67	35	30†
Devils Lake	159.7	335.6	48	− 6	85	70	76	40	20
Ellendale	134.3	338.3	40	−22	85	71	....	35	20
Grand Forks	......	......	.....	.....	89	.....	81	.....	....
Williston	130.1	335.6	39	−15	88	64	70	41	12†
Moorhead, Minn	150.2	336.9	46	−14	85	66	70	46	12†
Averages and extremes	145.6	336.6	44	−14	86	67	73	35	20†

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893...	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894...	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895...	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896...	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897...	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898...	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899...	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900...	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901...	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902...	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903...	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904...	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905...	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906...	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907...	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908...	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909...	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910...	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911...	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912...	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913...	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914...	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915...	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916...	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917...	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918...	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919...	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920...	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921...	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922...	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.
1923...	44.0	+0.2	84	− 8	0.88	−0.12	4	14	7	10	nw.
1924...	50.3	+6.5	86	19	2.43	+1.43	7	17	5	9	se.
1925...	33.3	−10.5	66	−16	0.78	−0.22	6	8	9	14	nw.

Climatological Data for October, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	33.2	−11.1	58	5	1	29	43	0.94	−0.35	0.26	3.4	7	9	14	8	n.	E. T. Carley.
Amidon	Slope		12																	H. M. Critchfield.
Arnegard	McKenzie		11	32.7		57	4	−7	29	39	1.21		0.44	5.7	8	13	6	12	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	36.4	−7.3	65	5	−4	29	44	0.46	−0.60	0.21	2.5	5	9	3	19	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	32.3	−11.7	60	4†	−12	29	37	0.72	−0.27	0.30		6					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	35.6	−9.1	65	10	−7	29	40	0.30	−0.56	0.23	2.2	2	12	4	15	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	34.5	−10.4	62	10	−3	29	42	0.55	−0.48	0.27	2.8	8	11	7	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	32.6	−9.0	55	10†	−4	29	35	1.01	+0.02	0.37	2.2	11	4	22	5	nw.	T. M. Street.
Bowman	Bowman	2,961	12	33.5		64	10	−11	29	40	0.33	−0.44	0.08		7	8	12	11	nw.	R. Love, Jr.
Cando	Towner	1,488	25	33.6[c]	−10.1	63[c]	3	−1[c]	29	31[c]	0.19	−0.53	0.12	0	2				nw.	A. J. Swanson.
Carson	Grant	2,500	14	28.0	−15.5	64	4†	−16	29	55	0.89	+0.01	0.35	3.8	7	12	7	12	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20								1.10	+0.23	0.35	8.5	5	7	11	13	nw.	S. Friswold.
Crosby	Divide	1,954	19	33.2	−8.3	55	4†	−1	29	38	1.00	+0.25	0.68	2.2	6	7	7	17	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	32.4	−8.1	53	12	3	29	27	1.27	+0.04	0.43	10.2	13	8	9	14	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	32.0	−11.9	62	10	−15	29	66	0.98	+0.20	0.20	5.2	12	13	7	11		Leroy Moomaw.
Dogden	McLean	1,736		33.0		56	4	−1	29	37	0.53		0.31	3.5	6	5	10	16	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27																	H. Feldner.
Dunn Center	Dunn	2,191	27	32.6	−13.0	59	10	−12	28	63	0.45	−0.18	0.26	T.	3	7	3	21	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	31.4	−9.7	53	12	−2	29	41	0.88	+0.13	0.28	T.	9	5	8	18	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	33.2	−9.5	57	31	−4	29	40	0.51	−0.34	0.26	3.0	3	0	16	15	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	34.4	−11.5	63	5	−3	29	40	0.05	−0.87	0.05	0.5	1	4	7	20	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	34.0	−11.6	64	5	3	29	36	0.48	−0.56	0.11	2.3	10	6	6	19	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	34.5		60	10†	3	28	40	0.43	−0.27	0.24	2.0	3	6	10	15	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	32.4		60	16	−10	28	36	1.07	+0.18	0.40	7.0	8	8	15	8	nw.	A. O. Waug.
Fessenden	Wells	1,610	14	33.2	−8.8	58	2†	−5	29	50	0.75	−0.03	0.28	5.0	8	6	5	20	nw.	T. D. Monsen.
Finley	Steele	1,461	2	31.8		48	11	−1	29	22	1.52		0.54	16.0	7	11	1	19	nw.	G. J. Mustad.
Forman	Sargent	1,249	32								0.33	−1.01		14.0	3	5	16	10	n.	O. Enger.
Foxholm	Ward	1,657	5	33.6		56	15	−1	29	36	0.74		0.28	5.0	6	4	14	13	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								0.79		0.24	3.0	8	12	11	8	nw.	Verne King.
Fullerton	Dickey	1,439	28	35.6	−8.7	63	5	0	29	32	0.39	−0.90	0.18	2.1	3	5	10	16	nw.	F. O. Alin.
Garrison	McLean	1,901	31	33.4	−10.4	61	10	−1	29	40	0.49	−0.41	0.37	0	2	5	11	15	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	35.2[a]	−7.5	60[a]	31	12[a]	27†	31[a]	0.74	−0.15	0.20	2.7	7	13	4	14	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	34.0	−9.5	57	12	5	29	31	0.89	−0.27	0.38	5.4	9	7	5	19	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	33.9	−10.2	60	6	2	29	37	0.76	−0.12	0.51	3.5	4	8	13	10	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32								1.11	+0.15	0.40	7.0	6					J. Moffatt.
Hansboro	Towner	1,597	18	30.1	−11.2	56	12	−10	28	36	1.29	+0.38	0.50	12.0	5	11	9	11	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	32.3[f]	−14.1	66[f]	10	−14[f]	29	43[f]	0.47	−0.17	0.20	2.7	3	13	3	15	nw.	C. J. Downey.
Hillsboro	Traill	901	20	35.2	−10.8	56	4†	4	29	28	0.98	−0.04	0.31	0.5	8	6	11	14	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	19	31.1	−10.3	54	4	−4	29	32	2.46	+1.65	1.10	8.6	7	6	6	19	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	32.6	−12.2	58	9	−3	29†	58	1.01	+0.08	0.50	1.4	4	11	2	18	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	31.0[d]	−12.1	58[d]	4	−5[d]	29	41[d]	0.51	−0.07	0.48		2	10	8	13	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	30.2	−10.2	55	10	−3	29	39	0.67	−0.27	0.22	4.0	4	10	11	10	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	33.4	−9.9	55	12	0	29	28	1.46	+0.23	1.00	2.0	6	8	9	14	n.	Reuben Gray.
Linton	Emmons	1,711	8	36.2[d]		62[d]	4	−8[d]	29	43[d]	0.56		0.25	0.4	5				n.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	33.6	−11.7	64	2	−3	28	36	0.05	−0.97	0.05	0.5	1	12	8	11		W. S. Adams.
McClusky	Sheridan	1,943	8	29.4		49	10	−6	29	35	0.70		0.40	7.0	2	7	8	16	nw.	Edw. Tapley.
McHenry	Foster	1,509	15	34.1[e]	−8.2	58[e]	2	8[e]	26	33[e]	1.12	−0.21	0.60	5.0	4					F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	33.0	−8.7	60	10	−3	29	44	0.70	−0.23	0.33	2.0	4	4	13	14	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	37.6	−7.9	64	6	0	29	40	0.52	−0.54	0.22	1.5	6	10	7	14	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	33.8		59	10	9	27	33	0.66	−0.13	0.25	3.2	5	8	11	12	nw.	A. T. Felland.
Mandan	Morton	1,644	12	33.8	−11.1	62	10	−8	29	54	0.71	0.00	0.26	2.0	11	10	2	19	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	33.6	−9.7	60	2	−2	29	34	0.58	−0.23	0.30	4.0	5	11	7	13	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17																	S. P. Grane.
Mayville	Traill	975	30	35.4	−9.5	57	4	−2	28	31	1.12	+0.01	0.60	T.	3	10	6	15	n.	R. Peterson.
Melville	Foster	1,590	28	33.0[a]	−10.6	56[a]	10	−3[a]	29	33[a]	0.73	−0.14	0.60	6.0	2	8	6	17	nw.	J. P. Kidder.
Minot	Ward	1,557	30	36.9[h]	−6.7	58[h]	10	13[h]	9	34[h]	0.72	−0.22	0.36	4.0	4				w.	W. I. Faris.
Minto	Walsh	820	33	34.0	−9.2	58	2	2	29	32	0.66	−0.44	0.18	2.5	6	8	14	9	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	34.1	−8.9	60	21	−10	29	48	0.60	−0.49	0.37	3.2	9	8	7	16	nw.	O. H. Opland.
Napoleon	Logan	1,955	34	31.7	−10.2	60	4	−8	29	36	0.68	−0.26	0.15	2.5	7	9	1	21	nw.	C. J. Hoof.
New England	Hettinger	2,400	32	30.6	−13.1	59	11	−12	29	39	0.60	−0.05	0.40	4.0	2	7	6	18	nw.	W. S. Jones.
New Salem	Morton	2,163	22	33.4	−10.9	65	4	−5	29	32	0.45	−0.50	0.18	2.5	4	11	12	8	nw.	J. Christiansen.
Park River	Walsh	998	22	32.6[d]	−11.7	55[d]	4	4[d]	29	23[d]	1.14	+0.13	0.37	2.8	5				nw.	C. B. Wright.
Parshall	Mountrail		11								0.64		0.35		6					J. A. Johnson.
Pembina	Pembina	789	52	35.6	−5.3	56	7	14	27	23	2.30	+0.96	0.80	2.0	5	7	13	11	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	30.2[e]	−11.0	58[e]	4	−6[e]	29	44[e]	0.49	−0.16	0.20	3.0	5				nw.	S. C. Shanks.
Power	Richland	1,020	32								0.31	−1.16	0.10	1.8	5	4	13	14	n.	Frank B. Power.
Powers Lake	Burke	2,205	12								2.53	+1.71	0.80	13.5	6	11	8	12	se.	Geo. B. Gee.
Richardton	Stark	2,467	10	32.0		62	10	−7	27	37	0.86		0.30	3.0	5	10	6	15	nw.	John Muggli.
Sharon	Steele	1,516	1								1.07		0.40	8.3	10	8	7	16	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	2								0.35		0.25	2.5	3	12	8	11	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	30.7	−13.3	54	10	−7	29	35	0.60	−0.28	0.20	3.0	5	11	10	10	nw.	H. S. Wood.
Towner	McHenry	1,482	24	38.8	−3.6	60	10†	−3	29	49	0.88	−0.02	0.78	7.0	2	11	11	9	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	33.2		58	10	−5	29	40	0.48	−0.28	0.27	3.0	3	3	9	19	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	34.4	−10.8	60	5	−2	29	34	0.32	−0.51	0.10	1.0	5	7	19	5	nw.	H. Twito.
Wahpeton	Richland	962	32	37.2	−8.7	65	5	2	29	32	0.52	−0.99	0.18	0	5	13	0	18	nw.	C. G Luick.
Washburn	McLean	1,731	25								0.53	−0.41	0.34	3.4	2					Karl Klein.
Westhope	Bottineau	1,508	20	32.8	−8.6	58	10†	−3	29	35	0.66	−0.01	0.32	2.0	4	10	14	7	ne.	W. A. Meddaugh.
Williston	Williams	1,878	47	33.4	−10.0	57	4	0	29	34	1.05	+0.28	0.41	6.1	8	9	9	13	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	32.2[a]	−9.5	56[a]	31	−5[a]	29	39[a]	0.86	+0.16	0.25	4.0	8	10	11	10	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	34.6	−9.9	60	5	4	29	31	0.63	−1.44	0.23	2.8	8	3	13	15	nw.	U. S. Weather Bureau.
Averages				33.3	−10.5	66	10	−16	29	66	0.78	−0.22	1.10	3.7	6	8	9	14	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for October, 1925

Stations	Drainage Basin	Day of Month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
menia |||	Red	T.	...	T.	.20	...	...	.04	.26	...	...	...	...	T.	.10	T.	...	...	...	T.	...	...	.10	.04	...	...	.20	...	T	...	...	...	0.94
nidon	Lit. Missouri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
negard	Missouri	...	...	.05	...	...	.05	.25	...	...	...	T.	...	.41	...	.15	.02	T.	.15	...	...	...	T	...	...	.10	T.	T	...	...	...	...	1.21
shley	Missouri	...	.21	...	...	...	...	.05	...	...	...	...	...	...	...	...	.10	...	T.	...	.05	...	...	...	...	...	.05	...	...	...	...	...	0.46
each	Lit. Missouri	...	T.	.11	...	T.	.30	.04	...	...	...	...	T	.11	...	.13	T	T.	...	...	...	...	...	...	...	...	...	.03	...	...	...	...	0.72
rthold Agency	Missouri	...	...	...	...	...	T.	.23	...	...	...	...	...	T.	...	T.	T.	.07	...	...	...	...	T.	...	...	...	...	...	...	...	...	...	0.30
smarck ***	Missouri	.08	.01	.01	...	...	.03	.24	...	...	...	...	...	.09	...	.08	T.	.01	T.	...	...	...	T.	...	...	T	T.	T	...	...	...	...	0.55
ttineau|| ||	Mouse	.04	...	.24	.02	.01	...	.11	...	...	...	...	...	.11	.01	.07	...	.02	T.	...	...	.01	.37	...	...	...	T	T.	...	...	...	...	1.01
owman	Grand	...	...	.08	...	...	.05	.06	...	...	...	...	.05	...	...	...	.04	.02	...	...	...	...	...	...	...	.03	...	...	...	...	...	...	0.33
ando	Devils Lake	...	...	...	.07	...	...	...	...	...	...	...	...	...	...	T.	...	T.	...	...	...	...	...	...	.12	...	...	...	...	...	...	...	0.19
arson	Heart	.07	.10	...	...	...	.05	.20	...	...	...	...	...	...	...	.35	...	.10	...	...	...	...	...	...	...	.02	...	...	...	...	...	...	0.89
operstown	Sheyenne	...	...	.15	...	...	...	.35	...	...	...	...	...	...	.10	...	...	T.	...	...	...	...	.20	...	...	.30	T.	T	...	...	...	...	1.10
osby	Mouse	...	...	.68	...	...	...	.16	.10	...	...	.02	...	...	...	...	.02	...	...	...	...	...	...	...	...	...	.02	...	...	...	...	...	1.00
evils Lake ***	Devils Lake	...	...	.08	.01	...	...	.36	...	...	...	...	...	.16	.01	.10	...	.04	.01	...	...	.05	.38	...	...	.04	.01	...	T.	...	...	.02	1.27
ckinson|| ||	Heart	T.	.04	.03	.03	...	...	.15	.03	T.	...	...	...	.18	.05	...	.10	.02	.10	...	...	...	...	...	...	.20	.05	...	...	...	...	...	0.98
ogden	Mouse	...	...	...	.01	...	...	.31	...	...	...	...	...	.10	T.	.02	...	...	.04	...	...	...	...	...	...	.05	...	...	...	...	...	...	0.53
onnybrook	Mouse	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
unn Center |||	Knife	...	...	...	...	...	...	.26	...	...	...	...	...	...	...	.09	...	T.	...	...	...	...	...	...	...	.10	...	...	...	...	...	...	0.45
unseith	Mouse	...	...	.13	.01	...	...	.17	...	...	...	...	...	.17	.02	.07	...	.01	.02	...	...	...	.28	...	...	...	...	...	...	...	...	...	0.88
kman	Mouse	...	...	...	.26	T.	...	.17	...	...	...	...	...	.08	...	...	...	T.	T.	...	...	...	...	...	...	...	...	...	...	...	...	...	0.51
dgeley	James	...	...	T.	...	...	...	T.	...	...	...	...	...	...	...	...	...	T.	T.	...	...	...	...	...	...	...	.05	...	...	...	...	...	0.05
llendale***	James	T.	.09	.02	...	...	T.	.08	T.	...	...	...	...	.01	...	.07	...	.02	.05	...	...	...	.02	...	T.	.10	.02	T.	T.	...	...	...	0.48
nergy	Missouri	...	...	T.	...	...	T.	.24	...	...	...	...	...	.13	...	.06	T.	...	T.	...	...	...	...	...	...	T.	T.	T.	...	...	...	...	0.43
pping	Missouri	...	T.	.40	...	...	...	.10	.10	...	...	...	...	.22	...	.08	...	.10	.06	...	...	...	.01	...	...	T.	...	T.	...	...	...	...	1.07
essenden|| ||	James	.03	...	...	.09	...	...	.28	.10	...	...	...	...	.04	.07	...	...	...	...	.11	...	T.	...	.03	T.	T.	T.	T.	...	...	...	...	0.75
inley	Red	...	...	T.	.16	T.	...	.42	...	...	...	...	...	.03	.07	.08	T.	T.	T.	...	...	...	.22	...	...	.54	T.	T.	T.	...	...	...	1.52
orman	Sheyenne	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
oxholm	Mouse	...	...	.14	T.	...	...	.28	...	...	...	...	...	.12	...	T.	.10	T.	.08	...	...	T.	.02	T.	T.	T.	T.	...	T.	...	...	...	0.74
ryburg	Heart	.04	...	.03	...	...	T.	...	...	...	...	T.	.02	.12	...	.24	.11	.05	...	...	...	...	...	...	...	.18	T.	T	...	...	...	...	0.79
ullerton	James	...	.18	T.	...	...	...	...	...	...	...	...	...	...	...	...	...	T.	.13	T.	...	T.	...	...	...	T.	.08	...	T.	...	...	...	0.39
arrison	Missouri	...	...	T.	...	...	...	.37	...	...	...	...	...	.12	...	T.	...	T.	T	...	...	...	...	...	...	T.	T.	...	...	...	...	...	0.49
rafton	Red	...	...	...	.03	...	...	.20	.01	...	...	...	...	.12	.10	...	...	.15	T.	...	...	...	.13	...	...	...	...	...	...	...	...	...	0.74
rand Forks ***	Red	...	...	.07	.03	T.	...	.38	...	...	...	T.	...	.11	.04	.05	...	.01	T.	T.	...	...	.18	...	...	T.	.02	T.	T.	...	...	...	0.89
ranville	Mouse	...	...	.11	...	T.	...	.51	...	...	...	...	...	.09	...	T.	T.	T.	T.	...	...	T.	...	...	...	.05	T.	...	...	...	...	T.	0.76
annah	Pembina	...	...	.05	T.	T.	...	...	T.	...	...	...	...	.15	T.	...	...	.20	...	...	...	...	.40	...	...	T.	.10	...	...	...	...	.21	1.11
ansboro	Devils Lake	...	...	...	.15	...	T.	.24	T.	...	...	...	...	.25	...	.15	...	...	T.	...	...	T.	.50	...	...	T.	T.	...	...	...	...	...	1.29
ettinger	Grand	...	...	...	...	...	.10	...	.17	...	...	...	T.	T.	...	...	...	...	...	...	...	...	...	...	...	.20	...	...	...	...	...	...	0.47
illsboro	Red	...	...	...	.28	T.	...	.31	...	...	...	...	...	.04	.03	.05	...	...	.03	...	...	...	.19	...	...	...	.05	T.	...	...	...	...	0.98
oward	Missouri	...	T.	1.10	...	...	*	.40	T.	...	T.	T.	...	.33	...	.03	*	.60	T.	...	T.	...	T.	...	...	T.	T.	T.	...	...	T.	...	2.46
amestown|| ||	James	...	...	...	...	...	.50	.25	...	...	...	...	...	...	...	...	...	...	.18	...	...	...	...	...	...	.08	...	...	...	...	...	...	1.01
amoine	Missouri	...	...	...	...	...	.03	...	...	...	...	...	...	.48	...	...	...	...	...	...	...	...	...	...	...	T.	T.	...	...	...	...	...	0.51
angdon|| ||	Pembina	...	...	...	...	T	...	.20	...	...	...	...	...	...	.22	.05	...	...	T.	...	...	...	.20	...	...	...	...	...	...	...	...	T.	0.67
arimore	Red	...	...	...	.05	...	...	1.00	...	...	...	...	...	.10	.11	.05	...	...	...	...	...	...	.15	...	...	...	...	...	...	...	...	...	1.46
inton	Missouri	T.	.20	...	T.	...	T.	...	.07	...	...	...	T.	...	...	.25	...	.01	.03	...	...	...	...	...	...	T.	...	T.	...	...	...	...	0.56
isbon ||||	Sheyenne	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	T.	...	...	...	.05	T.	...	...	...	...	0.05
cClusky	Missouri	T.	...	...	...	...	...	.40	...	...	...	...	...	...	...	...	...	...	.30	...	...	...	...	...	...	T.	T.	T.	...	...	...	...	0.70
cHenry	James	...	...	...	...	...	...	.60	...	...	...	...	...	.23	...	...	...	...	...	...	...	...	.14	...	...	...	...	T.	T.	...	.15	...	1.12
cKinney	Mouse	...	...	.33	...	...	...	.20	T.	...	...	...	...	.12	...	T.	...	T.	T.	...	...	...	.05	...	...	T.	...	T.	...	...	...	...	0.70
cLeod	Sheyenne	...	.06	T.	T.	...	...	...	.22	...	...	...	...	.09	...	...	...	...	...	.06	...	...	.06	...	T.	T.	.03	T.	T.	...	...	...	0.52
addock	Sheyenne	...	...	...	...	...	...	.25	...	...	...	...	...	.08	.12	...	...	...	...	...	...	...	.14	...	...	.07	...	...	...	...	...	...	0.66
andan|| ||	Missouri	.02	.09	.02	.01	...	...	.26	.05	.01	...	...	...	.03	.08	...	.11	T.	.03	T.	...	...	...	...	...	...	T.	...	...	...	...	...	0.71
anfred	James	...	...	.02	.07	...	...	.30	...	...	...	...	...	.13	...	...	...	...	.06	...	...	...	T.	T.	...	T.	...	...	...	...	...	...	0.58
armarth	Lit. Missouri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ayville	Red	...	...	...	.17	...	...	...	...	...	...	...	...	.60	...	...	...	...	...	...	...	...	.35	...	...	...	...	...	...	...	...	...	1.12
elville	James	...	...	...	...	...	...	.60	...	...	...	...	...	.13	...	...	...	...	...	...	...	...	T.	...	...	...	...	...	...	...	...	...	0.73
inot|| ||	Mouse	...	...	.13	...	...	...	.36	...	...	...	...	...	.10	...	...	...	...	...	...	...	...	...	...	...	...	.13	...	...	...	...	...	0.72
into	Red	...	...	...	.03	...	...	.17	...	...	...	...	...	...	.12	.11	T.	.05	T.	...	...	...	.18	...	T.	T.	T.	...	...	...	...	...	0.66
ott	Cannon Ball	.02	.04	.03	...	...	.04	.37	...	...	...	...	...	T.	T.	.02	.02	.03	T.	...	...	...	...	...	...	.03	...	T.	...	...	...	...	0.60
apoleon ||||	Missouri	...	...	.11	.04	...	...	.08	.15	...	...	...	...	...	...	...	.15	...	.10	...	...	...	...	...	...	...	.05	...	...	...	...	...	0.68
ew England	Cannon Ball	...	...	...	...	...	T.	.40	...	...	...	...	...	T.	...	.20	T.	T.	...	...	...	...	...	...	...	T.	T.	T.	...	...	...	...	0.60
ew Salem	Heart	T.	...	T.	...	...	...	.18	...	...	...	...	...	...	...	.10	...	.03	.14	...	...	...	...	...	...	T.	T.	...	...	...	...	...	0.45
ark River	Red	...	...	...	...	T.	...	.37	T.	...	.18	...	...	...	...	.30	...	T.	T	...	...	...	.21	...	...	...	.08	...	...	...	...	...	1.14
arshall	Missouri	...	...	...	.02	.05	.35	...	...	...	...	...	...	.05	.06	...	...	...	...	...	...	...	...	...	.11	...	...	...	...	...	...	...	0.64
embina|| ||	Red	...	...	...	.50	...	.20	...	...	...	.80	...	...	...	...	...	...	.20	...	...	...	...	...	...	...	.60	...	...	...	...	...	...	2.30
ettibone	James	...	...	.05	.01	...	...	.20	T.	...	...	...	...	.13	...	...	T.	...	.10	...	...	...	...	...	...	T.	...	T.	T.	...	...	...	0.49
ower	Sheyenne	...	...	.03	...	...	...	...	.07	...	...	...	...	.04	...	...	...	T.	.07	...	...	...	...	...	...	...	.10	...	...	...	...	...	0.31
owers Lake	Missouri	.56	...	...	...	...	.27	...	.41	.19	...	...	...	...	...	...	.30	.80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.53
ichardton	Heart	.15	...	.03	...	...	T.	.30	...	...	...	...	...	.30	...	.08	...	T.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.86
haron	Red	...	...	.02	.18	T.	...	.40	T	...	...	...	...	.07	.03	.09	T.	T.	.05	.01	...	T.	.15	...	T.	.07	T.	T.	T.	...	T.	...	1.07
tanton	Missouri	...	...	T.	...	...	...	.25	...	...	...	...	...	.05	...	.05	T.	...	T.	...	...	...	...	...	...	...	...	...	...	...	...	...	0.35
teele	Missouri	.10	.05	T.	.15	T.	.20	T.	T.	...	T.	T.	T.	...	...	T.	...	T.	.10	...	T.	T.	T.	...	T.	T.	T.	T.	...	...	...	...	0.60
owner	Mouse	...	...	.78	...	...	.10	...	...	...	...	...	...	...	...	...	...	...	T.	...	...	...	...	...	...	...	...	...	...	...	...	...	0.88
urtle Lake	Missouri	...	...	...	...	...	...	.27	...	...	...	...	...	.15	...	...	...	...	.06	...	...	...	...	...	...	T.	T.	T.	...	...	...	...	0.48
alley City	Sheyenne	...	T.	...	.03	...	...	.04	...	...	...	...	...	.10	...	...	...	...	...	...	...	.05	...	...	...	.10	...	...	...	...	...	...	0.32
ahpeton	Red	...	...	...	.18	...	...	.12	...	...	...	...	...	.05	...	...	...	...	...	...	...	...	.12	...	.05	...	...	...	...	...	...	...	0.52
ashburn	Missouri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
esthope	Mouse	...	...	.32	...	...	...	.20	...	...	...	...	...	T.	...	...	T.	T.	.08	...	...	.06	T.	...	...	...	...	...	...	...	...	...	0.66
illiston ***	Missouri	...	...	.29	...	T.	.22	.24	.02	...	T.	...	...	.08	...	.07	.04	T.	T.	...	...	...	T.	...	...	.09	T.	T.	...	...	...	T.	1.05
illow City	Mouse	...	...	.11	.01	...	...	.25	T.	...	...	...	...	.10	...	T.	...	.10	T.	...	...	T.	.23	...	.03	.03	T.	...	...	...	...	...	0.86
oorhead, Minn ***	Red	...	T.	.02	.04	...	...	.23	T.	...	...	...	...	.05	...	T.	...	T.	.02	T.	...	T.	.11	T.	T.	.14	.02	T.	T.	...	...	...	0.63

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	46	51	50	55	58	41	36	35	40	48	52	52	45	52	36	40	36	37	44	47	50	36	38	36	40	32	23	20	30	44	57	42.2
	Minimum	31	30	33	36	33	23	33	31	21	24	26	28	26	37	36	21	22	20	27	26	22	29	22	24	26	19	10	12	1	6	14	24.2
Arnegard	Maximum	52	51	44	57	38	37	38	36	42	56	52	53	46	56	47	33	33	33	39	44	52	46	48	46	38	21	14	15	25	52	53	41.8
	Minimum	28	32	36	34	28	28	29	22	26	27	30	28	35	29	33	21	22	19	6	11	32	35	32	25	18	11	-3	-3	-7	13	27	23.6
Ashley	Maximum	49	50	54	64	65	42	41	41	46	60	52	55	50	52	55	45	44	37	40	50	49	51	50	52	48	43	34	23	32	54	58	48.0
	Minimum	27	27	40	40	30	25	31	29	16	24	25	32	32	34	36	22	21	19	25	19	33	31	30	27	21	18	10	4	-4	10	33	24.7
Beach	Maximum	47	46	45	60	43	34	32	31	42	60	55	46	45	53	50	55	36	31	39	47	55	52	40	42	40	20	20	15	25	50	51	42.2
	Minimum	27	36	36	34	27	25	22	19	26	27	38	33	31	27	28	27	20	20	13	12	35	30	27	20	20	5	0	-10	-12	25	25	22.4
Berthold Agency	Maximum	50	53	57	60	50	40	40	39	48	65	59	60	59	62	61	34	36	40	40	52	58	52	52	58	40	38	22	18	32	53	58	47.9
	Minimum	25	28	38	35	28	28	30	22	21	25	32	22	22	26	31	22	30	19	19	13	38	38	38	24	20	15	0	-1	-7	15	28	23.4
Bismarck	Maximum	43	43	47	60	47	38	37	32	46	62	52	52	47	54	49	39	37	33	38	47	52	49	40	43	45	31	18	19	30	57	59	43.4
	Minimum	28	32	41	39	26	26	31	25	18	29	34	26	38	35	32	23	23	25	17	20	37	38	30	27	21	18	10	3	-3	-15	28	25.6
Bottineau	Maximum	48	51	46	54	45	39	38	33	41	55	52	55	46	54	48	35	33	35	40	47	46	39	45	39	32	26	22	17	29	47	54	41.6
	Minimum	28	25	31	36	29	28	29	26	17	27	31	22	31	32	32	14	25	24	19	17	32	30	29	29	21	20	7	9	-4	12	19	23.5
Bowman	Maximum	52	42	47	60	46	33	33	37	49	61	52	43	41	60	54	38	43	31	40	51	60	51	47	47	37	60	19	15	25	47	57	44.7
	Minimum	25	30	27	32	23	20	29	19	23	24	31	33	35	36	32	22	23	19	10	13	34	36	28	23	22	26	3	-10	-11	8	24	22.3
Cando	Maximum	62	55	63	50	54	39	38	38	40	44	52	55	47	50	48	36	55	....	45	45	....	46	39	42	....	33	22	18	29	42	39	c43.1
	Minimum	34	30	32	27	29	32	29	25	20	29	27	26	36	37	32	17	26	....	24	19	....	29	25	31	....	19	8	9	-1	15	11	c24.2
Carson	Maximum	45	40	44	64	44	45	34	33	45	61	56	49	46	45	48	45	42	50	40	40	48	38	40	42	45	30	15	20	26	55	60	43.2
	Minimum	18	20	28	26	15	14	20	10	10	19	25	19	26	20	24	11	11	8	1	3	15	25	20	15	10	4	-4	-14	-16	0	15	12.8
Crosby	Maximum	45	45	45	55	43	35	35	32	45	55	53	55	44	51	50	40	31	31	42	40	51	41	48	42	30	22	15	18	28	53	53	41.2
	Minimum	28	35	35	35	27	28	25	27	28	32	33	28	32	28	30	25	23	28	23	28	36	35	30	28	18	12	5	3	-1	15	22	25.2
Devils Lake	Maximum	49	52	42	52	42	37	33	35	40	52	48	53	44	49	46	36	31	35	38	43	45	35	37	37	35	27	17	16	29	43	50	39.6
	Minimum	33	30	33	39	30	32	29	27	23	27	32	28	38	38	27	19	22	23	25	19	30	29	26	27	18	15	9	7	3	16	28	25.2
Dickinson §§	Maximum	46	45	43	59	52	55	34	31	48	62	50	51	51	53	50	53	53	31	38	47	56	46	41	44	34	20	15	15	25	52	58	43.8
	Minimum	26	30	33	33	34	22	28	26	17	17	26	26	26	26	26	22	22	21	14	14	18	35	32	21	29	12	5	-7	-15	-14	21	20.3
Donnybrook	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Dunn Center	Maximum	43	50	44	57	50	35	36	32	46	59	50	53	46	53	55	50	35	32	38	47	56	50	41	41	40	24	22	12	28	53	57	43.3
	Minimum	27	30	39	34	28	24	27	22	16	26	32	23	35	45	34	21	20	18	11	12	35	35	31	20	22	8	4	-12	11	-10	30	21.8
Dunseith	Maximum	47	51	48	52	48	40	38	34	40	52	51	53	48	51	51	36	34	35	39	43	47	40	45	42	33	26	24	20	39	45	52	42.1
	Minimum	25	22	29	31	25	28	26	22	13	22	29	24	30	31	28	10	22	21	16	16	28	29	25	23	17	15	5	5	2	7	19	20.7
Edgeley	Maximum	47	48	51	60	63	40	40	37	40	58	55	51	50	52	50	42	40	40	39	46	42	49	43	42	45	38	27	19	28	43	57	41.6
	Minimum	26	26	38	39	31	25	32	29	19	18	33	25	36	35	32	23	19	20	19	20	28	32	29	25	21	27	9	8	-3	6	27	24.3
Ellendale	Maximum	47	49	51	59	64	41	39	35	43	59	52	50	50	51	48	42	44	34	38	45	43	51	39	41	44	28	19	18	26	39	56	43.4
	Minimum	29	31	42	36	28	28	34	27	21	27	29	25	39	32	31	26	22	22	22	22	34	35	29	23	21	21	13	5	3	5	27	25.5
Fessenden §§	Maximum	50	58	48	58	46	40	40	39	44	58	53	58	41	54	43	35	37	37	40	49	41	42	42	43	38	29	20	22	30	50	56	43.4
	Minimum	28	29	32	36	32	29	30	26	16	17	30	25	32	35	33	18	23	25	17	17	20	31	29	28	28	20	9	10	-5	0	16	23.1
Foxholm	Maximum	47	50	52	54	54	40	39	39	41	54	51	53	51	51	56	40	34	33	37	43	45	43	47	39	41	30	26	18	27	50	55	43.2
	Minimum	28	30	33	35	29	25	28	22	14	29	32	29	36	31	33	23	24	23	16	18	32	31	31	22	22	18	6	3	-1	14	24	24.0
Fullerton	Maximum	51	50	51	58	63	42	48	52	42	57	52	52	51	51	48	41	41	35	39	45	43	51	40	40	46	35	23	18	30	37	53	44.7
	Minimum	29	30	42	39	35	27	33	31	21	25	34	35	37	33	29	25	25	21	23	22	31	33	32	23	28	20	12	10	0	7	26	26.4
Garrison	Maximum	46	55	48	58	53	36	34	33	44	61	52	56	46	56	49	34	35	34	40	46	52	45	45	43	37	30	21	19	29	54	57	43.4
	Minimum	27	29	36	34	28	24	29	21	17	26	29	24	36	30	34	21	20	22	15	16	31	36	32	24	23	19	6	3	-1	14	25	23.5
Grafton	Maximum	51	57	54	56	49	42	39	41	42	51	49	....	57	51	48	40	37	40	41	44	47	39	39	37	31	30	28	20	29	37	60	a43.0
	Minimum	36	30	32	40	32	31	31	29	28	29	30	...	26	40	31	21	28	25	29	28	26	29	30	28	24	22	12	12	14	13	29	a27.3
Grand Forks	Maximum	45	54	51	55	47	44	38	39	43	51	50	57	48	49	39	37	34	36	40	42	45	34	38	36	40	29	24	17	28	37	51	41.2
	Minimum	38	32	33	42	29	32	32	28	29	28	29	26	41	39	25	22	20	22	28	25	26	30	31	29	21	24	10	11	5	14	30	26.7
Granville	Maximum	48	52	45	55	40	60	42	35	42	55	51	47	55	54	48	45	35	36	38	45	45	48	47	42	35	30	28	20	32	52	54	43.9
	Minimum	32	28	30	34	30	25	33	23	14	26	30	27	34	30	32	25	24	24	18	18	30	28	30	25	21	15	8	5	2	15	24	23.9
Hansboro	Maximum	52	52	52	52	42	41	36	36	37	50	50	56	50	52	45	35	36	36	38	45	44	42	38	38	32	28	20	25	40	45	47	41.7
	Minimum	22	20	24	28	20	26	23	20	10	18	25	20	23	32	25	12	18	18	15	15	26	26	22	14	16	12	2	10	5	20	25	18.5
Hettinger	Maximum	51	46	49	60	59	34	39	56	50	66	52	45	49	51	55	....	43	....	40	....	....	63	....	46	35	29	42	28	24	28	....	f45.6
	Minimum	24	29	30	28	29	21	22	27	22	23	34	33	32	29	22	....	22	....	9	....	....	11	...	24	22	3	3	-8	-14	-3	....	f19.0
Hillsboro	Maximum	47	55	53	56	54	44	42	38	43	53	51	56	50	50	41	38	35	36	41	43	45	39	38	41	36	33	28	19	27	37	51	42.7
	Minimum	36	35	37	40	36	30	33	30	27	27	33	28	39	38	35	25	26	23	29	29	25	29	32	20	25	21	14	15	4	11	27	27.7
Howard	Maximum	34	46	46	54	45	35	35	36	45	52	50	50	41	47	45	38	31	26	35	42	50	52	42	50	35	18	15	15	26	48	53	39.9
	Minimum	24	28	34	32	25	28	28	25	17	27	28	27	31	25	31	20	19	15	10	15	34	35	27	30	18	10	4	0	4	27	21	22.3
Jamestown §§	Maximum	40	48	47	55	39	38	34	39	58	52	55	46	52	47	37	37	39	46	45	46	47	40	42	40	29	20	17	30	43	55	52	42.4
	Minimum	29	29	30	38	30	25	30	28	18	19	25	27	26	37	37	22	24	21	21	19	20	31	30	25	21	20	10	9	-3	-3	8	22.7
Lamoine	Maximum	....	50	45	58	....	....	...	36	34	41	40	43	41	51	52	33	30	32	36	46	42	42	38	40	41	27	21	18	27	52	55	d39.7
	Minimum	....	42	34	37	....	....	....	25	25	12	33	24	36	31	30	16	18	16	12	21	32	32	28	21	22	18	12	7	-5	11	22	d22.4
Langdon §§	Maximum	54	49	52	39	38	33	35	41	49	55	54	45	44	42	36	34	32	39	44	45	35	38	31	26	24	18	18	25	36	23	44	38.1
	Minimum	30	28	28	28	29	27	29	25	23	26	28	31	33	34	26	16	19	18	22	20	23	26	27	23	23	18	6	4	-3	12	14	22.4
Larimore	Maximum	48	53	50	52	45	43	35	35	45	48	50	55	50	50	48	38	35	37	49	42	44	35	37	35	37	30	20	29	28	37	45	40.9
	Minimum	35	30	32	35	34	27	30	27	23	28	30	27	30	32	35	17	23	25	26	28	32	30	25	28	30	20	10	9	0	18	28	25.9
Linton	Maximum	47	45	49	62	57	....	....	....	...	61	55	53	57	55	52	42	45	36	40	46	54	49	41	44	47	38	30	20	29	50	58	d46.7
	Minimum	25	30	42	47	39	....	....	....	....	41	36	38	32	22	39	26	29	15	12	9	36	28	31	27	34	23	13	2	-8	10	15	d25.7
Lisbon §§	Maximum	60	64	56	52	50	55	58	52	60	42	38	41	45	48	44	42	40	32	31	38	36	38	38	40	38	35	38	20	24	35	25	42.5
	Minimum	26	30	34	38	32	30	26	32	36	41	28	32	34	31	40	27	35	32	19	21	24	22	30	10	18	10	2	-3	8	10	12	24.8
McKinney	Maximum	45	50	45	52	48	40	35	33	38	60	55	55	40	55	50	34	32	34	35	45	50	40	50	40	36	25	20	18	30	52	55	41.8
	Minimum	29	30	32	40	28	22	30	25	15	25	32	33	34	30	33	25	25	24	15	20	30	33	32	24	20	20	8	5	-3	8	24	24.1
Maddock	Maximum	49	51	50	55	51	37	37	34	42	59	52	53	53	50	50	35	34	37	39	43	43	41	43	42	35	27	25	18	29	45	53	42.3
	Minimum	30	28	31	37	30	28	30	26	16	26	30	24	36	35	32	17	25	21	19	18	31	30	29	25	21	20	9	10	11	25	33	25.3
Melville	Maximum	44	53	55	50	42	37	37	30	42	56	52	53	47	50	42	38	32	35	37	44	45	37	40	41	....	28	26	17	28	48	50	a41.2
	Minimum	27	30	38	34	28	26	30	26	18	23	32	26	36	36	36	29	22	24	20	20	30	30	17	27	....	18	9	8	-3	16	28	a24.7
Minot	Maximum	52	50	46	56	46	38	37	36	45	58	54	57	48	55	53	36	33	35	40	46	48	45	50	....	....	....	....	....	....	....	....	h46.3
	Minimum	27	28	31	36	29	25	29	22	13	29	34	23	36	30	30	23	25	23	17	17	35	30	40	....	....	....	....	....	....	....	....	h27.5
Mott	Maximum	44	46	51	51	47	41	32	43	45	48	58	53	50	47	44	44	43	48	50	56	60	47	42	40	21	20	12	10	38	53	55	43.3
	Minimum	34	36	36	34	30	26	25	29	28	30	37	32	30	33	30	30	27	21	18	13	33	35	30	24	19	8	6	-5	-10	26	27	24.9
Napoleon §§	Maximum	43	42	48	60	58	37	37	33	45	58	54	50	48	53	50	40	38	35	38	45	59	47	38	42	45	29	19	18	28	48	57	43.0
	Minimum	21	23	36	35	30	17	26	25	12	26	27	20	30	33	35	17	11	12	10	12	30	30	27	22	17	15	4	0	-8	18	20	20.4
New Salem	Maximum	41	45	45	65	57	40	45	38	46	44	54	53	47	55	48	40	39	32	41	45	54	48	51	47	21	31	16	21	20	55	54	43.2
	Minimum	27	29	36	35	26	23	30	20	18	25	35	28	35	31	37	20	30	21	13	30	30	34	31	22	7	14	5	-3	-5	24	22	23.5
Pembina	Maximum	54	50	48	52	44	53	56	52	49	51	38	44	48	51	44	40	40	40	38	36	36	34	44	50	44	31	24	25	25	38	38	42.5
	Minimum	32	34	36	37	30	31	38	36	31	38	25	28	30	28	29	28	34	32	32	30	30	28	30	29	22	24	14	20	20	20	18	28.7
Steele	Maximum	45	44	49	49	45	41	45	40	33	54	50	49	46	50	35	34	33	34	31	51	44	45	41	37	31	25	15	25	28	41	45	39.8
	Minimum	25	29	30	35	29	21	21	20	18	28	34	28	24	35	23	19	19	15	15	19	17	33	27	31	17	17	7	7	7	19	20	21.6
Towner	Maximum	50	54	50	54	53	50	49	50	52	60	58	56	60	58	56	54	58	56	60	57	58	55	54	53	37	36	30	25	46	50	56	51.5
	Minimum	27	29	33	36	34	36	38	24	17	20	26	27	30	36	37	32	30	38	32	29	32	27	26	28	20	18	10	5	-3	6	28	26.1
Valley City	Maximum	47	45	47	56	60	46	37	32	42	53	52	54	47	49	46	42	46	42	46	48	49	41	47	45	43	34	32	27	32	40	51	44.5
	Minimum	29	36	38	39	30	25	30	26	22	26	29	23	34	35	34	22	22	19	22	20	28	29	24	22	20	17	8	8	-2	10	25	24.2
Wahpeton	Maximum	52	55	53	60	65	45	42	40	49	55	55	55	51	50	49	46	41	46	48	46	50	44	43	47	40	40	40	26	30	41	55	47.0
	Minimum	38	33	40	41	35	26	34	31	24	27	35	23	39	33	34	41	24	22	28	25	26	29	32	26	22	20	13	13	2	9	23	27.4
Westhope	Maximum	49	43	46	51	38	37	38	36	48	58	55	51	53	55	56	38	36	38	43	43	40	40	40	35	40	30	20	21	20	50	58	42.1
	Minimum	29	30	34	35	28	23	27	24	25	26	30	30	32	34	29	21	20	20	18	15	28	36	28	18	18	15	7	15	-3	18	23	13.5
Williston	Maximum	58	49	44	57	40	37	35	32	47	56	51	53	45	54	44	31	32	33	39	45	53	46	45	45	36	23	15	16	27	53	54	41.5
	Minimum	29	36	38	35	29	30	30	28	25	34	30	27	36	29	30	25	23	21	15	19	38	36	28	28	19	11	4	2	0	19	27	25.2
Moorhead, Minn	Maximum	47	52	48	57	60	42	38	37	41	53	49	54	47	49	44	38	36	35	42	43	46	40	35	38	38	30	24	18	27	41	53	42.0
	Minimum	37	37	39	41	30	29	34	30	28	26	33	27	38	37	31	25	26	22	29	27	28	28	31	27	22	20	14	12	4	10	25	27.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc.

[WBO, Minneapolis, 11-24-25—1000]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

ol. XXXIV   Bismarck, N. D., November, 1925   No. 11

GENERAL SUMMARY

With the exception of the two periods, 6-7th and 27-28th,
ild temperatures prevailed throughout the State, and farm
nd other outdoor work progressed uninterruptedly. As a re-
ult of these favorable conditions, farm work and road construc-
ion made rapid advancement. The precipitation was light in
early all sections, the stormiest periods being the 3-5th, 14-
7th, 21st, and 29-30th.

TEMPERATURE

The mean temperature for the State was 28.8°, or 2.2° above
he normal, and 1.2° higher than the mean for November, 1924.
'he highest mean reported was 33.6° at Beach, Golden Valley
ounty; the lowest was 24.0° at Hansboro, Towner County.
'he highest temperature reported was 69° at New Salem, Mor-
on County, on the 11th; the lowest was −17° at Carson, Grant
ounty, on the 7th. The greatest monthly range of tempera-
ure was 81° at Carson, Grant County; the least was 51° at
angdon, Cavalier County. The greatest daily range was 60° at
amestown, Stutsman County, on the 8th.

PRECIPITATION

The average precipitation for the State was 0.25 inch, or
.33 inch below the normal, and 0.07 inch more than the
verage for November, 1924. The greatest monthly amount re-
orted was 1.24 inches at Moorhead; there was none at two
tations, and eight stations reported but a trace. The average
nowfall was 1.3 inches; the average number of days with 0.01
nch or more of precipitation was 2.

AURORAS

Auroras were observed at Bowman on the 1st; at Linton on
he 3d and 5th; at Arnegard, Berthold Agency, Bismarck,
owman, Devils Lake, Dogden, Ellendale, Energy, Fessenden,
oxholm, Howard, New England, Powers Lake, Stanton,
owner and Willow City on the 8th; at Arnegard, Bismarck,
ottineau, Bowman, Devils Lake, Donnybrook, Ellendale, En-
rgy, Foxholm, Grand Forks, Howard, New England, Towner
nd Willow City on the 9th; at Arnegard, Bottineau, Bowman,
Devils Lake, Fessenden, Foxholm, Grand Forks, Howard and
owner on the 10th; at Donnybrook and Grand Forks on the
1th; at Linton on the 19th and 24th.

ERRATA FOR MOORHEAD, MINN.

January, 1925.—Page 1, make lowest barometer 29.54 on 6th; make 7 p. m. humidity
9. Page 2, make total snowfall 2 3; make mean temperature 7 8; make lowest tem-
erature −21 on 26th. Page 4, make maximum temperature 27th 11; make minimum
emperature 6th 17; make minimum temperature 7th 4; make minimum temperature
th −15; make minimum temperature 11th 1; make minimum temperature 31st −12;
nake mean minimum temperature 1 3.

February, 1925.—Page 5, make lowest barometer 29 56 on 24th; make noon humidity
3 Page 6 make partly cloudy days 7; make cloudy days 14; make total snowfall 10 6.
Page 8, make minimum temperature 8th 21; make minimum temperature 20th 6; make
nean minimum temperature 4 9.

March, 1925.—Page 9, make highest barometer 30.57 on 14th; make lowest barometer
29 24 on 9th. Page 12, make maximum temperature 19th 35

April, 1925—Page 14, make mean temperature 49.6; make greatest amount of precipitation in 24 hours 0.77. Page 16, make minimum temperature 13th 42; make minimum temperature 18th 44; make minimum temperature 28th 36; make mean minimum temperature 38 1.

May, 1925.—Page 17, make lowest barometer 29.27 on the 22d. Page 18; make total snowfall T.

June, 1925.—Page 21, make mean barometer 29.84; make lowest barometer 29.19 on 8th; make 7 a. m. humidity 81; make total wind movement 5,119; make average hourly velocity 7.1; make highest wind velocity 60 miles per hour from northwest on 5th. Page 22, make greatest amount of precipitation in 24 hours 1.38.

July, 1925.—Page 25, make 7 p. m. humidity 60. Page 26, make number of clear days 22; make number of partly cloudy days 6.

August, 1925.—Page 29, make mean barometer 29.94.

October, 1925.—Page 40, make maximum temperature 31st 51; make mean maximum 41.9.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds						
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.10	30.57	22	29.64	3	57	6,108	8.5	42	nw.	21
Devils Lake	30.03	30.47	22	29.57	11	44	6,792	9.4	38	nw.	5
Ellendale	30.06	30.49	6	29.64	3	56	8,734	12.1	46	nw.	21
Grand Forks	30.02	30.15	27	29.62	11	90	....	......	46	se.	3
Williston	30.04	30.61	21	29.53	2	48	5,365	7.5	37	nw.	21
Moorhead, Minn	30.04	30.50	27	29.65	12	58	6,010	8.3	28	se.	3
Av'ges and extremes	30.05	30.61	21	29.53	2	.....	....	9.2	46	se.	3†

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	157.6	281.1	56	+ 4	76	53	58	34	5
Devils Lake	148.5	278.2	53	+ 6	84	69	77	32	20
Ellendale	157.7	281.1	55	+ 3	84	57	....	17	20
Grand Forks	......	......	.....	.....	77	.....	74	.....	....
Williston	161.2	278.2	58	+11	83	59	65	23	20
Moorhead, Minn	140.4	281.1	50	− 2	84	68	76	45	26
Averages and extremes	155.1	280.5	54	+ 4	81	61	70	17	20

† And other dates.

DEC 31 ... ILLINOIS

COMPARATIVE STATE DATA FOR NOVEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891...	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892...	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893...	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894...	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895...	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896...	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897...	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898...	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899...	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900...	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901...	26.8	+0.2	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902...	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903...	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904...	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905...	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906...	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907...	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908...	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909...	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910...	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911...	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912...	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913...	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914...	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915...	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916...	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917...	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918...	28.9	+2.3	71	18	1.04	+0.46	4	13	6	11	nw.
1919...	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920...	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921...	21.0	−5.6	69	−30	0.68	+0.10	5	7	8	15	nw.
1922...	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.
1923...	36.5	+9.9	72	− 5	0.50	−0.08	3	13	8	9	nw.
1924...	27.6	+1.0	69	−15	0.18	−0.40	2	11	9	10	nw.
1925...	28.8	+2.2	69	−17	0.25	−0.33	2	14	8	8	nw.

Climatological Data for November, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	26.2	−1.1	60	20†	−8	7	47	0.44	−0.10	0.32	......	2	21	6	3	n.	E. T. Carley.
Amidon	Slope	......	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. M. Critchfield.
Arnegard	McKenzie	......	11	31.2	......	57	1	−4	7	31	0.05	......	0.05	0.5	1	18	8	4	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	32.8^{a}	+5.1	67^{a}	20	0^{a}	27†	48^{a}	0.45	−0.09	0.25	3.5	3	19	4	7	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	33.6	+2.2	56	2	−4	7	27	0.00	−0.54	0.00	0	0	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	29.6^{a}	+0.8	63^{a}	9	−11^{a}	7	44^{a}	0.03	−0.45	0.03	0.2	1	23	5	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	30.8	+2.3	63	20	−2	7	36	0.13	−0.55	0.13	1.5	1	14	6	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	26.1	+4.3	55	11	−5	7	43	0.18	−0.36	0.15	......	3	7	14	9	nw.	T. M. Street.
Bowman	Bowman	2,961	12	31.9	......	65	20	−2	7	43	T.	−0.32	T.	0	0	11	6	13	nw.	R. Love, Jr.
Cando	Towner	1,488	25	27.6^{c}	+1.1	54^{c}	20	−1^{c}	7†	38^{c}	T.	−0.51	T.	T.	0	......	......	......	nw.	A. J. Swanson.
Carson	Grant	2,500	14	27.0	−3.7	64	20	−17	7	49	0.01	−0.55	0.01	0.1	1	22	5	3	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	......	......	......	......	......	......	......	0.20	−0.34	0.20	0	1	13	11	6	nw.	S. Friswold.
Crosby	Divide	1,954	19	28.5	+0.7	53	2†	−4	7	29	0.39	−0.32	0.12	1.5	4	12	7	11	sw.	John Jensen.
Devils Lake	Ramsey	1,478	29	26.8	+4.2	58	20	0	27	32	0.30	−0.41	0.18	3.7	4	11	10	9	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	29.8	+1.2	58	21	−10	7	42	0.13	−0.35	0.10	1.3	2	13	4	13	nw.	Leroy Moomaw.
Dogden	McLean	1,736	......	29.4	......	58	20	−5	28	35	0.10	......	0.07	T.	2	12	11	7	sw.	R. L. Williams.
Donnybrook	Ward	1,760	27	26.0	−2.8	59	1	−10	8	56	0.31	0.28	0.31	T.	1	15	10	5	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	29.9^{a}	+1.5	55^{a}	1†	−8^{a}	6	45^{a}	0.00	−0.62	0.00	0	0	13	5	12	w.	W. H. Moede.
Dunseith	Rolette	1,682	30	25.3	−0.9	55	20	−6	7	41	0.01	−0.42	0.01	T.	1	11	10	9	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	27.8	+1.5	59	20	−4	7†	44	0.15	−0.39	0.11	2.0	2	1	8	21	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	31.6	+1.2	64	20	−3	28	40	0.40	+0.06	0.20	2.0	2	8	13	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	29.6	+3.5	64	20	0	7†	39	0.32	−0.46	0.14	2.9	5	8	10	12	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	31.0	......	61	20	−6	7	41	0.15	−0.11	0.15	1.0	1	5	18	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	28.8	......	56	1	−5	5†	50	0.28	......	0.25	0.8	2	20	10	0	w.	A. O. Wang.
Fessenden	Wells	1,610	14	28.0	+1.0	63	20	−4	7	42	T.	−0.64	T.	T.	0	9	7	14	sw.	T. D. Monsen.
Finley	Steele	1,461	2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	G. J. Mustad.
Forman	Sargent	1,249	32	......	......	......	......	......	......	......	1.07	+0.51	0.50	8.0	3	17	10	3	s.	O. Enger.
Foxholm	Ward	1,657	5	29.6	......	56	20	−4	7	34	0.16	......	0.16	T.	1	13	12	5	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	......	......	......	......	......	......	......	0.19	......	0.10	2.0	2	18	7	5	sw.	Verne King.
Fullerton	Dickey	1,439	28	30.0	+0.3	63	20	−2	7	38	1.01	+0.28	0.52	7.6	3	14	8	8	nw.	F. O. Alin.
Garrison	McLean	1,901	31	30.1	+3.1	62	20	−1	7	36	T.	−0.58	T.	T.	0	15	8	7	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	27.7	+3.7	59	20	−3	28	39	0.08	−0.58	0.08	T.	1	10	7	13	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	26.4	+0.3	58	20	−2	28	33	0.33	−0.37	0.32	0.1	2	8	10	12	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	29.8	+3.7	58	19	−8	7	42	0.18	−0.43	0.18	T.	1	14	9	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	......	......	......	......	......	......	......	0.10	−0.58	0.10	1.0	1	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	18	24.0	−1.9	60	20	−10	28	40	0.25	−0.21	0.15	......	2	9	11	10	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. J. Downey.
Hillsboro	Traill	901	20	28.2	−0.6	53	2†	−4	8	35	0.58	−0.23	0.33	2.5	3	7	14	9	nw.	F. E. Mayall.
Howard‡‡	Williams	2,275	19	27.0	−0.7	52	1†	−4	7	31	0.04	−0.47	0.02	T.	2	12	10	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	26.9	−0.7	60	10†	−5	28	60	0.17	−0.56	0.12	1.7	2	12	3	15	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	27.5	+0.5	58	10	−7	7	43	0.05	−0.49	0.05	0.5	1	21	5	4	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	25.0	−0.7	51^{a}	20	0	7†	43^{a}	0.70	0.00	0.60	1.0	2	13	13	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	28.2	+2.4	58	20	−3	27†	36	0.15	−0.53	0.10	0.5	2	14	5	11	nw.	Reuben Gray.
Linton	Emmons	1,711	8	31.0^{b}	......	64^{b}	20	−5^{b}	7†	46^{b}	0.06	......	0.06	0.6	1	17	6	7	w.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	25.5	−4.7	56	1	−10	28	44	0.20	−0.42	0.20	2.0	1	12	12	6	......	W. S. Adams.
McClusky	Sheridan	1,943	8	24.8	......	48	17	−7	7	32	0.10	......	0.10	1.0	1	16	6	8	nw.	Edw. Tapley.
McHenry	Foster	1,509	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	F. D. Cannon.
McKinney‡‡	Renville	1,640	32	29.1	+4.5	58	20	−6	28	40	0.10	−0.55	0.10	1.0	1	6	5	19	w.	N. P. Swenson.
McLeod	Ransom	1,075	14	30.6	+0.9	59	20	−11	7	36	1.09	+0.50	0.76	0.7	4	20	2	8	sw.	J. G. Carlson.
Maddock	Benson	1,604	10	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. T. Felland.
Mandan	Morton	1,644	12	29.4	−0.5	62	20	−2	7	46	0.15	−0.40	0.15	2.0	1	12	4	14	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	28.2	−0.8	58	20	−3	7	36	T.	−0.74	T.	T	0	17	6	7	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	S. P. Grane.
Mayville	Traill	975	30	29.6	+0.3	56	11†	−2	28	45	0.30	−0.37	0.30	3.0	1	16	5	9	n.	R. Peterson.
Melville	Foster	1,590	28	29.8	+0.8	62	20	−2	7	35	T.	−0.53	T	T.	0	9	11	10	nw.	J. P. Kidder.
Minot	Ward	1,557	30	28.2	−1.5	61	19	−9	28	49	0.17	−0.51	0.17	T.	1	14	12	4	nw.	W. I. Faris.
Minto	Walsh	820	33	26.4	+1.9	61	20	−5	28	39	T.	−0.65	T.	T.	0	14	9	7	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	31.4	+0.2	58	19	−6	28	39	0.02	−0.44	0.02	0.2	1	13	8	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	34	27.8	+1.2	62	20	−8	7†	42	0.20	−0.39	0.20	2.0	1	14	3	13	sw.	C. J. Hoof.
New England	Hettinger	2,400	32	30.8	+0.6	58	20	−8	7	41	T.	−0.49	T.	T.	0	17	6	7	nw.	W. S. Jones.
New Salem	Morton	2,163	22	31.7	+1.0	69	11	−2	7†	41	0.08	−0.27	0.08	1.0	1	16	8	6	nw.	J. Christiansen.
Park River	Walsh	998	22	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. B. Wright.
Parshall	Mountrail	......	11	......	......	......	......	......	......	......	0.10	......	0.10	1.0	1	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	52	31.4	+8.7	60	21	−5	28	36	0.10	−0.58	0.10	1.0	1	15	10	5	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	26.0^{b}	−0.9	58^{b}	12†	−8^{b}	7	45^{b}	0.12	−0.43	0.12	1.2	1	......	......	......	nw.	S. C. Shanks.
Power	Richland	1,020	32	......	......	......	......	......	......	......	0.85	+0.23	0.40	5.0	3	10	13	7	s.	Frank B. Power.
Powers Lake	Burke	2,205	12	......	......	......	......	2	7†	......	0.74	+0.18	0.46	4.6	2	21	4	5	e.	Geo. B. Gee.
Richardton	Stark	2,467	10	31.0^{a}	......	58^{a}	20	−3^{a}	7	36^{a}	0.00	......	0.00	0	0	14	10	6	sw.	John Muggli.
Sharon	Steele	1,516	1	......	......	......	......	......	......	......	0.16	......	0.10	1.1	4	14	8	8	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	2	......	......	......	......	......	......	......	0.20	......	0.20	2.0	1	19	3	8	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	26.8	−1.6	60	20	−6	7	39	0.10	−0.49	0.10	1.0	1	17	11	2	nw.	H. S. Wood.
Towner	McHenry	1,482	24	31.4	+6.4	58	20	−6	8	48	0.15	−0.33	0.15	T.	1	21	6	3	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	28.2	......	55	2†	0	28	35	0.06	−0.43	0.06	1.0	1	10	7	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	30.2	+0.5	65	3	−5	7	40	0.31	−0.31	0.25	2.5	2	13	9	8	nw.	H. Twito.
Wahpeton	Richland	962	32	30.6	+2.3	61	20	−8	7	42	0.92	+0.23	0.45	0.1	4	21	0	9	nw.	C. G. Luick.
Washburn	McLean	1,731	25	......	......	......	......	......	......	......	0.41	−0.23	0.19	2.0	3	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	20	27.6	+0.8	59	20	−6	7	41	0.08	−0.50	0.05	......	2	14	10	6	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	30.1	+2.9	56	20	−1	7	33	0.16	−0.44	0.07	0.4	5	13	7	10	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	26.4	+4.3	58	20	−8	7	41	0.69	+0.18	0.20	2.0	4	8	8	14	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	27.8	+0.7	56	20	−5	8	33	1.24	+0.26	0.83	4.2	6	6	11	13	s.	U. S. Weather Bureau.
Averages	......	......	......	28.8	+2.2	69	11	−17	7	60	0.25	−0.33	0.83	1.3	2	14	8	8	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for November, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
menia ‖	Red				.32		T.			T.																					.12		0.44
midon	Lit. Missouri																																
rnegard	Missouri			T.																		T.							.05				0.05
shley	Missouri			.10		.25																								.10			0.45
Beach	Lit. Missouri																																0.00
Berthold Agency	Missouri																													T.	.03		0.03
Bismarck ***	Missouri						T.							T.								T.					T.	T		.13			0.13
Bottineau‖ ‖	Mouse																	.02	.15						.01					T.			0.18
Bowman	Grand																													T.			T.
Cando	Devils Lake																								T.								T.
Carson	Heart																														.01		0.01
Cooperstown	Sheyenne			.20																													0.20
Crosby	Mouse			.12			.10								.05			.12															0.39
Devils Lake ***	Devils Lake					T.			.03					T.	T.			.03				.06			.18			T.					0.30
Dickinson ‖	Heart								T.													T.					T.		T.	.10	.03		0.13
Dogden	Mouse	.07													T.			.03													T.		0.10
Donnybrook	Mouse																	.31			T.												0.31
Dunn Center ‖	Knife																																0.00
Dunseith	Mouse																								.01								0.01
Eckman	Mouse																	.11							.04								0.15
Edgeley	James			.20	.20																												0.40
Ellendale***	James			.07	.10				T.							T						T.						T.	.02	.12	.01		0.32
Energy	Missouri					T.												T.												.15			0.15
Epping	Missouri																																
Fessenden‖ ‖	James					T								T.	T.				T.			T.				T.		T.			T.		T.
Finley	Red																																
Forman	Sheyenne			.27	.30																										.50		1.07
Foxholm	Mouse					T.								T.	T.			.16							T.		T.	T.					0.16
Fryburg	Heart			T.	T.	T.	T.											T.				.09							.10	T.			0.19
Fullerton	James			.25	.24	T.										T.												T.			.52		1.01
Garrison	Missouri																	T.													T.		T.
Grafton	Red			.08		T.									T.																		0.08
Grand Forks ***	Red			.32	.01				T.	T.				T.	T.							T.			T								0.33
Granville	Mouse					T.									T.			.18							T.								0.18
Hannah	Pembina			T.																					T.					.10			0.10
Hansboro	Devils Lake	.15								T.				T.					.10			T.			T								0.25
Hettinger	Grand																																
Hillsboro	Red			.33	.20					.05												T.			T.								0.58
Howard	Missouri			.02		T.	T								T.			.02				T.					T.	T.		T.			0.04
Jamestown‖ ‖	James														.05															.12			0.17
Lamoine	Missouri																														.05		0.05
Langdon‖ ‖	Pembina																																
Larimore	Red			.10																			.05										0.15
Linton	Missouri				T.																						T.				.06		0.06
Lisbon ‖	Sheyenne			T.	T.																										.20		0.20
McClusky	Missouri																														.10		0.10
McHenry	James																																
McKinney	Mouse																	T.						T.	.10								0.10
McLeod	Sheyenne			.76		.26										T.						.03							T.		.04		1.09
Maddock	Sheyenne																																
Mandan‖ ‖	Missouri																														.15		0.15
Manfred	James																										T.				T.		T.
Marmarth	Lit. Missouri																																
Mayville	Red				.30																												0.30
Melville	James					T.																T.									T.		T.
Minot‖ ‖	Mouse					T.									T.			.17							T.		T.	T.					0.17
Minto	Red			T.											T.							T.									T.		T.
Mott	Cannon Ball																												.02	T.			0.02
Napoleon ‖	Missouri																														.20		0.20
New England	Cannon Ball				T.		T															T.											T.
New Salem	Heart																				T.										.08		0.08
Park River	Red																																
Parshall	Missouri																														.10		0.10
Pembina ‖ ‖	Red																														.10		0.10
Pettibone	James				T.										T.														T.		.12		0.12
Power	Sheyenne			35.	.40																									.10			0.85
Powers Lake	Missouri														.46	.28																	0.74
Richardton	Heart																																0.00
Sharon	Red			.10	T.	T.				.03					T.				.02			.01			T.		T.				T.		0.16
Stanton	Missouri																											T.			.20		0.20
Steele	Missouri								T.							T.						T.					T.	T.			.10		0.10
Towner	Mouse	T.										.15										T.				T.							0.15
Turtle Lake	Missouri																														.06		0.06
Valley City	Sheyenne				.06															T.								T.			.25		0.31
Wahpeton	Red			.45	.35	.11																									.01		0.92
Washburn	Missouri						.08							.14																	.19		0.41
Westhope	Mouse																	.03										.05					0.08
Williston ***	Missouri		T.	.02		.01	T.							T.				.07			.04	T.					T.			.02			0.16
Willow City	Mouse	.20												T.	T.			.19	.10						.20			T.					0.69
Moorhead, Minn ***	Red			.83	.28	T.			.02					T.	T.	T.			.02			T.					T.	T.	T.	.02	.07		1.24

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	54	55	41	30	26	22	25	33	44	54	36	35	32	30	36	40	52	42	49	60	56	52	60	34	36	30	16	19	23	26	....	38.3
	Minimum	23	21	20	21	17	10	-8	-6	-3	10	24	26	28	26	16	18	12	27	20	23	24	18	16	20	10	9	0	-2	-1	0	....	14.0
Arnegard	Maximum	57	54	47	27	29	22	25	49	56	53	53	48	36	37	46	52	47	48	49	59	38	33	43	42	43	34	27	33	38	39	....	42.1
	Minimum	27	25	25	20	16	7	-4	20	27	30	29	29	18	23	15	21	30	27	29	29	18	9	21	29	23	2	2	12	15	28	....	20.2
Ashley	Maximum	59	54	55	48	37	30	26	42	59	62	62	59	47	41	46	48	63	53	58	67	60	....	49	52	40	45	25	27	33	34	....	[a]47.6
	Minimum	29	20	26	22	7	13	2	3	25	26	32	25	23	22	26	18	24	29	21	19	24	....	5	20	12	18	0	0	19	14	....	[a]18.1
Beach	Maximum	51	56	45	36	27	25	22	34	55	52	51	50	40	40	48	47	49	53	55	43	41	55	49	50	55	42	35	34	31	32	....	43.4
	Minimum	25	29	27	21	18	10	-4	20	27	28	25	28	25	20	27	28	23	30	31	32	25	29	35	35	36	25	20	13	14	15	....	23.9
Berthold Agency	Maximum	56	54	46	28	35	25	25	50	63	58	....	55	34	40	42	42	52	48	62	47	46	48	47	47	47	37	12	28	36	37	....	[a]43.0
	Minimum	22	25	26	22	16	-8	-11	11	31	22	....	18	14	27	21	15	20	27	19	23	24	4	10	22	26	10	3	1	18	10	....	[a]16.1
Bismarck	Maximum	54	55	45	31	32	24	24	50	59	60	58	54	35	42	39	49	52	47	60	63	40	30	47	47	33	35	17	28	34	33	....	42.6
	Minimum	27	29	31	20	17	5	-2	15	24	26	27	22	21	29	14	13	23	33	30	30	18	8	18	20	14	9	3	5	22	13	....	19.0
Bottineau	Maximum	50	49	44	38	30	19	21	36	52	52	55	43	31	31	35	41	47	41	49	51	45	41	41	31	28	29	11	23	27	29	....	37.4
	Minimum	22	27	33	20	10	-2	5	2	9	16	19	15	26	21	20	15	26	26	26	24	23	3	15	21	7	9	-3	-1	14	10	....	14.8
Bowman	Maximum	54	54	45	28	32	28	24	50	54	54	54	50	44	45	44	52	50	47	56	65	43	38	52	52	48	44	25	27	40	49	....	44.9
	Minimum	22	29	25	21	19	12	-2	15	25	23	30	26	24	23	19	16	31	26	26	22	19	12	22	28	12	5	2	5	20	10	....	18.9
Cando	Maximum	....	49	44	39	30	20	20	35	47	50	53	....	42	39	....	45	48	41	....	54	49	44	44	39	29	30	27	23	24	....	....	[e]38.6
	Minimum	....	24	36	24	10	6	1	1	15	27	26	....	24	28	....	19	25	29	....	27	21	8	6	21	4	12	14	1	7	....	....	[e]16.6
Carson	Maximum	60	55	40	30	30	20	18	50	60	56	56	55	46	41	45	50	52	52	62	64	40	40	52	50	25	40	15	20	35	45	....	43.9
	Minimum	11	28	20	14	6	-3	-17	4	15	18	20	18	14	12	11	6	20	21	16	20	18	-6	10	16	12	0	-10	-2	9	1	....	10.1
Crosby	Maximum	52	53	40	27	30	21	24	42	52	53	52	43	31	30	40	43	43	51	50	53	33	33	46	36	38	31	15	28	31	36	....	38.6
	Minimum	23	28	21	17	8	7	4	22	23	25	27	27	23	14	18	18	30	30	30	29	6	7	22	27	25	7	2	3	10	26	....	18.4
Devils Lake	Maximum	46	49	41	29	30	20	19	36	49	51	56	41	33	30	29	45	51	40	51	58	38	26	41	30	33	29	12	22	27	26	....	36.4
	Minimum	29	23	29	21	10	8	0	7	18	28	29	26	27	27	23	20	27	29	27	33	12	6	22	7	1	0	0	2	10	13	....	17.1
Dickinson §§	Maximum	52	55	36	33	27	19	26	50	56	55	54	52	43	41	45	53	52	48	56	58	32	36	48	49	48	19	19	32	37	42	....	42.4
	Minimum	21	21	33	22	17	15	-10	13	17	27	26	23	24	26	14	11	14	28	26	28	25	6	8	17	19	17	2	0	12	12	....	17.1
Donnybrook	Maximum	59	57	49	50	53	50	20	40	40	42	34	39	45	39	45	48	46	44	45	42	45	39	30	33	32	33	34	29	30	50	....	41.4
	Minimum	20	12	10	12	15	-6	-9	-10	2	4	6	0	10	12	15	27	17	20	22	21	24	12	-2	6	10	12	14	8	10	20	....	10.5
Dunn Center	Maximum	55	55	45	29	30	25	50	....	58	55	52	32	40	39	40	51	50	47	52	59	39	30	47	37	43	27	13	26	34	41	....	[a]41.5
	Minimum	20	25	20	20	11	-8	11	...	22	25	22	22	24	23	14	9	42	29	29	29	25	3	22	15	24	-13	1	-2	23	17	....	[a]18.3
Dunseith	Maximum	50	50	44	34	24	21	21	37	49	52	53	41	33	30	35	44	45	42	48	55	47	25	42	37	26	31	13	21	28	28	....	37.0
	Minimum	22	24	28	17	17	0	-6	4	19	19	19	17	22	23	20	10	24	25	23	27	13	-1	15	20	3	7	-3	4	7	6	....	13.6
Edgeley	Maximum	57	55	48	42	32	31	22	40	57	59	60	61	46	39	34	43	58	45	59	64	47	31	49	48	36	38	22	24	30	31	....	43.6
	Minimum	30	20	38	24	29	11	-2	0	24	31	31	26	21	27	16	10	23	32	29	30	30	6	17	23	7	22	-1	-3	20	16	....	19.6
Ellendale	Maximum	56	56	45	38	32	22	22	39	49	57	58	55	33	36	31	41	58	45	58	64	42	28	52	41	38	35	18	24	28	33	....	41.1
	Minimum	22	17	38	22	17	8	0	3	27	23	30	28	23	29	20	12	25	33	25	25	11	9	13	22	11	10	3	0	21	12	....	18.1
Fessenden §§	Maximum	52	55	43	30	23	23	26	40	58	59	60	55	32	32	34	48	56	43	60	63	35	30	45	36	37	22	18	25	27	34	....	40.0
	Minimum	18	20	26	23	19	6	-4	-2	21	22	27	21	23	27	27	6	12	22	21	23	29	4	17	28	7	9	4	3	3	12	....	15.9
Foxholm	Maximum	50	54	49	38	30	20	23	43	55	54	52	48	33	33	37	48	49	44	54	56	49	32	45	40	33	36	19	27	31	36	....	40.6
	Minimum	28	23	31	16	9	7	-4	9	21	30	30	24	23	27	23	18	23	27	32	36	20	4	22	27	15	9	3	1	13	15	....	18.7
Fullerton	Maximum	54	50	45	40	32	21	21	37	48	52	59	55	38	31	32	40	56	45	59	63	42	29	50	12	38	30	18	26	31	33	....	40.9
	Minimum	25	19	38	27	18	15	-2	2	22	24	29	26	24	29	20	12	26	32	29	25	28	9	15	23	11	15	2	1	18	17	....	19.2
Garrison	Maximum	55	55	53	30	29	23	26	48	57	59	58	55	33	31	39	50	51	47	60	62	45	31	44	43	34	32	16	24	33	34	....	41.9
	Minimum	25	26	29	22	14	9	-1	14	21	29	34	24	15	20	18	17	25	26	26	29	17	4	19	23	17	14	1	1	19	11	....	18.3
Grafton	Maximum	50	54	47	38	32	20	24	34	43	55	53	46	34	31	31	41	47	15	54	59	49	27	46	39	30	32	15	23	27	27	....	38.5
	Minimum	27	15	37	22	11	8	1	3	19	28	24	25	29	28	24	9	25	30	19	26	20	9	20	20	4	11	-1	-3	2	16	....	16.9
Grand Forks	Maximum	50	53	45	29	24	19	22	33	38	50	50	48	32	34	30	33	46	40	54	58	39	28	44	30	32	32	14	22	27	29	....	36.2
	Minimum	33	20	29	24	9	7	2	2	9	28	29	25	29	29	15	13	27	28	23	28	15	9	22	10	7	5	0	-2	13	12	....	16.7
Granville	Maximum	48	52	48	42	30	24	24	40	55	56	54	47	38	32	37	45	52	45	58	53	45	42	45	40	35	30	30	30	32	42	....	41.7
	Minimum	23	32	28	18	10	2	-8	4	18	21	28	18	23	18	18	18	23	28	32	28	18	0	30	24	20	10	0	2	28	24	....	17.9
Hansboro	Maximum	45	45	40	32	30	28	21	35	10	55	55	40	30	30	31	41	45	48	55	60	46	36	36	34	28	26	14	21	25	32	....	36.8
	Minimum	25	30	25	15	4	-2	-5	-5	10	18	20	14	10	20	10	10	20	30	20	24	6	-3	16	15	10	0	-9	10	-2	10	....	11.1
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hillsboro	Maximum	52	53	47	40	31	23	23	31	36	44	48	52	41	32	32	35	47	42	53	52	45	27	42	36	31	31	23	23	27	30	....	37.6
	Minimum	27	20	38	24	15	9	-3	-4	17	23	27	27	29	29	24	14	26	33	23	27	26	11	21	20	9	16	2	0	17	16	....	18.8
Howard	Maximum	52	50	40	25	27	16	22	45	41	50	50	45	34	35	41	46	44	50	50	52	32	43	41	35	44	34	16	14	20	40	....	37.8
	Minimum	21	6	22	18	9	4	-4	18	25	25	19	25	16	18	15	16	26	23	29	21	21	12	17	23	20	10	4	4	4	20	....	16.2
Jamestown §§	Maximum	55	47	31	29	20	24	40	57	57	60	55	33	33	31	45	57	44	57	60	38	30	45	38	37	30	11	25	30	30	39	....	39.3
	Minimum	25	21	22	20	18	11	-2	-3	8	25	25	23	23	25	25	12	12	25	26	25	19	6	4	18	8	8	2	-5	-3	12	....	14.5
Lamoine	Maximum	52	57	47	37	28	21	22	43	52	58	54	52	38	34	37	46	46	46	56	42	33	30	40	42	37	34	28	23	27	31	....	39.8
	Minimum	25	22	37	22	14	9	-7	0	20	28	28	21	15	15	15	7	15	26	26	18	23	-2	10	11	18	15	-4	-4	14	10	....	15.2
Langdon §§	Maximum	47	38	28	20	17	21	32	43	50	48	39	31	29	28	41	45	37	47	51	42	30	42	32	30	21	17	20	25	26	....	....	[a]33.7
	Minimum	29	25	28	20	10	3	0	0	16	16	26	22	26	24	22	18	21	26	21	25	29	3	19	17	7	10	0	5	6	16	....	16.3
Larimore	Maximum	55	54	40	33	22	22	20	30	45	52	57	52	33	33	30	43	55	50	54	58	35	27	43	30	30	20	15	23	27	32	....	37.3
	Minimum	26	18	33	25	19	6	1	14	28	30	30	27	26	26	23	10	20	25	24	25	34	10	20	21	2	17	-3	-3	18	17	....	19.0
Linton	Maximum	58	....	54	41	35	24	24	48	58	59	58	57	40	42	40	45	55	49	59	64	46	45	49	49	36	32	19	28	...	36	....	[b]44.7
	Minimum	26	....	29	26	16	13	-5	2	16	32	26	20	13	27	30	8	34	29	21	21	32	20	6	15	10	18	-4	-5	...	11	....	[b]17.4
Lisbon §§	Maximum	56	42	38	24	19	18	24	38	42	38	38	36	39	45	39	38	42	45	39	35	34	38	36	35	30	29	26	34	30	32	....	35.3
	Minimum	36	38	30	29	6	3	-9	6	12	20	18	19	20	22	20	18	12	20	24	20	16	12	15	18	12	10	-6	10	18	16	....	15.5
McKinney	Maximum	50	50	45	40	28	20	20	45	55	55	55	43	33	34	40	50	50	45	56	58	45	35	44	34	34	30	16	30	31	37	....	40.3
	Minimum	26	15	32	15	10	5	-4	20	15	19	28	28	28	28	25	15	28	28	28	32	24	5	24	25	26	10	0	-6	3	12	....	17.9
Maddock	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Melville	Maximum	51	54	43	41	30	22	21	38	55	56	58	52	43	32	30	46	55	48	58	62	52	28	45	37	35	34	15	22	29	30	....	40.7
	Minimum	28	25	36	22	15	9	-2	5	25	28	32	26	22	26	23	11	23	30	26	30	25	4	18	25	7	13	0	-1	18	11	....	18.8
Minot	Maximum	50	54	49	38	30	20	23	43	55	52	48	33	33	37	48	49	44	60	61	49	44	44	36	34	34	23	29	33	36	36	....	40.8
	Minimum	28	23	31	16	9	7	-4	9	21	30	30	21	23	27	23	27	23	18	25	27	22	-5	14	15	7	-3	4	-9	10	7	....	15.7
Mott	Maximum	50	43	35	25	35	37	38	46	48	42	51	49	42	44	47	50	57	56	58	55	33	42	55	41	38	35	27	29	32	58	....	42.9
	Minimum	25	27	24	0	-4	20	23	30	30	26	31	30	25	23	25	21	23	31	28	30	25	4	28	21	13	11	2	6	4	30	....	20.0
Napoleon §§	Maximum	55	53	45	30	31	22	22	45	57	59	58	54	31	40	36	46	56	45	58	62	35	29	50	47	40	24	17	26	32	35	....	41.3
	Minimum	18	22	33	20	10	8	-8	4	15	20	30	20	18	15	23	5	22	25	22	25	28	3	15	16	8	20	-8	-6	10	5	....	14.4
New Salem	Maximum	60	55	51	39	32	28	16	52	61	62	69	62	35	41	40	51	59	57	48	63	33	31	49	42	39	26	16	26	36	38	....	43.9
	Minimum	28	22	30	22	17	16	-2	11	24	22	31	29	27	26	19	28	31	30	30	33	15	3	19	21	15	10	-2	1	11	12	....	19.5
Pembina	Maximum	50	56	48	44	42	47	45	42	44	46	48	39	38	40	46	44	40	45	38	37	60	36	34	36	38	30	32	10	20	25	....	40.0
	Minimum	32	28	34	30	28	32	29	30	32	38	36	32	25	32	28	32	30	34	18	25	32	14	10	5	2	20	-4	-5	2	5	....	22.9
Steele	Maximum	50	51	42	25	24	21	26	44	55	45	51	50	35	50	38	45	47	45	46	60	48	30	48	42	36	22	15	24	31	30	....	39.2
	Minimum	20	19	12	17	20	0	-6	9	16	19	21	24	18	24	22	9	26	26	26	21	26	19	21	22	5	14	-5	4	1	2	....	14.5
Towner	Maximum	51	46	40	38	40	49	46	36	54	52	53	46	37	33	48	46	48	49	55	58	44	48	44	40	39	38	46	44	45	33	....	44.9
	Minimum	23	20	18	15	2	10	-2	-6	18	22	23	18	15	26	28	27	30	28	29	28	18	12	12	15	10	20	21	26	27	6	....	18.0
Valley City	Maximum	51	60	65	32	47	35	22	32	47	52	60	57	45	40	40	40	49	55	60	60	42	38	45	59	35	42	21	21	32	32	....	43.2
	Minimum	27	20	32	22	11	7	-5	-1	22	29	29	29	25	25	20	19	22	20	22	26	20	6	17	22	8	12	-4	0	18	12	....	17.1
Wahpeton	Maximum	58	59	49	42	30	23	21	30	40	49	47	50	47	42	33	36	51	47	50	61	53	42	40	29	37	35	29	24	24	30	....	40.6
	Minimum	25	17	34	20	18	10	-8	-4	22	27	29	25	28	29	24	15	28	28	26	30	42	19	18	20	15	26	4	10	20	18	....	20.5
Westhope	Maximum	55	53	48	30	22	24	25	50	56	55	55	25	32	30	40	40	46	48	56	59	37	30	35	32	38	34	40	36	35	38	....	40.1
	Minimum	22	24	24	10	10	-3	-6	12	15	20	20	15	20	20	20	23	21	20	24	25	18	3	5	10	15	8	10	12	15	20	....	15.1
Williston	Maximum	52	53	41	31	29	20	24	46	51	52	52	50	38	38	42	50	48	50	53	56	36	31	43	41	42	31	19	26	32	39	....	40.5
	Minimum	24	33	23	21	14	5	-1	19	26	28	29	28	18	21	13	17	30	28	29	30	13	12	24	26	26	8	7	9	14	18	....	19.7
Moorhead, Minn	Maximum	53	54	45	42	30	21	22	28	38	45	45	51	34	33	30	35	49	40	51	56	42	27	40	34	34	33	13	24	25	29	....	36.8
	Minimum	26	21	37	24	12	7	-1	-5	20	25	29	28	28	29	23	16	27	28	24	30	16	13	21	21	14	7	2	3	21	14	....	18.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WEO, Minneapolis, 12-23-25—1000.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIV Bismarck, N. D., December, 1925 No. 12

GENERAL SUMMARY

Mild temperature, deficient precipitation, moderate winds, and somewhat more than the usual cloudiness characterized the weather during December. During the past thirty-five years, or since the establishment of the Climatological Service in the State, there have been but seven warmer Decembers, the highest mean monthly temperature being 22.7° in 1913. With the exception of the latter part of the third decade, mild temperature prevailed in practically all sections throughout the month. As a result of these favorable conditions, livestock ranged freely on pastures, ranges and harvested fields, thus saving an unusually large quantity of feed. Highway work continued with but slight interruption, and excellent progress was made.

TEMPERATURE

The mean temperature for the State was 16.5°, or 3.5° above the normal, and 13.6° higher than the mean for December, 1924. The highest mean reported was 23.7° at Beach, Golden Valley County; the lowest was 9.8° at Hansboro, Towner County. The highest temperature reported was 67° at Steele, Kidder County, on the 10th; the lowest was −38° at Marmarth, Slope County, on the 26th. The greatest monthly range of temperature was 94° at Carson, Grant County, and Marmarth, Slope County; the least was 55° at Grafton, Walsh County. The greatest daily range was 53° at Jamestown, Stutsman County, on the 30th.

PRECIPITATION

The average precipitation for the State was 0.28 inch, or 0.26 inch below the normal, and 0.15 inch less than the average for December, 1924. The greatest monthly amount reported was 1.20 inches at Linton, Emmons County; there was none at Bowman, Bowman County; Dunn Center, Dunn County; Lisbon, Ransom County, and Westhope, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 0.62 inch at Forman, Sargent County, on the 3d. The average snowfall was 2.6 inches. The average number of days with 0.01 inch or more of precipitation was 3.

AURORAS

Auroras were observed at Grand Forks on the 6th and 7th, and at Arnegard on the 27th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.20	31.11	27	29.37	2	57	5,617	7.5	29	nw.	10
Devils Lake	30.14	30.98	27	29.45	2	44	6,388	8.6	28	n.	3
Ellendale	30.14	30.92	27	29.46	2	56	10,266	13.8	46	nw.	3
Grand Forks	30.17	30.88	27	29.50	2	90	....	......	34	nw.	8
Williston	30.16	31.16	27	29.34	2	48	4,587	6.2	29	nw.	10
Moorhead, Minn	30.13	30.90	27	29.49	3	58	6,674	9.0	27	n.	3
Av'ges and extremes	30.16	31.16	27	29.34	2	.....	....	9.0	46	nw.	3

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

JAN 30 192

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	106.6	265.8	40	− 9	86	76	81	43	31
Devils Lake	99.0	262.1	38	− 7	88	81	86	58	31
Ellendale	114.9	269.6	43	− 6	87	79	....	36	24
Grand Forks	....	....	....	....	93	.....	85	.....	....
Williston	131.9	262.1	50	+ 1	89	76	81	49	10
Moorhead, Minn	115.0	265.8	43	− 6	86	76	84	57	31
Averages and extremes	....	....	43	− 5	88	78	83	36	24

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	uw.
1899	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921	16.5	+3.5	59	−33	0.41	−0.13	4	14	7	10	nw.
1922	8.5	−4.5	55	−34	0.67	+0.13	5	11	8	12	nw.
1923	22.2	+9.2	62	−36	0.32	−0.22	3	16	8	7	nw.
1924	2.9	−10.1	58	−46	0.43	−0.11	4	12	7	12	nw.
1925	16.5	+3.5	67	−38	0.28	−0.26	3	12	8	11	nw.

Climatological Data for December, 1925

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	13.2	+0.5	40	2†	−16	26	44	0.10	−0.41	0.10	1.0	1	18	10	3	n.	E. T. Carley.
Amidon	Slope	......	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. M. Critchfield.
Arnegard	McKenzie	......	11	19.0	......	56	2	−25	27	33	0.12	......	0.05	1.2	3	16	5	10	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	20.8^{b}	+7.3	50^{d}	10	−15	29	35^{d}	0.40	−0.11	0.10	4.0	4	15	1	15	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	23.7	+7.2	57	2	−32	27	37	0.48	−0.03	0.10	4.0	8	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	18.4	+2.7	58	2	−23	27	39	0.18	−0.22	0.18	3.0	1	19	6	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	19.6	+4.9	55	2	−12	26	34	0.35	−0.27	0.15	3.1	7	8	9	14	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	15.0	+8.3	52	2	−15	26	35	0.01	−0.48	0.01	T.	1	3	18	10	nw.	T. M. Street.
Bowman	Bowman	2,961	12	22.0	......	59	1	−31	27	38	0.00	−0.23	0.00	0	0	9	8	14	nw.	R. Love, Jr.
Cando	Towner	1,488	25	......	......	......	......	......	......	......	0.43	+0.07	0.40	4.3	3	......	......	......	......	A. J. Swanson.
Carson	Grant	2,500	14	12.0	−4.0	60	1	−34	27	44	0.34	−0.20	0.10	3.2	5	12	10	9	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	......	......	......	......	......	......	......	0.20	−0.37	0.20	2.0	1	14	11	6	nw.	S. Friswold.
Crosby	Divide	1,954	19	17.5	+5.2	55	1	−20	26†	32	0.31	−0.18	0.20	3.2	4	6	16	9	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	13.8	+5.8	50	2	−17	26	32	0.49	+0.10	0.41	3.9	7	7	9	15	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	19.2	+1.9	57	1	−24	28	45	0.55	+0.13	0.15	5.0	8	11	1	19	nw.	Leroy Moomaw.
Dogden	McLean	1,736	......	17.4	......	55	2	−16	26	31	0.30	......	0.25	2.0	2	14	6	11	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27	16.2	+4.0	58	2	−19	27	39	0.22	−0.26	0.10	4.0	4	11	12	8	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	19.1^{a}	−1.4	55^{a}	2†	−25^{a}	28	36^{a}	0.00	−0.56	0.00	0	0	10	6	15	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	15.4	+7.1	53	2	−20	26	36	0.05	−0.36	0.02	0.4	3	8	11	12	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	15.9	+6.3	56	2	−17	26†	35	0.22	−0.40	0.12	3.0	2	1	11	19	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	17.2	+0.7	47	10†	−13	26	40	0.25	−0.14	0.25	2.5	1	7	7	17	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	17.6	+0.8	48	11	−12	29	42	0.24	−0.09	0.07	1.7	10	7	12	12	n.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	18.1	......	55	1	−17	26	38	0.41	+0.06	0.20	4.0	4	9	15	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fessenden	Wells	1,610	14	15.0	+2.8	61	2	−17	26†	42	0.49	−0.24	0.41	4.3	3	10	4	17	nw.	T. D. Monsen.
Finley	Steele	1,461	2	16.2^{i}	......	45^{i}	1	−17^{i}	26	29^{i}	0.11	......	0.06	1.2	4	14	2	15	nw.	G. J. Mustad.
Forman	Sargent	1,249	32	......	......	......	......	......	......	......	0.62	+0.08	0.62	4.0	1	9	8	14	n.	O. Enger.
Foxholm	Ward	1,657	5	17.2	......	56	1	−18	26	33	0.46	......	0.28	4.8	5	11	11	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	......	......	......	......	......	......	......	0.33	......	0.10	3.5	4	17	4	10	nw.	Verne King.
Fullerton	Dickey	1,439	28	18.0	+4.3	46	11	−11	26	39	0.38	−0.46	0.15	3.4	5	7	7	17	nw.	F. O. Alin.
Garrison	McLean	1,901	31	17.4	+3.8	54	2	−17	26	34	0.20	−0.37	0.12	1.0	2	12	10	9	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	16.0	+8.3	46	2	− 9	26	40	0.27	−0.27	0.23	1.0	3	13	5	13	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	11.6	+1.0	43	2	−16	26	30	0.26	−0.37	0.16	2.2	5	8	6	17	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	17 0	+4.6	58	1†	−21	26	35	0.15	−0.40	0.05	1.5	3	10	10	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	......	......	......	......	......	......	......	0.04	−0.59	0.04	0.4	1	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	18	9.8	+2.5	50	2	−26	26	42	0.52	−0.14	0.40	7.0	2	13	11	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. J. Downey.
Hillsboro	Traill	901	20	14.2	+1.6	41	2	−16	26	29	0.30	−0.60	0.20	3.0	3	18	7	6	nw.	F. E. Mayall.
Howard‡‡	Williams	2,275	19	15.9	+4.1	55	1	−27	27	30	0.50	−0.32	0.32	6.2	3	12	12	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	15.0	+1.4	46	9	−15	27	53	0.16	−0.59	0.05	1.8	6	10	3	18	nw.	S. Calvelage.
Lamoine	Kidder	1,936	21	15.5	+4.3	58	2	−20	27	35	0.20	−0.30	0.20	2.0	1	13	5	13	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	11.0	+3.7	52	1	−22	26†	46	0.20	−0.53	0.20	2.0	1	19	10	2	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	13.8	+3.0	45	2†	−18	26	27	0.22	−0.32	0.15	1.2	3	17	2	12	n.	Reuben Gray.
Linton	Emmons	1,711	8	20.6^{c}	......	57^{c}	2	−17^{c}	22	40^{c}	1.20	......	0.45	3.8	9	14	3	14	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	19.0	+4.9	39	24	−10	27	39	0.00	−0.41	0.00	0	0	22	9	0	......	W. S. Adams.
McClusky	Sheridan	1,943	8	12.6	......	41	3	−20	26	33	0.42	......	0.20	4.0	3	12	12	7	nw.	Edw. Tapley.
McHenry	Foster	1,509	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	F. D. Cannon.
McKinney‡‡	Renville	1,640	32	17.3	+6.6	60	2	−20	28	31	0.15	−0.28	0.05	1.5	3	5	15	11	w.	N. P. Swenson.
McLeod	Ransom	1,075	14	18.7	+4.4	44	11	−12	26	35	0.10	−0.35	0.07	1.0	2	15	4	12	n.	J. G. Carlson.
Maddock	Benson	1,604	10	13.4^{g}	......	......	......	−19^{g}	28	38^{g}	0.15	......	0.15	1.5	1	......	......	......	nw.	A. T. Felland.
Mandan	Morton	1,644	12	17.5	......	56	1†	−15	29	39	0.38	−0.07	0.18	......	5	9	2	20	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	16.8	+5.5	57	2	−17	26	40	0.27	−0.49	0.20	2.9	3	9	12	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	20.0^{d}	+2.3	56^{d}	1†	−38^{d}	26	40^{d}	0.51	+0.17	0.20	6.0	9	10	4	17	......	S. P. Grane.
Mayville	Traill	975	30	14.8	+1.7	41	2†	−16	26	33	0.30	−0.28	0.30	3.0	1	15	3	13	n.	Ingvald Larson.
Melville	Foster	1,590	28	15.8	+4.0	51	1	−17	26	36	0.20	−0.26	0.10	2.0	2	10	9	12	nw.	J. P. Kidder.
Minot	Ward	1,557	30	13.3	+0.9	58	2	−24	26†	38	0.20	−0.31	0.10	1.5	3	3	21	7	w.	W. I. Faris.
Minto	Walsh	820	33	13.0	+2.1	46	2	−20	26	34	0.05	−0.43	0.05	1.0	1	11	12	8	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	18.6	+4.5	51	8	−27	27	35	0.76	+0.18	0.21	5.3	7	10	5	16	nw.	O. H. Opland.
Napoleon	Logan	1,955	34	14.8	+2.4	55	2	−21	27	42	0.35	−0.13	0.15	2.0	3	13	2	16	nw.	C. J. Hoof.
New England	Hettinger	2,400	32	21.0	+3.6	58	1	−18	27	38	0.40	−0.01	0.40	4.0	1	13	7	11	nw.	W. S. Jones.
New Salem	Morton	2,163	22	17.0	+2.1	62	2	−18	27	31	0.37	−0.16	0.09	1.7	7	13	10	8	nw.	J. Christiansen.
Park River	Walsh	998	22	14.2	+3.1	49	2	−18	26	36	0.10	−0.43	0.10	2.5	1	13	4	14	nw.	C. B. Wright.
Parshall	Mountrail	......	11	......	......	......	......	......	......	......	0.40	......	0.20	4.0	3	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	52	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. W. Shumaker.
Pettibone	Kidder	1,856	17	15.8^{f}	+5.4	54^{f}	2	−18^{f}	28	41^{f}	0.39	−0.29	0.12	4.2	4	......	......	......	nw.	S. C. Shanks.
Power	Richland	1,020	32	......	......	......	......	......	......	......	0.20	−0.34	0.10	2.0	2	12	10	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	17.8	......	52	8	−21	30	25	0.39	−0.24	0.20	3.9	3	23	6	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	19.2^{a}	......	56^{a}	1	−20^{a}	27	29^{a}	0.09	......	0.07	0.2	2	10	13	8	nw.	John Muggli.
Sharon	Steele	1,516	1	......	......	......	......	......	......	......	0.15	......	0.14	2.0	2	9	7	15	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	2	......	......	......	......	......	......	......	0.13	......	0.08	1.5	3	13	8	10	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	18.0	+3.8	67	10	−17	26	43	0.19	−0.34	0.12	1.7	3	15	8	8	nw.	H. S. Wood.
Towner	McHenry	1,482	24	19.0	+9.0	58	2	−19	28	34	0.20	−0.21	0.20	2.0	1	17	7	7	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	16.6	......	51	2	−18	26	29	0.42	−0.14	0.08	5.5	7	6	6	19	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	15.8	+2.1	50	11	−18	26	40	0.10	−0.45	0.10	1.0	1	9	21	1	nw.	H. Twito.
Wahpeton	Richland	962	32	16.0	+1.3	42	2	−14	26	36	0.10	−0.35	0.10	1.0	1	19	0	12	nw.	C. G Luick.
Washburn	McLean	1,731	25	......	......	......	......	......	......	......	0.37	+0.03	0.22	......	3	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	20	16.4	+7.4	60	2	−16	28	38	0.00	−0.37	0.00	0	0	11	10	10	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	18.5	+4.7	54	1	−22	28	28	0.45	−0.21	0.12	3.9	9	9	11	11	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	14.0^{a}	......	58^{a}	2	−20^{a}	26	45^{a}	0.13	−0.41	0.10	1.3	2	7	9	15	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	13.4	+1.9	42	2	−15	26	27	0.40	−0.34	0.32	3.8	6	7	5	19	n.	U. S. Weather Bureau.
Averages	......	......	......	16.5	+3.5	67	10	−38	26	53	0.28	−0.26	0.62	2.6	3	12	8	11	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for December, 1925

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖‖	Red				10						T.				T.								T.			T.							0.10
Amidon	Lit. Missouri																																
Arnegard	Missouri			.05									T.	.02		.05					T.									T.			0.12
Ashley	Missouri			.10								.10									.10				.10								0.40
Beach	Lit. Missouri			.09			.02						.09								T.	.04	.02	.08	.04	.10	T						0.48
Berthold Agency	Missouri						T.					T.	T.	.18							T.												0.18
Bismarck ***	Missouri			.15	T.		.04	T.		T.		.08	.01	T.							.03	T.		.03	T.			T.	T.	.01	T		0.35
Bottineau ‖‖	Mouse			.01		T.		T.	T.	T.	T.			T.			T.	T.		T.		T.	T.							T.	T.		0.01
Bowman	Grand																																0.00
Cando	Devils Lake			.40															.01		.02												0.43
Carson	Heart			.10			.05							.05							.04			.10									0.34
Cooperstown	Sheyenne			.20										T.			T.				T.												0.20
Crosby	Mouse			.05									.20		T.							.02		.04									0.31
Devils Lake ***	Devils Lake			.41	T.		.01		T.			T.		.01			.01	T.		.01	.03	.01						T.			T.		0.49
Dickinson ‖‖	Heart			.05			T.	.02					.03	T.	.05	T.	T.				T.	.10		.10	.15	.05	T.				T.		0.55
Dogden	Mouse			.25				T.					T.								.05			T.						T.			0.30
Donnybrook	Mouse			.08			T.					.10								.02				T.					.02				0.22
Dunn Center ‖‖	Knife																																0.00
Dunseith	Mouse			.01																T.	.02		.02										0.05
Eckman	Mouse			.10																	.12												0.22
Edgeley	James			.25																	T.												0.25
Ellendale***	James			.07	T.		.02	.01		T.	.01		.02	T.			.01	T.		.01	.07	T.	T.	.01					T.	T.	.01		0.24
Energy	Missouri			.20			T.	T.					.08	T.							.05			.08									0.41
Epping	Missouri																																
Fessenden ‖‖	James			.41		T.	T.	T.	T.				T.								.04		T.	.04					T.		T.		0.49
Finley	Red			.06						.01			T.	T		T.	T.	T		.02	.02		T.	T.							T.		0.11
Forman	Sheyenne			.62																													0.62
Foxholm	Mouse			.28			T			T.			.09								.06			.02						.01	T.		0.46
Fryburg	Heart			.10		T.											T.			T.	T.	.08	.05			.10	T.						0.33
Fullerton	James			.12	T.		T.	T.		T.			.05	T.			.03			T.	.15	T.	T.								.03		0.38
Garrison	Missouri			.12									.08																	T.			0.20
Grafton	Red			.23													.03				.01												0.27
Grand Forks ***	Red			.16				T.				T.		T.			T.	.01			.07	.01	T.	T.				T.			.01		0.26
Granville	Mouse			.05			T.						.05								.05			T.						T.			0.15
Hannah	Pembina		.04																T.							T.	T.						0.04
Hansboro	Devils Lake			.40								T.							.12														0.52
Hettinger	Grand																																
Hillsboro	Red			.20													.05				.05												0.30
Howard	Missouri			.10			T.					T.	.32	T.		.08														T.			0.50
Jamestown ‖‖	James			T.			.02	T.				.03					.02				.05	T.	.02	.02									0.16
Lamoine	Missouri			.20				T.		T.	T.										T.			T.									0.20
Langdon ‖‖	Pembina			.20										T.										T.							T.		0.20
Larimore	Red											.03		.04							.15												0.22
Linton	Missouri			.45	.05	.20	.09	T.					.04								T.				.10				.02		.15	.10	1.20
Lisbon ‖‖	Sheyenne																																0.00
McClusky	Missouri			.20			.02			T.													.20										0.42
McHenry	James																																
McKinney	Mouse			.05										.05							.05									T.			0.15
McLeod	Sheyenne				.07			T.						T.			T.	T.			.03		T.	T.						T.			0.10
Maddock	Sheyenne			.15						T.				T.			T.				T.		T.					T.					0.15
Mandan ‖‖	Missouri			.18				.08	.07												T.	T.		.04	T.					T.	.01		0.38
Manfred	James			.20		T.							T.	T.			T.				.05	T.		.02						T.			0.27
Marmarth	Lit. Missouri			.06								T.		.01	.05						.04	.01	.20	T.		.09	.04			.01			0.51
Mayville	Red				.30																												0.30
Melville	James			.10				.10					T.	T.			T.				T.	T.											0.20
Minot ‖‖	Mouse							.05						.05							.10												0.20
Minto	Red			.05								T.		T.			T.	T.		T.	T.	T.											0.05
Mott	Cannon Ball			.12			.14						.06			.21				T.	T.			.03	.11	.09							0.76
Napoleon ‖‖	Missouri			.10			.15						T.								.10								T.				0.35
New England	Cannon Ball			T.			.40																										0.40
New Salem	Heart			.03	.07	T.	.04						.08	.09							.03	T.		.03	T.				T				0.37
Park River	Red			.10																	T.		T.								T.		0.10
Parshall	Missouri																	.20							.10		.10						0.40
Pembina ‖‖	Red																																
Pettibone	James	.08		.10			T.	T.	T.		.09		T.								.12	T.									T.		0.39
Power	Sheyenne			.10																	.10												0.20
Powers Lake	Missouri														.10									.09	.20								0.39
Richardton	Heart						.07							.02																			0.09
Sharon	Red			.14				T.	T.	.01				T.		T.	T.			T.	T.	T.	T.	T.							T.		0.15
Stanton	Missouri			T.			.01				T.		.04								.08								T.				0.13
Steele	Missouri			.12		T.	T.	.02	T.				.05	T.														T.	T.	T.	T.		0.19
Towner	Mouse			.20																	T.		T.										0.20
Turtle Lake	Missouri			.08			T.	.02	T.				.07				T.	T.	.08		.08	T.	T.	.04						.05			0.42
Valley City	Sheyenne			.10										T.			T.				T.	T.	T.	T.									0.10
Wahpeton	Red			.10																													0.10
Washburn	Missouri			.22											.09															.06			0.37
Westhope	Mouse																																0.00
Williston ***	Missouri		.06				.02				T.	.08	.10	.04		.06				T.	.02	T.	.06	T.	.01	T.				T.			0.45
Willow City	Mouse			.10				T.	T.								T.				.03	T.	T.	T.						T.	T.		0.13
Moorhead, Minn ***	Red			.32				T.	.01		T.	T.		.02			T.	T.			.02	.02	.01	T.	T.		T.	T.			T.		0.40

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for December, 1925

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	30	40	39	20	30	16	40	30	36	38	32	23	16	18	19	22	22	27	21	18	16	15	18	24	20	6	8	12	19	20	26	23.3
	Minimum...	17	14	20	9	-2	-7	-4	21	14	16	18	5	3	3	5	1	5	2	5	6	2	4	0	2	-7	-16	-14	-13	-13	-6	4	3.0
Arnegard	Maximum...	50	56	34	42	40	47	47	47	45	46	42	35	16	18	26	19	21	33	24	16	12	18	20	20	16	4	8	6	14	25	28	28.2
	Minimum...	23	27	19	17	9	22	33	34	21	25	29	14	12	2	12	6	15	16	16	10	-3	-8	7	7	-9	-18	-25	-21	-9	8	10	9.7
Ashley	Maximum...	49	44	45	35	37	37	39	44	40	50	49	42	26	24	28	....	....	....	....	44	29	18	30	29	24	18	8	22	12	25	44	[d]33.0
	Minimum...	20	24	27	10	1	2	20	31	23	24	30	11	12	10	4	9	12	14	13	10	5	-6	0	9	-6	-13	-14	-1	-15	-6	9	8.7
Beach	Maximum...	55	57	40	33	34	43	51	52	53	53	55	52	25	20	27	24	46	41	31	28	27	27	22	17	15	15	0	4	28	29	32	33.4
	Minimum...	29	30	25	25	24	29	34	33	29	27	35	20	12	14	9	20	24	31	11	12	17	-10	-5	-7	-2	-13	-32	19	0	16	15	14.0
Berthold Agency	Maximum...	42	58	45	40	40	45	45	50	33	48	48	52	32	28	21	26	25	27	26	20	26	12	21	11	10	-4	4	0	15	25	30	29.1
	Minimum...	19	22	12	15	18	12	33	32	24	12	28	13	13	2	11	11	10	3	16	13	3	13	4	6	-20	-20	-23	-18	-4	10	-4	7.7
Bismarck	Maximum...	55	55	39	26	23	39	43	47	32	50	48	30	20	27	28	22	21	27	24	19	13	15	23	16	8	6	2	10	14	24	38	27.2
	Minimum...	22	32	26	15	12	12	33	30	28	27	30	14	16	9	9	11	13	19	15	13	2	-5	6	3	0	-12	-12	-2	-10	11	4	12.0
Bottineau	Maximum...	45	52	45	26	22	35	35	38	30	33	32	29	18	25	18	18	19	26	23	17	13	12	13	9	9	-2	3	4	10	23	29	22.9
	Minimum...	10	31	25	2	6	4	31	23	21	25	25	6	8	7	6	4	8	18	10	11	7	-2	-2	-2	-11	-15	-13	18	-8	7	-3	7.1
Bowman	Maximum...	59	56	38	38	43	44	43	53	57	53	47	45	30	23	30	24	50	40	32	20	14	19	34	23	18	17	0	-2	15	33	36	33.3
	Minimum...	23	28	15	8	10	21	33	33	28	24	28	27	17	13	6	16	12	18	14	9	-2	-8	19	8	1	-19	-31	-19	-21	8	12	10.7
Cando	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carson	Maximum...	60	42	40	20	30	41	42	52	40	39	50	30	20	30	20	20	22	33	20	10	5	15	5	10	10	14	-10	-7	5	20	20	24.1
	Minimum...	16	20	10	-2	-6	4	20	22	14	18	20	6	5	0	-2	5	5	4	4	0	-22	0	-3	-17	-21	-20	-31	-26	-26	-10	1	-0.2
Crosby	Maximum...	55	50	50	38	43	45	46	50	38	40	43	28	27	17	24	22	25	31	21	14	11	14	17	8	4	4	-4	3	14	19	8	26.0
	Minimum...	23	29	28	14	12	28	31	29	26	21	25	12	12	4	14	5	6	19	7	11	-1	-12	1	-3	-3	-20	-20	-18	10	8	-3	9.0
Devils Lake	Maximum...	49	50	33	24	12	33	39	39	26	40	31	15	16	22	17	12	18	26	15	14	12	12	14	7	0	-4	5	10	8	20	34	20.9
	Minimum...	21	26	20	0	-2	1	31	19	16	26	15	2	9	8	7	7	4	15	8	8	4	2	1	-2	-10	-17	-10	-14	-2	8	7	6.7
Dickinson §§	Maximum...	57	55	38	35	39	45	45	53	51	51	46	30	22	21	27	22	37	38	18	23	13	28	24	16	13	2	-3	4	15	29	34	29.7
	Minimum...	12	27	25	6	4	14	14	32	23	21	30	22	16	13	7	16	15	14	14	10	10	-12	13	10	-2	-4	-23	-24	-20	-14	2	8.7
Donnybrook	Maximum...	56	58	40	25	36	38	35	38	34	34	34	30	33	32	28	23	24	28	26	23	20	25	13	10	5	-11	0	1	14	24	35	25.7
	Minimum...	31	24	14	10	11	20	18	20	15	14	17	12	15	15	8	2	10	12	10	2	-9	-14	-6	-2	-18	-18	-19	-6	1	8	15	6.8
Dunn Center	Maximum...	55	55	44	28	31	47	45	52	36	49	47	35	36	19	27	26	30	34	25	11	15	12	....	16	10	10	10	4	14	30	36	[a]29.5
	Minimum...	19	20	24	7	12	12	29	32	20	20	27	13	12	4	10	16	16	8	11	11	1	-12	....	1	-4	-11	-22	-25	-19	9	21	[a]8.7
Dunseith	Maximum...	46	53	43	31	25	39	36	43	30	37	35	30	18	29	21	20	22	29	22	16	14	22	20	14	10	11	10	8	12	22	30	25.7
	Minimum...	10	27	26	8	1	5	30	18	15	21	23	0	1	9	2	3	2	15	5	7	4	0	3	4	-11	-20	14	-16	-9	2	2	5.1
Edgeley	Maximum...	41	45	40	30	25	35	36	40	31	47	47	38	18	22	29	24	22	28	24	17	16	13	19	19	15	3	8	17	20	22	45	27.0
	Minimum...	22	13	29	17	2	2	3	28	20	24	29	8	11	9	6	8	10	15	14	9	7	5	3	11	-5	-13	-11	-3	-11	-2	5	7.4
Ellendale	Maximum...	37	46	39	27	24	37	39	42	28	46	48	31	18	23	29	17	19	25	23	17	13	15	20	19	9	1	7	18	15	20	43	25.6
	Minimum...	10	18	27	8	6	5	31	26	23	26	31	10	11	8	5	12	13	17	13	10	5	-2	6	5	-3	-10	-7	-2	-12	4	1	9.5
Fessenden §§	Maximum...	52	61	32	23	23	38	39	32	31	45	41	29	19	17	18	17	19	22	21	16	12	13	16	11	5	-1	3	14	10	22	38	23.8
	Minimum...	13	26	26	13	4	-4	23	28	23	25	29	8	1	11	2	9	2	9	10	9	7	-5	-3	-3	-12	-17	-17	-16	-9	-4	5	6.2
Foxholm	Maximum...	56	55	48	33	26	44	41	43	40	43	40	31	18	24	20	23	23	31	28	20	19	11	14	12	8	6	2	3	11	23	30	26.6
	Minimum...	23	34	24	12	10	11	30	28	25	24	27	9	4	2	2	4	3	15	10	11	3	8	8	-1	-7	-18	-16	-16	-6	5	9	7.9
Fullerton	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Garrison	Maximum...	53	54	43	30	28	42	42	47	38	45	48	30	17	28	22	21	23	31	23	17	14	11	18	12	11	-4	4	5	13	25	35	26.6
	Minimum...	21	26	24	14	11	8	33	30	25	24	28	10	11	4	1	6	3	13	12	12	2	-8	1	-4	-6	-17	-15	-14	-11	9	4	8.3
Grafton	Maximum...	45	46	39	31	11	29	35	42	21	41	31	27	17	25	21	19	17	26	23	18	18	17	17	15	8	-3	5	10	16	19	43	23.5
	Minimum...	12	24	30	4	-4	-1	20	15	12	17	24	1	9	15	8	7	7	14	14	16	14	8	6	2	-1	-9	-7	3	3	-1	3	8.5
Grand Forks	Maximum...	37	43	38	20	10	20	35	20	18	37	30	12	10	16	19	12	14	25	20	16	18	15	16	10	4	-6	5	5	14	19	33	18.9
	Minimum...	14	26	20	-4	-7	-5	21	16	14	18	12	0	4	3	2	4	4	6	8	10	8	8	0	3	-11	-16	-7	12	-11	-1	3	4.2
Granville	Maximum...	58	58	45	32	30	42	44	42	35	45	40	35	28	23	20	18	30	31	29	24	18	12	15	15	8	10	0	5	12	25	27	27.6
	Minimum...	23	27	20	14	5	7	33	30	25	28	25	10	0	3	8	2	10	8	15	12	-4	-12	-5	-3	-10	-21	-13	-18	-12	5	4	6.7
Hansboro	Maximum...	46	50	38	20	18	30	37	40	30	38	33	20	15	30	18	15	20	21	12	20	16	13	10	8	0	-2	1	17	10	20	32	21.8
	Minimum...	6	8	14	0	-15	-9	10	10	15	20	9	-2	2	0	1	-10	-5	-3	3	-2	-4	-6	-5	-5	-12	-26	-16	-24	-15	-2	2	-2.1
Hettinger	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Hillsboro	Maximum...	35	41	36	31	11	24	34	40	21	35	36	31	13	17	17	18	15	27	27	16	16	14	16	12	4	-2	6	6	16	17	33	21.4
	Minimum...	19	23	31	7	-2	9	18	17	15	18	26	2	5	4	4	9	6	10	12	10	7	6	6	1	-6	-16	-8	-11	-9	-1	6	7.0
Howard	Maximum...	55	53	34	32	43	48	45	54	35	46	46	32	14	18	24	18	26	27	27	14	16	16	4	7	8	-4	-9	-5	16	20	22	25.2
	Minimum...	30	30	15	2	18	25	26	27	19	23	22	12	9	-11	12	8	16	13	9	-9	-12	-2	-4	2	4	-19	-27	23	-11	3	6	6.6
Jamestown §§	Maximum...	42	35	24	20	36	42	33	31	46	45	25	26	22	31	20	22	16	14	28	12	14	17	16	4	-5	5	15	17	22	42	44	24.5
	Minimum...	10	18	20	20	0	0	2	31	22	20	25	8	7	10	3	5	10	5	10	10	0	-2	-1	-2	-7	-14	-15	-9	-10	-11	6	5.5
Lamoine	Maximum...	50	58	39	27	24	31	34	38	38	44	41	34	18	24	22	18	18	28	24	16	14	10	14	8	3	-3	-3	8	11	18	34	23.8
	Minimum...	16	23	27	13	0	2	30	30	23	24	28	8	8	15	2	13	8	8	12	10	5	-11	-2	-2	-12	-14	-20	-14	-8	-3	3	7.2
Langdon §§	Maximum...	52	33	25	19	33	38	30	28	35	30	24	14	30	19	16	19	22	16	14	13	15	10	8	0	-4	4	9	11	18	29	29	20.6
	Minimum...	12	18	30	8	-11	-8	18	12	10	10	24	-5	-4	-5	5	4	5	4	5	6	7	5	3	-10	-20	-22	-22	-17	-15	-1	0	1.5
Larimore	Maximum...	40	45	35	25	25	34	40	30	20	45	33	13	15	20	18	13	20	30	15	15	14	12	18	10	0	0	8	12	18	15	20	21.2
	Minimum...	20	25	25	10	-6	15	22	15	13	25	30	-1	0	3	6	6	4	12	8	8	8	6	4	4	-12	-18	-15	-15	-5	5	6	6.3
Linton	Maximum...	55	57	42	27	27	32	39	47	34	52	48	35	22	27	28	21	19	25	....	25	18	15	23	15	....	....	10	13	8	22	41	[c]29.6
	Minimum...	15	27	26	15	7	3	27	33	21	27	30	14	17	18	4	9	13	18	....	13	8	-17	7	8	....	....	-13	1	-17	4	10	[c]11.7
Lisbon §§	Maximum...	28	34	30	29	24	20	30	26	30	32	34	28	26	20	28	24	22	23	26	20	22	35	28	39	34	28	29	27	24	37	38	28.2
	Minimum...	12	14	14	16	12	10	12	10	10	8	10	8	12	14	6	12	15	10	12	12	6	10	16	12	12	8	10	-9	6	8	14	9.7
McKinney	Maximum...	59	60	45	33	30	32	46	43	44	40	36	44	32	20	23	22	25	31	25	20	18	10	10	10	10	5	4	10	14	24	30	27.6
	Minimum...	30	29	25	13	7	9	10	31	30	25	20	30	10	4	2	-2	0	15	12	0	5	-12	3	4	-5	19	-17	20	-9	0	0	7.0
Maddock	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Melville	Maximum...	51	47	36	30	15	34	34	40	30	43	38	32	15	22	32	15	20	35	25	17	15	10	13	13	10	-2	2	10	10	20	36	24.1
	Minimum...	21	26	27	10	-5	-2	28	22	22	25	26	6	8	12	5	10	4	15	11	8	4	-4	-2	-1	-8	-17	-12	-12	4	-2	10	7.5
Minot	Maximum...	53	58	43	19	28	45	49	46	32	42	43	32	19	22	23	20	24	35	24	15	13	10	11	10	10	1	2	1	13	23	33	25.8
	Minimum...	18	27	7	7	2	1	24	20	16	15	20	0	-9	5	-3	-1	-2	10	5	3	-2	-20	-5	-11	16	24	-23	24	-12	2	-5	0.8
Mott	Maximum...	48	37	30	30	33	38	46	51	50	47	46	40	33	27	25	22	26	33	31	30	28	14	26	22	15	-2	5	-4	10	21	22	28.1
	Minimum...	24	20	14	11	16	23	32	30	25	27	22	22	16	11	8	7	12	14	11	12	8	-14	6	12	-13	-7	-27	25	-25	-3	16	9.2
Napoleon §§	Maximum...	50	55	33	30	23	35	38	39	32	47	45	21	20	24	27	18	20	25	20	16	10	19	15	13	7	5	3	12	10	18	35	24.4
	Minimum...	8	26	30	11	-1	-3	28	28	20	22	21	7	6	9	0	6	0	11	10	11	4	-16	-5	-1	-13	-19	-21	-4	-17	0	1	5.1
New Salem	Maximum...	58	62	32	21	21	40	45	46	40	51	52	38	28	25	25	22	22	29	19	15	14	14	22	14	8	9	0	7	10	26	39	27.5
	Minimum...	28	32	21	18	13	11	25	34	27	22	21	11	13	12	5	11	13	13	11	10	5	-8	-1	0	-5	-15	-18	17	15	9	10	6.4
Pembina	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Steele	Maximum...	46	60	33	27	29	33	40	36	64	67	45	30	18	24	27	27	24	23	17	26	23	12	17	10	7	-7	10	15	7	22	36	27.4
	Minimum...	16	27	27	12	0	2	32	29	24	24	30	10	9	9	2	7	9	16	12	19	12	-10	0	0	-7	-17	-15	0	-15	-2	0	8.5
Towner	Maximum...	54	58	48	28	40	54	44	42	32	42	40	33	26	30	28	29	21	25	28	21	18	18	20	21	10	4	3	6	10	25	28	28.6
	Minimum...	28	25	28	18	6	30	33	30	22	22	25	3	3	10	2	7	7	11	10	10	6	-6	0	2	-16	-12	-12	19	-6	10	15	9.4
Valley City	Maximum...	38	47	37	32	20	37	38	42	32	45	50	32	20	23	21	19	24	30	20	19	12	15	20	16	11	9	9	10	18	21	45	26.2
	Minimum...	20	26	25	5	-6	-2	20	20	14	20	23	3	5	5	4	4	9	12	10	7	3	2	0	-3	-9	-18	-11	-15	-9	0	5	5.5
Wahpeton	Maximum...	37	42	40	32	11	25	32	39	25	35	40	38	15	20	38	32	15	32	30	29	18	15	20	17	12	5	4	7	21	20	38	25.3
	Minimum...	11	26	30	10	-1	-5	19	21	20	20	21	7	6	2	5	5	7	8	15	8	7	7	6	3	-3	-14	10	-9	-11	-5	2	6.7
Westhope	Maximum...	50	60	48	30	38	40	42	42	38	37	33	18	18	26	23	22	22	20	15	15	25	12	12	12	4	-2	7	5	12	28	34	25.4
	Minimum...	20	22	20	4	26	30	23	22	22	22	18	8	5	8	5	6	5	8	10	10	0	-4	-2	-3	-11	-15	-12	16	-6	6	0	7.5
Williston	Maximum...	54	50	39	33	43	50	47	52	31	44	44	30	19	19	28	20	34	31	19	16	13	21	21	12	10	4	6	5	16	24	27	27.4
	Minimum...	27	27	21	9	16	24	34	27	22	20	30	14	13	-5	16	13	19	14	10	11	-5	-6	5	-1	0	20	-22	-22	-12	10	8	9.6
Moorhead, Minn	Maximum...	36	42	37	23	11	24	36	40	21	35	35	20	13	16	21	17	15	26	22	16	15	13	17	15	10	-5	4	4	16	17	34	20.8
	Minimum...	12	25	23	2	-2	-2	23	18	17	19	20	4	8	2	4	7	5	9	11	7	7	7	5	1	-7	-15	-8	-8	-10	-1	7	6.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc]

[WBO, Minneapolis, 1 23 26 1000.

NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIV BISMARCK, N. D., ANNUAL, 1925 No. 13

GENERAL SUMMARY

From a comfort standpoint the weather in North Dakota during the year 1925 was admirable, the temperature being above the normal during the spring, fall and winter months, with the exception of October, and below normal during June and July. From a crop standpoint the weather was also favorable, taking the State as a whole. While the average precipitation for the State was below normal, the deficiencies occurred mostly during the winter months. During the crop growing season there was more than the usual rainfall, especially over the extreme eastern and southeastern portions of the State. As a result of these favorable conditions North Dakota produced an abundance of crops of all kinds. With the exception of a few hailstorms, no storms of a damaging nature occurred.

The mean annual temperature for the State was 40.6°, or 1.8° above the normal, and 2.4° higher than the mean for 1924. The highest mean annual temperature reported was 43.3° at Ashley, McIntosh County, and Beach, Golden Valley County; the lowest was 36.5° at Langdon, Cavalier County. The highest temperature reported was 111° at Westhope, Bottineau County, on May 30th; the lowest was -39° at Grafton, Walsh County, on February 2d.

The average annual precipitation for the State was 16.81 inches, or 1.13 inches below the normal, and 0.74 inch less than the average for 1924. The greatest annual precipitation reported was 28.33 inches at Finley, Steele County; the least was 9.80 inches at New England, Hettinger County. The greatest monthly amount reported was 12.97 inches at Fullerton, Dickey County, during June; stations reporting none were Bowbells, Garrison, Minot, Washburn and Westhope in January; Bowbells, Bowman, Hettinger and Westhope in February; Dunn Center, Hettinger and Richardton in November; Bowman, Dunn Center, Lisbon and Westhope in December. The precipitation averaged above the normal during April, June and September, and below the normal during the remaining months. The heaviest annual precipitation ever recorded in the State was 23.57 inches in 1896; the least was 10.92 inches in 1917. The average snowfall for the State was 19.7 inches. The average number of days with 0.01 inch or more of precipitation was 64. There were 158 clear days, 107 partly cloudy days, and 100 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—Except during the first half of the second decade the temperature ranged decidedly above the normal. Only light snowfall occurred, the precipitation in all sections being below normal. During the greater part of the month livestock ranged freely on pastures, ranges and harvested fields, thus saving much feed. Corn husking was completed, and much grain marketed.

FEBRUARY.—Mild temperature generally prevailed in all sections, and only light snowfall occurred. Outdoor work progressed almost uninterruptedly throughout the month. All of the main highways were open. Snow covering was reduced to nil in most sections of the State, a condition unfavorable for winter rye.

MARCH.—Weather similar to that of the preceding month generally prevailed. Spring work on farms progressed rapidly during the third decade. Pastures and ranges afforded much forage for livestock, thus saving much feed. Winter rye generally came through the winter satisfactorily. Considering the season of the year, highways were in exceptionally good condition.

APRIL.—Although the temperature during the second decade was somewhat below the normal, the temperature for the month as a whole was mild and favorable for germination and growth of crops. Spring work made excellent progress, and at the close of the month spring wheat, oats and barley were up to good stand and color, and flax seeding and potato planting were well advanced.

MAY.—Temperature somewhat too low for best results prevailed during the first and second decades, although the mean for the month was slightly above the normal. Small grains of all kinds made rapid growth, and were in excellent condition. Corn and flax, however, were in need of rain at the close of the month. Highways were in excellent condition, and an unusually large amount of highway construction work was under way.

JUNE.—The month opened with light to heavy beneficial rains in all parts of the State, and with the exception of the 9th, this condition obtained until the 18th. Scattered showers occurred on the 22d-26th. The average precipitation for the State was, with but two exceptions, the highest of record. The temperature averaged somewhat below normal. Some losses from hail were reported, but the amount of damage in no instance was large.

JULY.—The month opened with temperature somewhat above the normal, and with abundant sunshine, and continued throughout the first decade. The second decade was generally hot and dry, the high temperature of the 10th to 14th, inclusive, doing considerable damage to small grains, but was very beneficial for corn. The third decade was much cooler, with showers general from the 23d to 26th, inclusive. More rain, however, was needed in most sections for corn, late flax, pastures and ranges.

[Continued on page 53]

Climatological Data for the Year 1925

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)							Precipitation (inches)								Number rainy days	Sky			Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall		Number clear days	Number partly cloudy days	Number cloudy days	
Amenia	Cass	954	30	38.6	99	Sept. 3	-28	Feb. 2†	30	22.17	7.63	June	0.10	Jan.†	19.4	62	224	109	32	n.
Amidon	Slope		12		102	Aug. 22	-19	Jan. 14	12		6.04	June								
Arnegard	McKenzie		11	41.8	102	Aug. 22	-25	Dec. 27	11	14.72	5.51	June	0.05	Aug.†	22.4	67	219	69	77	nw.
Ashley	McIntosh	2,001	30	43.3	105	Aug. 23	-26	Jan. 26	30	22.35	10.84	June	T.	Feb.	16.0	54				nw.
Beach	Golden Valley	2,579	20	43.3	106	July 14	-32	Dec. 27	20	10.34	4.12	June	0.00	Nov.	8.8	57				
Berthold Agency	McLean	2,082	33	41.9	105	Aug. 22	-26	Jan. 14	33	15.11	7.98	June	0.03	Nov.	12.2	46	206	88	71	nw.
Bismarck	Burleigh	1,674	51	43.0	100	July 12†	-29	Jan. 26	51	13.64	6.82	June	0.05	Feb.	19.5	79	167	96	102	nw.
Bottineau	Bottineau	1,638	34	38.8	110	May 30	-28	Jan. 14	34	13.81	4.21	June	0.01	Dec.		83	139	99	127	nw.
Bowman	Bowman	2,961	11	43.1	102	Aug. 22	-31	Dec. 27	12	11.70	5.77	June	0.00	Feb.†	7.9	55	175	103	87	nw.
Cando	Towner	1,488	25		99	Aug. 23	-32	Feb. 2	25	16.12	4.79	June	T.	Nov.	29.1	55				nw.
Carson	Grant	2,500	14	39.1	101	Aug. 22	-34	Dec. 27	14	17.91	9.35	June	0.01	Nov.	13.9	65	187	115	63	nw.
Cooperstown	Griggs	1,428							20	22.67	6.27	June	0.20	Nov.†	25.5	48	178	113	74	nw.
Crosby	Divide	1,954	19	38.9	103	July 12†	-25	Jan. 14	19	14.52	3.92	June	0.10	Feb.	21.7	68	126	133	106	nw.
Devils Lake	Ramsey	1,478	21	38.8	103	Aug. 23	-27	Feb. 1	29	19.93	6.63	Sept.	0.12	Jan.	35.8	98	128	114	123	nw.
Dickinson	Stark	2,543	34	41.4	102	July 12†	-27	Jan. 14	34	12.19	4.31	June	0.13	Nov.	21.7	94	172	66	127	nw.
Donnybrook	Ward	1,760	22		99	July 12	-25	Feb. 1	27		4.79	June	0.11	Feb.						nw.
Dunn Center	Dunn	2,191	22	40.8	101	July 11†	-25	Jan. 13†	27	10.32	4.46	June	0.00	Nov.†	11.0	39				nw.
Dunseith	Rolette	1,682	29	38.4	96	July 14	30	Feb. 2	31	15.49	4.33	June	0 01	Nov.	5.9	76	110	133	122	nw.
Eckman	Bottineau	1,500		39.2	99	July 12†	-25	Jan. 16†	21	13.42	5.28	June	0.05	Jan.	13.7	60	6	238	121	se.
Edgeley	LaMoure	1,468	25	42.1	106	Aug. 23	-31	Jan. 26	25	19.37	8.03	June	0.05	Mar.†	16.0	44	67	158	140	nw.
Ellendale	Dickey	1,449	23	42.0	103	Aug. 23	-24	Jan. 26	27	22.43	11.81	June	0.05	Feb.	17.3	95	95	127	143	nw.
Energy	McLean	1,750	4	41.7	102	Aug. 22	22	Jan. 13	14	16.10	6.88	June	0.13	Feb.	20.0	55	106	196	63	nw.
Epping	Williams	2,224	4	41.8	106	May 30	-29	Jan. 14	18	13.23	4.93	June	0.09	Jan.	22.5	68	216	90	59	nw.
Fessenden	Wells	1,610	14	40.1	106	July 12†	-26	Feb. 1	14	15.79	5.43	June	T.	Nov.	18.2	74	149	89	127	nw.
Finley	Steele	1,461	4	39.7	99	Aug. 23	-24	Jan. 26†	2	28.33	8.38	June	0.10	Nov.	32.1	82	171	69	125	nw.
Forman	Sargent	1,249							32	21.34	8.44	June	0.20	Feb.†	20.5	58				n.
Foxholm	Ward	1,657	5	40.3	97	July 12†	23	Jan. 13	5	13.09	4.42	June	0.13	Jan.	24.3	75	110	150	105	nw.
Fryburg	Billings	2,790							8	11.81	4.11	June	0.04	Feb.	23.5	77	185	116	64	nw.
Fullerton	Dickey	1,439	28	42.7	102	Aug. 23	-27	Jan. 26	28	27.44	12.97	June	0.05	Feb.	26.7	65	137	131	97	nw.
Garrison	McLean	1,901	31	40.9	102	Aug. 22	-22	Jan. 14	31	14.11	6.76	June	0.00	Jan.		54	178	110	77	nw.
Grafton	Walsh	827	34	39.6	101	Aug. 23	-39	Feb. 2	34	23.71	7.76	June	0.08	Nov.	22.4	86	191	65	109	nw.
Grand Forks	Grand Forks	830	35	39.0	96	Aug. 23	-32	Feb. 2	35	25.03	9.52	June	0.20	Jan.	17.9	101	164	86	115	nw.
Granville	McHenry	1,504	19	40.5	100	July 12	-27	Jan. 12	19	12.55	4.52	June	0.10	Jan.	9.0	52				nw.
Hannah	Cavalier	1,568							32	15.96	4.44	June	0.04	Dec.	37.4	49				
Hansboro	Towner	1,597	18		97	July 14	-33	Jan. 12	18	19.46	5.27	June	0.14	Feb.	40.9	62				nw.
Hettinger	Adams	2,675	18	42.6	104	Aug. 21	-31	Dec. 26	19	12.99	6.10	June	0.00	Feb.†	9.7	42	222	54	89	nw.
Hillsboro	Traill	901	20	41.3	101	Aug. 23	-24	Feb. 2	20	22.95	8.75	June	0.05	Jan.	18.5	79	136	162	67	nw.
Howard	Williams	2,275	19	38.1	102	July 14	-27	Dec. 27	19	15.62	4.02	June	T.	Feb.	38.2	56	135	127	103	nw.
Jamestown	Stutsman	1,390	34	40.1	105	Aug. 24	-25	Feb. 27	34	15.30	6.03	June	0.16	Dec.	14.9	68	169	32	164	w.
Lamoine	Kidder	1,936	20	40.2	103	Aug. 22	-24	Jan. 14	21	13.83	4.29	June	T.	Jan.†	7.8	35				nw.
Langdon	Cavalier	1,615	30	36.5	95	May 29†	-32	Jan. 26†	30	16.43	4.44	June	0.05	Feb.	19.5	64	213	100	52	nw.
Larimore	Grand Forks	1,134	32	39.1	104	Aug. 22	-32	Feb. 2	32	24.73	9.41	June	0.15	Nov.	27.8	82	162	68	135	n.
Linton	Emmons	1,711	9		110	Aug. 5	-34	Jan. 15	8	15.63	6.18	June	0.06	Nov.	15.1	71	176	51	138	nw.
Lisbon	Ransom	1,091	22	41.2	107	Aug. 24	-24	Jan. 26	22	18.83	6.38	June	0.00	Dec.	10.5	57	201	113	51	
McClusky	Sheridan	1,943	4	38.2	102	Aug. 23	-26	Jan. 14	8	15.33	4.43	June	0.10	Nov.	25.5	59	193	87	85	nw.
McHenry	Foster	1,509	16		99	Aug. 23			15											
McKinney	Renville	1,640	32	38.4	95	July 13†	-30	Jan. 12†	32	13.97	3.93	June	0.10	Jan.†	17.5	49	84	168	113	nw.
McLeod	Ransom	1,075	13	43.2	102	Aug. 23	-25	Feb. 2	14	23.68	8.10	June	0.10	Dec.	13.1	73	213	56	96	nw.
Maddock	Benson	1,604	12		105	Aug. 23	-29	Feb. 2	10	15.82	5.28	June	0.04	Jan.	11.5	69				nw.
Mandan	Morton	1,644	12	41.9	101	July 12†	-31	Jan. 26	12	14.07	7.34	June	0.15	Nov.		86	144	55	166	nw.
Manfred	Wells	1,605	23	40.2	100	July 12†	-25	Feb. 2	23	15.92	4.33	June	T.	Nov.	20.6	62	152	121	92	nw.
Marmarth	Slope	2,714			98	July 12	38	Dec. 26	17		5.26	June								
Mayville	Traill	975	30	41.4	100	Aug. 23	-28	Feb. 2	30	25.82	8.34	June	0.20	Jan.	27.0	58	192	55	118	n.
Melville	Foster	1,590	28		103	Aug. 23	-24	Feb. 2	28				T.	Nov.	27.5					nw.
Minot	Ward	1,557	27	40.5	100	July 14	-24	Dec. 26†	30	10.88	3.56	June	0.00	Jan.	14.5	56				w.
Minto	Walsh	820	33	38.9	99	Aug. 23	-32	Feb. 2	33	21.23	6.94	June	T	Nov.	21.4	79	147	140	78	ne.
Mott	Hettinger	2,424	19	43.1	101	Aug. 22	-27	Dec. 27	19	14.76	4.52	June	0.02	Nov.	19.2	60	129	101	135	nw.
Napoleon	Logan	1,955	34	40.0	107	Aug. 23	-35	Jan. 26	34	13.90	5.31	June	0.20	Nov.	18.5	74	149	52	164	s.
New England	Hettinger	2,400	32	42.7	102	July 12	-25	Jan. 14	32	9.80	3.37	June	T.	Feb.†	12.8	28				nw.
New Salem	Morton	2,163	22	42.7	104	Aug. 22	-25	Jan. 26	22	11.79	5.90	June	0.06	Feb.	13.2	60	173	127	65	nw.
Park River	Walsh	998	22		102	Aug. 23	-24	Jan. 26	22		6.61	June	0.06	Nov.	21.7					nw.
Parshall	Mountrail								11		5.28	June								
Pembina	Pembina	789	45	38.1	95	July 14	-34	Feb. 2	52	25.37	9.35	June	0.10	Nov.	34.0	48	183	101	81	s.
Pettibone	Kidder	1,856	16		104	Aug. 23	-28	Jan. 14†	17	12.10	4.72	June	0.10	Jan	22.9	50				nw.
Power	Richland	1,020							32	22.66	7.61	June	0.20	Dec.	23.4	65				n.
Powers Lake	Burke	2,205							12	20.50	5.58	June	0.01	Jan.	36.7	52	218	74	73	w.
Richardton	Stark	2,467	10	43.0	102	Aug. 22	-24	Jan. 14	10	10.84	4.51	June	0.00	Nov.	7.0	48				nw.
Sharon	Steele	1,516							1	22.88	7.84	June	0.14	Jan.	23.2	89	154	98	113	nw.
Stanton	Mercer	1,722							2	12.57	6.18	June	T.	Feb.	10.5	30	194	96	75	nw.
Steele	Kidder	1,857	29	40.2	104	Aug. 23	-29	Jan. 14†	30	14.90	4.68	June	0.07	Jan.	10.2	53	145	143	77	nw.
Towner	McHenry	1,482	24	41.9	103	July 12	-26	Jan. 13	24	14.11	4.80	June	0.07	Aug.	16.2	45	209	88	68	nw.
Turtle Lake	McLean	1,899	11		101	Aug. 22	-22	Jan. 14	11	13.99	5.63	June	0.05	Jan.	22.2	68				nw.
Valley City	Barnes	1,245	21	40.8	102	Aug. 23	-27	Feb. 26	21	16.55	6.72	June	0.10	Dec.	8.7	60	138	162	65	nw.
Wahpeton	Richland	962	32	43.5	101	Sept. 3	-23	Feb. 2	32	16.43	5.24	June	0.05	Mar.	5.6	62				nw.
Washburn	McLean	1,731							25	15.13	6.43	June	0.00	Jan.	17.9	53				
Westhope	Bottineau	1,508	20	39.2	111	May 30	-32	Feb. 2	20	12.69	3.16	June	0.00	Jan.†	16.8	46	186	112	67	nw.
Williston	Williams	1,878	47	41.3	101	July 14	-27	Jan. 14	47	15.44	4.18	June	0.16	Nov.	28.1	94	140	124	101	se.
Willow City	Bottineau	1,471	34	37.8	100	July 14	-32	Feb. 2	34	15.25	3.55	June	0.13	Dec.	25.5	80	130	131	104	nw.
Moorhead, Minn.	Clay	935	45	41.2	99	Aug. 23	-23	Feb. 2	45	21.32	5.62	June	0.25	Aug.	26.7	103	144	99	122	n.

† Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1925, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Amenia	0.10	-0.40	1.20	-0.80	0.20	-0.37	2.91	+1.03	2.73	-0.11	7.63	+3.76	1.65	-1.36	0.50	-2.22	3.77	+1.80	0.94	-0.35	0.44	-0.10	0.10	-0.41	22.17	+2.07
Amidon	0.22	.....	0.03	-0.56	0.38	-0.46	.....	.....	1.35	1.02	6.04	+3.07	.....	.....	0.62	-1.12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arnegard	0.25	.....	0.11	.....	1.20	.....	1.08	.....	0.47	.....	5.51	.....	1.58	.....	0.05	.....	2.09	.....	1.21	.....	0.05	.....	0.12	.....	11.72	.....
Ashley	0.40	-0.15	T.	0.47	0.20	0.99	2.38	+0.41	0.99	-1.47	10.84	+7.35	1.12	-1.54	0.93	-1.27	4.18	+3.16	0.46	-0.60	0.45	-0.09	0.40	-0.11	22.35	+1.23
Beach	0.22	0.41	T.	-0.51	0.40	-0.38	0.87	-0.55	1.19	-1.62	4.12	+0.64	1.28	-0.52	0.46	-1.59	0.60	-0.67	0.72	-0.27	0.00	-0.54	0.48	-0.03	10.34	-6.45
Berthold Agency	0.16	-0.24	0.07	-0.48	0.45	-0.39	1.90	+0.74	0.88	-1.58	7.98	+4.10	1.14	-0.83	1.05	-0.72	1.00	0.44	0.30	-0.56	0.03	-0.45	0.18	-0.22	15.14	-1.07
Bismarck	0.32	0.22	0.05	-0.45	0.46	-0.58	0.86	-1.02	1.14	-1.36	6.82	+3.28	0.42	-1.72	1.69	-0.29	0.85	-0.34	0.55	-0.48	0.13	-0.55	0.35	-0.27	13.64	-4.00
Bottineau	0.18	-0.28	0.42	+0.05	0.56	0.24	1.37	+0.50	1.26	-0.78	4.21	+1.07	2.10	-0.18	1.01	-1.20	1.50	-0.07	1.01	+0.02	0.18	-0.36	0.01	-0.48	13.81	1.95
Bowbells	0.00	0.67	0.00	-0.37	0.60	+0.07	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bowman	0.02	-0.48	0.00	-0.31	0.57	+0.12	1.31	+0.07	1.38	-0.86	5.77	+2.56	0.98	-1.78	0.66	-0.29	0.68	-0.62	0.33	-0.44	T.	-0.32	0.00	-0.23	11.70	-2.58
Cando	0.08	0.32	1.80	+1.57	0.74	+0.11	1.51	+0.62	1.33	-1.07	4.79	+0.91	1.87	-0.66	0.28	-1.93	3.10	+1.67	0.19	-0.53	T.	-0.51	0.43	+0.07	16.12	-0.07
Carson	0.36	+0.02	0.08	-0.22	0.26	-0.40	1.07	-0.48	2.73	+0.09	9.35	+5.48	0.34	-1.60	0.96	-0.44	1.52	-0.21	0.89	+0.01	0.01	-0.55	0.34	-0.20	17.91	+1.50
Cooperstown	0.35	0.15	0.75	+0.44	0.40	0.14	2.50	+1.45	3.51	+1.30	6.27	+2.63	0.63	-2.10	1.55	-1.11	5.21	+3.55	1.10	+0.23	0.20	-0.34	0.20	-0.37	22.67	+5.39
Crosby	0.15	-0.34	0.10	0.19	0.99	+0.41	0.81	-0.38	1.40	-0.60	3.92	+0.57	0.72	-1.49	1.10	-1.00	3.63	+2.24	1.00	+0.25	0.39	-0.32	0.31	-0.18	14.52	-1.03
Devils Lake	0.12	-0.48	0.49	-0.04	0.80	-0.21	1.79	-0.24	1.27	-0.93	4.48	+0.95	1.40	-2.38	0.89	-1.87	6.63	+5.24	1.27	+0.04	0.30	-0.41	0.49	+0.10	19.93	-0.23
Dickinson	0.50	+0.08	0.17	-0.26	0.35	-0.49	1.26	+0.03	0.89	-1.54	4.31	+1.27	1.29	-1.03	1.30	-0.65	0.46	-0.61	0.98	+0.20	0.13	-0.35	0.55	+0.13	12.19	-3.22
Dogden	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.53	.....	0.10	.....	0.30	.....	.....	.....
Donnybrook	0.12	-0.27	0.11	0.40	0.59	-0.18	1.01	-0.04	0.68	-1.56	4.79	+1.93	1.34	-1.29	0.77	-1.37	3.63	+1.97	.....	.....	0.31	-0.28	0.22	-0.26	.....	.....
Dunn Center	0.10	-0.41	0.10	-0.46	0.69	-0.42	1.24	-0.08	0.98	-1.56	4.46	+0.16	0.33	-1.72	0.62	-0.95	1.35	+0.23	0.45	-0.18	0.00	-0.62	0.00	-0.56	10.32	-6.57
Dunseith	0.10	-0.37	0.10	-0.32	0.26	-0.51	1.39	+0.56	1.92	+0.22	4.33	+1.37	2.87	+0.53	1.66	-0.75	1.92	+0.35	0.88	+0.13	0.01	-0.42	0.05	-0.36	15.49	+0.43
Eckman	0.05	-0.51	0.10	-0.25	0.34	0.16	0.63	-0.42	0.88	-1.30	5.28	+2.52	1.68	-0.76	0.73	-1.59	2.85	+1.72	0.51	-0.34	0.15	-0.39	0.22	-0.40	13.42	-1.88
Edgeley	0.75	+0.46	0.30	-0.02	0.05	-0.75	2.18	+0.30	0.55	-2.12	8.03	+4.67	2.26	-0.54	0.39	-1.75	4.16	+2.50	0.05	-0.87	0.40	+0.06	0.25	-0.14	19.37	+1.80
Ellendale	0.42	+0.02	0.05	-0.43	0.45	-0.75	2.27	+0.44	0.71	-2.30	11.81	+8.81	1.22	-1.68	1.45	-0.81	3.01	+1.66	0.48	-0.56	0.32	-0.46	0.24	-0.09	22.43	+3.85
Energy	0.24	-0.05	0.13	-0.13	0.58	-0.09	2.55	+1.41	1.00	-1.20	6.88	+3.27	1.19	-0.99	1.19	-0.76	1.35	-0.19	0.43	-0.27	0.15	-0.11	0.41	+0.06	16.10	+0.95
Epping	0.02	-0.54	0.31	-0.04	0.95	+0.39	1.12	-0.03	0.96	-1.35	4.93	+1.59	0.99	-0.93	0.24	-1.91	2.03	+0.57	1.07	+0.18	0.28	-0.14	0.26	-0.17	13.23	-2.31
Fessenden	0.07	-0.53	0.44	+0.11	0.55	-0.17	1.89	+0.35	1.16	-1.12	5.43	+1.38	0.84	-1.63	1.42	-0.96	2.75	+1.03	0.75	-0.03	T.	-0.64	0.49	-0.24	15.79	-2.45
Finley	0.36	.....	0.46	.....	0.99	.....	2.62	.....	4.85	.....	8.38	.....	0.72	.....	2.84	.....	5.38	.....	1.52	.....	0.10	.....	0.11	.....	28.33	.....
Forman	0.40	-0.13	0.20	-0.33	0.20	-0.70	2.72	+0.53	1.42	-1.56	8.44	+4.83	1.46	-1.57	1.55	-1.16	2.93	+1.11	0.33	-1.01	1.07	+0.51	0.62	+0.08	21.34	+0.60
Foxholm	0.13	.....	0.38	.....	1.03	.....	1.11	.....	0.38	.....	4.42	.....	0.96	.....	0.65	.....	2.67	.....	0.74	.....	0.16	.....	0.46	.....	13.09	.....
Fryburg	0.55	.....	0.04	.....	0.87	.....	1.42	.....	1.01	.....	4.11	.....	1.40	.....	0.61	.....	0.49	.....	0.79	.....	0.19	.....	0.33	.....	11.81	.....
Fullerton	1.17	+0.42	0.05	-0.76	0.44	-0.78	2.79	+0.79	1.96	-1.28	12.97	+9.69	0.90	-2.42	2.29	-0.24	3.09	+1.02	0.39	-0.90	1.01	+0.28	0.38	-0.46	27.44	+5.36
Garrison	0.00	-0.43	0.14	-0.39	0.56	-0.48	1.92	+0.72	0.74	-1.43	6.76	+3.44	0.82	-1.28	0.63	-1.37	1.85	+0.49	0.49	-0.41	T.	-0.58	0.20	-0.37	14.11	-2.09
Grafton	0.28	-0.32	0.26	-0.32	1.21	+0.52	1.45	-0.03	1.44	-0.67	7.76	+4.52	1.78	-0.70	1.70	-0.89	6.74	+4.92	0.74	-0.15	0.08	-0.58	0.27	-0.27	23.71	+6.03
Grand Forks	0.20	-0.38	0.35	-0.18	1.12	+0.41	1.58	-0.35	2.77	+0.23	9.52	+6.13	1.32	-1.43	1.96	-0.50	4.73	+2.87	0.89	-0.27	0.33	-0.37	0.26	-0.37	25.03	+5.79
Granville	0.10	-0.41	0.30	-0.08	0.11	-0.46	0.87	-0.09	1.32	-0.52	4.52	+1.77	2.08	+0.01	0.18	-1.91	1.98	+0.73	0.76	-0.12	0.18	-0.43	0.15	-0.40	12.55	-1.91
Hannah	0.90	+0.18	0.60	+0.04	1.48	+0.82	1.66	+0.40	1.80	-0.30	4.44	+1.00	0.79	-1.67	0.43	-1.42	2.61	+0.47	1.11	+0.15	0.10	-0.58	0.04	-0.59	15.96	-1.50
Hansboro	0.75	-0.20	0.14	-0.34	1.15	+0.49	1.80	+0.51	2.00	-0.08	5.27	+2.58	2.31	+0.33	0.85	-1.37	3.13	+1.23	1.29	+0.38	0.25	-0.21	0.52	-0.14	19.46	+3.18
Hettinger	0.04	0.28	0.00	-0.28	0.46	-0.30	0.36	-0.80	1.57	-0.55	6.10	+2.86	1.34	-1.45	0.41	-0.84	2.18	+0.88	0.47	-0.17	0.00	-0.32	0.06	-0.28	12.99	-1.53
Hillsboro	0.05	-0.69	0.70	+0.02	0.50	-0.24	2.48	+0.47	2.20	-1.32	8.75	+5.40	0.78	-1.85	1.30	-1.64	4.33	+1.84	0.98	-0.04	0.58	-0.23	0.30	-0.60	22.95	+1.12
Howard	0.35	-0.40	T.	-0.69	2.00	+0.86	1.14	-0.26	0.64	-1.54	4.02	+1.43	1.10	-0.50	0.19	-1.70	3.18	+1.81	2.46	+1.65	0.04	-0.47	0.50	-0.32	15.62	-0.73
Jamestown	0.20	-0.44	0.58	0.00	0.30	-0.70	1.45	-0.29	0.92	-1.77	6.03	+2.25	1.71	-1.04	0.71	-2.03	2.06	+0.53	1.01	+0.08	0.17	-0.56	0.16	-0.59	15.30	-4.56
Lamoine	T.	-0.61	T.	-0.39	0.52	-0.25	0.86	-0.11	1.49	-0.87	4.29	+0.97	2.78	+0.23	1.41	-0.57	1.72	+0.44	0.51	-0.07	0.05	-0.49	0.20	-0.30	13.83	-2.02
Langdon	0.30	-0.35	0.05	-0.60	0.81	-0.03	1.30	-0.03	0.83	-1.42	4.44	+0.94	1.63	-0.93	1.72	-0.93	3.78	+1.79	0.67	-0.27	0.70	0.00	0.20	-0.53	16.43	-2.36
Larimore	0.28	-0.43	0.87	+0.40	1.01	+0.32	2.39	+0.77	1.73	-0.74	9.41	+5.91	1.68	-1.31	1.36	-1.24	4.17	+2.28	1.46	+0.23	0.15	-0.53	0.22	-0.32	24.73	+5.34
Linton	0.39	.....	0.34	.....	0.52	.....	1.05	.....	1.04	.....	6.18	.....	0.33	.....	1.52	.....	2.41	.....	0.56	.....	0.06	.....	1.20	.....	15.63	.....
Lisbon	T.	0.70	0.30	-0.43	0.50	-0.06	2.73	+0.84	1.38	-1.81	6.38	+2.09	2.13	-1.40	1.43	-0.83	3.73	+1.58	0.05	-0.97	0.20	-0.42	0.00	-0.41	18.83	-2.52
McClusky	0.25	.....	0.65	.....	0.35	.....	1.63	.....	1.28	.....	4.43	.....	1.74	.....	0.73	.....	3.05	.....	0.70	.....	0.10	.....	0.42	.....	15.33	.....
McHenry	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.67	-2.52	1.10	-2.08	3.08	+1.43	1.12	-0.21	.....	.....	.....	.....	.....	.....
McKinney	0.10	-0.26	0.20	-0.11	0.76	+0.05	0.50	-0.45	0.40	-1.55	3.93	+0.63	2.40	+0.24	1.20	-0.58	3.53	+2.00	0.70	-0.23	0.10	-0.55	0.15	-0.28	13.97	-1.09
McLeod	0.15	-0.52	0.54	-0.04	0.97	+0.34	4.24	+1.85	1.92	-1.86	8.00	+3.80	1.03	-2.40	1.45	-0.90	3.67	+1.13	0.52	-0.54	1.09	+0.50	0.10	-0.35	23.68	+1.01
Maddock	0.04	-0.27	0.17	-0.26	0.47	+0.04	1.87	+0.45	1.06	-0.97	5.28	+2.08	1.52	-1.12	0.64	-1.58	3.74	+1.48	0.66	-0.13	0.22	-0.46	0.15	-0.17	15.82	-0.91
Mandan	0.19	-0.04	0.18	-0.32	0.39	.....	0.94	-0.61	1.18	-1.32	7.34	+4.18	0.33	-2.63	1.31	+0.09	0.97	-0.49	0.71	0.00	0.15	-0.40	0.38	-0.07	14.07	-1.91
Manfred	0.12	-0.53	0.49	+0.06	0.75	-0.03	1.71	+0.44	1.10	-1.26	4.33	+0.75	0.40	-1.90	2.61	+0.15	3.56	+2.21	0.58	-0.23	T.	-0.74	0.27	-0.49	15.92	-1.57
Marmarth	0.29	-0.01	0.24	-0.15	0.58	+0.13	1.36	+0.23	3.01	+0.73	5.26	+2.15	1.79	+0.13	.....	.....	.....	.....	.....	.....	.....	.....	0.51	+0.17	.....	.....
Mayville	0.20	-0.29	1.00	+0.61	0.90	+0.19	2.13	+0.38	2.27	-0.70	8.34	+4.83	0.83	-2.14	1.17	-1.77	7.26	+4.98	1.12	+0.01	0.30	-0.37	0.30	-0.28	25.82	+5.45
Melville	0.15	-0.23	1.10	+0.77	0.70	+0.02	1.92	+0.81	0.72	-1.95	.....	.....	1.06	1.68	1.26	-0.73	2.70	+1.32	0.73	-0.14	T.	-0.53	0.20	-0.26	.....	.....
Minot	0.00	-0.45	0.20	-0.26	0.70	-0.07	0.76	-0.56	0.57	-1.40	3.56	+0.30	1.00	-0.85	0.77	-1.43	2.23	+0.65	0.72	-0.22	0.17	-0.51	0.20	-0.31	10.88	-5.11
Minto	0.35	-0.14	0.31	-0.19	1.85	+1.03	1.24	-0.33	1.75	-0.59	6.94	+3.64	1.07	-1.69	1.75	-0.66	5.26	+3.26	0.66	-0.44	T.	-0.65	0.05	-0.43	21.23	+2.81
Mott	0.58	-0.30	0.04	-0.53	0.50	-0.54	1.09	-0.41	1.47	-0.89	4.52	+1.12	3.07	+0.70	1.35	-0.29	0.76	-0.81	0.60	-0.49	0.02	-0.44	0.76	+0.18	14.76	-2.70
Napoleon	0.30	-0.15	0.30	-0.10	0.40	-0.53	1.18	-0.49	0.87	-1.53	5.31	+1.69	1.75	-0.73	0.73	-1.66	1.83	+0.59	0.68	-0.26	0.20	-0.39	0.35	-0.13	13.90	-3.69
New England	0.08	-0.31	T.	-0.54	0.40	-0.47	0.77	-0.25	1.41	-0.74	3.37	+0.68	1.20	-0.81	0.40	-1.37	1.17	+0.05	0.60	-0.05	T.	-0.49	0.40	-0.01	9.80	-4.34
New Salem	0.44	-0.19	0.06	-0.32	0.30	-0.66	0.78	-0.45	1.15	-1.22	5.90	+2.19	0.34	-1.76	1.22	-0.45	0.70	-0.65	0.45	-0.50	0.08	-0.27	0.37	-0.16	11.79	-4.44
Park River	0.07	-0.37	0.26	-0.18	1.04	+0.49	1.27	-0.04	.....	.....	6.61	+3.28	1.25	-1.13	2.09	-0.14	.....	.....	1.14	+0.13	0.06	-0.70	0.10	-0.43	.....	.....
Parshall	.....	.....	.....	.....	0.80	.....	2.20	.....	1.56	.....	5.25	.....	0.62	.....	0.35	.....	0.65	.....	0.64	.....	0.10	.....	0.40	.....	.....	.....
Pembina	0.50	-0.14	0.20	-0.51	1.32	+0.42	0.70	-0.71	3.00	+0.78	9.35	+6.07	1.10	-1.28	3.40	+1.27	2.70	+1.01	2.30	+0.96	0.10	-0.58	0.70	-0.06	25.37	+7.23
Pettibone	0.10	-0.41	0.70	+0.34	0.62	+0.08	1.57	+0.17	0.95	-1.90	4.72	+1.50	0.54	-2.21	1.04	-1.25	0.86	-0.53	0.49	-0.16	0.12	-0.43	0.39	-0.29	12.10	-5.09
Power	0.30	-0.35	0.85	+0.29	0.47	-0.23	3.31	+1.48	1.98	-0.91	7.61	+3.65	1.97	-1.41	0.74	-1.73	4.07	+2.01	0.31	1.16	0.85	+0.23	0.20	-0.34	22.66	+1.53
Powers Lake	0.01	-0.77	0.17	-0.31	0.84	-0.04	2.54	+0.98	2.34	+0.54	5.58	+2.72	2.39	+0.61	0.06	-1.53	2.91	+1.82	2.53	+1.71	0.74	+0.18	0.39	-0.24	20.50	+5.67
Richardton	0.18	.....	T.	.....	0.20	.....	1.15	.....	0.85	.....	4.51	.....	0.86	.....	1.33	.....	0.81	.....	0.86	.....	0.00	.....	0.09	.....	10.84	.....
Sharon	0.14	.....	0.30	.....	0.87	.....	2.26	.....	2.82	.....	7.84	.....	0.97	.....	1.81	.....	4.49	.....	1.07	.....	0.16	.....	0.15	.....	22.88	.....
Stanton	0.10	.....	T.	.....	0.55	.....	1.52	.....	0.75	.....	6.18	.....	0.91	.....	0.45	.....	1.43	.....	0.35	.....	0.20	.....	0.13	.....	12.57	.....
Steele	0.07	-0.45	0.30	-0.15	0.17	-0.76	1.26	+0.15	1.52	-0.97	4.68	+1.35	0.42	-2.46	2.25	-0.09	3.34	+2.10	0.60	-0.28	0.10	-0.49	0.19	-0.34	14.90	-2.39
Towner	0.15	-0.34	0.60	+0.22	0.60	-0.30	0.87	-0.23	1.25	-1.07	4.80	+1.72	2.28	+0.05	0.07	-2.02	2.26	+0.61	0.88	-0.02	0.15	-0.33	0.20	-0.21	14.11	-1.92
Turtle Lake	0.05	-0.36	0.42	-0.02	0.80	-0.01	1.59	+0.39	1.05	-1.22	5.63	+1.95	1.07	-1.39	1.09	-0.79	1.33	-0.11	0.48	-0.28	0.06	-0.43	0.42	-0.14	13.99	-2.41
Valley City	0.15	-0.51	0.25	-0.10	0.31	-0.19	2.40	+0.81	0.67	-2.46	6.72	+3.41	0.98	-1.86	0.65	-1.60	3.69	+2.05	0.32	-0.51	0.31	-0.31	0.10	-0.45	16.55	-1.72
Wahpeton	0.10	-0.41	0.06	-0.47	0.05	-0.86	2.77	+0.54	1.35	-1.46	5.24	+1.29	1.29	-2.51	1.76	-1.14	2.27	+0.05	0.52	-0.99	0.92	+0.23	0.10	-0.35	16.43	-6.08
Washburn	0.00	-0.39	0.39	0.00	0.47	0.18	1.56	+0.46	1.33	-1.05	6.43	+2.88	0.68	-1.62	1.24	-0.09	1.72	+0.53	0.53	-0.41	0.41	-0.23	0.37	+0.03	15.13	-0.07
Westhope	0.00	-0.56	0.00	-0.19	1.82	+1.33	0.84	-0.22	0.72	-1.32	3.16	+0.22	1.52	-0.43	1.23	-1.00	2.66	+1.47	0.66	-0.01	0.08	-0.50	0.00	-0.37	12.69	-1.58
Williston	0.31	-0.27	0.18	-0.29	1.15	+0.47	1.45	+0.22	2.12	-0.14	4.18	+0.61	1.18	0.85	0.74	-0.57	2.47	+1.56	1.05	+0.28	0.16	-0.44	0.45	-0.21	15.44	+0.37
Willow City	0.50	-0.08	0.55	+0.09	0.98	+0.25	1.29	+0.34	1.58	-0.34	3.55	+0.37	2.56	+0.47	0.42	-1.66	2.14	+0.59	0.86	+0.16	0.69	+0.18	0.13	-0.41	15.25	-0.04
Moorhead, Minn.	0.28	-0.43	0.97	+0.24	0.73	-0.41	1.99	-0.34	1.98	-0.97	5.62	+1.49	4.35	+0.61	0.25	-2.85	2.88	+0.58	0.63	-1.44	1.24	+0.26	0.40	-0.34	21.32	-3.60

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations.

T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1925, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	1.8	−2.7	10.0	+ 3.0	26.2	+2.6	47.2	+4.9	50.8	−3.3	60.4	−3.1	66.4	−2.3	68.2	+1.9	59.4	+2.1	33.2	−11.1	26.2	−1.1	13.2	+0.5	38.6	−0.7
Amidon	17.0	......	25.4	......	31.4	......	......	......	54.1	......	61.6	......	......	......	[a]68.8	......	......	......	......	......	......	......	......	......	......	......
Arnegard	[b]11.8	......	21.6	......	27.0	......	48.0	......	55.4	......	[a]61.8	......	66.6	......	68.6	......	57.5	......	32.7	..	31.2	......	19.0	......	41.8	......
Ashley	[a] 9.8	+2.3	19.0	+11.3	[c]34.4	+12.4	49.2	+6.7	54.2	+1.5	62.2	+0.2	[a]68.0	−0.4	[a]69.6	+3.7	63.8	+6.5	36.4	− 7.3	[a]32.8	+5.1	[b]20.8	+7.3	43.3	+4.1
Beach	15.4	+6.1	25.4	+11.8	30.8	+4.3	48.8	+6.3	54.4	+4.3	61.8	+0.7	67.8	+0.5	68.8	+3.8	57.0	+0.7	32.3	−11.7	33.6	+2.2	23.7	+7.2	43.3	+3.0
Berthold Agency	13.0	+5.5	22.2	+12.8	28.6	+3.9	48.4	+4.7	54.4	+0.7	61.0	−1.6	65.5	−3.4	67.2	−0.5	58.7	+1.7	35.6	− 9.1	[a]29.6	+0.8	18.4	+2.7	41.9	+1.5
Bismarck	12.0	+4.2	20.0	+ 9.7	31.6	+7.4	51.0	+8.9	55.6	+1.1	63.2	−0.5	68.6	−1.2	69.6	+2.3	59.8	+1.7	34.5	−10.4	30.8	+2.3	19.6	+4.9	43.0	+2.5
Bottineau	4.8	+5.5	10.9	+ 9.1	23.8	+6.1	46.8	+7.4	55.6	+4.3	[b]62.1	+1.1	65.8	0.0	65.2	+1.6	56.8	+1.3	32.6	− 9.0	26.1	+4.3	15.0	+8.3	38.8	+3.2
Bowbells	6.7	+3.5	12.4	+ 6.6	21.2	+2.4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Bowman	14.4	......	24.6	......	30.0	......	48.4	......	54.6	......	61.4	......	67.8	......	69.4	......	59.1	......	33.5	......	31.9	......	22.0	......	43.1	......
Cando	[b] 6.0	+7.5	[b]11.6	+ 8.8	[a]25.4	+4.9	[b]47.0	+6.4	[c]50.6	−0.9	[b]60.8	−0.4	[a]65.9	0.2	[a]67.2	+3.3	[b]57.6	+2.0	[c]33.6	−10.1	[c]27.6	+1.1	......	......	......	......
Carson	8.2	−1.7	18.8	+ 5.1	27.6	+3.1	48.6	+6.6	54.1	+1.8	59.2	−3.8	64.7	−3.4	65.8	−1.8	55.7	0.7	28.0	−15.5	27.0	−3.7	12.0	−4.0	39.1	−1.5
Crosby	3.0	+1.3	14.0	+ 6.9	22.4	+0.4	45.8	+5.2	54.2	+3.8	58.8	−1.8	67.6	+1.7	66.0	+2.3	55.6	+1.9	33.2	− 8.3	28.5	+0.7	17.5	+5.2	38.9	+1.6
Devils Lake	6.4	+6.1	12.2	+ 7.7	24.6	+6.1	46.6	+8.4	52.6	0.1	60.8	−1.8	65.8	−2.3	67.8	+2.7	56.2	+0.6	32.4	− 8.1	26.8	+4.2	13.8	+5.8	38.8	+2.4
Dickinson	11.2	+0.9	20.8	+ 9.0	29.8	+5.4	47.2	+4.3	53.9	+1.7	61.4	+0.1	67.6	−0.4	67.8	+1.5	56.2	−0.3	32.0	−11.9	29.8	+1.2	19.2	+1.9	41.4	+1.1
Dogden	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	33.0	......	29.4	......	17.4	......	......	......
Donnybrook	8.9	+5.5	15.6	+ 8.6	[f]26.8	+4.4	46.0	+5.6	50.0	−0.1	60.4	−0.1	67.2	+1.4	[f]67.4	+4.1	......	......	......	......	26.0	−2.8	16.2	+4.0	......	......
Dunn Center	12.5	−1.3	21.2	+ 8.2	29.2	+5.1	[f]46.4	+3.8	[b]51.8	−1.5	60.1	−1.8	64.8	−3.2	65.4	−1.2	56.3	−0.8	32.6	−13.0	[a]29.9	+1.5	[a]19.1	−1.4	40.8	−0.4
Dunseith	5.0	+3.5	10.7	+ 7.3	23.2	+4.4	48.6	+8.2	55.6	+3.7	59.4	−1.8	65.2	+0.8	65.0	+1.4	55.7	+0.9	31.4	− 9.7	25.3	−0.9	15.4	+7.1	38.4	+2.1
Eckman	7.2	+6.6	13.0	+ 6.6	25.4	+3.3	46.6	+5.0	53.4	+2.8	61.2	−0.1	65.7	−0.1	64.3	+1.0	56.0	+0.5	33.2	− 9.5	27.8	+1.5	15.9	+6.3	39.2	+2.0
Edgeley	9.5	+1.7	18.6	+ 7.7	31.6	+5.1	49.1	+5.9	53.6	+0.1	62.4	−0.4	67.3	−1.2	69.8	+3.4	60.8	+3.3	34.4	−11.5	31.6	+1.2	17.2	+0.7	42.1	+1.3
Ellendale	8.8	−1.9	18.7	+ 7.0	31.7	+6.1	49.3	+5.7	53.6	−2.1	62.3	−3.7	66.9	−3.8	70.4	+1.6	60.4	+2.0	34.0	−11.6	29.6	+3.5	17.6	+0.8	42.0	+0.4
Energy	12.4	......	19.2	......	30.2	......	49.4	......	55.2	......	62.2	......	66.5	......	67.4	......	58.8	......	34.5	......	31.0	......	18.1	......	41.7	......
Epping	5.1	......	17.4	......	27.8	......	47.2	......	56.2	......	64.6	......	69.2	......	66.6	......	57.4	......	32.4	......	28.8	......	18.8	......	41.8	......
Fessenden	6.4	+3.2	14.0	+ 6.1	25.4	+4.0	47.7	+7.5	53.9	+2.4	62.4	+1.4	67.6	+0.5	68.6	+3.6	58.7	+3.6	33.2	8.8	28.0	+1.0	15.0	+2.8	40.1	+2.3
Finley	7.3	......	14.1	......	26.6	......	47.6	......	52.4	......	61.1	......	66.0	......	68.1	......	57.7	......	31.8	......	27.6	......	[f]16.2	......	39.7	......
Foxholm	11.5	......	15.8	......	25.4	......	46.6	......	53.8	......	60.5	......	66.5	......	66.3	......	56.6	......	33.6	......	29.6	......	17.2	......	40.3	......
Fullerton	9.2	+1.4	19.6	+10.3	32.0	+6.8	49.8	+7.0	54.7	+1.4	63.3	+0.6	68.2	−0.2	70.9	+4.6	60.8	+4.1	35.6	− 8.7	30.0	+0.3	18.0	+4.3	42.7	+2.7
Garrison	10.6	+4.1	19.4	+11.0	27.2	+5.5	48.4	+5.8	54.0	+1.4	61.0	−1.2	65.1	−3.0	[c]67.1	+1.4	57.6	+0.8	33.4	−10.4	30.1	+3.1	17.4	+3.8	40.9	+1.8
Grafton	5.7	+4.8	11.6	+ 6.7	23.4	+4.2	[a]47.5	+7.2	53.2	+0.3	61.5	−1.0	[a]66.4	−1.1	[f]68.8	+4.3	58.0	+2.1	[a]35.2	− 7.5	27.7	+3.7	16.0	+8.3	39.6	+2.7
Grand Forks	5.3	+1.7	12.2	+ 5.7	24.7	+2.3	48.0	+6.0	52.2	−1.2	62.0	−0.9	65.8	−1.6	68.2	+3.3	58.0	+1.8	34.0	− 9.5	26.4	+0.3	11.6	+1.0	39.0	+0.7
Granville	11.8	+10.1	15.4	+ 7.0	28.1	+4.4	[f]49.0	+6.5	52.3	+0.9	61.4	−1.7	65.7	−1.4	64.6	+0.7	57.6	+3.2	33.9	−10.2	29.8	+3.7	17 0	+4.6	40.5	+2.3
Hansboro	[b] 1.3	+3.6	......	......	20.4	−0.9	43.8	+3.9	50.0	−0.3	57.6	−2.8	61.6	−3.8	62.4	−0.4	54.0	−0.1	30.1	−11.2	24.0	−1.9	9.8	+2.5	......	......
Hettinger	11.3	−1.2	26.8	+13.6	30.8	+3.2	47.2	+2.4	53.9	+1.1	[a]60.1	−2.0	[a]67.7	−1.8	69.0	+2.0	59.4	+1.4	[f]32.3	−14.1	33.5	+0.1	19.2	+3.4	42.6	+0.7
Hillsboro	[c] 6.7	+2.8	[b]15.5	+ 7.0	28.6	+3.9	49.3	+5.7	53.9	+0.7	63.6	−0.8	67.9	−1.6	71.2	+4.3	61.3	+2.3	35.2	−10.8	28.2	−0.6	14.2	+1.6	41.3	+1.2
Howard	8.2	+6.7	15.4	+ 9.4	21.7	+0.9	44.0	+4.2	51.6	+2.2	58.2	−1.5	64.4	−1.1	65.8	+2.3	54.6	+0.8	31.1	−10.3	27.0	−0.7	15.9	+4.1	38.1	+1.4
Jamestown	7.6	+1.1	15.5	+ 7.6	27.3	+4.7	46.4	+3.9	53.8	+0.3	62.0	−1.1	66.8	−1.7	69.1	+2.9	57.6	+0.9	32.6	−12.2	26.9	−0.7	15.0	+1.4	40.1	+0.6
Lamoine	7.8	+3.8	17.8	+10.1	28.2	+5.2	48.4	+5.8	[a]53.4	+2.7	60.6	+0.1	66.2	+0.3	67.1	+3.2	[d]58.9	+2.3	[d]31.0	12.1	27.5	+0.5	15.5	+4.3	40.2	+2.2
Langdon	2.7	+5.4	8.4	+ 5.4	20.6	+1.6	45.4	+7.3	52.2	+1.4	58.8	−0.9	63.7	−0.8	65.4	+3.7	54.6	+1.1	30.2	−10.2	25.0	−0.7	11.0	+3.7	36.5	+1.4
Larimore	5.1	+2.5	10.6	+ 5.4	25.4	+4.4	46.2	+5.8	53.0	+0.6	61.8	−0.3	66.2	−0.5	68.6	+4.3	56.6	+1.4	33.4	− 9.9	28.2	+2.4	13.8	+3.0	39.1	+1.6
Linton	......	......	18.6	......	29.9	......	......	......	......	......	58.0	......	66.8	......	71.8	......	57.1	......	[d]36.2	......	[d]31.0	......	[c]20.6	......	......	......
Lisbon	8.6	+2.7	16.0	+ 6.4	31.4	+4.8	47.8	+5.1	53.4	+0.5	61.6	−1.5	67.4	−0.8	70.0	+3.5	59.9	+2.2	33.6	−11.7	25.5	−4.7	19.0	+4.9	41.2	+1.0
McClusky	7.3	......	13.7	......	24.6	......	44.3	......	51.2	......	60.1	......	65.9	......	67.2	......	57.3	......	29.4	....	24.8	......	12.6	......	38.2	......
McHenry	......	......	......	......	......	......	......	......	......	......	......	......	64.5	−3.1	[a]66.6	+1.9	56.5	+2.1	[c]34.1	− 8.2	......	......	......	......	......	......
McKinney	7.3	+4.1	13.8	+ 8.7	23.2	+4.0	[c]46.3	+5.3	53.0	+1.0	57.8	−2.9	63.7	−2.3	63.8	+0.3	52.4	−1.7	33.0	− 8.7	29.1	+4.5	17.3	+6.6	38.4	+1.6
McLeod	9.6	+1.9	18.6	+ 7.2	31.6	+5.7	49.0	+5.7	55.4	+1.3	65.4	+0.4	69.1	−1.1	70.6	+3.0	62.5	+5.6	37.6	− 7.9	30.6	+0.9	18.7	+4.4	43.2	+2.2
Maddock	10.2	......	14.2	......	27.0	......	47.9	......	53.3	......	61.0	......	66.7	......	66.7	......	57.4	......	33.8	......	......	......	[g]13.4	......	......	......
Mandan	9.6	+1.1	18.5	+ 8.0	30.7	+3.5	49.8	+7.7	54.7	+0.8	62.0	−2.2	68.0	−2.8	68.8	+1.0	59.4	+1.3	33.8	−11.1	29.4	−0.5	17.5	+4.4	41.9	+1.1
Manfred	9.9	+5.9	15.8	+ 9.0	27.4	......	48.0	+6.2	53.2	+1.6	61.2	−0.3	66.0	−0.9	66.2	+1.9	56.0	+0.1	33.6	− 9.7	28.2	−0.8	16.8	+5.5	40.2	+1.9
Marmarth	[b]14.8	+4.5	24.1	+11.0	[a]31.5	+5.5	[a]48.5	+5.7	[b]52.0	+2.0	61.3	+1.0	68.2	+0.4	......	......	......	......	......	......	......	......	[d]20.0	+2.3	......	......
Mayville	8.6	+2.5	14.7	+ 7.0	27.8	+4.6	49.8	+6.6	54.4	−0.1	62.9	−1.6	67.8	−1.6	70.2	+3.9	60.1	+2.7	35.4	− 9.5	29.6	+0.3	14.8	+1.7	41.4	+1.4
Melville	10.0	+4.4	15.4	+ 8.8	27.8	+5.5	48.0	+7.9	[b]52.2	−0.3	......	......	[c]67.2	−0.7	[c]68.2	+1.8	59.0	+2.6	[b]33.0	−10.6	29.8	+0.8	15.8	+4.0	......	......
Minot	11.0	+6.0	16.3	+ 8.4	26.0	+4.6	47.4	+5.7	55.2	+2.9	62.0	−0.5	66.6	−1.5	66.5	+1.4	56.8	+0.1	[h]36.9	− 6.7	28.2	−1.5	13.3	+0.9	40.5	+1.6
Minto	5.2	+3.4	11.4	+ 5.5	23.6	+2.5	46.8	+6.2	52.6	−0.8	61.6	−2.3	65.9	−1.2	68.0	+3.4	57.6	+1.2	34.0	− 9.2	26.4	+1.9	13.0	+2.1	38.9	+1.1
Mott	10.4	+2.9	21.0	+ 9.2	28.4	+1.8	49.6	+7.0	55.4	+3.8	68.9	+5.9	69.0	−0.1	69.6	+3.7	61.0	+4.7	34.1	− 8.9	31.4	+0.2	18.6	+4.5	43.1	+2.9
Napoleon	6.8	+0.9	16.7	+ 9.9	28.4	+7.1	47.8	+6.3	52.2	−0.2	60.4	−1.8	66.0	−2.3	69.2	+3.2	58.8	+1.9	31.7	−10.2	27.8	+1.2	14.8	+2.4	40.0	+1.5
New England	[k]10.8	−2.5	24.3	+12.2	30.4	+6.0	47.8	+4.7	55.8	+4.2	62.9	+0.9	68.3	−0.2	69.0	+2.3	60.2	+4.4	30.6	−13.1	30.8	+0.6	21.0	+3.6	42.7	+2.0
New Salem	11.4	+3.7	20.2	+ 9.6	31.2	+6.7	[a]49.9	+7.4	55.6	+4.3	62.2	−0.6	69.2	−0.1	70.2	+3.8	60.6	+3.4	33.4	−10.9	31.7	+1.0	17.0	+2.1	42.7	+2.5
Park River	[c] 5.2	+3.4	[b]13.2	+ 7.5	23.5	+1.4	48.1	+6.6	......	......	62.8	−0.4	......	......	......	......	......	......	[d]32.6	−11.7	[f]28.2	+0.2	14.2	+3.1	......	......
Pembina	− 0.5	+2.4	8.3	+ 6.9	22.6	+6.6	46.5	+8.6	51.6	−0.9	61.6	−1.0	65.7	−2.0	65.9	+1.8	54.6	+0.8	35.6	− 5.3	31.4	+8.7	......	......	38.1	+2.9
Pettibone	7.3	+7.3	15.8	+11.2	[a]27.5	+3.7	[a]46.9	+5.0	51.6	+1.1	......	......	......	......	......	......	[e]56.6	+2.9	[e]30.2	−11.0	[h]26.0	−0.9	[f]15.8	+5.4	......	......
Richardton	13.0	......	[a]22.1	......	30.8	......	[a]49.0	......	55.6	......	[h]62.2	......	69.6	......	[a]70.2	......	[c]59.4	......	32.0	......	[a]31.0	......	[a]19.2	......	43.0	......
Steele	5.6	+2.0	16.6	+ 9.5	28.2	+6.1	47.1	+2.7	52.6	−1.2	61.2	1.2	66.8	−2.6	68.7	+1.9	59.4	+1.6	30.7	13.3	26.8	−1.6	18.0	+4.4	40.2	+0.4
Towner	10.4	+7.8	15.2	+10.0	26.2	+7.0	50.2	+8.8	55.5	+3.2	62.2	0.0	67.1	0.0	67.0	+2.6	59.2	+3.4	38.8	− 3.6	31.4	+6.4	19.0	+9.0	41.9	+4.6
Turtle Lake	10.2	......	17.2	......	......	......	47.9	......	54.0	......	59.6	......	66.2	......	67.4	......	57.8	......	33.2	......	28.2	......	16.6	......	......	......
Valley City	8.0	+3.2	14.0	+ 4.4	27.1	+1.0	48.4	+4.6	53.2	+0.6	62.0	−1.2	66.7	−1.3	70.2	+4.6	60.2	+2.0	34.4	−10.8	30.2	+0.5	15.8	+2.1	40.8	+0.8
Wahpeton	9.9	+2.1	20.2	+10.3	34.0	+7.8	52.1	+7.8	55.1	−0.2	62.6	−2.2	68.0	−1.3	72.1	+5.2	63.8	+5.2	37.2	− 8.7	30.6	+2.3	16.0	+1.3	43.5	+2.5
Westhope	6.6	+8.0	13.0	+ 9.7	[b]24.6	+3.7	47.1	+7.4	[d]54.2	+2.8	61.8	+0.2	66.0	−0.1	64.9	+0.8	55.7	+0.9	32.8	− 8.6	27.6	+0.8	16.4	+7.4	39.2	+2.7
Williston	12.1	+5.7	19.6	+11.5	27.6	+4.7	47.6	+5.6	54.9	+0.9	61.3	−1.4	67.2	−1.7	67.4	+1.3	56.0	−0.6	33.4	−10.0	30.1	+2.9	18.5	+4.7	41.3	+2.0
Willow City	5.4	+5.1	11.0	+ 8.3	23.8	+5.5	45.6	+5.4	52.4	+0.9	59.4	−1.6	64.6	−0.8	64.1	+0.6	55.2	+0.9	[a]32.2	− 9.5	26.4	+4.3	[a]14.0	+5.5	37.8	+2.0
Moorhead, Minn.	7.8	+4.0	14.0	+ 5.9	29.6	+6.9	49.6	+9.0	53.2	−1.9	64.4	0.0	68.2	+0.1	70.7	+4.6	60.6	+2.4	34.6	− 9.9	27.8	+0.7	13.4	+1.9	41.2	+2.0

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing. [b], 2 days missing, etc.

[Continued from page 49]

AUGUST.—The month opened with generally cool and dry eather, a condition which prevailed during the first and secnd decades. During this period rapid progress was made in arvesting small grains, and in threshing winter rye and early pring wheat. High temperatures were general throughout the ıst decade, and caused late corn and flax to deteriorate. anges, pastures and meadows suffered considerably from rought during this period. At the close of the month farm ork was generally ahead of the season.

SEPTEMBER.—The month opened with hot, dry weather hich caused late corn and flax to ripen rapidly, and allowed hreshing to make rapid progress. Light to heavy precipitation ccurred from the 4th to the 20th, greatly delaying outdoor ork, but improving the soil conditions for fall plowing and the eeding of winter rye. At the close of the month threshing as well advanced, much fall plowing had been accomplished, he seeding of winter rye was completed, and fall feed was bundant.

OCTOBER.—The temperature during October, 1925, was the owest of record for the month in the climatological history of he State. The lowest temperature was −16° at Carson, Grant ounty, the record for the State for October. The month pened with cloudy and threatening weather, and frequent howers occurred during the first three weeks, interfering reatly with late threshing, potato digging and corn husking. mproved conditions prevailed during the last week, and rapid rogress was made in all outdoor activities. Livestock was genrally in good condition, and much shipping was done during he month.

NOVEMBER.—With the exception of two short periods, 6-7th nd 27-28th, mild temperature prevailed throughout the State, nd farm and other outdoor work progressed uninterruptedly. s a result of these favorable conditions, farm work and road onstruction made rapid advancement. The precipitation was ight in nearly all sections, the stormiest periods being the -5th, 14-17th, 21st, and 29-30th.

DECEMBER.—Mild temperature, deficient precipitation, modrate winds and somewhat more than the usual cloudiness characterized the weather during the month. With the exception of the latter part of the third decade, mild temperature prevailed in practically all sections throughout the month. As a result of these favorable conditions, livestock ranged freely on pastures, ranges and harvested fields, thus saving an unusually large amount of feed. Highway work was continued with but slight interruption, and excellent progress was made.

Climatological Summary, 1925

Month	Temperature in degrees Fahrenheit				Precipitation, in inches				Sky			Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Number of rainy days	Clear	Pt. cloudy	Cloudy	
anuary	8.6	+3.7	52	−35	0.22	−0.32	2.5	3	11	10	10	nw.
'ebruary	16.5	+8.6	62	−39	0.31	−0.18	3.6	3	10	9	9	nw.
Iarch	27.4	+4.8	75	−26	0.67	−0.16	6.0	4	14	9	8	nw.
pril	47.8	+6.1	85	10	1.64	+0.26	T.	6	11	10	9	se.
Iay	53.6	+1.0	111	10	1.44	−1.11	T.	4	17	9	5	nw.
une	61.5	−1.3	98	30	6.07	+2.57	0	14	11	10	9	nw.
uly	66.7	−0.8	106	29	1.34	−1.27	0	6	18	9	4	nw.
ugust	67.9	+2.5	110	29	1.07	−1.21	0	5	20	8	3	nw.
eptember	58.1	+1.7	103	20	2.74	+1.10	T.	8	12	8	10	nw.
ctober	33.3	−10.5	66	−16	0.78	−0.22	3.7	6	8	9	14	nw.
ovember	28.8	+2.2	69	−17	0.25	−0.33	1.3	2	14	8	8	nw.
ecember	16.5	+3.5	67	−38	0.28	−0.26	2.6	3	12	8	11	nw.
Annual	40.6	+1.3	111	−39	16.81	−1.13	19.7	64	158	107	100	nw.

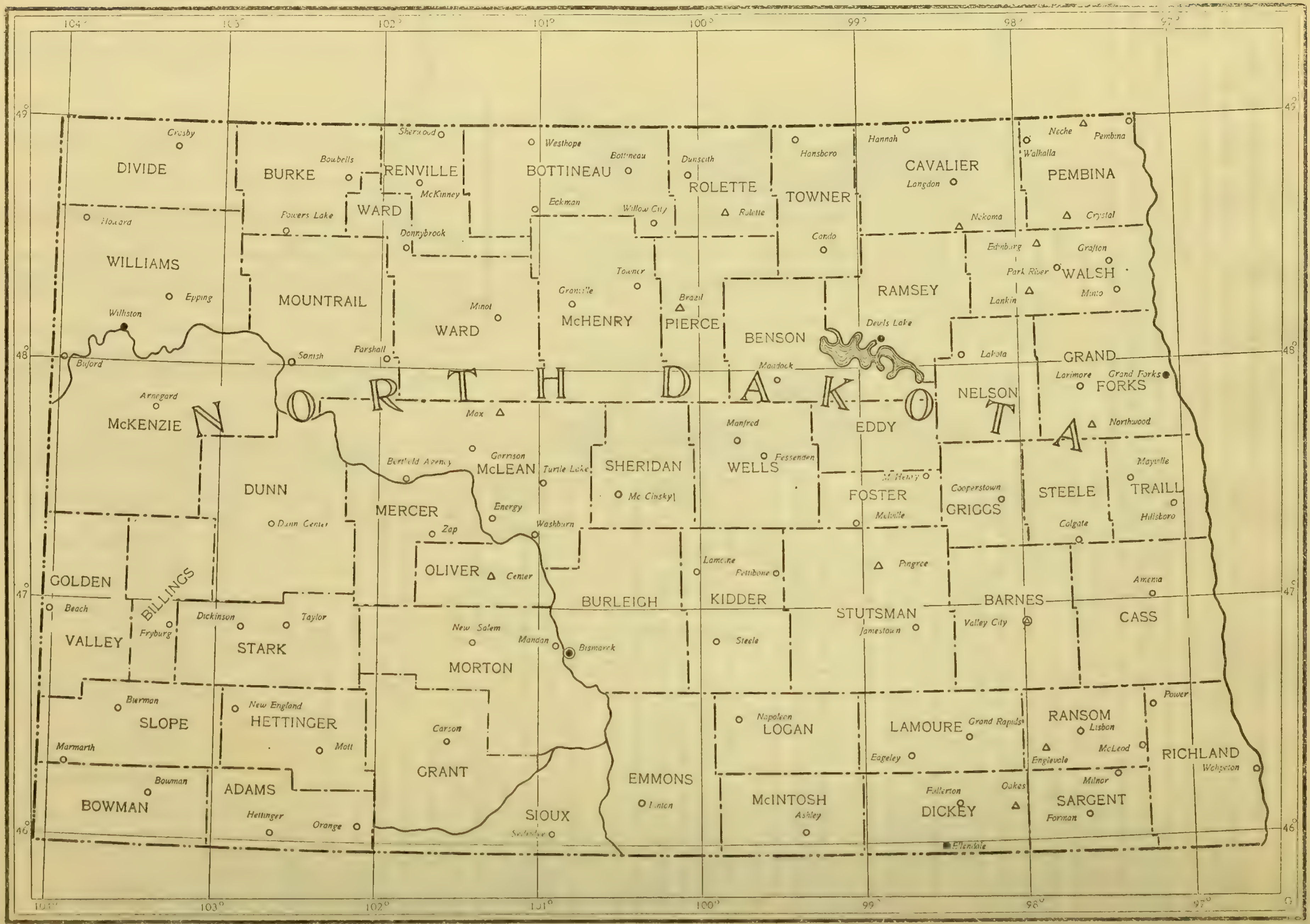
Killing Frosts

STATIONS	Last in Spring	First in Autumn	STATIONS	Last in Spring	First in Autumn
Amenia	May 17	Sept. 21	Lamoine	May 17	Sept. 21
Amidon	" 17		Langdon	" 25	" 21
Arnegard	" 17	Sept. 21	Larimore	" 25	" 21
Ashley	" 18	" 21	Linton	" 28	" 21
Beach	" 17	" 21	Lisbon	" 17	" 21
Berthold Agency	" 17	" 21	McClusky	" 18	" 21
Bismarck	" 17	" 21	McHenry		" 21
Bottineau	" 17	" 11	McKinney	May 17	" 11
Bowman	" 17	" 21	McLeod	" 17	" 21
Cando	" 18	" 21	Maddock	" 24	" 21
Carson	" 21	" 11	Mandan	" 16	" 21
Cooperstown	" 16	Oct. 7	Manfred	" 17	" 21
Crosby	" 17	Sept. 21	Mayville	" 25	" 21
Devils Lake	" 17	" 21	Melville	" 17	" 21
Dickinson	" 17	" 12	Minot	" 17	" 20
Donnybrook	" 17	" 11	Minto	" 25	" 21
Dunn Center	" 17	" 21	Mott	" 16	" 21
Dunseith	" 17	" 11	Napoleon	" 25	" 21
Eckman	" 18	" 11	New England	" 16	" 21
Edgeley	" 25	" 21	New Salem	" 16	" 21
Ellendale	" 18	" 21	Parshall	" 16	" 20
Energy	" 17	" 21	Pembina	" 17	" 20
Epping	" 16	" 21	Pettibone	" 17	" 21
Fessenden	" 17	" 22	Richardton	" 16	" 21
Finley	" 17	" 21	Sharon	" 17	" 21
Foxholm	" 16	" 11	Stanton	" 17	" 21
Fryburg	" 17	" 21	Steele	" 16	" 21
Fullerton	" 17	" 21	Towner	" 17	" 21
Garrison	" 17	" 21	Turtle Lake	" 17	" 21
Grafton	" 21	" 21	Valley City	" 24	" 21
Grand Forks	" 17	Oct. 8	Wahpeton	" 17	" 21
Hansboro	" 25	Sept. 11	Washburn	" 18	" 21
Hettinger	" 16	Oct. 1	Williston	" 16	" 21
Hillsboro	" 17	" 6	Willow City	" 18	" 11
Howard	" 17	Sept. 21	Moorhead, Minn.	" 17	" 21
Jamestown	" 18	" 21			

Comparative Annual State Data

Year	Temperature				Average precipitation	Departure
	Mean	Departure	Highest	Lowest		
1892	37.8	−1.0	108	−52	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	−2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	−44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60
1921	42.0	+3.2	110	−33	19.59	+1.65
1922	39.7	+0.9	115	−46	19.75	+1.81
1923	40.7	+1.9	103	−40	17.76	−0.18
1924	38.2	−0.6	105	−46	17.55	−0.39
1925	40.6	+1.8	111	−39	16.81	−1.13

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ●Meteorological observations (regular Weather Bureau stations). ○Meteorological observations (sub-stations). △Display or distribution of forecasts.

[WBO, Minneapolis, 3-12-26—1325—

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

MAR 3 1926

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXV BISMARCK, N. D., JANUARY, 1926 No. 1

GENERAL SUMMARY

The weather throughout the State was mild and pleasant, the mean temperature being, with but two exceptions, the highest of record since the climatological service was established in 1892. Only light scattered precipitation occurred, allowing outdoor work to proceed without interruption. Ice harvest was completed during the month, the average thickness of ice being 24 inches. Considerable highway construction work was accomplished. Livestock ranged freely on ranges, pastures and harvested fields, and thus saved much feed, and at the close of the month range cattle and horses were in excellent condition.

TEMPERATURE

The mean temperature for the State was 16.3°, or 11.4° above the normal, and 7.7° higher than the mean for January, 1925. The highest mean reported was 22.0° at Ashley, McIntosh County; the lowest was 7.8° at Pembina, Pembina County. The highest temperature reported was 55° at Steele, Kidder County, on the 17th; the lowest was −30° at Hansboro, Towner County, and at Minto, Walsh County, on the 28th. The greatest monthly range of temperature was 77° at Carson, Grant County; the least was 53° at Howard, Williams County, and McClusky, Sheridan County. The greatest daily range was 72° at Jamestown, Stutsman County, on the 29th.

PRECIPITATION

The average precipitation for the State was 0.38 inch, or 0.16 inch below the normal, and 0.16 inch more than the average for January, 1925. The greatest monthly amount reported was 1.10 inches at Hettinger, Adams County; there was none at Hansboro, Towner County. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Stanton, Mercer County, on the 31st. The average snowfall for the State was 4.1 inches. The average number of days with 0.01 inch or more of precipitation was 4.

AURORAS

Auroras were observed at Linton on the 3d; at Howard on the 7th; at Foxholm on the 8th and 10th; at Arnegard, Beach, Crosby, Dogden, Fessenden, Foxholm, Howard, McLeod, Sharon and Willow City on the 12th; at Beach, Crosby, Ellendale, Foxholm, Howard, McLeod, New England, Sharon and Williston on the 13th; at Ellendale, New England and Williston on the 14th; at Foxholm, Howard and Willow City on the 18th; at Dogden on the 23d; at Bismarck, Grand Forks, Sharon and Moorhead on the 26th, and at Epping on the 28th and 29th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.08	30.72	22	29.52	15	57	6,760	9.1	34	nw.	12
Devils Lake	30.01	30.64	22	29.36	13	44	7,415	10.0	38	n.	12
Ellendale	30.03	30.69	22	29.51	15	56	11,279	15.2	50	nw.	12
Grand Forks	29.96	30.62	22	29.30	13	90	....	......	48	ne.	10
Williston	30.04	30.67	22	29.45	15	48	6,087	8.2	27	nw.	23
Moorhead, Minn	30.03	30.69	22	29.36	13	58	7,140	9.6	31	n.	12
Av'ges and extremes	30.02	30.72	22	29.30	13	.....	....	10.4	50	nw.	12

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	144.0	279.2	52	− 1	86	68	76	44	17
Devils Lake	136.1	275.8	49	− 1	86	82	79	64	2
Ellendale	155.9	282.9	55	+ 2	86	69	....	39	29
Grand Forks	......	......	......	......	87	.....	87	......	....
Williston	155.8	275.8	56	+ 3	85	73	79	53	16
Moorhead, Minn	105.2	279.2	38	−15	85	73	81	49	19
Averages and extremes	139.4	278.6	50	− 2	86	73	80	39	29

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893	0.8	−4.1	49	−48	0.98	+0.44	7	11	11	9	nw.
1894	0.6	−4.3	71	−47	0.39	−0.15	4	13	7	9	nw.
1895	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896	5.3	+0.4	58	−42	0.70	+0.16	6	14	8	9	nw.
1897	3.6	−1.3	49	−38	0.79	+0.25	5	13	9	9	nw.
1898	14.6	+9.7	69	−32	0.11	−0.43	2	8	8	15	nw.
1899	5.2	+0.3	55	−41	0.25	−0.29	3	11	8	12	nw.
1900	15.4	+10.5	70	−30	0.22	−0.32	3	15	4	12	nw.
1901	7.7	+2.8	68	−39	0.28	−0.26	4	17	7	7	nw.
1902	12.7	+7.8	51	−40	0.14	−0.40	2	16	6	9	nw.
1903	9.4	+4.5	56	−37	0.66	+0.12	5	19	5	7	nw.
1904	3.6	−1.3	50	−52	0.37	−0.17	5	12	7	12	nw.
1905	0.9	−4.0	48	−40	0.30	−0.24	3	8	12	11	nw.
1906	12.2	+7.3	60	−38	0.69	+0.15	4	14	9	8	nw.
1907	−6.2	−11.1	45	−45	1.40	+0.86	8	21	5	5	nw.
1908	17.0	+12.1	70	−38	0.18	−0.36	2	11	7	13	nw.
1909	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914	14.8	+9.9	62	−38	0.50	−0.04	4	16	8	7	nw.
1915	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921	15.9	+11.0	58	−31	0.24	−0.30	2	13	9	9	nw.
1922	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.
1923	10.1	+5.2	56	−35	0.53	−0.01	5	9	9	13	nw.
1924	2.6	−2.3	61	−42	0.23	−0.31	3	14	9	8	nw.
1925	8.6	+3.7	52	−35	0.22	−0.32	3	11	10	10	nw.
1926	16.3	+11.4	55	−30	0.38	−0.16	4	13	8	10	nw.

Climatological Data for January, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	12.6	+ 8.1	43	17	−24	28	48	0.16	−0.34	0.8	2.0	2	17	8	6	n.	E. T. Carley.
Amidon	Slope	......	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. M. Critchfield.
Arnegard	McKenzie	......	11	19.3	......	52	8	−15	22	41	0.86	......	0.40	8.5	7	18	3	10	w.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	22.0	+14.5	51	14	−20	28	54	0.10	−0.45	0.10	1.0	1	15	1	15	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	21.4	+12.1	49	13	−14	1†	49	0.36	−0.27	0.18	4.0	5	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	19.3	+11.8	52	17	−19	28	47	0.08	−0.32	0.08	1.0	1	14	7	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	18.6	+10.8	54	17	−15	28	37	0.54	0.00	0.38	8.6	6	13	7	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	13.6	+14.3	48	17	−26	28	39	0.30	−0.16	0.11	3.8	4	6	18	7	nw.	T. M. Street.
Bowman	Bowman	2,961	12	19.4	......	44	17	−20	21	40	0.36	−0.14	0.07	......	10	15	4	12	nw.	R. Love, Jr.
Cando	Towner	1,488	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. J. Swanson.
Carson	Grant	2,500	14	13.4	+ 3.5	50	17	−27	28	49	0.56	+0.22	0.16	7.0	7	14	7	10	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	......	......	......	......	......	......	......	0.40	−0.10	0.20	4.0	3	16	9	6	nw.	S. Friswold.
Crosby	Divide	1,954	19	17.5	+15.8	45	17	−16	28	38	0.36	−0.13	0.30	3.6	3	2	18	11	sw.	John Jensen.
Devils Lake	Ramsey	1,478	29	14.2	+13.9	44	17	−17	28	39	0.16	−0.44	0.05	2.5	6	11	12	8	sw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	19.5	+ 9.2	47	17	−16	28	49	0.45	+0.03	0.20	4.5	5	8	6	17	nw.	Leroy Moomaw.
Dogden	McLean	1,736	.....	17.6	......	43	17	−20	28	36	0.18	......	0.07	2.7	3	12	11	8	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27	17.8	+14.4	44	2†	−29	11	60	0.24	−0.15	0.19	3.5	3	13	8	10	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	20.8^{a}	+ 7.0	48^{a}	17	−19^{a}	28	51^{a}	0.24	−0.27	0.24	3.0	1	17	4	10	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	13.0	+11.5	43	17	−25	21†	56	0.08	−0.39	0.04	1.8	3	14	6	11	w.	J. G. Lamont.
Eckman	Bottineau	1,500	21	16.8	+16.2	47	17	−16	11†	38	0.03	−0.53	0.03	1.0	1	0	24	7	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	18.5	+10.7	52	17	−20	28	64	T.	−0.29	T.	T.	0	9	8	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	16.6	+ 5.9	52	17	−16	28	43	0.22	−0.18	0.06	2.5	7	7	8	16	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	19.3^{b}	......	49^{b}	17	−21^{b}	28	45^{b}	0.22	−0.07	0.12	2.0	2	14	13	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	16.0	......	42	17	−21	27	36	0.63	+0.07	0.35	7.0	5	20	8	3	w.	A. O. Wang.
Fessenden	Wells	1,610	14	17.2	+14.0	49	17	−20	28	51	0.45	−0.15	0.20	3.0	5	11	13	7	nw.	T. D. Monsen.
Finley	Steele	1,461	2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	G. J. Mustad.
Forman	Sargent	1,249	32	......	......	......	......	......	......	......	0.32	−0.21	0.16	4.0	3	9	8	14	n.	O. Enger.
Foxholm	Ward	1,657	5	17.7	......	44	17	−14	28	36	0.38	......	0.15	3.5	6	11	10	10	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	......	......	......	......	......	......	......	0.33	......	0.28	3.0	2	15	12	4	nw.	Verne King.
Fullerton	Dickey	1,439	28	18.5	+10.7	50	17	−15	28	42	0.21	−0.54	0.10	2.1	3	9	14	8	nw.	F. O. Alin.
Garrison	McLean	1,901	31	17.8	+11.3	48	17	−16	28	36	0.28	−0.15	0.18	2.8	3	20	5	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	13.4^{b}	+12.5	44^{b}	2	−28^{b}	28	40^{b}	0.20	−0.40	0.10	2.3	4	......	......	......	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	12.4	+ 8.8	43	2	−26	28	44	0.45	−0.13	0.14	4.5	8	10	4	17	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	16.4	+14.7	40	2†	−17	11	44	0.24	−0.27	0.10	2.5	4	6	20	5	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	......	......	......	......	......	......	......	0.25	−0.47	0.16	3.1	3	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	18	8.0	+10.3	41	2	−30	28	43	0.00	−0.95	0.00	0.0	0	13	9	9	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	11.5	− 1.0	49	29	−25	22	44	1.10	+0.78	0.40	10.0	4	24	5	2	nw.	U. J. Downey.
Hillsboro	Traill	901	20	15.6^{e}	+11.7	43^{g}	2	−22^{d}	28	40^{g}	0.60	−0.14	0.30	6.0	5	......	......	......	......	F. E. Mayall.
Howard‡‡	Williams	2,275	19	15.6	+14.1	38	17	−15	21†	45	0.70	−0.05	0.40	7.6	2	16	8	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	15.4	+ 8.9	50^{a}	16	−23	28†	72^{a}	0.18	−0.46	0.12	2.0	4	8	3	20	nw.	S. Calvelage.
Lamoine	Kidder	1,936	21	15.5^{a}	+11.5	49^{a}	17	−21^{a}	28	35^{a}	0.40	−0.21	0.16	5.0	3	16	5	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	9.5	+12.2	37	1	−28	28	56	T.	−0.65	T.	T.	0	17	5	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	13.3	+10.7	41	2†	−26	28	53	0.70	−0.01	0.36	8.8	5	11	4	16	n.	Reuben Gray.
Linton	Emmons	1,711	8	20.2	......	52	17	−18	22	45	0.54	......	0.25	3.5	5	18	0	13	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	10.5	+ 4.6	41	18	−24	28	50	0.24	−0.46	0.16	3.0	3	16	11	4	......	W. S. Adams.
McClusky	Sheridan	1,943	8	13.5	......	35	9	−18	11†	35	0.80	......	0.30	11.0	4	14	11	6	nw.	Edw. Tapley.
McHenry	Foster	1,509	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	F. D. Cannon.
McKinney‡‡	Renville	1,640	32	17.8	+14.6	49	17	−18	28	42	0.24	−0.12	0.16	3.0	2	11	13	7	w.	N. P. Swenson.
McLeod	Ransom	1,075	14	18.2	+10.5	48	29	−20	28	44	0.40	−0.27	0.18	4.0	5	12	6	13	sw.	J. G. Carlson.
Maddock	Benson	1,604	10	16.2	......	47	17	−20	28	38	0.14	−0.17	0.07	1.5	3	11	11	9	nw.	A. T. Felland.
Mandan	Morton	1,644	12	18.9	+10.4	52	17	−18	28	53	0.71	+0.48	0.45	......	6	8	0	23	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	17.2	+13.2	46	17	−15	28	34	0.55	−0.10	0.15	6.5	7	16	6	9	sw.	P. B. Anderson.
Marmarth	Slope	2,714	17	20.1^{a}	+ 9.8	46^{a}	29	−26^{a}	21	37^{a}	1.06	+0.76	0.40	11.2	8	8	6	17	......	S. P. Grane.
Mayville	Traill	975	30	16.3	+10.2	45	2	−23	28	43	0.12	−0.37	0.08	1.5	2	15	5	11	s.	Ingvald Larson.
Melville	Foster	1,590	28	18.0	+12.4	48	17	−18	28	39	0.10	−0.28	0.05	1.0	2	9	15	7	nw.	J. P. Kidder.
Minot	Ward	1,557	30	19.0	+14.0	48	17	−15	28	40	0.28	−0.17	0.10	2.7	4	6	19	6	w.	W. I. Faris.
Minto	Walsh	820	33	12.8	+11.0	46	2	−30	28	40	0.24	−0.25	0.12	3.0	3	15	4	12	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	17.4	+ 9.9	42	13	−19	22	32	0.82	−0.06	0.43	7.5	4	14	7	10	w.	O. H. Opland.
Napoleon	Logan	1,955	34	14.8	+ 8.9	45	17†	−24	28	48	0.20	−0.25	0.10	2.0	2	12	1	18	nw.	C. J. Hoof.
New England	Hettinger	2,400	32	......	......	......	......	−22	22	......	0.60	+0.18	0.60	6.0	1	18	3	10	nw.	W. S. Jones.
New Salem	Morton	2,163	22	20.4	+12.7	51	17	−17	28	38	0.51	−0.12	0.30	4.8	6	18	6	7	nw.	J. Christiansen.
Park River	Walsh	998	22	14.2^{a}	+12.4	42^{a}	2	−22^{a}	28	40^{a}	0.28	−0.16	0.18	7.0	3	12	9	10	nw.	C. B. Wright.
Parshall	Mountrail	......	11	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	52	7.8	+10.7	34	15	−24	29	29	0.18	−0.46	0.16	2.0	2	6	14	11	nw.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	13.2^{f}	+ 8.0	47^{f}	2	−21^{f}	28	41^{f}	0.02	−0.49	0.02	0.2	1	......	......	......	nw.	S. C. Shanks.
Power	Richland	1,020	32	......	......	......	......	......	......	......	0.95	+0.30	0.30	9.5	6	11	11	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	15.6	......	44	17	−18	22	30	0.39	−0.39	0.21	7.1	5	19	8	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	20.8^{a}	......	50^{a}	17	−11^{a}	22	31^{a}	0.39	......	0.30	4.0	3	16	9	6	nw.	John Muggli.
Sharon	Steele	1,516	1	......	......	......	......	......	......	......	0.21	......	0.10	1.9	4	12	8	11	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2	......	......	......	......	......	......	......	1.00	......	0.80	9.0	2	17	8	6	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	15.2	+ 7.6	55	17	−20	28	40	0.18	−0.34	0.08	2.0	3	16	10	5	nw.	H. S. Wood.
Towner	McHenry	1,482	24	17.0	+14.4	42	17	−19	28	41	0.28	−0.21	0.16	3.5	3	23	6	2	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	15.8	......	45	17	−15	11†	37	0.22	−0.19	0.08	3.0	4	9	7	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	18.2	+13.4	51	14	−22	27	50	T.	−0.66	T.	T.	0	9	19	3	nw.	H. Twito.
Wahpeton	Richland	962	32	17.0	+ 9.2	48	29†	−22	28	47	0.70	+0.19	0.40	7.0	4	14	0	17	nw.	C. G. Luick.
Washburn	McLean	1,731	25	......	......	......	......	......	......	......	0.69	+0.30	0.28	7.5	3	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	20	16.0	+17.4	49	17	−17	28	40	0.13	−0.43	0.05	1.4	3	11	7	13	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	19.4	+13.0	47	17	−12	28	40	0.68	+0.10	0.53	7.0	6	12	8	11	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	14.4	+14.1	48	17	−26	28	42	0.42	−0.16	0.20	4.2	4	12	13	6	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	14.3	+10.5	45	29	−23	28	39	0.66	−0.05	0.20	7.7	11	5	7	19	n.	U. S. Weather Bureau.
Averages	......	......	.....	16.3	+11.4	55	17	−30	28	72	0.38	−0.16	0.80	4.1	4	13	8	10	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for January, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
nenia ‖‖	Red								.08			.08																T.					0.16
nidon	Lit. Missouri																																
rnegard	Missouri							.05			.07	.02						.02									.10			.40	.20		0.86
hley	Missouri							.10																									0.10
ach	Lit. Missouri						.08			T.		T.				T.			T.					T	T.	.04	.05	.01			.18	T	0.36
erthold Agency	Missouri										T.								T							T.	T				T.	.08	0.08
smarck ***	Missouri					T.	T.	.04	T.		T.		T.				T.		T.		T.				.05	T.	.05	.01	T.		.33	.06	0.54
ottineau‖ ‖	Mouse					T.	T.	.11			T.		T.				T.			T.				.03		.10					T	.06	0.30
owman	Grand			T.			.02					.03							.05	.06				.02		.03	.02	.02			.07	.04	0.36
ndo	Devils Lake																																
arson	Heart							.02			.02								.16								.02	.02			.16	.16	0.56
ooperstown	Sheyenne						T.	.10			.20													T.		T.		T.			T.	.10	0.40
rosby	Mouse							.03			.03								T.												.30		0.36
evils Lake ***	Devils Lake				T.	T.	T.	.03			.04	T.	.01		T.		T.				T.			T.	T.	.03	T.				.02	.03	0.16
ckinson‖ ‖	Heart							T.				.05					T.				T.			T.	.05	T	T.	.10			.05	.20	0.45
ogden	Mouse							.05			T.						T.										T.				.06	.07	0.18
onnybrook	Mouse										.03	.02							T.	T.						T.	T.					.19	0.24
unn Center ‖‖	Knife										T.																				.24		0.24
unseith	Mouse							.04																.02		.02							0.08
ckman	Mouse																															.03	0.03
dgeley	James							T.																									T.
llendale***	James			T.	.06		T.	.05	T.		.01		T.						T.	T.	T.				.01	T.	.03	.02	T.			.04	0.22
nergy	Missouri							.12																							.10		0.22
pping	Missouri																T.	.01							.08		.04				.35	.15	0.63
essenden‖ ‖	James									T.				.04			.05									.06				.10		.20	0.45
nley	Red																																
orman	Sheyenne				T.	.08			.08																							.16	0.32
oxholm	Mouse							.15			.02	T.					.03	T.	T.		T.	T.			.03		T.				.09	.06	0.38
ryburg	Heart										.05													T.	T.	T.	T.		T.		.28	T.	0.33
ullerton	James							.05	.06																		T.	T.	T.			.10	0.21
arrison	Missouri							.06			T.														T.	T.	.04				.18		0.28
rafton	Red							.01			.04		.05		T.											.10						T.	0.20
rand Forks ***	Red					T.	T.	.01	T.		.04		.09				.01							.04		.14	T.		T.	T.	.02	.10	0.45
ranville	Mouse							.10			.02						T.		T.						T.	T	T.				.04	.08	0.24
annah	Pembina							.01			.16													T.		.08							0.25
ansboro	Devils Lake																																0.00
ettinger	Grand																		.40	.20							.30					.20	1.10
illsboro	Red							.10			.30		.05													.10						.05	0.60
oward	Missouri							T.									T.		T.	T.					.30	T.	T.				.40	T.	0.70
amestown‖ ‖	James		T.		T.		T.	.12			.02															T.	.02					.02	0.18
amoine	Missouri				T.						.16		.16						T.						T.	T.	T.	T.	T.		.08		0.40
angdon‖ ‖	Pembina										T.	T.																					T.
arimore	Red					.02		.06				.36				.02																.24	0.70
inton	Missouri	.10	.10					.25			.07		T.												T.		.02		T.				0.54
isbon ‖‖	Sheyenne				T.	.04						.16	.04														T.					T.	0.24
cClusky	Missouri							T.			.30																.30				.10	.10	0.80
cHenry	James																																
cKinney	Mouse							.08											T.	T.							T.					.16	0.24
cLeod	Sheyenne					.06	T.	.08	.18		T		T.		T.			T			.02					T.						.06	0.40
addock	Sheyenne																																
andan‖ ‖	Missouri							.05			T.								T.	T.					.06	.01		.08			.06	.45	0.71
anfred	James							.10		.04			T.	T.			.06								.05	.05	T.				.15	.10	0.55
armarth	Lit. Missouri				.05		.40				.01	T.							.22		T.		T	T.	.02	T.	.03	.03			.30		1.06
ayville	Red							.04																		.08							0.12
elville	James						T.	T.			T.		T.													T.	.05				T.	.05	0.10
inot‖ ‖	Mouse						.03										.05														.10	.10	0.28
into	Red					T.					T.		.09			T.		T.								.12						.03	0.24
ott	Cannon Ball										.06								.22								.11				.43		0.82
apoleon ‖‖	Missouri							.10																				.10					0.20
ew England	Cannon Ball																		T.						T.	T.	T.				.60		0.60
ew Salem	Heart							.07			.04								T.						.02		T.	.03			.30	.05	0.51
ark River	Red										.18	.06	.04		T.										T.							T.	0.28
arshall	Missouri																																
embina ‖ ‖	Red													.16		.02																	0.18
ettibone	James							T.	.02		T.		T.									T.			T.	T.	T.		T.		T.		0.02
ower	Sheyenne				.10	.05					.30		.10								T.						.10					.30	0.95
owers Lake	Missouri							.10			T.							T.		.01			.03				.04				.21		0.39
ichardton	Heart										T.														T.		.05				.30	.04	0.39
haron	Red					T.	T	.02	T.		.06		T.				T.				T.			T.		.03						.10	0.21
tanton	Missouri							.20																	T.			T.				.80	1.00
teele	Missouri	.05						.05	T.		T.	T	T.					T.	T							T.	T.		T.	T.	.08		0.18
owner	Mouse							.16					T.						T.												.06	.06	0.28
urtle Lake	Missouri							.04			T.														T.		.03				.07	.08	0.22
alley City	Sheyenne	T.							T.		T.													T.		T.			T.		T.		T.
ahpeton	Red					.10		.10				.10																				.40	0.70
ashburn	Missouri							.27																			.14				.28		0.69
esthope	Mouse							T.		.05					.05																.03		0.13
illiston ***	Missouri				T.		.01				T.	T.				T.		.01	T.					.01	T.	T.	.12				.48	.05	0.68
illow City	Mouse							.20					.05				T				T.				.07						T.	.10	0.42
oorhead, Minn ***	Red				.01	T.	T.	.02	.01	T.	.20		.12		T.		.01		T.		.03			.01		.12	T.	.01	T.			.12	0.66

bservation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement T. Trace, or less than 0.01 inch.

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time o

Daily Temperatures for January, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum...	28	41	36	33	26	20	23	36	30	34	31	31	10	12	20	18	43	24	19	20	14	17	20	30	32	22	18	15	36	33	14	25.
	Minimum ...	6	10	13	15	18	16	0	13	17	20	-14	-9	-1	7	10	16	6	8	-1	-9	-17	-16	-10	-12	-10	-8	-16	-24	-12	-11	-8	-0.
Arnegard	Maximum...	35	40	28	31	29	19	32	52	37	33	31	36	37	34	35	38	45	27	16	15	9	15	26	20	34	27	34	43	30	31	15	30.
	Minimum ...	15	11	4	16	12	9	16	13	18	14	-10	20	19	15	19	14	25	8	5	-1	-14	15	7	5	15	9	-14	22	10	4	4	8.
Ashley	Maximum...	40	50	45	44	35	41	42	43	34	42	43	38	49	51	40	47	45	50	25	26	21	15	34	34	35	37	25	15	48	49	27	37.
	Minimum ...	15	15	7	21	21	10	2	19	6	26	-11	0	15	24	12	19	14	12	-3	-3	-12	14	7	-3	-5	7	2	20	2	13	7	6.
Beach	Maximum...	35	35	32	30	28	28	30	33	36	34	26	34	49	36	36	33	42	35	17	16	10	15	31	19	30	31	33	35	40	32	22	30.
	Minimum ...	-14	16	25	25	14	10	4	11	19	18	2	26	23	25	26	18	29	15	2	-2	-14	-12	15	8	16	25	7	-9	22	22	15	12.
Berthold Agency	Maximum...	42	44	26	33	33	25	28	28	43	40	30	35	40	40	42	38	52	44	17	26	10	28	30	17	28	34	18	28	42	22	38	32.
	Minimum ...	15	8	4	6	4	4	17	12	22	8	16	25	27	23	12	18	27	8	-5	6	-10	13	6	2	2	-4	-7	-19	18	-4	6	6.
Bismarck	Maximum...	42	41	28	33	34	22	34	30	38	35	22	33	44	36	43	31	54	37	13	17	10	15	27	8	35	30	20	14	44	31	14	29.
	Minimum ...	16	15	5	13	17	14	16	14	15	5	-7	20	19	19	17	17	24	7	-1	3	-4	10	3	-1	2	11	-9	-15	9	10	-4	7.
Bottineau	Maximum...	38	40	38	24	29	28	32	31	35	31	11	33	38	36	31	24	48	37	6	8	4	10	23	8	32	29	4	13	31	27	19	25.
	Minimum ...	10	15	16	9	17	12	1	9	3	11	24	5	12	18	4	3	17	3	16	-8	-23	20	0	-11	7	7	-12	-26	7	7	3	1.4
Bowman	Maximum...	40	34	37	25	28	23	30	30	34	37	26	34	38	33	37	37	44	32	16	15	12	12	30	25	28	29	35	35	40	30	37	30.1
	Minimum ...	14	12	0	10	9	4	8	7	20	21	1	19	22	16	16	18	20	12	0	-6	-20	19	0	3	8	20	8	-5	21	19	13	8.7
Cando	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Carson	Maximum...	40	44	34	32	33	20	40	32	40	36	25	33	44	39	43	40	50	30	20	15	0	-3	26	10	34	30	20	10	33	33	15	29.3
	Minimum ...	1	4	0	4	6	4	0	3	1	13	-17	3	9	9	6	10	15	0	-11	-15	25	-26	-15	-12	-15	2	-18	-27	0	10	0	-2.
Crosby	Maximum...	30	25	20	32	30	21	31	32	38	35	34	36	40	36	38	32	45	30	18	14	10	13	18	13	36	28	13	22	38	34	23	27.9
	Minimum ...	8	13	9	13	16	6	19	8	18	8	6	8	17	17	16	18	26	1	4	5	2	-15	-4	2	14	5	-10	-16	18	-1	0	7.1
Devils Lake	Maximum...	38	43	35	28	28	20	33	27	34	31	20	31	40	35	34	24	44	33	10	12	1	11	22	7	32	16	7	14	37	17	11	25.0
	Minimum ...	13	19	16	16	17	8	10	11	9	-2	-13	14	15	14	13	10	17	6	-11	-7	-14	-11	-8	11	7	-8	-15	17	13	2	1	3.3
Dickinson §§	Maximum...	36	37	29	33	29	30	32	31	38	34	32	35	40	35	41	38	47	22	21	17	14	28	28	22	32	30	17	33	41	29	25	30.8
	Minimum ...	14	14	-2	1	17	6	10	14	16	22	-3	3	21	21	16	21	19	21	2	1	-10	-12	12	7	-2	17	11	-16	3	25	10	8.2
Donnybrook	Maximum...	35	44	35	32	30	33	32	29	29	29	31	33	40	31	35	34	44	33	14	10	10	25	25	29	34	29	20	28	36	18	16	29.1
	Minimum ...	25	28	25	24	20	22	25	20	22	16	20	22	22	14	3	14	5	-7	-3	-10	-16	-14	4	8	10	9	-16	.1	10	-1	3	6.6
Dunn Center	Maximum...	38	43	34	33	34	23	32	32	39	33	26	34	41	38	40	38	48	39	22	18	11	19	18	18	34	22	....	32	42	31	16	a30.9
	Minimum ...	24	19	0	15	20	9	27	13	25	25	-14	12	28	22	22	20	38	9	4	7	-11	-16	10	2	2	-3	....	-19	18	13	6	a10.6
Dunseith	Maximum...	38	42	41	37	30	21	34	34	33	32	12	33	41	36	32	28	43	37	11	10	0	8	20	8	33	31	4	14	35	26	19	26.5
	Minimum ...	12	14	14	7	17	12	6	15	-2	-24	-18	0	15	18	6	3	14	0	-18	-4	-25	-18	4	-15	1	-8	-10	-25	2	2	-5	-0.6
Edgeley	Maximum...	45	47	37	40	36	40	40	40	36	37	33	33	43	39	39	37	52	41	9	19	15	37	27	20	33	31	17	6	50	40	18	34.5
	Minimum ...	18	21	10	8	9	0	10	-10	0	29	-10	1	10	23	12	18	12	4	-4	-3	-14	14	-3	-6	-6	1	-2	-20	-14	12	6	2.5
Ellendale	Maximum...	45	46	34	31	35	22	25	30	33	36	11	34	46	36	38	37	52	36	8	19	6	13	28	4	31	31	18	9	50	27	17	28.6
	Minimum ...	19	13	10	24	14	3	2	22	15	3	-6	10	12	13	9	12	12	4	-2	-4	-11	-10	-10	-4	-1	5	-11	-16	7	10	0	4.6
Fessenden §§	Maximum...	44	48	34	38	33	32	36	27	39	35	29	31	42	32	40	34	49	11	16	16	10	21	21	23	35	29	5	31	44	19	17	29.7
	Minimum ...	11	18	20	10	17	12	18	21	9	22	-11	-11	17	24	11	11	12	11	8	8	14	-16	13	9	-5	-3	-1	-20	10	11	2	4.8
Foxholm	Maximum...	36	37	35	30	32	25	32	30	38	37	16	33	39	34	36	32	44	40	11	13	9	12	25	13	34	33	11	20	38	33	10	28.0
	Minimum ...	18	21	10	13	20	11	8	13	16	13	-13	15	21	22	16	10	23	4	-6	1	-10	13	6	4	9	0	-2	-14	14	8	0	7.4
Fullerton	Maximum...	45	47	33	34	35	28	30	30	32	36	33	33	43	38	38	36	50	39	13	22	4	13	27	6	32	31	12	11	49	32	17	30.0
	Minimum ...	17	16	11	23	16	4	24	23	16	26	-8	7	13	14	11	13	14	13	-2	-1	-13	-12	7	-4	0	4	-11	-15	7	9	9	7.0
Garrison	Maximum...	39	40	31	32	31	21	33	29	39	34	25	31	40	36	39	32	48	33	16	15	9	15	26	10	34	30	13	19	40	33	18	28.7
	Minimum ...	8	16	2	15	19	7	10	11	20	12	-11	19	15	18	16	16	22	5	7	5	-11	-14	2	1	4	5	-4	-16	12	10	4	6.8
Grafton	Maximum...	37	44	35	35	30	28	24	29	32	35	13	32	39	38	30	27	....	....	7	12	3	13	22	5	33	31	5	9	30	23	9	b24.5
	Minimum ...	22	20	13	15	20	12	-1	23	12	12	-12	0	3	22	4	9	....	....	-15	1	-17	-12	0	15	-4	-9	-20	-28	7	5	-1	b 2.3
Grand Forks	Maximum...	38	43	32	33	29	25	22	28	33	35	10	30	37	36	30	19	38	37	2	15	-2	15	23	3	30	12	8	9	35	12	12	23.5
	Minimum ...	18	19	16	22	22	4	2	20	17	-5	-12	-1	-7	9	4	10	13	8	-14	-9	-20	-10	10	-15	4	-14	-15	-26	9	5	-2	1.4
Granville	Maximum...	35	40	34	30	32	31	35	30	40	32	27	35	38	33	37	28	37	32	28	22	15	15	27	20	22	24	15	25	40	15	20	28.8
	Minimum ...	14	15	4	8	5	5	4	5	14	0	-17	12	19	12	16	4	27	0	-8	-8	-12	-14	-2	-4	12	3	-12	-14	24	4	8	4.0
Hansboro	Maximum...	38	41	38	26	30	20	30	27	36	17	15	30	40	33	22	36	34	20	16	10	2	6	10	21	19	17	5	11	29	12	8	22.5
	Minimum ...	2	7	9	3	6	-5	-10	6	10	-26	-22	5	5	3	-3	6	8	6	21	-10	-28	-21	-17	15	-16	19	-18	-30	0	-8	-10	-6.5
Hettinger	Maximum...	33	29	38	36	27	21	29	28	36	41	35	39	41	46	41	48	43	41	32	17	10	10	32	29	30	45	38	27	49	40	33	33.7
	Minimum ...	12	10	8	16	17	19	21	13	14	19	11	10	21	18	18	20	28	11	-6	-10	-21	-25	12	2	10	14	-3	-16	16	11	18	8.8
Hillsboro	Maximum...	38	43	35	31	31	27	22	29	28	34	17	29	31	34	30	....	....	....	5	11	....	....	....	....	29	29	0	9	42	32	14	g26.2
	Minimum ...	22	16	15	25	22	14	2	19	18	17	-12	-6	-6	6	4	14	9	-1	-11	3	....	....	....	....	-4	5	-9	-22	6	9	7	d 5.0
Howard	Maximum...	22	25	26	30	30	20	30	23	33	30	20	26	32	32	34	28	38	29	14	14	6	15	20	20	31	29	13	30	36	30	10	25.0
	Minimum ...	7	15	2	15	9	5	18	10	20	7	-12	17	17	17	15	18	19	1	-12	-10	-15	-10	4	-4	19	6	-12	-15	24	9	5	6.1
Jamestown §§	Maximum...	44	36	32	32	21	31	29	32	37	31	37	42	32	38	25	50	19	16	17	5	19	26	10	2	15	8	25	48	49	35	....	a28.1
	Minimum ...	4	15	9	8	21	10	0	16	13	13	-9	10	11	16	7	18	12	16	7	-7	-14	-15	-13	-7	7	0	4	-23	-23	11	5	2.8
Lamoine	Maximum...	39	39	34	28	30	34	30	30	....	30	10	31	39	36	38	35	49	20	12	10	6	11	24	14	32	30	7	13	40	32	10	a26.4
	Minimum ...	2	15	8	10	15	18	3	16	....	10	-17	1	15	10	10	15	20	10	-7	6	13	-16	-2	-4	-3	2	-1	-21	9	10	8	a 4.6
Langdon§§	Maximum...	37	36	33	25	21	25	26	31	30	29	16	36	26	30	24	36	21	13	8	4	20	11	25	31	18	12	20	26	15	10	-4	22.3
	Minimum ...	1	16	20	18	15	10	-4	20	4	18	-20	-20	3	19	3	6	7	-5	-20	20	-23	-22	-18	-18	-12	14	-15	-28	-22	2	-4	-3.3
Larimore	Maximum...	37	41	35	33	25	20	25	28	34	32	32	28	40	30	30	27	41	6	15	13	0	5	22	10	32	10	-6	9	40	20	10	23.4
	Minimum ...	21	24	23	22	18	14	-2	16	14	14	-21	22	0	16	6	12	6	0	-14	0	-22	-14	5	-18	-3	-12	-18	-26	9	6	0	3.2
Linton	Maximum...	41	41	33	32	36	23	34	32	48	36	32	34	42	38	40	37	52	37	14	20	11	11	28	20	34	31	20	13	45	33	26	31.4
	Minimum ...	22	17	1	21	20	8	16	18	19	19	4	4	10	27	7	19	21	6	7	2	-12	-18	-5	7	-1	12	-10	-4	0	25	14	9.0
Lisbon §§	Maximum...	38	30	34	28	22	18	14	12	18	26	38	30	37	27	35	32	35	41	22	10	0	1	18	22	14	12	11	3	6	5	10	20.9
	Minimum ...	10	6	7	12	6	10	-2	3	-6	-4	-12	-10	0	7	12	12	10	14	6	-6	-12	-13	0	6	0	-3	-5	-24	-8	-9	-3	0.1
McKinney	Maximum...	40	40	40	35	37	26	34	32	40	40	30	36	40	35	40	31	49	35	12	15	4	15	25	14	38	30	10	20	40	30	30	30.4
	Minimum ...	14	18	0	10	20	10	10	12	10	10	-12	12	23	23	15	10	10	7	-9	-1	-8	-15	0	2	10	0	-2	-18	0	10	0	5.4
Maddock	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Melville	Maximum...	40	41	38	28	30	27	30	33	34	34	18	30	40	36	38	37	48	40	8	15	12	15	29	10	34	32	17	16	42	38	36	29.9
	Minimum ...	16	14	15	20	20	11	5	20	20	18	-14	4	12	23	13	12	14	3	-9	3	-16	13	1	-7	1	7	-3	-18	7	10	12	6.0
Minot	Maximum...	40	43	35	24	24	20	32	36	40	37	29	35	40	43	38	31	48	42	14	18	5	12	28	13	33	35	10	22	41	36	12	29.5
	Minimum ...	24	30	19	11	8	17	11	13	11	29	-11	11	20	23	15	14	25	5	-5	3	10	-12	1	-1	10	3	-3	-15	9	8	2	8.5
Mott	Maximum...	23	29	27	26	25	23	27	31	36	28	17	34	42	33	36	41	40	13	14	16	13	12	26	25	27	26	21	24	41	31	15	26.5
	Minimum ...	11	15	17	21	18	9	14	12	18	4	-7	4	16	17	21	20	13	12	5	-4	-16	-19	-6	-3	12	11	0	7	19	10	9	8.4
Napoleon §§	Maximum...	36	41	36	30	34	21	32	24	32	33	30	31	42	31	38	25	45	18	12	17	7	23	25	9	33	18	8	24	45	17	21	27.0
	Minimum ...	8	12	4	19	16	5	3	15	0	22	-21	0	12	17	12	15	8	14	7	0	-16	22	-10	-6	8	-3	0	-24	5	12	1	2.7
New Salem	Maximum...	41	41	34	30	32	31	37	30	41	37	27	32	43	47	40	32	51	38	19	17	11	19	28	19	35	29	20	20	45	37	20	31.7
	Minimum ...	15	19	15	13	20	11	10	19	14	27	-11	11	29	20	12	22	24	10	-2	7	11	-13	2	2	-2	10	0	-17	20	8	0	9.2
Pembina	Maximum...	32	30	24	22	18	15	10	20	22	28	26	20	32	28	34	28	24	18	14	10	-5	-4	10	8	30	28	12	8	5	16	18	18.7
	Minimum ...	8	10	8	5	0	-4	-8	-2	2	0	4	-2	10	8	12	5	0	-5	10	-15	22	-20	-12	-10	8	5	10	-18	-24	-12	-10	-3.2
Steele	Maximum...	35	39	36	32	27	21	30	35	33	35	15	35	42	33	40	46	55	15	12	18	5	13	10	12	10	12	5	12	42	10	5	24.8
	Minimum ...	9	9	9	21	15	9	15	9	5	15	-15	0	10	22	9	20	15	10	-5	6	-9	6	-11	5	8	5	0	-20	10	5	0	5.5
Towner	Maximum...	40	39	36	30	28	25	25	35	38	34	25	34	30	36	34	36	42	38	24	20	25	18	22	8	30	27	25	17	38	30	25	29.5
	Minimum ...	10	15	10	8	10	8	10	6	10	12	-16	0	5	18	10	10	25	4	9	2	-16	15	0	-6	10	0	2	-19	10	8	1	4.4
Valley City	Maximum...	46	45	36	39	35	29	30	32	32	41	10	41	41	51	32	37	46	48	12	19	11	14	22	11	32	42	10	48	40	32	15	31.6
	Minimum ...	15	19	18	24	18	10	12	20	20	-1	-16	14	9	15	8	15	25	-2	-10	-2	-17	-16	-4	-11	-2	-6	-22	4	5	5	3	4.8
Wahpeton	Maximum...	32	44	40	40	34	31	22	24	27	36	36	31	36	38	36	36	44	42	9	21	18	13	25	11	22	27	11	8	48	48	21	29.4
	Minimum ...	1	4	15	28	21	13	-4	17	20	21	-11	-4	-2	26	10	17	15	7	-4	-5	-14	-12	-4	-10	-4	0	-6	-22	6	13	14	4.7
Westhope	Maximum...	24	44	43	38	34	22	32	34	41	31	25	32	42	36	32	25	49	30	11	12	5	10	25	28	34	28	12	10	38	25	17	28.0
	Minimum ...	8	12	15	15	15	10	10	5	4	-5	-15	-5	16	15	15	9	10	0	-10	0	-12	-15	5	10	28	0	-5	-17	10	-2	0	4.1
Williston	Maximum...	33	35	21	34	31	23	32	33	38	35	31	34	40	37	41	38	47	26	20	16	9	18	29	20	36	22	19	28	40	31	16	29.5
	Minimum ...	11	10	3	18	9	9	17	15	21	2	-6	25	22	21	24	17	26	4	1	-4	-9	-10	7	5	19	10	-11	-12	28	11	8	9.4
Moorhead, Minn	Maximum...	37	42	37	33	29	26	22	24	29	35	8	31	38	37	35	31	43	36	0	17	-3	13	25	3	30	22	9	9	45	18	17	25.1
	Minimum ...	20	18	18	24	22	10	3	17	20	4	-12	4	3	14	7	14	14	-3	-8	-4	-16	-12	-8	-13	0	-9	-17	-23	7	11	3	3.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing, b 2 days, etc.

[WBO, Minneapolis, 2-26-26—1000]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

OL. XXXV BISMARCK, N. D., FEBRUARY, 1926 No. 2

GENERAL SUMMARY

Unusually mild temperature, deficient precipitation, more ian the average sunshine, and an absence of bad storms made ie weather during the month one of the most enjoyable in the imatological history of the State. The mean temperature was ie highest of record for February in the State. All stations ported mean temperatures above the normal. Light scattered recipitation occurred on the 2-3d, 8th, 12-13th, and 20-21st, ie heaviest occurring in the southeastern part of the State. As result of these favorable conditions, outdoor work continued ninterruptedly throughout the month, the wagon roads were pen in all sections, and livestock ranged freely on ranges and arvested fields.

TEMPERATURE

The mean temperature for the State was 22.3°, or 14.4° above ie normal, and 5.8° higher than the mean for February, 1925. he highest mean reported was 29.0° at Beach, Golden Valley ounty; the lowest was 13.7° at Hansboro, Towner County. he highest temperature reported was 58° at Berthold Agency, IcLean County, on the 27th; the lowest was −19° at Hansboro, 'owner County, on the 1st. The greatest monthly range of emperature was 67° at McKinney; the least was 45° at Bowian, Bowman County, and Hettinger, Adams County. The reatest daily range was 46° at Langdon, Cavalier County, on ie 22d.

PRECIPITATION

The average precipitation for the State was 0.41 inch, or .08 inch below the normal, and 0.10 inch less than the verage for February, 1925. The greatest monthly amount reorted was 1.44 inches at Fullerton, Dickey County; the least as a trace at Berthold Agency, McLean County, and at Steele, Kidder County. The greatest amount recorded in any 24 conecutive hours was 0.85 inch at Fullerton, Dickey County. The verage number of days with 0.01 inch or more of precipitation as 4. The average snowfall was 3.7 inches.

AURORAS

Auroras were observed at Beach and Williston on the 11th; t Williston on the 14th; at Beach, Bottineau, Ellendale, Fesenden, Foxholm, Grand Forks and Williston on the 17th; at Bottineau, Crosby, Foxholm, Grand Forks and Sharon on the 8th; at Devils Lake and Grand Forks on the 19th; at Arnegard, Beach, Devils Lake, Finley, Howard and Linton on the 3d; at Howard and Towner on the 24th, and at New England n the 25th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.00	30.43	18	29.50	11	57	5,721	8.5	46	nw.	28
Devils Lake	29.96	30.38	18	29.49	5	44	6,027	9.0	36	nw.	28
Ellendale	29.93	30.38	18	29.47	12	56	8,795	13.2	61	nw.	28
Grand Forks	29.94	30.36	18	29.52	24	90	....	......	46	nw.	28
Williston	29.94	30.38	17	29.46	11	48	5,478	8.2	35	nw.	28
Moorhead, Minn	29.98	30.39	18	29.50	5	58	5,565	8.3	28	nw.	28
Av'ges and extremes	29.96	30.43	18	29.46	11	.....	....	9.4	61	nw.	28

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	132.5	288.7	46	−12	84	70	76	50	24†
Devils Lake	127.5	286.9	44	−11	87	80	85	63	24
Ellendale	134.4	290.3	46	−12	89	73	....	41	16†
Grand Forks	....	....	....	....	92	.....	78	.....	....
Williston	152.1	297.9	53	0	87	72	76	40	27
Moorhead, Minn	150.1	288.7	52	− 6	90	72	80	48	18
Averages and extremes	139.3	290.5	48	− 8	88	73	79	40	27

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893...	− 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894...	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895...	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896...	14.8	+6.9	64	−29	0.44	−0.05	3	12	9	8	nw.
1897...	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898...	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899...	0.4	−7.5	68	−48	0.20	−0.29	3	14	8	6	nw.
1900...	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901...	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902...	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903...	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904...	− 2.1	−10.0	52	−42	0.54	+0.05	5	13	6	10	nw.
1905...	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906...	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907...	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908...	13.9	+6.0	62	−34	1.07	+0.58	5	12	7	10	nw.
1909...	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910...	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911...	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912...	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913...	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914...	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915...	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw
1916...	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917...	− 0.7	−8.6	62	−48	0.66	+0.17	5	10	8	10	nw.
1918...	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919...	7.7	−0.2	58	−40	0.66	+0.17	5	10	8	10	nw.
1920...	12.5	+4.6	53	−36	0.30	−0.19	3	11	9	9	nw.
1921...	19.9	+12.0	64	−33	0.39	−0.10	3	11	10	7	nw.
1922...	0.7	−7.2	45	−39	1.21	+0.72	5	13	6	9	nw.
1923...	4.1	−3.8	48	−40	0.65	+0.16	4	13	7	8	nw.
1924...	20.3	+12.4	67	−27	0.41	−0.08	3	14	6	9	nw.
1925...	16.5	+8.6	62	−39	0.31	−0.18	3	10	9	9	nw.
1926...	22.3	+14.4	58	−19	0.41	−0.08	4	9	9	10	nw.

Climatological Data for February, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	20.6	+13.6	46	5†	5	2	38	0.40	0.00	0.16	5.0	3	14	13	1	nw.	E. T. Carley.
Amidon	Slope	...	12	28.8	...	50	27	2	14†	29	0.45	−0.14	0.42	3.0	2	11	9	8	w.	H. M. Critchfield.
Arnegard	McKenzie	...	11	24.6	...	54	27	−3	3	38	0.07	...	0.05	T.	2	18	4	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	27.5^{b}	+19.7	54^{c}	27	−1	1	43^{c}	0.42	0.05	0.32	5.0	2	7	9	12	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	29.0	+15.4	53	27	0	14	31	0.24	−0.27	0.14	1.4	4	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	25.5^{a}	+16.1	58^{a}	27	−3^{a}	15	36^{a}	T.	−0.55	T.	T.	0	16	2	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	24.6	+14.3	55	27	−4	1	29	0.35	−0.15	0.12	3.7	6	10	7	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	18.0^{g}	+16.2	46^{g}	27	−11	15	31^{g}	0.40	+0.03	0.10	1.9	6	3	16	9	se.	T. M. Street.
Bowman	Bowman	2,961	12	25.6	...	44	27	−1	15	30	0.03	−0.28	0.02	0.3	2	14	8	6	nw.	R. Love, Jr.
Cando	Towner	1,488	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. J. Swanson.
Carson	Grant	2,500	14	23.6	+ 9.9	50	28	−6	3	34	0.32	+0.02	0.18	3.3	3	5	11	8	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	...	...	...	...	...	...	...	0.30	0.01	0.20	3.0	2	11	6	8	nw.	S. Friswold.
Crosby	Divide	1,954	19	24.4	+17.3	50	27	5	14	30	0.22	−0.07	0.10	2.3	3	7	12	9	sw.	John Jensen.
Devils Lake	Ramsey	1,478	29	19.2	+14.7	50	27	−6	20	26	0.25	−0.28	0.12	3.6	7	4	4	20	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	25.0	+13.2	53	27	−1	15	37	0.38	−0.05	0.10	3.0	6	7	10	11	nw.	Leroy Moomaw.
Dogden	McLean	1,736	...	21.6	...	48	27	−12	15	32	0.68	...	0.44	3.5	3	7	8	13	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27	20.2	+13.2	46	27	−10	15	38	0.41	−0.10	0.22	3.2	2	12	9	7	nw.	H. Feldner.
Dunn Center	Dunn	2,191	27	25.2	+12.2	56	27	1	13	33	0.40	−0.16	0.40	...	1	5	8	15	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	18.2	+14.8	45	27	−12	14	33	0.42	0.00	0.17	5.8	5	7	13	8	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	20.8	+14.4	48	27	−6	15	29	0.24	−0.11	0.17	1.5	3	0	18	10	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	23.2	+12.3	52	6†	−7	15	38	0.34	+0.02	0.24	4.2	3	3	11	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	23.2	+12.5	53	27	−1	1	36	0.47	−0.01	0.23	4.3	11	7	7	14	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	24.4	...	56	27	−4	15	32	0.10	−0.16	0.10	T.	1	7	15	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	25.2	...	51	7	−9	14	37	0.17	−0.18	0.12	T.	2	17	6	5	se.	A. O. Wang.
Fessenden	Wells	1,610	14	21.3	+13.4	49	27	5	14†	37	0.97	+0.64	0.50	4.8	5	4	8	16	nw.	T. D. Monsen.
Finley	Steele	1,461	2	20.6^{a}	...	49^{a}	27	−3^{a}	1†	30^{a}	0.70	...	0.27	4.5	6	9	4	15	nw.	G. J. Mustad.
Forman	Sargent	1,249	32	...	...	...	...	...	...	...	1.02	+0.49	0.52	6.0	2	9	10	9	s.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	0.50	−0.24	0.40	4.5	2	21	5	2	...	P. J. Jacobson.
Foxholm	Ward	1,657	5	21.8	...	47	27	6	14	28	0.49	...	0.25	3.8	6	0	18	10	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	...	...	...	...	...	...	...	0.28	...	0.18	2.5	3	12	11	5	nw.	Verne King.
Fullerton	Dickey	1,439	28	23.4	+14.1	51	5	−2	15	39	1.44	+0.63	0.85	14.4	6	8	5	15	nw.	F. O. Alin.
Garrison	McLean	1,901	31	23.8	+15.4	56	27	6	15	30	0.18	−0.35	0.18	1.8	1	14	8	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	19.0	+14.1	50	27	−6	1	32	0.38	−0.20	0.15	3.9	3	11	5	12	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	18.4	+11.9	50	27	−5	1	32	0.26	0.27	0.09	2.5	6	10	8	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	21.4	+13.0	47	27	−6	15	30	0.28	−0.10	0.28	T.	1	5	16	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	...	...	...	...	...	...	...	0.12	−0.44	0.12	3.0	1	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	18	13.7	+10.0	42	24	−19	1	36	0.90	+0.42	0.40	9.0	3	11	9	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	24.4	+11.2	42	8†	3	3	40	0.45	+0.17	0.35	4.5	2	26	2	0	nw.	U. J. Downey.
Hillsboro	Traill	901	20	21.3	+12.8	45	27	−3	1	32	0.45	−0.23	0.30	4.5	2	6	11	8	nw.	F. E. Mayall.
Howard ‡‡	Williams	2,275	19	22.4	+16.4	56	27	−5	14	32	0.45	−0.24	0.25	2.0	3	14	8	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	20.6	+12.7	47	27	−5	16	40	0.82	+0.24	0.47	8.5	7	12	3	13	s.	S. Calvelage.
Lamoine	Kidder	1,936	21	19.1	+11.4	46	27	−12	15	30	0.78	+0.39	0.54	9.0	3	6	4	18	sw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	15.9	+12.9	44	26	13	25	46	0.11	−0.54	0.05	1.1	4	10	10	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	18.1	+12.9	50	27	−7	1	35	0.80	+0.33	0.40	10.0	3	8	8	12	n.	Reuben Gray.
Linton	Emmons	1,711	8	24.9^{c}	...	52^{a}	27	0^{f}	1	30^{f}	0.51	...	0.24	3.2	4	10	4	14	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	19.3	+ 9.7	48	7	6	1	41	0.45	−0.28	0.20	4.5	4	16	9	3	...	W. S. Adams.
McClusky	Sheridan	1,943	8	19.0	...	44	28	−13	1	31	1.00	...	0.40	10.0	6	11	13	4	nw.	Edw. Tapley.
McHenry	Foster	1,509	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	21.3	+16.2	55	7	−12	20	35	0.43	+0.12	0.30	1.5	3	7	14	7	w.	N. P. Swenson.
McLeod	Ransom	1,075	14	22.2	+10.8	48	5	8	1	37	0.78	+0.20	0.38	8.9	3	14	4	10	ne.	J. G. Carlson.
Maddock	Benson	1,604	10	21.0	...	50	27	−6	15	32	0.14	−0.29	0.04	1.5	5	3	12	13	nw.	A. T. Felland.
Mandan	Morton	1,644	12	23.4	+12.9	55	28	−5	1	33	0.22	−0.13	0.10	...	6	6	2	20	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	22.6	+15.8	48	27	−3	15	30	0.56	+0.13	0.15	4.8	9	4	8	16	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	28.3^{b}	+15.2	51^{b}	27	2^{b}	13	28^{b}	0.50	+0.11	0.40	4.7	6	4	16	8	...	S. P. Grane.
Mayville	Traill	975	30	21.7	+14.0	52	27	−6	1†	35	0.38	−0.01	0.18	4.5	3	12	4	12	n.	Ingvald Larson.
Melville	Foster	1,590	28	21.4	+14.8	48	27	−6	1†	34	0.35	+0.02	0.15	4.5	3	2	10	16	nw.	J. P. Kidder.
Minot	Ward	1,557	30	24.0	+16.1	51	27	−5	1†	32	0.25	−0.21	0.10	1.7	3	10	11	7	sw.	W. I. Faris.
Minto	Walsh	820	33	18.2	+12.3	52	27	−9	15	31	0.32	−0.18	0.12	3.5	3	12	13	3	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	24.3	+12.5	45	26	−2	3	19	0.62	+0.05	0.48	5.5	3	9	10	9	w.	O. H. Opland.
Napoleon	Logan	1,955	34	20.8	+14.0	50	27	−15	15	41	0.30	−0.10	0.10	2.0	3	7	6	15	nw.	C. J. Hoof.
New England	Hettinger	2,400	32	...	...	...	...	−12	15	...	0.30	−0.24	0.30	3.0	1	14	5	9	nw.	W. S. Jones.
New Salem	Morton	2,163	22	25.0	+14.4	55	27	−5	1	28	0.12	−0.26	0.06	1.2	4	14	6	8	nw.	J. Christiansen.
Park River	Walsh	998	22	19.5^{d}	+13.8	49^{d}	27	−15^{d}	13	45^{d}	0.37	−0.07	0.11	8.0	4	...	...	...	nw.	C. B. Wright.
Parshall	Mountrail	...	11	...	...	...	...	...	...	...	0.10	...	0.10	1.0	1	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	52	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. W. Shumaker.
Pettibone	Kidder	1,856	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	S. C. Shanks.
Power	Richland	1,020	32	...	...	...	...	...	...	...	1.00	+0.44	0.45	10.0	4	10	9	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	20.1	...	46	27	−6	14	25	0.26	−0.22	0.13	4.5	4	19	4	5	e.	Geo. B. Gee.
Richardton	Stark	2,467	10	26.9	...	54	27	−1	14	31	0.18	...	0.10	1.8	3	13	9	6	sw.	John Muggli.
Sharon	Steele	1,516	1	...	...	...	...	...	...	...	0.21	...	0.05	2.8	7	5	8	15	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2	...	...	...	...	...	...	...	0.33	...	0.33	3.0	1	8	15	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	22.8	+15.7	50	27	−2	3†	30	T.	−0.45	T.	T.	0	5	13	10	se.	H. S. Wood.
Towner	McHenry	1,482	24	22.6	+17.4	51	27	−15	18	45	0.16	−0.22	0.16	2.0	1	12	8	8	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	22.8	...	52	27	−9	1	27	0.56	+0.12	0.44	1.5	3	12	5	11	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	22.4	+12.8	56	28	−2	3†	39	0.10	−0.25	0.05	1.0	2	10	16	2	nw.	H. Twito.
Wahpeton	Richland	962	32	23.2	+13.3	48	5	−10	10	38	0.13	−0.40	0.08	0.9	3	14	0	14	nw.	C. G. Luick.
Washburn	McLean	1,731	25	...	...	...	...	...	...	...	0.32	−0.07	0.26	4.0	3	...	...	...	...	Karl Klein.
Westhope	Bottineau	1,508	20	21.6	+18.3	48	27	0	3	32	0.63	+0.44	0.28	6.3	4	12	12	4	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	26.0	+17.9	54	27	−1	14	28	0.20	−0.27	0.16	0.3	4	4	16	8	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	18.8	+16.1	48	27	−10	15	35	0.52	+0.06	0.20	3.8	4	6	14	8	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	20.5	+12.4	44	5	−3	1	31	0.65	−0.08	0.20	6.6	12	4	5	19	n.	U. S. Weather Bureau.
Averages	...	...	...	22.3	+14.4	58	27	−19	1	46	0.41	−0.08	0.85	3.7	4	9	9	10	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for February, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
nenia ‖	Red			T.					T	.16	T				T.						.08				.16								0.40
ndon	Lit. Missouri	T.	T									.03					T	T.			.12								T				0.15
negard	Missouri								.05				T.									T.			T.	T			.02				0.07
hley	Missouri								.10													.32											0.42
ach	Lit. Missouri		T.	T.		.02		T.	.06				.02		T.							.11		T.	T	T.			T				0.21
rthold Agency	Missouri		T.	T.					T					T.							T.					T.			T.				T
smarck ***	Missouri		.10	T.					.12				.02	.03							T.	.01	T.		T.	.07	T.		T				0.35
ttineau‖	Mouse		.02			.10	.10		.09					.02							.07	T.			T.	T	T.						0.40
wman	Grand													.01								.02											0.03
ndo	Devils Lake																																......
rson	Heart		.02											.12								.18											0.32
operstown	Sheyenne		.10																		.20												0.30
osby	Mouse			T.									.10								.02					.10							0.22
vils Lake ***	Devils Lake		.10	.03	T.				.03				T.	.01	T		T.			.02	.05	T.				T.	.01		T				0.25
ckinson‖	Heart	T.	.10	T.					.05					.03	.10							.05	.05			T.							0.38
gden	Mouse	T.	T.						.44					T.	T.	T.				T.	.12	T				.12							0.68
nnybrook	Mouse							.19					T.	T.											.22								0.41
nn Center ‖	Knife								.40																								0.40
nseith	Mouse		.04	.06		.17							.10									.05											0.42
kman	Mouse			.02		.05			.17																								0.24
geley	James								.02													.24					.08						0.34
lendale***	James	T.	.01	.01	.01				.10		T.		T.	.02	.01					T.	.07	.17		.03		.02	.02		T.				0.47
nergy	Missouri								.10				T.	T.								T.			T.	T.			T.				0.10
pping	Missouri	T	T.					.05	.12				T.																				0.17
ssenden‖	James			.50					.21					T.							.22	T.				.02	T.	.02					0.97
nley	Red		.27	.06	.05		T.		.07	T.			T.				T.			T.	.18	T.				.07	T.						0.70
rman	Sheyenne								.52													.50											1.02
rt Yates	Missouri			.10																	.40												0.50
xholm	Mouse		.03	T		T.			.25				T.	.04			T.				.04	.01			T.	.12	T.						0.49
yburg	Heart	T.				.05							.05									.18											0.28
llerton	James		.04	T.	T.				.12						.08						.07	.85	T.		.28								1.44
rrison	Missouri								.18				T.	T.											T.	T.			T.				0.18
afton	Red		.14	.15											.09																		0.38
and Forks ***	Red		.07	.09	T.	T.				T.			.03	.01	T.		T.	T.			.05					.01	T.		T.				0.26
anville	Mouse		T.	T.					.28				T.								T.					T.			T.				0.28
annah	Pembina	T.		.12	T.				T.							T.	T.								T.								0.12
ansboro	Devils Lake					.40	.10														.40												0.90
ettinger	Grand													.10							.35												0.45
llsboro	Red			.30																	.15												0.45
oward	Missouri	T.	.10						.25				.10				T.		T.		T.				T.	T.			T.				0.45
mestown‖	James	.05	T.						.47				.02	.07						.02	.12						.07						0.82
amoine	Missouri		.16						.54						.08																		0.78
angdon‖	Pembina			T	.04	.01								.01					.05														0.11
arimore	Red		.24											.16							.40												0.80
nton	Missouri								.20				T.	T.	.02							.24							.05				0.51
sbon ‖	Sheyenne								.10	.05													.10	.20									0.45
cClusky	Missouri		.30						.40					.05	.05						.10				.10								1.00
cHenry	James																																......
cKinney	Mouse		T.	T.					.30					.05						T.	.08			T.	T.		T.						0.43
cLeod	Sheyenne		T.						.33	T.											.07	.38											0.78
addock	Sheyenne		.04	.02	T.				.04					T.	T.					T.	.02	T.				T.	.02						0.14
andan‖	Missouri		.05	T.					.10					.01	.02						T.	.02	T.			.02							0.22
anfred	James		.02	.03	.03				.15					T.	.04					T.	.15	.02				.02	.10		T				0.56
armarth	Lit. Missouri							.01				.01		.04							.40				.02				.02				0.50
ayville	Red			.18	.12																.08												0.38
elville	James								.15						.08						.12						T.						0.35
inot‖	Mouse												.10								.10					.05							0.25
into	Red		.11	.12											T.						.09												0.32
ott	Cannon Ball	.11	T.	T.				.03														.48											0.62
apoleon ‖	Missouri								.10					.10							.10												0.30
ew England	Cannon Ball										T.			T							.30												0.30
ew Salem	Heart		.01	T.					T.					.06							T.	.01				.04			T.				0.12
ark River	Red		.11	.10									T.		.08						.08												0.37
arshall	Missouri												.10																				0.10
embina ‖	Red																																......
ettibone	James																																......
ower	Sheyenne								.45							.10							.25			.20							1.00
owers Lake	Missouri		.13										.06												.03				.04				0.26
ichardton	Heart		T.						.03					.10							T.	.05											0.18
haron	Red		.05	.03	T.	T.			.03	T.			T.	.02	.01					T.	.04	T	T.			.03	T.						0.21
tanton	Missouri		T.						.33													T.				T.							0.33
teele	Missouri		T.	T.	T.				T.	T.			T.	T.	T.					T.	T.	T.	T.	T.			T		T.				T.
owner	Mouse		T.	T.	T.				T.				T.	T.						T.	.16					T.			T.				0.16
urtle Lake	Missouri								.44					.04											T.	.08							0.56
alley City	Sheyenne		.05		T.				T.												.05												0.10
ahpeton	Red								.04												.01	.08											0.13
ashburn	Missouri								.26			.02														.04							0.32
esthope	Mouse												.26				.05			.28	.04												0.63
illiston ***	Missouri	T.	T.	T.				.09	.07				.03	T.			T.	T.	T.		T.	T.			.01	T.			T.				0.20
illow City	Mouse	T.	T.	.10		T.			.15					.07							.20	T.				T.	T.						0.52
oorhead, Minn ***	Red	T.	.14	T.	T.			T.	.18	.02	T.		.01	.01	.01		T.	T.		.07	.13	.02	T.	.04		.01	.01		T.				0.65

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for February, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	15	20	20	23	46	41	43	40	22	20	31	32	39	20	36	34	27	28	16	16	26	25	36	40	40	30	46	30	....	....	....	30.1
	Minimum ...	-4	-5	4	4	9	24	24	29	16	7	14	17	13	5	-2	7	6	5	5	5	5	13	8	6	8	13	12	20	....	....	....	11.1
Arnegard	Maximum...	13	18	14	35	38	42	42	39	41	46	41	36	33	23	24	28	25	33	35	20	24	45	45	40	32	47	54	43	....	....	....	34.1
	Minimum ...	6	4	-3	4	28	20	28	19	18	27	27	28	10	-2	12	8	6	13	17	8	12	15	25	22	24	15	28	5	....	....	....	15.1
Ashley	Maximum...	29	29	32	29	....	51	....	53	47	40	40	46	44	45	32	42	42	35	38	34	25	40	45	46	52	44	54	....	....	....	....	[c]40.6
	Minimum ...	-1	9	5	8	7	22	28	26	18	13	21	23	22	2	-5	14	9	9	11	6	9	15	9	15	28	19	26	32	....	....	....	14.4
Beach	Maximum...	22	18	16	40	40	39	41	41	43	41	43	39	33	25	33	29	26	38	49	41	32	41	12	40	32	49	53	46	....	....	....	37.0
	Minimum ...	14	12	6	9	32	20	30	23	21	27	31	32	20	0	6	19	14	19	27	26	22	19	30	26	17	19	33	30	....	....	....	20.9
Berthold Agency	Maximum...	20	20	18	28	40	41	43	40	40	40	44	....	33	30	25	25	28	28	28	26	22	42	14	44	44	45	58	49	....	....	....	[a]35.0
	Minimum ...	2	4	6	10	24	18	30	30	18	22	23	....	20	1	-3	8	10	20	12	10	10	20	25	21	24	22	22	22	....	....	....	[a]16.0
Bismarck	Maximum...	20	21	18	24	43	43	44	39	37	31	35	34	33	20	27	30	24	27	28	15	24	37	39	44	33	40	55	47	....	....	....	32.6
	Minimum ...	4	12	5	13	22	24	30	30	20	19	23	28	18	2	0	14	8	16	14	7	11	18	20	19	23	21	26	28	....	....	....	16.7
Bottineau	Maximum...	13	16	22	23	40	37	37	36	....	....	....	....	....	....	....	15	17	20	14	11	12	26	33	37	36	30	46	40	....	....	....	[g]26.7
	Minimum ...	3	9	3	1	19	16	23	22	11	14	21	25	20	8	-11	7	8	-11	5	5	2	10	10	14	14	14	25	25	....	....	....	9.4
Bowman	Maximum...	22	23	25	30	39	40	40	42	40	37	36	38	30	21	27	37	27	33	43	42	35	38	37	35	34	40	14	43	....	....	....	31.9
	Minimum ...	12	12	5	4	25	16	17	20	10	16	15	28	12	1	-1	14	13	12	24	22	21	20	21	17	25	12	29	30	....	....	....	16.2
Cando	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Carson	Maximum...	20	18	15	20	40	42	42	40	41	42	30	36	34	32	28	35	33	30	44	25	30	35	38	38	36	44	40	50	....	....	....	31.3
	Minimum ...	-2	4	-6	-4	6	14	13	28	18	10	11	20	29	-2	0	15	14	10	18	16	12	15	20	18	22	14	20	29	....	....	....	12.8
Crosby	Maximum...	26	24	15	28	39	37	42	37	42	41	43	34	33	19	15	25	24	26	26	21	38	43	42	40	33	42	50	42	....	....	....	33.2
	Minimum ...	9	9	4	15	24	22	31	28	18	28	28	23	3	-5	-3	5	1	6	5	2	16	26	22	24	21	26	23	28	....	....	....	15.7
Devils Lake	Maximum...	11	17	17	23	42	41	36	38	26	24	31	32	32	15	19	23	20	22	12	9	15	29	37	42	37	26	50	42	....	....	....	27.5
	Minimum ...	-5	6	-1	8	22	19	26	26	13	14	20	23	11	1	-2	8	1	1	0	-6	3	10	20	18	16	12	24	16	....	....	....	10.8
Dickinson §§	Maximum...	14	20	13	40	40	41	42	37	40	40	36	39	27	26	28	32	23	33	39	21	30	40	41	38	35	49	53	44	....	....	....	34.3
	Minimum ...	8	10	3	3	3	21	22	30	19	20	23	23	26	1	-1	1	9	9	22	13	14	18	23	21	24	18	22	33	....	....	....	15.6
Donnybrook	Maximum...	13	18	19	38	44	35	42	36	36	40	35	32	30	31	23	18	20	25	17	17	25	32	40	36	36	35	46	35	....	....	....	30.4
	Minimum ...	5	1	9	14	15	20	30	15	18	24	20	17	10	-7	-10	1	-3	2	-2	-2	3	6	15	26	12	18	23	9	....	....	....	9.9
Dunn Center	Maximum...	11	19	14	29	40	42	45	40	40	42	42	35	22	14	32	29	27	33	31	25	28	42	43	41	32	47	56	46	....	....	....	33.9
	Minimum ...	7	10	2	3	28	22	34	30	18	24	37	17	1	2	5	14	5	16	16	8	11	20	24	23	28	14	28	26	....	....	....	16.5
Dunseith	Maximum...	15	18	25	22	41	39	38	40	34	29	37	32	34	21	20	23	19	21	20	10	13	25	40	40	40	32	45	41	....	....	....	29.2
	Minimum ...	-5	5	3	1	11	10	24	19	12	10	15	21	17	12	2	7	-8	8	0	-10	3	6	15	10	17	4	21	25	....	....	....	7.3
Edgeley	Maximum...	18	20	21	23	51	52	48	38	35	27	34	34	42	33	21	42	25	30	25	18	19	28	37	45	38	34	52	51	....	....	....	33.6
	Minimum ...	-4	7	8	9	15	18	21	22	18	12	19	21	22	5	-7	12	7	4	6	5	7	11	12	17	28	17	24	31	....	....	....	12.9
Ellendale	Maximum...	15	19	19	23	50	47	49	39	28	21	35	34	39	26	21	44	25	28	29	14	18	28	35	47	36	27	53	52	....	....	....	32.3
	Minimum ...	-1	10	5	8	17	20	23	25	16	14	20	20	24	6	-1	14	9	9	9	7	10	12	10	11	29	20	24	27	....	....	....	14.2
Fessenden §§	Maximum...	14	19	21	32	45	47	40	40	25	31	34	32	33	32	23	26	24	27	17	23	21	31	39	43	37	32	49	45	....	....	....	31.5
	Minimum ...	1	7	-1	2	10	16	21	28	19	14	15	21	26	-5	-5	-4	1	3	8	3	3	12	16	21	21	13	20	30	....	....	....	11.1
Foxholm	Maximum...	13	16	21	26	45	40	40	37	33	36	35	32	29	19	23	24	19	24	22	14	13	32	39	39	34	36	47	43	....	....	....	29.7
	Minimum ...	2	7	3	10	20	22	31	31	18	15	23	26	17	-6	-5	10	0	0	7	-2	3	10	25	24	19	18	27	32	....	....	....	13.8
Fullerton	Maximum...	17	18	18	24	51	48	47	37	34	29	35	32	39	29	21	46	28	28	26	17	17	29	37	43	42	38	47	48	....	....	....	32.8
	Minimum ...	1	10	5	9	18	21	8	25	19	15	19	21	24	3	-2	12	10	9	9	8	9	15	9	8	29	28	19	30	....	....	....	13.9
Garrison	Maximum...	18	20	20	25	41	46	42	38	40	36	37	34	33	21	24	25	24	30	24	17	18	37	42	41	33	39	56	44	....	....	....	32.3
	Minimum ...	2	10	3	10	19	20	29	30	18	19	21	26	20	-3	-6	12	3	12	11	5	8	14	21	24	22	20	27	31	....	....	....	15.3
Grafton	Maximum...	15	16	17	15	38	32	38	37	32	21	33	31	30	16	12	27	21	22	18	12	18	27	40	41	39	36	50	45	....	....	....	28.0
	Minimum ...	-6	4	3	7	10	20	19	22	16	13	17	25	15	0	-4	1	0	0	3	-3	2	10	15	15	27	9	18	28	....	....	....	10.0
Grand Forks	Maximum...	12	20	17	14	39	29	40	36	20	20	32	33	28	17	12	29	20	24	10	10	18	26	34	40	38	25	50	39	....	....	....	26.1
	Minimum ...	-5	6	-4	8	12	22	22	20	14	10	18	25	17	2	-2	12	3	3	3	1	6	9	16	15	20	9	18	16	....	....	....	10.6
Granville	Maximum...	15	10	20	27	35	30	38	35	38	35	38	30	30	25	22	25	20	27	22	12	15	34	40	38	33	37	47	42	....	....	....	29.3
	Minimum ...	-3	8	-5	7	25	20	28	28	22	15	20	27	20	-4	6	8	0	3	10	0	4	12	22	22	20	27	28	22	....	....	....	13.4
Hansboro	Maximum...	14	28	20	30	38	41	40	28	28	28	30	30	26	14	20	23	17	14	21	8	12	28	40	42	35	28	38	35	....	....	....	27.0
	Minimum ...	19	-8	-12	8	5	7	4	-2	3	8	0	8	5	-7	-5	-3	-10	7	-4	-17	6	2	8	8	10	0	16	25	....	....	....	0.4
Hettinger	Maximum...	22	26	20	39	38	41	38	42	39	42	38	36	33	28	36	39	33	33	42	41	36	40	30	36	34	42	36	41	....	....	....	36.3
	Minimum ...	10	8	-3	29	26	31	16	21	12	18	10	8	10	0	16	13	12	14	2	14	8	12	10	6	10	12	7	14	....	....	....	12.4
Hillsboro	Maximum...	12	20	20	23	41	37	40	37	34	20	32	32	38	32	18	33	26	26	22	18	18	25	33	37	37	36	45	42	....	....	....	29.8
	Minimum ...	3	4	6	14	9	24	24	25	16	6	16	21	24	6	0	9	7	5	10	4	2	13	14	15	28	11	17	31	....	....	....	12.8
Howard	Maximum...	10	15	11	27	36	40	40	36	36	42	41	35	30	20	28	28	19	26	27	20	21	36	40	36	32	42	56	42	....	....	....	31.1
	Minimum ...	8	-1	5	5	24	24	24	20	15	24	23	24	4	-5	-4	3	3	5	10	5	11	15	19	23	22	16	28	30	....	....	....	13.6
Jamestown §§	Maximum...	20	19	26	20	49	44	38	23	25	32	29	37	23	21	29	22	25	18	12	18	29	32	41	37	30	37	47	35	....	....	....	29.3
	Minimum ...	-4	-2	4	3	9	18	19	23	16	13	12	21	23	2	-3	-5	3	2	4	2	10	14	13	21	30	22	32	35	....	....	....	12.0
Lamoine	Maximum...	15	21	18	20	38	43	38	35	33	28	28	33	29	24	18	20	14	14	18	12	17	30	34	42	38	30	46	38	....	....	....	27.6
	Minimum ...	-7	7	-3	10	20	18	28	28	10	12	10	21	19	-5	-12	10	-5	0	4	4	5	6	18	13	24	15	21	25	....	....	....	10.6
Langdon §§	Maximum...	17	16	28	40	34	34	36	29	26	32	31	25	20	23	23	18	20	15	10	15	27	36	30	38	28	44	32	28	....	....	....	27.2
	Minimum ...	-8	2	0	10	8	20	22	17	12	12	11	19	20	-8	-6	4	-9	-5	9	-9	-10	-10	4	12	-13	6	10	28	....	....	....	4.6
Larimore	Maximum...	14	20	30	20	42	40	36	39	23	20	28	23	30	15	22	25	20	22	13	10	15	25	40	45	38	28	50	40	....	....	....	27.5
	Minimum ...	-7	0	-3	-4	15	23	18	23	14	12	13	14	12	5	-5	5	0	5	3	5	5	3	5	15	25	10	17	25	....	....	....	8.7
Linton	Maximum...	20	24	21	24	45	41	46	38	37	32	35	35	39	30	36	28	28	28	30	....	29	36	39	43	37	36	52	48	....	....	....	[a]35.0
	Minimum ...	0	12	8	13	19	21	25	29	20	27	23	25	20	8	6	9	10	10	12	....	9	20	9	....	....	....	....	....	....	....	....	[f]14.8
Lisbon §§	Maximum...	6	12	22	33	43	40	48	40	36	39	24	26	24	20	19	22	32	34	30	34	28	36	38	42	40	36	42	46	....	....	....	31.9
	Minimum ...	-6	0	-2	-4	2	10	15	26	20	22	19	10	6	2	0	5	3	6	2	0	4	6	4	6	8	10	8	6	....	....	....	6.7
McKinney	Maximum...	15	18	30	28	40	40	55	40	35	40	40	32	31	30	22	22	20	20	20	10	10	30	35	40	40	40	48	43	....	....	....	31.2
	Minimum ...	0	10	0	8	18	20	20	30	15	18	18	25	15	-5	-11	5	0	4	7	-12	7	10	15	18	15	18	28	30	....	....	....	11.4
Maddock	Maximum...	12	17	20	24	42	43	47	34	35	31	32	32	33	28	20	25	25	26	23	15	15	28	37	41	39	35	50	49	....	....	....	30.6
	Minimum ...	0	5	-4	9	17	15	26	24	14	12	18	23	25	-4	-6	12	-1	-1	6	-4	2	10	13	14	24	13	24	31	....	....	....	11.3
Melville	Maximum...	11	18	18	22	41	45	44	38	37	28	30	30	33	32	16	22	22	23	22	12	17	30	35	42	40	32	48	45	....	....	....	29.8
	Minimum ...	-6	5	10	10	20	18	29	26	15	11	18	22	26	-2	-6	9	2	5	9	-1	4	11	20	21	26	15	25	32	....	....	....	13.0
Minot	Maximum...	15	15	22	30	43	44	43	45	48	40	40	36	28	10	18	20	24	24	16	18	20	32	45	45	37	36	51	40	....	....	....	31.6
	Minimum ...	-5	5	4	12	25	18	33	32	31	29	18	31	4	0	0	4	8	8	12	11	10	16	30	29	26	25	34	25	....	....	....	16.3
Mott	Maximum...	19	17	15	25	27	28	32	40	39	38	37	29	21	12	26	32	30	36	39	24	26	38	36	35	38	45	40	38	....	....	....	30.8
	Minimum ...	9	7	-2	11	17	17	20	23	25	25	24	29	11	0	12	17	20	20	22	15	11	21	24	24	24	26	26	25	....	....	....	17.8
Napoleon §§	Maximum...	20	26	20	30	46	46	45	37	33	32	35	40	26	16	26	36	25	27	26	14	23	32	37	42	35	34	50	47	....	....	....	32.4
	Minimum ...	7	-4	-3	3	16	20	29	25	14	9	10	22	5	-6	-15	5	0	3	5	0	0	10	13	11	25	15	16	33	....	....	....	9.1
New Salem	Maximum...	15	22	20	42	42	47	41	40	40	26	28	33	37	26	24	29	24	28	31	31	28	37	39	42	32	43	55	36	....	....	....	33.5
	Minimum ...	-5	7	3	21	25	23	30	30	15	17	18	25	25	-2	-3	15	3	11	15	9	10	17	24	23	22	18	33	30	....	....	....	16.4
Pembina	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Steele	Maximum...	12	15	20	28	45	48	40	35	29	30	35	35	36	24	26	30	22	22	21	10	28	35	39	40	45	40	50	46	....	....	....	31.6
	Minimum ...	4	6	-2	15	20	30	20	25	15	14	10	22	24	2	7	12	4	9	9	4	9	15	19	15	19	20	20	30	....	....	....	14.0
Towner	Maximum...	20	25	22	25	42	42	40	38	34	33	32	32	30	25	27	28	29	30	28	26	28	30	38	44	40	38	51	42	....	....	....	32.8
	Minimum ...	-2	10	10	10	20	20	16	22	17	18	18	15	0	-5	0	17	-3	-15	10	16	15	18	18	18	17	20	25	25	....	....	....	12.5
Valley City	Maximum...	30	16	19	22	49	45	54	46	36	27	34	32	42	42	31	33	22	23	20	10	18	26	35	45	41	40	56	56	....	....	....	33.7
	Minimum ...	5	3	-2	8	16	22	33	28	12	11	11	16	20	3	2	8	2	2	-2	-2	-2	8	16	12	28	12	12	33	....	....	....	11.2
Wahpeton	Maximum...	19	18	19	15	48	47	45	40	35	25	33	34	37	36	30	37	33	26	25	21	20	25	38	41	41	36	45	46	....	....	....	32.7
	Minimum ...	-8	6	6	1	10	29	20	29	12	-10	13	29	20	8	3	12	16	6	9	9	9	14	14	29	29	16	18	32	....	....	....	13.6
Westhope	Maximum...	15	17	22	28	42	44	39	39	39	35	37	31	29	19	23	25	21	27	18	10	15	30	42	43	42	38	48	40	....	....	....	30.6
	Minimum ...	2	10	0	10	10	30	30	29	13	10	20	20	4	13	18	7	2	7	4	8	2	10	12	12	12	16	20	20	....	....	....	12.5
Williston	Maximum...	15	19	16	34	39	42	41	38	41	48	41	37	30	24	31	25	22	30	33	21	26	44	44	40	33	47	54	42	....	....	....	34.2
	Minimum ...	12	5	7	12	30	22	31	25	20	29	28	30	3	-1	4	9	8	13	16	10	15	21	26	25	20	19	30	27	....	....	....	17.7
Moorhead, Minn	Maximum...	13	19	17	14	44	34	42	36	23	18	32	30	36	27	16	34	23	26	15	13	19	24	34	40	38	30	43	43	....	....	....	28.0
	Minimum ...	-3	9	5	0	13	24	22	23	13	0	17	26	26	7	2	12	10	8	7	6	13	15	13	20	29	13	16	19	....	....	....	13.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 3-25-26—1000]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

ol. XXXV Bismarck, N. D., March, 1926 No. 3

GENERAL SUMMARY

The month opened with conditions of weather nearly nor- al. Preparations for spring work on farms were begun dur- g the first decade, and during the second decade this activity as general, much seeding of spring wheat being accomplished central and western parts of the State. Low temperatures uring the latter part of the last decade delayed work in fields. onsiderable road work was done during the month, and at the ose highways were generally in excellent condition. Tame rasses were well started at the close of the month, and live- ock was generally in good condition.

TEMPERATURE

The mean temperature for the State was 25.8°, or 3.2° above e normal, and 1.6° lower than the mean for March, 1925. he highest mean reported was 33.2° at Ashley, McIntosh ounty; the lowest was 18.5° at Hansboro, Towner County. he highest temperature reported was 83° at Ashley, Mc- ntosh County, on the 22d; the lowest was −23° at Hansboro, owner County, on the 7th. The greatest monthly range of mperature was 93° at Ashley, McIntosh County; the least as 46° at Hettinger, Adams County. The greatest daily nge was 58° at Ashley, McIntosh County, on the 1st.

PRECIPITATION

The average precipitation for the State was 0.24 inch, or .59 inch below the normal, and 0.43 inch less than the verage for March, 1925. The greatest monthly amount re- orted was 1.27 inches at Powers Lake, Burke County; there as none at Hettinger, Adams County, and at Minot, Ward ounty. The greatest amount recorded in any 24 consecutive ours was 0.60 inch at McKinney, Renville County, on the 24th. he average number of days with 0.01 inch or more of precipi- tion was 3. The average snowfall was 1.8 inches.

AURORAS

Auroras were observed at Fessenden on the 4th; at Beach on e 5th; at Bottineau, Eckman, Fessenden, Foxholm and Wil- w City on the 9th; at Bottineau, Bowman, Foxholm, Grand orks and Linton on the 10th; at Bottineau, Foxholm and rand Forks on the 11th; at Bottineau and Grand Forks on e 12th; at Arnegard and Bottineau on the 13th; at Bottineau, oxholm and Howard on the 15th; at Bottineau, Fessenden, oxholm, Grand Forks, Sharon and Williston on the 17th; at oxholm, Grand Forks and Williston on the 18th; at Bismarck, ottineau, Crosby, Devils Lake, Ellendale, Fessenden, Fuller- on, Grand Forks, McClusky, Minto, Stanton, Williston and illow City on the 19th; at Bowman, Crosby, Dogden, Fox- olm and Grand Forks on the 20th; at Crosby on the 21st and 2d, and at Linton on the 26th and 27th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.16	30.75	12	29.42	23	57	8,181	11.0	39	n.	24
Devils Lake	30.13	30.74	12	29.38	23	44	8,569	11.5	46	n.	24
Ellendale	30.14	30.65	2	29.38	23	56	11,885	16.0	58	n.	24
Grand Forks	30.11	30.65	12	29.41	23	90	....	......	60	nw.	24
Williston	30.13	30.69	12	29.43	23	48	6,742	9.1	40	w.	23
Moorhead, Minn	30.12	30.67	12	29.30	24	58	7,705	10.4	35	n.	24
Av'ges and extremes	30.13	30.75	12	29.30	24	....	....	11.6	60	nw.	24

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	237.2	369.9	64	+ 8	79	52	48	24	20
Devils Lake	241.9	369.7	65	+ 9	82	73	78	32	20†
Ellendale	240.7	370.0	65	+ 9	83	54	....	21	21
Grand Forks	......	......	......	......	87	....	83	....	....
Williston	236.6	369.7	64	+ 8	82	54	53	25	23
Moorhead, Minn.	219.0	369.9	59	+ 3	88	63	67	32	31
Averages and extremes	235.1	369.9	63	+ 7	84	60	66	21	21

† And other dates.

COMPARATIVE STATE DATA FOR MARCH

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898	21.3	−1.3	79	−24	0.79	−0.04	5	13	8	10	nw.
1899	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905	32.5	+0.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909	21.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915	23.3	+0.7	63	−23	0.22	−0.71	2	16	6	9	nw.
1916	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917	22.2	0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921	25.2	+2.6	75	22	1.00	+0.17	6	9	12	10	nw.
1922	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.
1923	18.3	−4.3	65	−35	0.41	−0.42	4	10	10	11	nw.
1924	25.5	+2.9	58	−20	0.45	−0.28	4	10	9	12	nw.
1925	27.4	+4.8	75	−26	0.67	−0.16	4	14	9	8	nw.
1926	25.8	+3.2	83	−23	0.24	−0.59	3	13	10	8	nw.

Climatological Data for March, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	25.0	+1.4	70	21	-9	7	40	0.10	-0.47	0.10	1.0	1	16	10	5	n.	E. T. Carley.
Amidon	Slope	....	12	30.8	....	66	20	2	7	36	T.	0.84	T.	T.	0	17	6	8	nw.	H. M. Critchfield.
Arnegard	McKenzie	....	11	28.2	....	68	23	-11	7	50	0.04	....	0.04	T.	1	19	6	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	33.2	+11.2	83	22	-10	7	58	T.	-1.19	T.	T.	0	22	3	6	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	30.9	+4.4	75	23	-2	7	46	0.22	-0.56	0.21	2.2	2	....	....	....	....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	28.7	+4.0	70	23	-12	7	44	T.	0.84	T.	T.	0	23	0	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	28.4	+4.2	73	23	8	7	39	T.	-1.04	T.	T.	0	17	9	5	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	23.9	+6.2	63	20†	-19	7	38	0.39	-0.41	0.19	1.8	5	5	21	5	nw.	T. M. Street.
Bowman	Bowman	2,961	12	30.2	....	70	23	4	7	38	T.	-0.45	T.	T.	0	14	6	11	nw.	R. Love, Jr.
Cando	Towner	1,488	25	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	A. J. Swanson.
Carson	Grant	2,500	14	29.4	+4.9	72	23	-10	7	40	0.08	-0.58	0.02	1.0	5	14	10	7	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	....	....	....	....	....	....	....	0.25	-0.29	0.15	2.5	2	16	8	7	nw.	S. Friswold.
Crosby	Divide	1,954	19	27.4	+5.4	65	22†	-11	7	42	0.05	-0.53	0.02	0.2	3	9	15	7	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	21.7	+3.2	63	20	-16	7	33	0.45	-0.56	0.27	3.6	6	10	12	9	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	27.7	+3.3	71	23	-9	7	52	0.28	-0.56	0.20	2.8	3	10	11	10	nw.	Leroy Moomaw.
Dogden	McLean	1,736	....	25.6	....	68	23	-15	7	41	0.19	....	0.09	1.2	4	8	12	11	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	H. Feldner.
Dunn Center	Dunn	2,191	27	30.0[c]	+5.9	70[c]	23	-3[c]	12	40[c]	0.10	-1.01	0.10	0	1	18	3	10	n.	W. H. Moede.
Dunseith	Rolette	1,682	30	22.2	+3.4	62	20	-20	7	40	0.28	-0.49	0.10	4.3	6	8	10	13	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	25.0	+2.9	66	20	-19	7	38	0.05	-0.45	0.04	0.5	2	2	17	12	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	26.8	+0.3	71	23	-11	7	47	0.10	-0.70	0.10	1.0	1	9	12	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	26.5	+0.9	70	23	-8	7	42	0.20	-1.00	0.08	1.7	7	9	9	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	29.2	....	69	20†	-1	12	43	0.05	-0.62	0.05	T.	1	13	14	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	26.4	....	58	20	-9	7	40	0.07	0.49	0.05	1.0	2	17	12	2	nw.	A. O. Wang.
Fessenden	Wells	1,610	14	24.6	+3.2	70	23	-14	7	45	0.50	-0.22	0.15	2.6	7	7	13	11	sw.	T. D. Monsen.
Finley	Steele	1,461	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	G. J. Mustad.
Forman	Sargent	1,249	32	....	....	....	....	....	....	....	0.10	-0.80	0.10	1.0	1	16	11	4	n.	O. Enger.
Fort Yates	Sioux	1,670	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	25.8	....	66	23	-18	7	41	0.52	....	0.38	1.5	5	7	13	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	....	....	....	....	....	....	....	0.08	....	0.05	1.0	2	16	8	7	nw.	Verne King.
Fullerton	Dickey	1,439	28	27.8	+2.6	68	23	-9	7	40	0.44	0.78	0.12	3.8	5	11	12	8	nw.	F. O. Alin.
Garrison	McLean	1,901	31	27.7	+6.0	69	23	-13	7	41	0.04	-1.00	0.04	T.	1	21	7	3	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	23.5	+4.3	65	21	-12	7	40	0.59	-0.10	0.30	1.9	4	15	4	12	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	22.6	+0.2	66	21	-10	7	43	0.45	0.26	0.18	3.0	10	12	10	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	22.8	-0.9	57	23	-15	7	35	0.32	0.25	0.23	0.5	3	3	22	6	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	....	....	....	....	....	....	....	0.52	-0.14	0.16	5.0	4	....	....	....	....	J. Moffatt.
Hansboro	Towner	1,597	18	18.5	-2.8	60	20	-23	7	38	T.	-0.66	T.	T.	0	17	9	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	24.6	-3.0	43	16	3	8	36	0.00	-0.76	0.00	0	0	28	2	1	nw.	U. J. Downey.
Hillsboro	Traill	901	20	24.0	0.7	67	21	-9	7	42	0.68	-0.06	0.40	5.0	3	16	11	4	n.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	19	25.4	+4.6	63	23	-12	7	42	T.	-1.14	T.	T.	0	16	6	9	nw.	C. P. Ausbaugh.
Jamestown	Stutsman	1,390	34	24.4	+1.8	68	22	11	7	51	0.22	-0.78	0.07	1.8	4	15	4	12	n.	S. Calvelage.
Lamoine	Kidder	1,936	21	25.4	+2.4	68	23	-14	7	38	0.10	0.67	0.10	1.0	1	11	13	7	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	20.0	+1.0	59	20†	19	7	44	0.51	-0.33	0.20	5.2	6	18	9	4	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	21.1	+0.1	65	21	-17	7	44	0.63	-0.06	0.16	7.8	6	12	4	15	n.	Reuben Gray.
Linton	Emmons	1,711	8	....	....	73[c]	23	....	....	....	0.10	....	0.10	T.	1	15	6	10	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	23.4	-3.2	70	22	-11	7	48	0.04	-0.52	0.04	0.5	1	19	7	5	....	W. S. Adams.
McClusky	Sheridan	1,943	8	24.4	....	63	21	-15	7	44	0.15	....	0.10	1.5	2	14	9	8	nw.	Edw. Tapley.
McHenry (near)	Foster	1,509	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	24.4	+5.2	66	20	-19	7	45	0.65	-0.06	0.60	0.5	2	6	13	12	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	27.6	+1.7	69	21	-7	7	48	0.11	-0.52	0.08	1.1	3	15	9	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	24.6	....	65	23	-17	7	37	0.27	-0.16	0.16	3.0	4	7	11	13	nw.	A. T. Felland.
Mandan	Morton	1,644	12	27.1	+1.9	73	23	-10	7	49	0.04	-0.80	0.04	T.	1	11	4	16	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	25.0	+1.9	65	23	-14	7	34	0.51	-0.27	0.20	3.5	6	9	13	9	w.	P. B. Anderson.
Marmarth	Slope	2,714	17	30.0	+4.0	68	23	0	6	40	0.45	0.00	0.25	4.6	7	10	12	9	....	S. P. Grane.
Mayville	Traill	975	30	24.4	+1.2	69	22	-11	7	40	0.24	-0.47	0.16	3.0	2	14	4	13	n.	Ingvald Larson.
Melville	Foster	1,590	28	25.4	+3.1	66	23	-16	7	36	0.05	-0.63	0.05	0.5	1	3	18	10	nw.	J. P. Kidder.
Minot	Ward	1,557	30	27.4	+6.0	68	22†	-1	12	43	0.00	-0.77	0.00	0	0	13	9	9	w.	W. I. Faris.
Minto	Walsh	820	33	22.2	+1.1	65	21	-14	7	41	0.03	-0.79	0.02	0.3	2	14	10	7	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	28.4	+1.8	62	20	-6	7	39	0.16	-0.88	0.06	0.5	3	10	9	12	w.	O. H. Opland.
Napoleon	Logan	1,955	34	24.8	+3.5	72	23	-17	7	46	0.40	-0.53	0.20	2.0	4	14	5	12	n.	C. J. Hoof.
New England	Hettinger	2,400	32	26.0	+1.6	70	23	-14	7	50	T	-0.87	T.	T.	0	23	2	6	nw.	W. S. Jones.
New Salem	Morton	2,163	22	29.2[a]	+4.7	73[a]	23	-2[a]	12	45[a]	0.09	-0.87	0.03	0.7	5	13	13	5	nw.	I. Christiansen.
Park River	Walsh	998	22	23.4	+1.3	64	21	-7	2	36	0.46	-0.09	0.28	4.5	5	9	10	12	nw.	C. B. Wright.
Parshall (near)	Mountrail	....	11	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. A. Johnson.
Pembina	Pembina	789	52	19.7	+3.7	64	21	-10	2	38	0.37	-0.53	0.28	3.5	4	11	12	8	nw.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	25.1[a]	+1.3	66[a]	23	-12[a]	7	36[a]	T.	-0.54	T.	T.	0	15	4	12	sw.	S. C. Shanks.
Power	Richland	1,020	32	....	....	....	....	....	....	....	0.90	+0.20	0.40	9.0	4	15	6	10	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	26.6	....	67	22	-13	7	45	1.27	+0.39	0.46	5.5	4	20	8	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	29.5	....	68	23	-7	7	37	T.	....	T.	T.	0	10	15	6	nw.	John Muggli.
Sharon	Steele	1,516	1	....	....	....	....	....	....	....	0.13	....	0.06	1.9	4	10	10	11	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2	....	....	....	....	....	....	....	0.20	....	0.20	T.	1	15	10	6	nw	J. H. Giffey.
Steele	Kidder	1,857	30	24.2	+2.1	67	23	-13	7	42	0.09	-0.84	0.05	1.0	2	14	11	6	nw.	H. S. Wood.
Towner	McHenry	1,482	24	24.5	+5.3	67	23	-16	7	39	0.05	-0.85	0.05	T.	1	5	16	10	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	26.3	....	67	23	-15	7	55	0.15	-0.66	0.08	1.8	3	11	8	12	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	24.9	-1.2	71	21	-13	7	41	0.35	-0.15	0.25	4.5	2	17	13	1	se.	H. Twito.
Wahpeton	Richland	962	32	26.6	+0.4	67	21†	-6	7	32	0.21	-0.70	0.13	0.8	4	19	0	12	nw.	C. G. Luick.
Washburn	McLean	1,731	25	....	....	....	....	....	....	....	0.13	-0.52	0.06	....	3	....	....	....	....	Karl Klein.
Westhope	Bottineau	1,508	20	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	W. A. Meddaugh.
Williston	Williams	1,878	47	29.0	+6.1	66	23	4	7	42	0.12	-0.56	0.07	0.3	3	13	11	7	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	23.2	+4.9	65	20	-21	7	40	0.91	+0.18	0.28	4.2	8	12	6	13	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	23.4	+0.7	68	21	-8	7	42	0.77	-0.37	0.32	8.0	10	4	14	13	n.	U. S. Weather Bureau.
Averages	....	....	....	25.8	+3.2	83	22	-23	7	58	0.24	-0.59	0.60	1.8	3	13	10	8	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for March, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
menia ‖	Red				T.								.10	T.															T.				0.10
midon	Lit. Missouri													T.	T.										T.								T.
rnegard	Missouri						T.							T.	T.				.04					T.	T.	T.							0.04
shley	Missouri																								T.								T.
each	Lit. Missouri						T.	T.						.01	T.				T.						T.	.21							0.22
erthold Agency	Missouri											T.		T.	T.													T.	T.				T.
ismarck ***	Missouri					T.	T.					T.		T.	T.				T.					T.	T.	T.	T.	T.	T.	T.			T.
ottineau ‖	Mouse		T.	T.	T.	T.	.01					T.		T.	.06				.06					T.	.19	T.		.07	T.		T.	T.	0.39
owman	Grand													T.																			T.
ando	Devils Lake																																
arson	Heart					.02	.02							.02											.01	.01							0.08
ooperstown	Sheyenne						.10					T.																.15					0.25
rosby	Mouse						.02																	.02					.01				0.05
evils Lake ***	Devils Lake	T.	T.	T.	T.	.03	.10				T.	.02		T.	T.	T.			T.					.01	.26	T.		.03	T.				0.45
ickinson ‖	Heart					T.	T.						T.	T.	.03										.05	T.	T.		.20	T.			0.28
ogden	Mouse						T.					T.			.05				.01						.09	.04		T.	T.			T.	0.19
onnybrook	Mouse																																
unn Center ‖	Knife																								.10								0.10
unseith	Mouse											.01			.02							.05			.04			.10				.06	0.28
ckman	Mouse						.01												.04														0.05
dgeley	James				T.			.10																	T.								0.10
llendale***	James		T.		T.		.02					.01	.01		.03	.01			T.					T.	.08	T.			.04				0.20
nergy	Missouri													T.	T.				.05							T.		T.					0.05
pping	Missouri											T.		.05					.02							T.			T.				0.07
essenden‖	James						.05	.05				T.			.11	.03				.01					.15				.10				0.50
inley	Red																																
orman	Sheyenne												.10																				0.10
ort Yates	Missouri																																
oxholm (near)	Mouse					T.	.03					.02		T.	.02				.07					T.	.38	T.		T.	T.			T.	0.52
ryburg	Heart					T.								.05	T.										.03	T.							0.08
ullerton	James			T.			.12					T.	.05		.03	T.								T.	.12	T.			.12				0.44
arrison	Missouri																								.04			T.	T.				0.04
rafton	Red			T.			.12					.10			T.										.30	.07							0.59
rand Forks ***	Red	T.	T.	.01		.02	.11	T.	T.		.02	.03			.01										.18	.01		.02	.04				0.45
ranville	Mouse						T.					T.		T.	.04				.05		T.				.23	T.		T.	T.				0.32
annah	Pembina			T.		T.	.16							.08					T.					.12	T.	T.		.16					0.52
ansboro	Devils Lake						T.								T.				T.					T.				T.	T.				T.
ettinger	Grand																																0.00
illsboro	Red			T.		T.	.10					T.	.40		T.	T.									.18	T.			T.				0.68
oward (near)	Missouri	T.			T.	T.						T.		T.	T.				T.					T.	T.	T.	T.	T.	T.		T.	T.	T.
amestown‖ ‖	James				T.		.07					.02												T.	.06	.07							0.22
amoine	Missouri				T.	T.	T.																		.10	T.			T.				0.10
angdon‖ ‖	Pembina			.02				.08					T.		.08					.05					.20				.08				0.51
arimore	Red						.16	.08				.16													.08	.10		.05					0.63
inton	Missouri					T.						T.			T.				.10					T.		T.							0.10
isbon ‖	Sheyenne							.04																	T.					T.			0.04
cClusky	Missouri																								.10					.05			0.15
cHenry	James																																
cKinney (near)	Mouse					T.						T.		T.	.05		T.							T.	.60	T.		T.	T.				0.65
cLeod	Sheyenne	T.			T.	.02		.01																	T.	T.			.08				0.11
addock	Sheyenne			T.	T.	T.	T.					T.			.08				.02					T.	.16	T.		T.	.01				0.27
andan‖ ‖	Missouri						T.						T.		T.				.04	T.					T.	T.	T.			T.		T.	0.04
anfred	James		T.		T.	.01	.04	T.				T.			.20				T.					T.	.14	T.		.10	.02				0.51
armarth	Lit. Missouri					.25	.02	T.					.01	.03										.10					.02			.02	0.45
ayville	Red												.08																.16				0.24
elville	James		T.		T.		T.								.05										T.	T.		T.	T.				0.05
inot‖ ‖	Mouse																																0.00
into	Red						.02					.01												T.	T.	T.			T.				0.03
ott	Cannon Ball													.05	.06									.05	T.	T.				T.			0.16
apoleon ‖	Missouri						.10								.05				.20						T.				.05				0.40
ew England	Cannon Ball											T.	T.	T.	T.													T.	T.				T.
ew Salem	Heart					T.	.02					T.		T.	.01				.01			.02			.03	T.	T.	T.	T.				0.09
ark River	Red			.02				.08				.04	.04												.28								0.46
arshall (near)	Missouri																																
embina ‖	Red		.28										.05					.02	.02														0.37
ettibone	James				T.	T.	T.					T.			T.				T.					T.	T.	T.		T.	T.				T.
ower	Sheyenne	.20				.10	.40						.20													T.							0.90
owers Lake	Missouri						.24		.17									.40						.46									1.27
ichardton	Heart													T.												T.							T.
haron	Red	T.	T.	T.	T.		.06					.01	T.		T.				T.				T.	T.	.04	T.		T.	.02	T.			0.13
tanton	Missouri													T.	T.										.10			T.					0.20
teele	Missouri				T.	T.	.04					T.							T.						.05			T.		T.			0.09
owner	Mouse						T.							T.	T.				T.					.05	T.								0.05
urtle Lake	Missouri						T.					T.			.03										.04							.08	0.15
alley City	Sheyenne				T.		.25						T.						T.											.10			0.35
ahpeton	Red						.02	.04					.02												.13								0.21
ashburn	Missouri							.02										.06	.05														0.13
esthope	Mouse																																
illiston ***	Missouri	T.				T.						T.		.02	T.				.07					.03	T.	T.	T.	T.	T.				0.12
illow City	Mouse		T.	T.	T.	.03	.05					T.			.15				.14			.03		.03	.28	T.		.20	T.		T.	T.	0.91
oorhead, Minn ***	Red	T.		.01	.01	.04	.28	.02			T.	.20	.12		T.	T.	T.	T.				T.	T.		.04	.02	T.		.03	T.			0.77

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	23	16	25	22	29	21	30	34	43	44	43	36	37	43	41	42	47	48	51	55	70	68	64	36	28	25	32	35	33	36	35	38.7
	Minimum ...	10	-5	-4	12	12	-8	-9	4	10	12	20	1	-2	15	11	18	16	21	17	24	30	41	33	28	10	7	5	9	10	7	10	11.5
Amidon	Maximum...	36	40	40	39	40	30	31	45	40	45	40	26	40	35	50	55	54	56	55	66	64	60	60	45	30	32	35	30	32	28	31	42.5
	Minimum ...	26	16	26	26	23	9	-2	21	21	21	23	7	18	9	14	24	24	41	28	35	35	33	34	28	12	10	3	13	5	5	7	19.2
Arnegard	Maximum...	30	43	39	36	30	18	33	42	43	51	31	30	40	34	58	61	52	55	57	66	56	64	68	38	25	29	36	25	33	31	36	41.6
	Minimum ...	18	5	18	14	17	1	-11	19	12	12	14	5	14	23	8	15	27	27	25	30	29	32	32	25	9	8	8	5	5	9	4	14.8
Ashley	Maximum...	69	32	35	45	48	45	28	60	53	49	54	28	45	47	52	67	55	60	61	72	80	83	78	80	44	28	44	46	35	42	45	52.3
	Minimum ...	11	-2	9	11	20	3	-10	4	9	13	21	4	4	22	20	12	31	24	30	27	38	26	32	30	14	5	-3	11	6	6	7	14.0
Beach	Maximum...	49	44	46	42	33	24	35	42	46	50	39	32	40	35	42	60	53	55	57	67	54	64	75	36	25	23	34	26	33	30	33	42.7
	Minimum ...	30	28	25	27	17	4	-2	14	18	18	19	20	15	18	26	18	37	35	27	34	29	29	29	22	11	11	1	11	5	11	4	19.1
Berthold Agency	Maximum...	33	36	39	32	33	32	30	44	50	52	42	26	40	32	50	54	52	59	56	68	57	64	70	42	28	25	37	28	33	32	36	42.3
	Minimum ...	18	16	12	12	18	2	-12	10	10	8	14	2	12	23	30	17	29	30	29	28	28	28	30	28	12	11	9	8	3	6	2	15.1
Bismarck	Maximum...	28	27	35	30	34	22	23	44	38	48	36	23	37	32	49	48	53	58	56	70	60	64	73	42	28	23	37	28	31	35	34	40.2
	Minimum ...	15	1	14	11	22	3	-8	14	12	20	11	4	9	23	18	18	30	27	32	31	36	31	34	28	11	11	7	14	8	13	13	16.6
Bottineau	Maximum...	34	15	24	23	28	27	19	35	34	41	37	20	37	36	40	46	41	48	52	63	63	59	59	47	27	23	30	24	27	30	31	36.1
	Minimum ...	5	-11	11	10	15	-5	-19	3	11	12	12	-7	7	17	14	11	33	21	32	32	35	29	26	25	8	5	10	-4	-3	14	13	11.7
Bowman	Maximum...	35	36	38	40	36	24	32	42	40	45	40	26	40	34	49	54	53	54	51	55	53	64	70	49	29	21	35	28	33	33	37	41.2
	Minimum ...	24	14	23	18	23	9	-4	15	22	21	23	8	18	23	13	23	37	35	27	31	32	27	32	27	12	11	2	10	7	16	12	19.1
Carson	Maximum...	32	33	40	35	35	24	30	46	43	33	30	40	38	35	50	40	55	60	57	70	63	66	72	52	32	20	35	28	33	38	35	41.9
	Minimum ...	18	5	17	14	16	10	-10	18	18	24	19	4	12	15	10	18	35	30	27	35	34	32	36	28	14	10	5	10	0	10	10	16.9
Crosby	Maximum...	36	31	36	32	28	23	31	34	40	36	45	30	33	38	50	53	53	55	54	63	60	65	65	38	25	30	30	28	30	31	29	39.7
	Minimum ...	3	24	23	11	5	-1	-11	0	18	8	16	10	4	15	10	14	30	25	30	28	30	32	32	24	15	10	15	5	15	18	10	15.1
Devils Lake	Maximum...	17	13	20	18	31	21	15	36	27	39	28	19	37	30	37	37	43	41	49	63	63	61	57	37	15	17	29	22	24	30	27	32.3
	Minimum ...	1	-8	13	10	18	-10	-16	8	12	10	5	-7	8	12	17	12	22	19	29	30	36	32	31	12	8	5	8	4	5	8	12	11.1
Dickinson §§	Maximum...	32	38	39	39	33	19	32	45	43	50	36	27	44	33	51	56	54	58	56	67	56	65	71	34	31	20	37	25	34	33	33	41.6
	Minimum ...	24	7	9	14	14	9	-9	7	14	15	19	3	4	22	5	9	23	30	27	29	29	28	31	31	13	10	5	9	3	8	1	13.8
Donnybrook	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Dunn Center	Maximum...	30	37	39	....	....	....	34	42	40	51	41	26	39	33	48	50	52	57	56	66	54	62	70	43	28	22	30	25	32	32	35	[c]41.9
	Minimum ...	19	24	18	....	....	....	15	10	11	11	16	3	12	26	25	26	38	24	27	40	29	29	43	25	11	9	0	17	-2	9	0	[c]18.2
Dunseith	Maximum...	20	17	25	22	30	23	20	35	35	41	38	22	37	35	38	40	45	46	52	62	60	60	57	44	25	23	34	28	27	30	34	35.6
	Minimum ...	0	-16	6	5	10	-8	-20	3	12	8	8	11	2	15	15	7	17	15	29	27	34	32	28	21	4	4	4	5	4	9	10	8.9
Edgeley	Maximum...	40	22	35	26	39	32	19	42	38	42	36	23	41	36	55	41	54	46	58	64	65	66	71	70	30	26	35	33	30	36	34	41.5
	Minimum ...	13	-5	8	16	16	0	-11	-2	8	10	21	5	0	23	8	15	28	20	29	26	25	27	30	29	13	3	1	9	8	1	5	12.2
Ellendale	Maximum...	28	19	33	24	40	26	18	44	37	38	33	19	39	35	44	39	52	45	55	64	67	65	70	51	22	23	33	24	28	35	31	38.1
	Minimum ...	10	-2	15	17	21	-3	-8	2	16	21	11	4	1	25	20	20	24	23	30	23	40	31	32	22	13	7	4	14	10	9	10	14.9
Fessenden §§	Maximum...	22	29	27	23	33	18	31	40	32	44	22	23	41	34	45	44	47	53	58	65	63	63	70	24	32	22	33	25	30	34	32	37.7
	Minimum ...	9	8	-2	13	17	-3	14	4	5	9	14	6	2	9	18	14	17	22	25	32	33	28	31	32	12	7	8	9	12	7	13	11.6
Foxholm (near)	Maximum...	32	25	26	26	30	23	23	37	32	47	38	21	40	32	45	46	48	53	53	65	64	62	66	50	29	22	32	25	26	29	32	38.0
	Minimum ...	9	-5	3	15	15	-1	-18	14	13	15	11	-8	10	18	12	13	33	23	30	32	35	31	36	27	10	8	15	8	5	6	7	13.6
Fullerton	Maximum...	29	32	32	30	40	35	17	42	42	38	34	18	39	34	43	40	42	49	54	62	65	65	68	55	28	23	33	29	22	35	32	39.3
	Minimum ...	28	-2	16	10	24	2	-9	2	22	20	12	9	4	26	20	18	29	30	30	30	32	30	32	27	15	7	5	12	5	8	8	16.2
Garrison	Maximum...	33	26	30	29	32	25	28	42	34	52	34	30	40	36	49	48	50	58	57	67	59	64	69	56	29	24	38	28	32	35	34	40.9
	Minimum ...	14	1	22	14	18	2	-13	16	11	15	13	-4	10	11	12	14	29	25	30	27	32	30	39	28	13	11	12	11	4	5	7	14.5
Grafton	Maximum...	27	15	20	23	27	27	14	36	32	36	35	18	37	31	34	37	43	41	49	60	65	63	56	52	22	21	30	30	26	30	33	34.6
	Minimum ...	6	-6	11	12	16	-2	-12	4	19	8	13	-6	-2	20	4	16	28	14	27	25	38	31	32	21	10	8	17	7	11	12	11	12.4
Grand Forks	Maximum...	16	13	20	24	27	26	13	36	29	34	29	18	32	29	33	32	44	41	46	54	66	60	56	42	21	21	30	26	25	30	31	32.4
	Minimum ...	2	-5	12	12	16	0	-10	-7	20	12	17	-1	-1	17	7	18	23	19	28	26	39	34	34	18	11	8	8	11	3	11	11	12.8
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Hansboro	Maximum...	25	23	19	17	30	19	12	30	32	38	17	20	36	32	36	36	43	45	50	60	56	58	50	42	25	20	30	30	28	30	30	32.9
	Minimum ...	0	5	-14	4	9	-16	-23	2	13	2	12	-18	12	10	10	0	18	10	25	25	28	28	25	10	0	-1	7	-7	-6	0	6	4.1
Hettinger	Maximum...	36	38	39	36	41	34	36	33	41	38	39	41	41	39	42	43	36	34	37	39	26	41	39	31	36	34	37	32	36	33	35	36.9
	Minimum ...	7	16	10	6	7	2	14	3	10	11	14	26	18	16	14	14	13	8	21	16	16	21	12	4	10	16	8	12	10	13	17	12.2
Hillsboro	Maximum...	33	15	23	24	27	27	14	40	34	34	32	20	33	33	34	34	41	38	49	52	67	59	59	57	24	21	30	29	24	31	31	34.5
	Minimum ...	9	-4	12	12	18	2	-9	-2	16	10	19	2	3	14	9	18	27	20	27	26	38	33	34	24	11	9	7	12	9	9	11	13.5
Howard (near)	Maximum...	30	35	32	35	25	19	30	36	35	48	30	28	37	32	47	57	47	53	56	54	52	61	63	42	23	23	25	22	28	30	32	37.6
	Minimum ...	16	5	14	19	15	0	12	19	15	17	4	-2	-4	22	10	15	20	16	22	28	28	29	28	23	9	8	15	5	1	9	11	13.1
Jamestown §§	Maximum...	18	31	22	36	17	16	40	33	42	29	23	39	32	43	45	46	50	52	64	66	65	68	34	31	31	34	26	28	34	30	30	37.3
	Minimum ...	11	6	6	12	12	13	14	-12	12	13	18	4	2	0	18	15	15	20	23	25	25	29	30	31	11	4	3	5	8	7	8	11.6
Lamoine	Maximum...	34	20	26	22	31	26	15	34	32	44	38	20	36	38	43	41	44	56	52	64	60	60	68	55	28	20	35	29	26	33	30	37.4
	Minimum ...	15	-5	8	16	16	1	-14	15	14	15	15	1	10	12	15	15	20	30	30	28	32	25	30	28	10	10	6	8	1	8	4	13.5
Langdon §§	Maximum...	15	20	21	30	15	15	25	30	34	20	21	34	30	34	37	38	38	46	58	59	59	52	30	23	27	28	28	26	31	27	29	31.6
	Minimum ...	-4	-11	-10	6	7	-4	-19	10	10	15	10	10	2	12	9	15	20	15	18	30	36	30	28	20	5	2	5	-1	5	6	10	8.3
Larimore	Maximum...	14	15	20	22	25	15	15	35	35	30	20	13	30	25	33	35	43	40	48	60	65	62	59	33	20	30	20	25	27	33	31	31.5
	Minimum ...	7	-9	10	10	10	-4	-17	-9	18	10	10	5	5	15	18	16	20	17	25	27	30	30	31	29	7	3	7	7	10	3	10	10.7
Linton	Maximum...	38	38	38	32	37	....	23	45	42	47	45	39	37	57	...	47	55	55	59	69	....	67	73	63	33	22	37	33	33	39	32	[c]44.1
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Lisbon §§	Maximum...	28	30	28	30	34	16	28	26	28	24	30	24	30	36	34	38	39	42	50	62	70	58	56	36	34	38	34	32	35	35	33	36.1
	Minimum ...	6	2	6	12	6	16	-11	-5	-2	6	6	12	8	10	8	12	16	12	14	18	22	26	30	32	6	10	12	12	5	15	10	10.6
McKinney (near)	Maximum...	30	20	32	31	20	20	20	40	32	47	32	25	42	40	45	50	50	55	54	66	60	62	65	50	28	25	30	25	30	30	32	38.3
	Minimum ...	10	5	1	18	0	2	-19	5	7	20	15	-10	5	5	5	10	32	20	20	28	28	28	25	28	11	10	15	10	3	8	8	10.6
Maddock	Maximum...	35	24	24	24	33	27	17	39	38	42	43	21	38	37	38	40	46	49	53	64	62	60	65	54	30	21	31	29	27	33	30	37.9
	Minimum ...	7	8	5	11	14	5	-17	5	7	5	11	-4	5	8	16	10	31	20	29	29	31	28	28	26	8	1	7	3	7	7	16	11.2
Melville	Maximum...	35	21	23	22	32	30	16	37	38	42	42	22	39	37	38	40	45	51	52	63	62	63	66	65	25	18	32	28	27	32	32	37.9
	Minimum ...	9	-7	9	12	17	-5	-16	2	10	10	15	0	4	15	25	18	30	30	30	30	31	29	30	25	9	3	5	7	7	5	8	12.8
Minot	Maximum...	24	17	25	24	33	20	30	40	28	50	21	21	35	37	48	48	51	57	60	70	58	68	68	36	18	25	33	27	33	32	33	37.7
	Minimum ...	15	0	10	20	20	4	0	28	18	18	18	1	18	20	20	15	39	28	39	38	28	26	25	18	13	12	13	11	5	4	7	17.0
Mott	Maximum...	37	37	38	36	32	20	29	51	41	43	33	32	30	32	46	53	47	50	56	62	60	56	47	35	28	24	20	23	38	32	37	38.9
	Minimum ...	25	26	28	24	20	10	-6	12	14	14	11	0	15	22	27	29	25	34	31	20	29	25	25	20	16	12	1	11	0	9	14	17.8
Napoleon §§	Maximum...	27	25	35	27	40	14	18	41	42	45	25	23	38	32	47	45	52	53	56	67	64	65	72	34	19	23	26	27	30	38	35	38.2
	Minimum ...	10	-9	5	5	14	10	-17	10	5	12	17	0	3	18	15	12	30	22	25	28	34	25	26	30	10	-1	-1	7	0	0	5	11.3
New Salem	Maximum...	37	29	35	37	33	29	27	44	21	46	41	28	36	31	49	50	54	59	57	72	64	56	73	50	29	19	32	30	31	39	....	[a]41.3
	Minimum ...	18	0	15	7	13	5	10	14	13	27	14	-2	10	25	10	27	45	29	29	27	34	36	35	21	10	9	6	9	1	7	....	[a]17.0
Pembina	Maximum...	20	10	20	24	30	32	28	24	32	34	32	38	36	34	38	40	38	40	42	54	64	62	50	55	48	30	34	28	30	24	22	30.0
	Minimum ...	5	10	-5	5	0	5	-2	-5	5	8	4	10	8	10	12	10	12	15	18	24	26	28	26	24	18	12	10	8	8	5	8	9.4
Steele	Maximum...	26	24	26	27	25	5	12	42	45	40	40	38	37	42	47	47	48	50	56	55	62	62	67	35	16	20	30	36	27	31	34	36.9
	Minimum ...	14	-6	9	8	4	0	13	0	10	8	5	5	0	18	28	15	30	25	30	30	32	30	20	10	10	6	6	4	4	6	10	11.6
Towner	Maximum...	28	25	25	28	26	30	23	38	33	30	30	29	33	25	34	40	44	53	48	58	60	58	67	42	34	32	28	27	27	25	28	35.7
	Minimum ...	10	8	7	15	10	-3	-16	10	8	5	2	6	17	10	20	18	20	25	20	28	32	32	28	25	20	18	15	14	3	6	10	13.3
Valley City	Maximum...	33	23	31	23	35	28	26	38	41	34	36	24	37	32	34	41	45	41	51	59	71	69	64	61	35	29	32	32	29	35	36	38.9
	Minimum ...	-2	9	8	10	16	-2	-13	-2	9	20	9	2	2	7	12	16	24	20	30	24	41	38	30	24	9	2	2	-1	1	5	7	10.9
Wahpeton	Maximum...	44	18	27	26	29	25	16	40	39	33	33	29	29	35	35	35	46	40	47	49	67	67	60	58	31	24	30	30	29	35	34	36.8
	Minimum ...	12	3	12	12	15	6	-6	16	18	17	24	10	3	15	12	20	29	25	30	27	40	37	32	29	12	9	8	14	15	13	13	16.4
Westhope	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Williston	Maximum...	28	39	39	37	30	18	33	40	40	50	34	30	39	34	52	61	47	54	56	66	56	63	66	36	20	26	34	24	32	29	35	40.3
	Minimum ...	14	9	22	18	15	2	-4	21	14	21	12	5	20	20	13	19	32	33	31	35	32	34	33	20	13	11	14	16	10	13	9	17.8
Moorhead, Minn	Maximum...	19	14	23	22	28	27	13	40	29	32	31	20	28	32	32	34	46	35	48	48	68	59	58	49	19	21	30	25	23	30	30	32.7
	Minimum ...	0	-4	13	13	17	2	-8	-2	17	13	19	1	-7	17	9	13	25	24	30	29	40	34	31	19	12	10	8	12	12	12	14	14.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 4-29-26—970]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

ol. XXXV Bismarck, N. D., April, 1926 No. 4

GENERAL SUMMARY

The weather throughout the State during April was unusually ry, the average precipitation for the month being the lowest of ecord for April. There was more than the usual sunshine, nd vegetation made rapid growth. The weather was very favorable for spring work on farms, and rapid progress was made n seeding spring wheat, oats and barley, and much plowing or corn was accomplished, although at the close of the month ain was badly needed in many sections for grains, pastures, anges, meadows, and for plowing. An unusually large amount f road work was performed by contractors in all parts of the tate. At the close of the month livestock was generally in xcellent condition. A large number of severe prairie fires occurred in the central and west portions, causing much property oss, as well as the loss of several humans.

TEMPERATURE

The mean temperature for the State was 42.8°, or 1.1° above he normal, and 5.0° lower than the mean for April, 1925. he highest mean reported was 49.4° at Ashley, McIntosh ounty; the lowest was 36.5° at Larimore, Grand Forks County. he highest temperature reported was 98° at Ashley, McIntosh ounty, on the 15th and 30th; the lowest was -4° at Dickinson, tark County, on the 3d. The greatest monthly range of emperature was 97° at Ashley, McIntosh County; the least as 72° at Hillsboro, Traill County. The greatest daily ange was 72° at Amenia, Cass County, on the 15th.

PRECIPITATION

The average precipitation for the State was 0.28 inch, or .10 inches below the normal, and 1.36 inches less than the verage for April, 1925. The greatest monthly amount reorted was 1.56 inches at Powers Lake, Burke County; there as none at Fort Yates, Sioux County. The greatest amount ecorded in any 24 consecutive hours was 0.68 inch at Powers ake, Burke County, on the 2d. The average number of days ith 0.01 inch or more of precipitation was 3. The average nowfall was 0.9 inch, the greatest fall being 6.0 inches at Parhall, Mountrail County.

AURORAS

Auroras were observed at Linton on the 2d; at Arnegard, rosby, New England and Willow City on the 6th; at Bottieau, Bowman, Crosby, Foxholm, Grand Forks, New England nd Willow City on the 7th; at Bowman, Crosby, Foxholm, rand Forks and New England on the 8th; at Crosby, Foxholm nd McKinney on the 9th; at Crosby on the 10th, 11th and 2th; at Beach, Crosby and Foxholm on the 13th; at Arnegard, shley, Beach, Bismarck, Bottineau, Crosby, Dogden, Ellenale, Fessenden, Foxholm, Grand Forks, Howard, McClusky, elville, Minto, Napoleon, Stanton, Williston and Willow City n the 14th; at Beach, Bottineau, Bowman, Crosby, Dogden, essenden, Foxholm, Grand Forks, Howard, Lamoine, Sharon nd Towner on the 15th; at Bowman, Crosby, Dogden, Ellenale, Grand Forks and Towner on the 16th; at Fessenden and oward on the 17th, and at Foxholm on the 18th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.08	30.47	14	29.58	30	57	7,590	10.5	38	nw.	23
Devils Lake	30.03	30.44	18	29.51	15	44	7,855	10.9	38	n.	27
Ellendale	30.09	30.44	11	29.55	15	56	11,210	15.6	50	n.	24
Grand Forks	30.00	30.44	14	29.58	15	90	....	......	54	s.	19†
Williston	30.03	30.47	24	29.47	30	48	6,971	9.7	38	w.	22
Moorhead, Minn	30.02	30.47	14	29.46	15	58	7,291	10.1	32	nw.	21
Av'ges and extremes	30.04	30.47	14†	29.46	15	.....	....	11.4	54	s.	19†

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	291.9	408.5	71	+13	70	36	35	14	27
Devils Lake	332.2	410.5	81	+15	70	46	46	15	21
Ellendale	324.4	407.2	80	+22	69	32	....	11	24
Grand Forks	......	......	......	......	66	.....	50	.....	....
Williston	321.5	410.5	78	+21	69	34	33	15	30
Moorhead, Minn	323.3	408.5	79	+21	70	36	36	16	21
Averages and extremes	318.7	409.0	78	+18	69	37	40	11	24

† And other dates.

COMPARATIVE STATE DATA FOR APRIL

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922	42.3	+0.6	89	− 2	0.92	−0.46	6	10	9	11	se.
1923	38.7	−3.0	89	−15	1.45	+0.07	5	13	8	9	nw.
1924	39.3	2.4	84	6	2.55	+1.19	9	8	9	13	nw.
1925	47.8	+6.1	85	10	1.64	+0.26	6	11	10	9	se.
1926	42.8	+1.1	98	− 4	0.28	−1.10	3	17	8	5	nw.

Climatological Data for April, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days					Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	
Amenia	Cass	954	30	41.0	−1.3	89	29	8	2	72	T.	−1.88	T.	T.	0	14	15	1	n	E. T. Carley.
Amidon	Slope		12	44.6		89	30	0	3	43	0.07	−1.34	0.04	0.6	2	19	6	5	w.	H. M. Critchfield.
Arnegard	McKenzie		11	43.9		92	30	5	3	54	0.22		0.15	1.8	3	24	3	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	49.4	+6.9	98	15†	5	1†	65	0.34	−1.63	0.31	1.5	2	24	1	5	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	44.4	+1.9	88	30	1	3†	47	0.09	1.33	0.06	1.0	2					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	45.8	+2.1	94	29	0	3	48	0.05	−1.11	0.05	T.	1	21	3	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	46.6	+4.5	89	29	10	3	49	0.11	−1.77	0.08	0.2	4	20	5	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	39.8	+0.4	86	29	3	3	56	0.50	−0.37	0.11	1.1	7	13	11	6	nw.	T. M. Street.
Bowman	Bowman	2,961	12	44.0		89	30	3	3	51	0.10	−1.14	0.04	1.0	3	20	4	6	nw.	R. Love, Jr.
Cando	Towner	1,488	25	46.0[l]	+5.4	88[k]	29	15[l]	14	61[l]	0.68	−0.21	0.59	0	3					A. J. Swanson.
Carson	Grant	2,500	14	44.2	+2.2	90	29	0	3	63	0.17	−1.38	0.12	0.5	2	16	11	3	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20								T.	−1.05	T.	T.	0	21	6	3	nw.	S. Friswold.
Crosby	Divide	1,954	19	44.0	+3.4	90	30	6	4	52	0.18	−1.01	0.14	0	2	11	16	3	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	40.4	+2.2	87	29	7	1	50	0.49	−1.54	0.39	1.5	5	18	7	5	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	42.7	−0.2	90	30	4	3	62	0.46	−0.77	0.20	0.4	5	17	5	8	nw.	Leroy Moomaw.
Dogden	McLean	1,736		42.8		89	29	4	1	56	0.41		0.18	2.2	5	16	11	3	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27																	H. Feldner.
Dunn Center	Dunn	2,191	27	42.0	−0.6	90	30	−3	3	60	0.32	−1.00	0.22	3.0	2	16	4	10	w.	W. H. Moede.
Dunseith	Rolette	1,682	30	40.9	+0.5	87	29†	3	3	52	0.25	−0.58	0.13	0	3	16	9	5	w.	J. G. Lamont.
Eckman	Bottineau	1,500	21	42.7	+1.1	89	29	4	4	53	0.72	−0.33	0.29	0	7	3	19	8	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	43.8	+0.6	89	15	2	1	59	0.05	−1.83	0.05	0.5	1	7	13	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	41.6	−2.0	87	15	7	1	55	0.44	−1.39	0.23	1.6	6	12	9	9	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	45.2		90	29	6	1†	52	0.18	−0.96	0.10	2.0	2	8	20	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	46.2		87	30	12	3	48	0.16	−0.99	0.11	T.	2	24	3	3	nw.	A. O. Wang.
Fessenden	Wells	1,610	14	42.2	+2.0	91	29	8	1	64	0.45	−1.09	0.23	0.5	4	13	10	7	nw.	T. D. Monsen.
Finley	Steele	1,461	2	41.9		87	20	9	1	52	0.19		0.08	0.1	4	20	3	7	nw.	G. J. Mustad.
Forman	Sargent	1,249	32								0.23	−1.96	0.12	0	2	22	5	3	s.	O. Enger.
Fort Yates	Sioux	1,670									0.00	1.67	0.00	0	0					P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	43.2		87	29	7	3†	51	0.58		0.16	2.7	6	12	12	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								0.36		0.16	3.0	3	17	6	7	nw.	Verne King.
Fullerton	Dickey	1,439	28	43.2	+0.4	88	29	9	2	54	0.51	−1.49	0.26	1.3	3	16	8	6	nw.	F. O. Alin.
Garrison	McLean	1,901	31	43.9	+1.3	89	29	4	3	49	0.25	−0.95	0.13	1.0	3	22	4	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	41.6	+1.3	87	29	10	14	58	0.08	−1.40	0.08	0.4	1	19	5	6	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	41.2	−0.8	86	20†	13	1†	57	0.25	−1.68	0.16	0.4	7	15	10	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	40.4	−2.1	85	30	5	1†	51	0.93	−0.03	0.31	1.5	6	11	16	3	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32								0.32	−0.94	0.18	2.0	2					J. Moffatt.
Hansboro	Towner	1,597	18	39.8	−0.1	85	30	0	1†	57	0.07	−1.22	0.04	T.	2	21	7	2	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	39.5[f]	−5.3	84[f]	19	3[f]	5	45[f]	0.03	−1.13	0.03	0.3	1	23	5	2	nw.	C. J. Downey.
Hillsboro	Traill	901	20	43.4[a]	−0.2	86[a]	29†	14[a]	1	54[a]	T.	−2.01	T.	T.	0	14	13	3	n.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	19	41.6	+1.8	88	30	3	3	53	0.06	−1.34	0.03	0.7	3	17	6	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	40.4	−2.1	89	20	6	1†	59	0.18	−1.56	0.17	T.	2	21	1	8	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	42.2	−0.4	88	29†	4	1	60	T	−0.97	T.	0.0	0	20	8	2	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	38.8	+0.7	85	19	7	1†	71	0.10	−1.23	0.05	T.	2	22	3	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	36.5	−3.9	90	20	8	14	64	0.42	−1.20	0.22	2.0	4	22	2	6	w.	Reuben Gray.
Linton	Emmons	1,711	8	45.2		91	29	5	1	68	0.18		0.18	T.	1	19	7	4	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	42.0	−0.7	88	15†	9	1†	70	0.22	−1.67	0.22	T.	1	22	7	1		W. S. Adams.
McClusky	Sheridan	1,943	8	40.2		85	29	3	3	48	0.45		0.35	1.0	2	23	4	3	nw.	Edw. Tapley.
McHenry (near)	Foster	1,509	15																	F. D. Cannon.
McKinney ‡‡	Renville	1,640	32	42.0	+1.0	88	30	−1	4	58	0.55	−0.40	0.45	1.0	2	12	14	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	45.0	+1.7	88	28	10	1†	61	0.13	−2.26	0.04	0.9	4	18	7	5	sw.	J. G. Carlson.
Maddock	Benson	1,604	10	42.2		89	29	5	1	56	0.37	−1.05	0.31	0.2	3	13	13	4	nw.	A. T. Felland.
Mandan	Morton	1,644	12	43.8	+1.7	89	29	5	1	54	0.13	−1.42	0.09	T.	2	15	4	11	se.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	23	42.0[a]	+0.2	86[a]	28	10[a]	1†	48[a]	0.36	−0.91	0.18	2.5	3	20	5	5	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	43.6	+0.8	88	30	0	2	46	0.52	−0.61	0.25	4.5	4	13	7	10		S. P. Grane.
Mayville	Traill	975	30	44.6	+1.4	89	29†	8	1†	60	0.01	−1.74	0.01	0	1	19	6	5	nw.	Ingvald Larson.
Melville	Foster	1,590	28	42.8[b]	+2.7	87[b]	29	6[b]	1	52[b]	0.55	−0.56	0.30	2.5	3	11	12	7	nw.	J. P. Kidder.
Minot	Ward	1,557	30	43.5	+1.8	89	30	5	3	50	0.74	−0.58	0.20	3.0	6	21	6	3	w.	W. I. Faris.
Minto	Walsh	820	33	40.6	0.0	88	29	4	18	59	T.	−1.57	T.	T.	0	14	11	5	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	43.7	+1.1	84	14	−1	3	48	0.06	−1.44	0.06	0.5	1	12	7	11	w.	O. H. Opland.
Napoleon	Logan	1,955	34	41.2	−0.3	90	29	0	1	58	0.34	−1.33	0.32	T.	2	18	4	8	sw.	C. J. Hoof.
New England	Hettinger	2,400	32	43.2	+0.1	89	30	−2	3	46	0.15	−0.87	0.10	1.5	2	15	7	8	nw.	W. S. Jones.
New Salem	Morton	2,163	22	44.8	+2.3	93	22	2	3	52	0.14	−1.09	0.08	1.0	3	21	7	2	nw.	J. Christiansen.
Park River	Walsh	998	22	41.8	+0.3	87	29	11	2	62	0.03	−1.28	0.02	0.2	2	18	8	4	nw.	C. B. Wright.
Parshall (near)	Mountrail		11								0.48		0.40	6.0	2					J. A. Johnson.
Pembina	Pembina	789	52	43.0[a]	+5.1	87[a]	29	8[a]	1	44[a]	0.25	−1.16	0.25	0	1	17	7	6	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	42.4[c]	+0.5	87[c]	29	6[c]	1	53[c]	0.65	−0.75	0.65	T.	1				nw.	S. C. Shanks.
Power	Richland	1,020	32								0.03	−1.80	0.03	T.	1	19	6	5	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	42.4		88	30	1	1	50	1.56	0.00	0.68	2.5	5	24	3	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	44.1[a]		89[a]	30	2[a]	3	45[a]	0.27		0.13	1.0	3	12	12	6	nw.	John Muggli.
Sharon	Steele	1,516	1								0.23		0.11	1.2	4	19	5	6	sw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	2								0.08		0.07	0.1	2	18	8	4	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	42.4	−2.0	87	29	5	1	52	0.31	−0.80	0.27	0.5	3	19	8	3	nw.	H. S. Wood.
Towner	McHenry	1,482	24	47.0	+5.6	89	29	13	9†	50	0.42	−0.58	0.20	2.5	4	23	4	3	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	44.4		88	29	2	3	56	0.24	−0.96	0.15	2.0	2	16	3	11	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	41.6	−2.2	87	20†	5	1	57	T.	−1.59	T	T.	0	21	4	5	nw.	H. Twito.
Wahpeton	Richland	962	32	44.7	+0.4	87	15†	11	2	55	0.26	−1.97	0.21	0	2	21	0	9	nw.	C. G. Luick.
Washburn	McLean	1,731	25								0.15	−0.95	0.10	1.0	2					Karl Klein.
Westhope	Bottineau	1,508	20	40.8	+1.1	88	29	−2	14	54	0.34	−0.72	0.24	0	2	16	9	5	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	44.6	+2.6	90	30	8	3	46	0.24	−0.99	0.13	1.2	5	16	10	4	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	40.1	−0.1	88	29	5	3†	58	0.49	−0.46	0.15	2.0	5	18	9	3	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	42.0	+1.4	86	29	13	2	53	0.08	−2.25	0.03	0.3	4	10	9	11	n.	U. S. Weather Bureau.
Averages				42.8	+1.1	98	15†	−4	3	72	0.28	−1.10	0.68	0.9	3	17	8	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for April, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red						T.																		T.								T.
Amidon	Lit. Missouri	.03	.04																											T.			0.07
Arnegard	Missouri		.02				.05						T.												.15								0.22
Ashley	Missouri				.03																			.31									0.34
Beach	Lit. Missouri		.06			.03															T.												0.09
Berthold Agency	Missouri		T.	.05													T.							T.	T.								0.05
Bismarck ***	Missouri			T.	.01		T.						T.	T.			T.	T.			T.		.02	.05	.03								0.11
Bottineau‖ ‖	Mouse			.11	T.		.01							.07				.06						.10	.10	.05		T					0.50
Bowman	Grand	.03	.04		.03																T.			T.			T.						0.10
Cando	Devils Lake													.05				.04						.59									0.68
Carson	Heart				.05																				.12								0.17
Cooperstown	Sheyenne				T.																												T.
Crosby	Mouse																							.14	.04								0.18
Devils Lake ***	Devils Lake			.02			.06							.01			.01						T.	.39			T.						0.49
Dickinson‖ ‖	Heart			.20	.10	.10												.02							.04								0.46
Dogden	Mouse			.08			.05							T.				.04						.06	.18								0.41
Donnybrook	Mouse																																
Dunn Center ‖‖	Knife			.22																					.10								0.32
Dunseith	Mouse																	.13					.10		.02								0.25
Eckman	Mouse			.01			.01							.02				.04						.25	.29	.10							0.72
Edgeley	James				T.													.05							T.								..05
Ellendale***	James			T.	.08		.01							T.			.07	.16			T.		T.	.01	.11		T.	T.					0.44
Energy	Missouri		T.	.10			T.														T.		T.	T.	.08								0.18
Epping	Missouri	T.					.05																		.11								0.16
Fessenden‖ ‖	James			.03			.03	T.										.16							.23								0.45
Finley	Red			T.	T.		.08							T.							T.		.01		.05		T.	.05					0.19
Forman	Sheyenne																	.11							.12								0.23
Fort Yates	Missouri																																0.00
Foxholm (near)	Mouse		T.	.12			.16							.07			T.	.04						.12	.07								0.58
Fryburg	Heart	T.	.08		.16	T.											T.				T.				.12		T.						0.36
Fullerton	James				.06		T.											.19							.26								0.51
Garrison	Missouri			.08			.04														T.			T.	.13								0.25
Grafton	Red						T.							.08													T.						0.08
Grand Forks ***	Red			.01			.03							.01							.01		.01	.16			.02						0.25
Granville	Mouse			.05			.10							.24				.07						.31	.16		T.						0.93
Hannah	Pembina													.18										.14									0.32
Hansboro	Devils Lake			T.										T.									.03	.04									0.07
Hettinger	Grand					.03																											0.03
Hillsboro	Red			T.										T.											T.								T.
Howard (near)	Missouri	T.	T.	T.			.03						T.	.01			T.						T.	.02									0.06
Jamestown‖ ‖	James			T.										.01				T.							.17								0.18
Lamoine	Missouri																								T.								T.
Langdon‖ ‖	Pembina						T.		T.						.05										.05		T.						0.10
Larimore	Red				.06	.03	.11																		.22								0.42
Linton	Missouri				T.									T.									T.		.18								0.18
Lisbon ‖‖	Sheyenne						T.								T.			T.						T.	.22			T.					0.22
McClusky	Missouri			.10														T.						T.	.35								0.45
McHenry	James																																
McKinney (near)	Mouse			.10													T.							.45									0.55
McLeod	Sheyenne				T.		.02						T.	.04				.04					.03		T.								0.13
Maddock	Sheyenne			T.			.02											.04						.31									0.37
Mandan‖ ‖	Missouri			T.	T.	T.	T.							T.									T.		.04	.09							0.13
Manfred	James			T.			.10										T.	.08				T.	T.	.18									0.36
Marmarth	Lit. Missouri	T.	.25		.20	T.	T.						T.				T.				.02			.05									0.52
Mayville	Red																								.01								0.01
Melville	James			T.			.05											.20					T.		.30								0.55
Minot‖ ‖	Mouse			.10			.20							.12				.03							.09	.20							0.74
Minto	Red													T.							T.			T.			T.						T.
Mott	Cannon Ball			.06														T.					T.										0.06
Napoleon ‖‖	Missouri			T.														.02							.32								0.34
New England	Cannon Ball			.05	.10																												0.15
New Salem	Heart			.03	.03		T.														T.		T.	T.	.08								0.14
Park River	Red						.01							T.											.02								0.03
Parshall (near)	Missouri		.40			.08																											0.48
Pembina‖ ‖	Red																							T.	.25		T.						0.25
Pettibone	James			T.														T.					T.	.65									0.65
Power	Sheyenne			T.										T.										.03									0.03
Powers Lake	Missouri		.68										.07	.04										.32	.45								1.56
Richardton	Heart				.10																.04				.13								0.27
Sharon	Red			T.	T.		.06							T.				T.			.03		T.	T.	.11	T.	.03	T.					0.23
Stanton	Missouri			.01											T.										.07								0.08
Steele	Missouri		T.	.02	.02									T.									T.	T.	.27								0.31
Towner	Mouse			.20										.15			T	.05							.02								0.42
Turtle Lake	Missouri			.09																				T.	.15								0.24
Valley City	Sheyenne			T.	T.									T.				T.							T.								T.
Wahpeton	Red													.05				.21															0.26
Washburn	Missouri			.10																							.05						0.15
Westhope	Mouse																							.10	.24								0.34
Williston ***	Missouri		.03			T.	.06						.02				T.						T.	.01	.12								0.24
Willow City	Mouse			.15										T.			T.	.05			T.		.09	.14	.06		T.						0.49
Moorhead, Minn ***	Red			.01	T.		.02							.02											.03		T.	T.					0.08

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	36	40	34	28	43	40	43	45	58	69	61	73	38	52	87	66	52	60	74	87	73	73	64	53	55	70	47	76	89	78	....	58.8
	Minimum	11	8	11	12	14	17	14	19	13	18	21	25	30	9	15	30	32	32	22	33	47	31	40	33	22	25	33	15	30	38	....	23.3
Amidon	Maximum	31	31	35	25	33	39	34	35	57	66	61	73	62	45	81	75	67	60	83	74	69	66	59	55	70	70	56	81	85	89	....	58.9
	Minimum	6	7	0	14	15	21	18	15	22	35	35	43	35	20	30	40	30	27	40	53	40	41	43	35	33	44	29	40	49	48	....	30.3
Arnegard	Maximum	37	38	30	36	40	40	43	42	62	67	71	75	54	69	78	70	46	63	74	76	68	70	54	67	70	62	57	72	91	92	....	60.5
	Minimum	6	8	5	10	9	17	14	16	22	32	25	42	24	15	46	39	29	22	34	42	38	37	37	35	30	39	23	35	44	44	....	27.3
Ashley	Maximum	40	47	50	45	41	42	58	59	72	72	81	90	85	59	98	94	71	70	80	90	90	85	90	69	65	80	71	87	92	98	....	72.4
	Minimum	5	13	16	15	5	22	14	15	11	33	25	31	32	12	35	32	32	23	32	40	48	36	44	32	30	22	30	22	40	44	....	26.4
Beach	Maximum	36	32	27	22	32	30	42	43	62	67	70	72	52	57	79	80	57	64	84	72	69	67	57	67	68	71	57	80	87	88	....	59.7
	Minimum	16	19	1	12	1	20	12	20	17	34	33	38	30	20	34	36	30	27	46	50	47	50	38	38	28	29	28	33	43	47	....	29.2
Berthold Agency	Maximum	32	40	36	32	36	36	45	49	58	69	70	74	58	65	84	69	68	62	75	70	68	70	68	47	66	62	55	86	94	92	....	61.2
	Minimum	6	20	0	3	7	20	18	28	22	28	28	42	28	20	42	45	32	30	40	40	42	61	32	36	28	42	28	40	46	60	....	30.5
Bismarck	Maximum	36	40	30	33	37	36	46	44	60	68	66	72	57	57	84	65	46	61	82	78	68	70	57	54	60	67	51	79	89	88	....	59.4
	Minimum	10	17	10	16	11	23	16	16	11	36	26	38	27	15	44	38	33	30	10	47	47	46	42	35	31	39	31	32	47	42	....	29.9
Bottineau §§	Maximum	33	35	23	30	36	40	39	34	57	60	62	71	32	54	77	51	49	57	79	80	66	70	45	51	58	62	48	79	86	79	....	54.8
	Minimum	11	11	−3	3	8	13	11	15	13	24	27	35	25	16	21	33	26	25	34	42	39	40	36	31	30	39	29	29	47	31	....	24.7
Bowman	Maximum	30	32	28	25	27	33	42	45	57	68	67	73	60	65	84	79	73	60	84	70	67	67	60	56	69	68	60	80	87	89	....	60.2
	Minimum	11	18	3	15	6	22	10	19	19	32	30	35	32	19	38	36	30	29	37	48	38	43	27	36	24	34	24	29	44	48	....	27.9
Carson	Maximum	36	40	32	27	35	35	44	48	60	50	75	76	50	60	85	70	58	60	89	78	74	70	60	60	70	68	57	80	90	88	....	60.5
	Minimum	9	22	0	12	5	10	12	16	19	33	32	38	25	20	22	35	32	35	40	42	45	44	40	33	27	36	29	30	46	47	....	27.9
Crosby	Maximum	31	38	23	30	28	38	36	46	45	68	70	78	48	68	76	48	66	77	82	78	68	70	56	64	68	64	64	78	85	90	....	59.4
	Minimum	9	20	8	6	8	11	12	15	28	30	31	30	28	38	36	34	27	38	48	44	44	45	38	32	36	35	23	34	36	38	....	28.7
Devils Lake	Maximum	31	37	28	27	37	38	39	35	56	62	59	72	44	49	80	48	47	56	79	83	67	67	47	49	55	64	44	78	87	73	....	54.6
	Minimum	7	9	12	11	14	23	18	22	17	30	22	38	26	13	40	27	26	21	30	47	46	38	39	29	27	33	28	28	40	32	....	26.1
Dickinson §§	Maximum	36	36	26	24	32	35	42	44	60	68	68	73	41	66	82	72	41	65	88	72	69	71	61	56	69	68	70	80	88	90	....	59.8
	Minimum	9	18	−4	5	2	11	13	17	14	29	28	37	38	14	20	33	31	26	34	43	40	38	40	35	26	32	29	29	37	44	....	25.6
Donnybrook	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	......
Dunn Center §§	Maximum	35	35	27	29	35	35	44	42	49	68	68	38	74	66	81	67	44	61	84	74	68	69	56	54	68	64	55	79	86	90	....	58.2
	Minimum	4	18	−3	1	6	8	13	17	10	26	22	45	14	35	29	36	30	30	35	58	39	34	40	34	26	37	27	31	37	38	....	25.9
Dunseith	Maximum	32	35	33	30	34	38	40	38	57	58	61	73	69	53	78	65	48	56	77	79	73	69	65	51	57	62	51	77	87	87	....	57.8
	Minimum	4	6	3	5	7	19	16	11	11	32	24	32	18	10	31	30	22	23	30	52	39	36	35	22	28	37	25	25	38	49	....	24.0
Edgeley	Maximum	37	41	37	34	40	38	49	50	60	70	64	73	66	51	89	80	51	59	77	88	74	75	62	54	60	71	66	78	88	87	....	62.3
	Minimum	2	4	16	15	8	23	15	11	8	35	18	31	33	9	33	30	31	30	24	42	49	33	41	31	26	32	28	19	42	38	....	25.2
Ellendale	Maximum	34	39	37	23	37	36	46	48	58	68	60	72	50	47	87	63	47	56	74	85	71	76	59	54	57	69	49	75	86	82	....	58.2
	Minimum	7	8	16	9	7	24	19	15	15	28	23	29	23	13	32	35	30	21	22	39	45	34	39	34	28	30	26	23	38	42	....	25.1
Fessenden §§	Maximum	35	41	29	29	38	38	46	41	60	67	65	75	35	54	85	59	65	60	81	87	69	72	53	53	61	67	50	80	91	82	....	58.9
	Minimum	8	9	11	12	11	13	14	22	12	26	19	39	33	10	21	30	29	26	36	37	46	25	41	31	27	37	31	25	36	35	....	25.4
Foxholm (near)	Maximum	34	36	34	30	36	38	39	38	59	63	65	69	68	59	77	67	46	58	79	77	73	71	65	53	59	62	52	80	87	86	....	58.7
	Minimum	8	11	7	7	11	21	18	15	16	35	24	40	24	19	45	33	28	20	30	47	41	40	39	33	32	44	23	34	47	35	....	27.6
Fullerton	Maximum	34	39	36	31	38	40	48	47	57	67	60	73	63	61	86	63	48	57	75	87	72	76	62	53	58	70	56	77	88	82	....	60.1
	Minimum	15	9	14	18	10	15	12	18	15	34	22	30	29	11	40	34	32	20	23	38	41	35	46	35	28	32	30	23	38	42	....	26.3
Garrison	Maximum	38	45	36	29	41	38	45	49	60	66	66	74	59	62	82	71	46	61	85	74	70	73	62	56	62	63	52	81	89	87	....	60.7
	Minimum	6	14	4	12	9	24	16	19	12	30	22	35	26	24	43	33	30	20	36	40	39	40	40	32	30	39	24	33	41	40	....	27.1
Grafton	Maximum	33	34	32	31	39	42	42	36	56	58	58	74	70	47	83	64	50	58	78	83	68	67	59	51	54	65	53	77	87	83	....	57.7
	Minimum	15	12	19	13	18	26	16	21	12	36	23	29	25	10	36	34	26	19	25	38	50	28	35	30	28	28	29	19	33	34	....	25.6
Grand Forks	Maximum	33	34	33	29	38	38	43	36	56	62	57	71	58	43	84	50	49	55	74	86	70	67	59	50	50	64	46	77	86	73	....	55.7
	Minimum	13	13	20	18	20	25	19	23	13	36	21	31	22	13	38	32	28	22	26	42	49	31	38	31	25	28	29	20	36	35	....	26.6
Granville	Maximum	15	22	22	30	30	22	30	37	42	55	65	71	40	52	82	72	50	60	82	75	80	72	63	54	55	55	42	76	80	85	....	53.9
	Minimum	5	12	6	5	12	20	18	15	14	25	20	40	20	18	42	30	30	18	40	52	58	30	38	32	33	40	27	36	40	34	....	27.0
Hansboro	Maximum	30	34	27	30	37	40	36	60	60	55	60	72	47	48	80	57	48	56	78	80	75	70	73	75	68	64	60	78	80	85	....	58.8
	Minimum	0	0	6	10	10	19	10	25	30	20	15	32	17	5	35	20	18	12	21	38	32	25	27	35	29	33	20	25	38	35	....	20.8
Hettinger	Maximum	20	28	31	36	24	25	52	49	51	41	49	49	76	64	60	70	81	77	84	80	83	76	61	56	..	..	..	..	..	..	....	[f]55.1
	Minimum	10	7	11	14	3	18	12	16	17	16	19	12	31	23	40	36	36	39	41	45	38	36	28	26	..	..	..	..	..	..	....	[f]23.9
Hillsboro	Maximum	34	36	35	31	40	38	46	43	56	61	58	71	70	43	84	78	51	57	..	81	82	68	61	53	51	68	59	75	86	86	....	[a]58.8
	Minimum	14	23	17	15	16	27	23	25	17	35	22	28	28	29	36	35	29	21	..	25	53	37	42	32	27	30	32	21	35	37	....	[a]28.0
Howard (near)	Maximum	36	30	23	31	36	36	40	46	52	66	68	83	42	70	73	72	40	61	80	72	66	68	50	65	50	57	55	79	87	88	....	57.1
	Minimum	14	14	3	9	5	9	12	16	21	16	15	30	29	21	41	34	27	24	42	35	36	42	37	31	31	34	18	37	48	50	....	26.0
Jamestown §§	Maximum	34	38	17	19	41	35	44	34	46	65	60	66	42	46	76	59	50	59	78	89	71	68	57	64	60	51	47	78	80	83	....	55.2
	Minimum	6	6	8	14	13	22	21	16	19	28	29	28	35	32	23	33	30	17	19	35	42	31	34	31	36	34	33	31	30	35	....	25.7
Lamoine	Maximum	34	38	33	36	38	36	45	38	40	58	66	70	64	56	72	62	36	60	80	78	68	70	60	60	61	65	47	78	88	88	....	57.6
	Minimum	4	10	6	12	8	22	12	18	28	34	34	32	28	8	38	36	28	38	33	44	37	36	38	32	34	33	27	28	35	28	....	26.7
Langdon §§	Maximum	29	28	30	32	40	40	33	53	54	59	72	32	45	79	40	62	57	76	85	64	67	47	49	57	66	58	74	84	67	60	....	54.6
	Minimum	7	7	11	11	12	20	17	17	14	30	24	32	27	8	20	29	24	20	31	36	42	33	32	26	24	34	26	24	22	30	....	23.0
Larimore §§	Maximum	33	36	37	30	40	40	45	38	55	65	60	75	36	48	84	50	53	60	77	90	77	66	60	50	53	69	45	79	89	73	....	57.1
	Minimum	10	12	22	16	15	22	16	20	15	30	30	36	32	8	20	32	23	25	27	42	50	34	38	30	25	30	31	19	34	34	....	15.9
Linton	Maximum	39	42	38	28	37	47	45	50	60	70	66	79	68	55	79	88	79	60	80	86	71	72	67	55	60	79	54	80	91	87	....	63.7
	Minimum	5	20	14	15	8	9	15	11	9	27	32	39	32	17	33	40	35	32	42	31	35	17	40	35	22	35	30	23	23	45	....	26.7
Lisbon §§	Maximum	36	40	36	40	43	37	52	49	58	58	67	75	59	48	88	60	60	53	75	87	74	75	65	55	56	70	56	77	88	81	....	60.6
	Minimum	9	9	13	11	13	20	11	13	8	17	28	29	29	11	18	30	31	26	20	42	38	28	47	34	24	25	31	16	34	34	....	23.3
McKinney (near)	Maximum	35	35	30	30	40	40	42	37	60	65	68	74	58	65	80	60	60	60	80	80	70	73	60	60	61	60	52	80	81	88	....	59.5
	Minimum	5	10	7	−1	10	20	12	10	10	30	18	34	25	18	40	28	28	13	25	44	42	30	40	40	34	34	26	30	41	30	....	24.4
Maddock	Maximum	34	37	35	29	39	39	43	42	57	65	61	73	69	50	83	78	50	57	80	85	76	68	66	52	61	67	58	80	89	85	....	60.2
	Minimum	5	9	8	9	11	22	11	22	14	29	19	36	25	9	40	29	26	17	26	39	50	29	40	29	25	34	28	24	33	32	....	24.3
Melville	Maximum	32	39	36	28	48	37	45	42	58	65	65	73	63	55	85	67	48	..	76	86	67	..	65	48	55	66	55	78	87	84	....	[b]59.0
	Minimum	6	10	12	12	9	22	15	20	14	34	26	45	28	8	42	39	28	..	33	50	47	..	34	30	28	34	32	26	38	35	....	[b]26.7
Minot §§	Maximum	38	40	40	37	32	40	40	43	41	63	67	70	75	32	63	85	53	59	63	84	78	76	73	63	55	65	65	53	82	89	....	58.8
	Minimum	7	13	5	6	11	23	19	18	11	34	22	43	32	20	41	35	30	20	35	39	44	36	43	35	33	44	27	34	47	39	....	28.2
Mott	Maximum	35	34	31	30	34	37	42	42	51	65	61	57	55	84	79	68	38	43	47	51	58	66	63	67	70	68	77	80	81	78	....	56.4
	Minimum	15	20	−1	6	11	4	9	13	18	25	27	26	24	36	37	33	28	27	32	38	41	15	40	42	47	50	60	63	57	58	....	31.0
Napoleon §§	Maximum	36	42	34	27	40	38	45	48	58	68	65	77	40	52	87	64	48	62	80	88	70	74	56	54	60	70	52	78	90	84	....	59.6
	Minimum	0	5	7	10	3	16	10	9	6	31	19	35	36	4	33	25	28	20	35	43	38	45	38	39	24	30	25	20	36	38	....	23.7
New Salem	Maximum	43	41	87	29	37	41	43	45	62	69	68	72	66	61	85	72	55	61	87	51	70	93	71	63	61	62	52	82	90	91	....	62.9
	Minimum	7	17	2	10	9	11	15	17	15	33	22	34	26	21	44	35	32	31	37	31	47	41	42	35	32	38	29	30	43	44	....	27.7
Pembina §§	Maximum	32	39	29	31	46	43	39	43	..	60	54	74	40	44	76	45	48	58	74	84	65	68	56	49	53	43	52	78	87	68	....	[a]54.4
	Minimum	8	21	29	18	22	31	13	29	25	..	33	39	40	20	41	25	35	29	37	42	53	34	41	30	39	43	23	34	41	40	....	[a]21.7
Steele	Maximum	24	34	27	31	27	36	45	40	57	67	65	70	36	54	85	56	55	62	74	82	72	65	52	57	62	47	77	76	87	82	....	56.8
	Minimum	5	10	10	10	6	10	10	27	30	33	35	35	35	34	35	36	32	20	34	42	42	37	40	35	28	27	25	36	42	39	....	28.0
Towner	Maximum	36	37	32	32	39	42	44	48	50	64	68	74	70	68	81	78	68	65	83	79	76	80	77	70	70	72	70	83	89	86	....	64.4
	Minimum	20	22	20	15	17	20	17	18	13	27	33	35	25	13	37	32	27	17	33	36	38	46	38	36	38	41	39	40	45	50	....	29.6
Valley City	Maximum	35	38	24	25	40	36	47	50	49	65	58	71	64	48	85	67	50	57	75	87	70	70	58	53	62	75	55	77	87	85	....	58.8
	Minimum	5	10	10	8	10	24	13	19	15	26	22	40	23	12	35	29	28	20	32	43	38	42	38	31	25	21	28	20	34	35	....	24.5
Wahpeton	Maximum	37	40	43	40	42	39	51	50	56	68	65	72	70	45	87	87	54	54	72	87	84	72	72	59	59	69	68	72	87	85	....	62.9
	Minimum	13	11	18	18	13	26	17	16	15	15	25	30	30	16	35	32	32	20	29	42	49	35	43	37	23	25	33	18	34	45	....	26.5
Westhope	Maximum	36	30	25	28	30	42	44	55	60	61	72	68	60	52	78	48	52	62	82	78	72	69	69	59	62	69	60	58	88	58	....	57.3
	Minimum	5	10	15	12	10	20	0	15	22	31	20	20	20	−2	30	29	27	18	29	32	40	38	41	40	29	29	30	41	40	40	....	24.4
Williston	Maximum	35	31	28	31	38	38	44	41	63	66	70	74	41	70	76	65	44	61	82	74	67	68	53	56	66	60	58	80	88	90	....	58.6
	Minimum	17	11	8	14	13	20	19	15	21	31	34	41	25	24	43	36	33	30	38	48	42	46	39	33	34	38	27	41	48	52	....	30.7
Moorhead, Minn	Maximum	33	36	36	27	40	36	48	41	56	64	56	71	54	42	85	54	51	57	71	85	70	73	62	50	51	68	46	74	86	78	....	56.7
	Minimum	13	13	17	15	15	25	17	23	18	34	25	30	21	14	35	35	29	23	29	40	51	38	45	32	24	30	31	21	36	42	....	27.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 5-27-26—976]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

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JUL 1926

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXV BISMARCK, N. D., MAY, 1926 No. 5

GENERAL SUMMARY

The month opened with weather favorable for crops and outdoor work. Early seeded wheat was up to good stand and color at the opening of the month, and late sown seed was germinating. Showers occurred in all sections from the 6th to the 10th, inclusive, and scattered showers from the 16th to the 21st, inclusive. Plowing for corn made rapid progress during the first decade, and planting was general during the second and the early part of the third decades. Flax seeding was general during the last decade. Heavy to killing frosts occurred in all sections on the 3d, but slight damage resulted. Later frosts were generally light, and did practically no damage. Crops at the close of the month were from ten days to two weeks late, due to cool weather and generally deficient precipitation. Rain was needed in all parts of the State for crops, pastures, ranges and meadows.

TEMPERATURE

The mean temperature for the State was 58.5°, or 5.9° above the normal, and 4.9° higher than the mean for May, 1925. The highest mean reported was 66.6° at Mott, Hettinger County; the lowest was 53.5° at Howard, Williams County. The highest temperature reported was 105° at Edgeley, LaMoure County, on the 4th; the lowest was 10° at Grafton and Minto, Walsh County, on the 3d. The greatest monthly range of temperature was 90° at Edgeley, LaMoure County, and Minto, Walsh County; the least was 52° at Amidon, Slope County. The greatest daily range was 78° at Edgeley, LaMoure County, on the 4th.

PRECIPITATION

The average precipitation for the State was 2.18 inches, or 0.37 inch below the normal, and 0.74 inch more than the average for May, 1925. The greatest monthly amount reported was 4.02 inches at Mott, Hettinger County; the least was 0.43 inch at Towner, McHenry County. The greatest amount recorded in any 24 consecutive hours was 2.10 inches at Larimore, Grand Forks County, on the 25th. A trace of snow occurred at Hansboro, Towner County, on the 20th. The average number of days with 0.01 inch or more of precipitation was 7.

AURORAS

Auroras were observed at Fullerton and New England on the 3d; at Dogden, Ellendale, Minto, New England, Williston and Moorhead on the 4th; at Bottineau and Fullerton on the 6th; at Bottineau, Fullerton and Grand Forks on the 9th; at Arnegard, Bottineau, Dogden, Fullerton, Grand Forks, Minto and Willow City on the 10th; at Fullerton on the 12th; at Bottineau, Fullerton and Willow City on the 14th; at Willow City on the 15th, 16th and 17th; at Ellendale on the 18th and 19th, and at Richardton on the 27th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.88	30.31	11	29.31	5	57	7,433	10.0	42	sw.	24
Devils Lake	29.86	30.34	11	29.31	5	44	8,409	11.3	37	e.	25
Ellendale	29.88	30.30	3	29.37	5	56	11,988	16.1	52	nw.	30
Grand Forks	29.85	30.31	3†	29.38	5	90	....	......	60	s.	6
Williston	29.86	30.41	11	29.25	5	48	7,091	9.5	42	nw.	31
Moorhead, Minn	20.84	30.33	3	29.36	20	58	7,575	10.2	33	sw.	6
Av'ges and extremes	29.86	30.41	11	29.25	5	.....	....	11.4	60	s.	6

*For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	244.7	467.3	52	− 6	72	42	42	10	5
Devils Lake	364.6	471.0	77	+20	67	43	43	15	5
Ellendale	322.5	463.8	70	+12	69	38	....	16	4†
Grand Forks	......	......	.....	.....	55	.....	55	.....	....
Williston	292.2	471.0	62	+ 7	70	40	41	15	14
Moorhead, Minn.	359.4	467.3	77	+19	65	38	44	18	4
Averages and extremes	316.7	468.1	68	+11	66	40	45	10	5

† And other dates.

COMPARATIVE STATE DATA FOR MAY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921	52.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.
1923	54.1	+1.5	100	13	1.77	−0.78	6	15	10	6	nw.
1924	46.9	−5.7	84	15	0.79	−1.76	5	12	10	9	nw.
1925	53.6	+1.0	111	10	1.44	−1.11	4	17	9	5	nw.
1926	58.5	+5.9	105	10	2.18	−0.37	7	13	11	7	nw.

Climatological Data for May, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Amenia	Cass	954	30	58.6	+4.5	96	5	12	3	72	1.75	−1.09	0.97	0	4	16	14	1	n.	E. T. Carley.
Amidon	Slope	...	12	59.2^a	...	88^a	24	36^a	13	38^a	2.91	+0.54	1.25	0	10	17	8	6	w.	H. M. Critchfield.
Arnegard	McKenzie	...	11	57.1	...	87	24	33	13	43	1.30	...	0.35	0	7	17	7	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	64.5	+11.8	100	5	20	3	69	3.65	+1.19	1.30	0	9	18	8	5	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	58.2	+8.1	89	24	31	15	45	1.31	−1.50	0.47	0	8	...	...	...	...	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	33	61.5	+7.8	98	5	30	13	47	2.82	+0.36	1.42	0	3	25	0	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	59.8	+5.3	97	5	26	3	48	2.69	+0.19	1.16	0	8	14	11	6	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	56.2	+4.9	94	5	20	3	62	1.34	−0.70	0.45	0	10	5	19	7	se.	T. M. Street.
Bowman	Bowman	2,961	12	57.8	...	92	24	30	2	46	2.94	+0.70	1.55	0	9	15	9	7	nw.	R. Love, Jr.
Cando	Towner	1,488	25	58.1	+6.6	94	5	18	3	51	2.59	+0.19	1.12	0	9	...	...	...	e.	A. J. Swanson.
Carson	Grant	2,500	14	61.0	+8.7	102	24	30	3	48	2.19	−0.45	0.90	0	8	12	13	6	ne.	J. W. Evens.
Cooperstown	Griggs	1,428	20	...	...	...	...	...	...	...	3.52	+1.31	2.00	0	5	24	6	1	nw.	S. Friswold.
Crosby	Divide	1,954	19	57.8	+7.4	92	5	26	1	54	1.53	−0.47	0.50	0	7	6	20	5	sw.	John Jensen.
Devils Lake	Ramsey	1,478	29	57.2	+4.5	97	5	19	3	49	1.68	0.52	0.62	0	9	11	14	6	e.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	58.2	+6.0	94	5	34	14	54	2.90	+0.47	1.18	0	8	11	3	14	nw.	Leroy Moomaw.
Dogden	McLean	1,736	...	57.8	...	96	5	24	3	46	1.97	...	0.75	0	10	12	14	5	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. Feldner.
Dunn Center	Dunn	2,191	27	56.8	+3.5	93	5	28	14	57	3.37	+0.83	1.00	0	6	14	5	12	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	58.2	+6.3	94	5	16	2	50	0.73	−0.97	0.20	0	8	7	17	7	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	57.6	+7.0	95	5	21	2	50	1.53	−0.65	0.63	0	5	0	22	9	sw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	60.2	+6.7	105	4	15	3	78	1.54	−1.13	0.67	0	5	2	17	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	59.8	+4.1	93	4†	19	3	51	1.73	−1.28	0.56	0	11	8	14	9	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	59.8	...	98	5	29	3	52	1.73	−0.47	0.72	0	7	4	23	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	60.4	...	90	1	28	13	54	1.20	1.11	0.50	0	5	21	7	3	nw.	A. O. Wang.
Fessenden	Wells	1,610	14	58.4^b	+6.9	99^e	5	20	3	68^e	2.24	−0.04	0.62	0	10	9	8	14	se.	T. D. Monsen.
Finley	Steele	1,461	2	57.9^c	...	90^c	4	12^c	3	47^c	2.75	...	1.82	0	8	...	...	...	nw.	G. J. Mustad.
Forman	Sargent	1,249	32	...	...	...	...	...	...	...	2.14	−0.84	1.17	0	7	9	15	7	n.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	2.39	+0.62	0.95	0	7	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	57.6	...	94	5	24	2	47	1.86	...	0.56	0	9	6	18	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	...	...	...	...	...	...	...	1.89	...	0.60	0	12	12	12	7	nw.	Verne King.
Fullerton	Dickey	1,439	28	61.0	+7.7	96	4	18	3	55	1.59	1.65	0.94	0	7	13	14	4	nw.	F. O. Alin.
Garrison	McLean	1,901	31	58.3^a	+5.7	96^a	5	28^a	2†	49^a	2.33	+0.16	0.85	0	6	16	10	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	59.4	+6.5	98	5	10	3	48	1.97	−0.14	0.86	0	6	17	7	7	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	59.0	+5.6	96	5	17	3	46	2.45	−0.09	0.78	0	8	11	14	6	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	55.5	+4.1	88	4	25	2	52	0.93	−0.91	0.34	0	8	6	18	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	18	55.1	+4.8	92	5	14	2†	51	1.47	−0.61	0.40	T.	7	20	8	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	63.7	+7.0	96	24	35	31	43	3.80	+1.68	1.55	0	8	17	9	5	nw.	U. J. Downey.
Hillsboro	Traill	901	20	60.2	+5.3	95	5	18	3	47	2.15	−1.37	0.82	0	7	9	20	2	se.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	19	53.5	+4.1	87	5	30	2†	45	1.49	−0.69	0.79	0	4	6	14	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	57.6	+4.1	96	5	15	3	61	2.68	−0.01	1.47	0	9	15	3	13	sw.	S. Calvelage.
Lamoine	Kidder	1,936	21	57.8	+7.1	98	5	23	3	52	3.09	+0.73	1.25	0	6	16	9	6	ne.	L. V. Virgin.
Langdon	Cavalier	1,615	30	54.4	+3.6	91	5	16	3	67	1.66	−0.59	0.48	0	5	20	6	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	57.4	+5.0	99	4	12	3	74	2.61	+0.14	2.10	0	5	15	3	13	s.	Reuben Gray.
Linton	Emmons	1,711	8	59.8^a	...	98^a	24	24^b	20	56^a	2.90	...	1.17	0	11	13	5	13	ne.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	60.6	+7.7	95	4†	22	3	54	2.12	−1.07	1.29	0	5	19	9	3	...	W. S. Adams.
McClusky	Sheridan	1,943	8	54.6	...	85	2	20	4	52	2.74	...	0.65	0	9	20	3	8	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	32	56.8^a	+4.8	95^a	5	25^a	2†	55^a	1.65	0.30	0.50	0	5	11	15	5	w.	N. P. Swenson.
McLeod	Ransom	1,075	14	59.8	+5.7	95	4†	11	3	56	2.48	−1.30	1.45	0	8	21	8	2	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	58.6	...	99	5	18	3	50	2.01	−0.02	0.47	0	8	6	19	6	nw.	A. T. Felland.
Mandan	Morton	1,644	12	59.2	+5.3	98	6	25	3	53	2.41	−0.09	0.65	0	8	9	8	14	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	59.0	+7.4	95	5	21	3	47	2.40	+0.04	0.75	0	9	15	8	8	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	56.6^a	+6.6	92^a	4	30^a	13	46^a	1.95	−0.33	0.70	0	14	3	10	18	...	S. P. Grane.
Mayville	Traill	975	30	59.8	+5.3	97	5	12	3	48	2.41	−0.53	0.77	0	5	13	9	9	n.	Ingvald Larson.
Melville	Foster	1,590	28	59.4	+6.9	97	5	17	3	50	3.44	+0.77	1.47	0	7	8	15	8	nw.	J. P. Kidder.
Metigoshe	Bottineau	...	...	...	...	...	...	...	...	...	1.16	...	0.39	0	8	...	...	...	...	J. A. Thorburn.
Minot	Ward	1,557	30	59.2	+6.9	98	5	28	3	49	2.05	+0.08	0.70	0	11	16	12	3	w.	W. I. Faris.
Minto	Walsh	820	33	58.8	+5.4	100	5	10	3	54	1.44	−0.90	0.60	0	5	9	19	3	se.	C. M. Evans.
Mott	Hettinger	2,424	19	66.6	+15.0	94	24	34	12	43	4.02	+1.66	2.02	0	6	10	10	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	34	57.9	+5.5	99	24	18	3	54	2.21	−0.19	0.53	0	11	16	7	8	s.	C. J. Hoof.
New England	Hettinger	2,400	32	58.0	+6.4	93	5	34	19	44	2.27	+0.12	0.72	0	6	10	13	8	nw.	W. S. Jones.
New Salem	Morton	2,163	22	60.1	+8.8	100	5	28	3†	48	1.84	−0.53	0.62	0	8	17	11	3	nw.	J. Christiansen.
Park River	Walsh	998	22	58.8	+6.6	95	5	11	3	47	1.57	−0.66	0.75	0	6	10	13	8	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	11	...	...	...	...	...	...	...	3.45	...	1.05	0	5	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	52	56.3	+3.8	95	5	15	3	48	1.16	−1.06	0.60	0	2	22	4	5	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	57.6^g	+7.1	95^g	5	12^g	3	57^g	1.51	−1.34	0.35	0	7	...	...	...	nw.	S. C. Shanks.
Power	Richland	1,020	32	...	...	...	...	...	...	...	2.81	−0.08	1.98	0	5	18	12	1	n	Frank B. Power.
Powers Lake	Burke	2,205	12	55.8	...	91	5	21	2	44	3.41	+1.61	1.10	0	6	19	7	5	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	58.4	...	95	4	34	13†	47	3.71	...	1.88	0	8	7	17	7	nw.	John Muggli.
Sharon	Steele	1,516	1	...	...	...	...	...	...	...	3.17	...	2.08	0	8	13	12	6	se.	Nels O. Greisheim.
Stanton	Mercer	1,722	2	...	...	...	...	...	...	...	1.52	...	0.54	0	5	9	15	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	58.4	+4.6	96	5	22	3	54	2.67	+0.18	0.90	0	11	9	14	8	se.	H. S. Wood.
Towner	McHenry	1,482	24	58.2	+5.9	99	5	22	3	52	0.43	−1.89	0.20	0	4	19	10	2	nw.	B. Bagley.
Turtle Lake	McLean	1,899	11	58.8	...	98	5	26	3	47	2.60	+0.33	1.01	0	11	9	9	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	59.1	+6.5	95	5	12	3	49	1.17	−1.96	0.32	0	6	22	4	5	ne.	H. Twito.
Wahpeton	Richland	962	32	62.0	+6.7	94	5	14	3	48	2.85	+0.04	1.08	0	9	18	1	12	se.	C. G. Luick.
Washburn	McLean	1,731	25	...	...	...	...	...	...	...	1.41	−0.97	0.44	0	7	...	...	...	...	Karl Klein.
Westhope	Bottineau	1,508	20	55.9	+4.5	96	5	20	2	48	1.49	−0.55	0.52	0	7	23	2	6	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	57.0	+3..	87	5	32	13	40	1.39	−0.87	5.62	0	8	6	16	9	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	56.6	+5.1	96	5	18	2	52	0.80	−1.12	0.31	0	7	11	16	4	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	60.2	+5.1	94	5	18	3	46	1.93	−1.02	1.39	0	9	5	15	11	n.	U. S. Weather Bureau.
Averages	...	...	...	58.5	+5.9	105	4	10	3	78	2.18	−0.37	2.10	0	7	13	11	7	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.

Daily Precipitation for May, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Amenia ‖	Red							T.	T.	.25				T.								.13							T.	.97		.40	1.75
Amidon	Lit. Missouri						.20	.12	.28	T.	.32		.03	.13			.08				.15						.05		1.55		T.		2.91
Arnegard	Missouri						.11	.20	.35	.33	.02		T.						.04									T.	.25				1.30
Ashley	Missouri							*	1.50	.63				.05			.09		.03									.03	.35	.77		.20	3.65
Beach	Lit. Missouri						.09	.12	.01	T.	.15		T.								T.	.02					.02	.43	.47		T.		1.31
Berthold Agency	Missouri								1.30	.10																			T.	1.12		T.	2.52
Bismarck ***	Missouri						.34	.30	.13	1.16			T.						T.	T.	.27	T.			.25			T.	.10		.11		2.69
Bottineau ‖	Mouse			T.	T.	T.	T.	.01	.45	T.	T.			.03			T.	T.	.08		.05	.14				.21		T.	.12	.24		.01	1.34
Bowman	Grand						.25	.65	.05		.10		T.	.08			.10				.10	.06					T.		1.55		T.		2.94
Cando	Devils Lake						1.12	.30	.12									.01			.27				.22				.06	.26	.20		2.59
Carson	Heart						.10	.90	.03	.16	.10										.15							.10	.65				2.19
Cooperstown	Sheyenne								.64																2.00	.50			.15		.23		3.52
Crosby	Mouse							.12	.46	.50	.08		T.						.25	T.	.08	T.						T.	.04				1.53
Devils Lake ***	Devils Lake						T.	.02	.11				T.			T.			.01		.27	T.			.33	.07		T.	.62		.08	.17	1.68
Dickinson ‖	Heart							.49	.64		.21											.06						.02	1.18	.23		.07	2.90
Dogden	Mouse						.11	.22	.16	.75			.10			.01			T.		.46					.03		.03	.10			T.	1.97
Donnybrook	Mouse																																
Dunn Center ‖	Knife							.50	.81		.42											.07							1.00	.57			3.37
Dunseith	Mouse							.07	.10				.09						.05		.20				.05				.15			.02	0.73
Eckman	Mouse							.21	.45				.09								.15								.63				1.53
Edgeley	James								.07											.34								T.	.67	.20		.26	1.54
Ellendale ***	James	T.					.06	.02	.19	.20			.08				T.		.14	.01	.03	T.	T.		T.			.05	.56		T.	.39	1.73
Energy	Missouri					T.	T.	.53	.11	.72		.07				T.			T.		.13	T.				T.	.04	T.	.13		T.	T.	1.73
Epping	Missouri						.07	.19	.38	.50	.06																						1.20
Fessenden ‖	James							.02	.12	.28	.13			.06				T.				.37				.20			.06	.62		.38	2.24
Finley	Red	T.					T.	.07	.27				T.								.08	.05			.02	1.82		T.	T.	.27	T.	.17	2.75
Forman	Sheyenne								.05	.57			.02				.03				.10								1.17			.20	2.14
Fort Yates	Missouri						.06	.27	.10	.50																		.21	.95	.30			2.39
Foxholm (near)	Mouse						T.	.56	.15	.26	.25		T.				T.		.06		.21					.18		.01	.18		T.	T.	1.86
Fryburg	Heart						.12	.49	.17	.10	.13		.15					T.	T.	.03	.02		T.		T.	T.	.03	.01	.60	.04		T.	1.89
Fullerton	James						T.		.11	.06			T.					T.	T.	.07	.08		T.					.09	.94			.24	1.59
Garrison	Missouri							.85		.84											.19						T.	.07	.34		.04	T.	2.33
Grafton	Red							T.	.21	.10											.21					.86				.31		.28	1.97
Grand Forks ***	Red							T.	.36				T.			T.	T.		.02		.15				.06	.78			.77	.01		.30	2.45
Granville	Mouse						.04	.34	.09	.16			.04						T.	.15								T.	.08			.03	0.93
Hannah	Pembina																																
Hansboro	Devils Lake						.30	.10	.14												.40	.05				.18			.30				1.47
Hettinger	Grand						.33	1.20	.23	.05			.15					T.			.04						T.	.25	1.55				3.80
Hillsboro	Red						.09		.06												.12					.33			.03	.82		.70	2.15
Howard (near)	Missouri				T.		T.		.62	.79			T.					T.	T.	T.	T.	.04	T.				T.	T.	.04		T.	T.	1.49
Jamestown ‖	James							.05	.10	.01			.11					T.			.26					1.47		.12	.51	.05			2.68
Lamoine	Missouri						T.	T.	*	1.18			T.						T.		T.				*	.38		1.25			.28		3.09
Langdon ‖	Pembina									.12				T								.40				.40			T.	.48		.26	1.66
Larimore	Red																					.15				2.10	.04			.27		.05	2.61
Linton	Missouri	T.					.06	.25	.46	1.17			T.				.02	.02			.09					.09		.03	.66			.05	2.90
Lisbon ‖	Sheyenne									T.	.20			T.				T.				.13				T.			.10	1.29		.40	2.12
McClusky	Missouri						.15	.25	.18	.55			T.								.20				.65			.35	.35			.06	2.74
McKinney (near)	Mouse							.35	.45	.25	T.										.10							.50		T.			1.65
McLeod	Sheyenne							.36	.16				.10				.02								.09					1.45	.18	.12	2.48
Maddock	Sheyenne						.46	T.	.25				.07						T.		.24	.10				.25			.47			.17	2.01
Mandan ‖	Missouri							.39	.50	.65	.37			T.							T.	.34				.04			.03			.09	2.41
Manfred	James						.28	.01	.27	.16			.03			T.			T.		.52						T.	.75	.16		.22		2.40
Marmarth	Lit. Missouri	.01			*	*	.24	.51		.06	.02	T.				.09				.09	.09					.02	.11	*	.70		.01		1.95
Mayville	Red									.33											.33					.77				.70		.31	2.44
Melville	James								.60				.07						T.	T.	.10	.40				1.47		T.	.20		.60		3.44
Metigoshe	Mouse							.16	.24	T.			.07						.04		.23					.02			.39			.01	1.16
Minot ‖	Mouse							.20	.55		.70			.03					.03		.01	.11					.09	.01	.20	.12			2.05
Minto	Red								.33												.10					.60				.31		.10	1.44
Mott	Cannon Ball						.21	1.02	.21		.24		T.								.22	T.							2.02				4.02
Napoleon ‖	Missouri							.08	.02	.53	.05			.10				.04				.20				.23			.50	.32		.14	2.21
New England	Cannon Ball						.35	.65	.22		.15										.18						T.	T.	.72				2.27
New Salem	Heart						.02	.62	.26	.37	.03		T.								.24					T.		.04	.26				1.84
Park River	Red								.23	.19											.23	.02				.75				T.		.15	1.57
Parshall (near)	Missouri							.40	1.05	.95																		.55	.50				3.45
Pembina ‖	Red									.56												.60								T.			1.16
Pettibone	James								.34	.35	T.		.03								.12							T.	.15	.33	.19		1.51
Power	Sheyenne								.12	.13											.04								1.98			.54	2.81
Powers Lake	Missouri							.62	1.10	.76									.03		.06								.84			T.	3.41
Richardton	Heart						.11	1.00	.35	.14	.13		T.								.09							.01	1.88				3.71
Sharon	Red	T.					T.	.02	.23	.15			T.			T.	T.		T.	T.	.11			T.	T.	2.08		T.	T.	.25	.01	.32	3.17
Stanton	Missouri						T.		.54	.46			.12								.10								.30		T.		1.52
Steele	Missouri					T.	.10	T.	.18	.34	.18	.05						T.	T.	.15	T.				T.	.90	T.	.10	.25	.27		.15	2.67
Towner	Mouse						.15			T.			.07								.20				.01						T.	T.	0.43
Turtle Lake	Missouri						.08	.27	.14	1.01			.04								.34	.03			.32	.10			.26			.01	2.60
Valley City	Sheyenne								.31	.05				T.							.07	.18				.24						.32	1.17
Wahpeton	Red						.01		.10	.03			.29							.03		.05							1.08	.95		.31	2.85
Washburn	Missouri						.02	.35	.14	.44											.14				.26					.06			1.41
Westhope	Mouse							.41	.24	.01									.12		.17	.02							.52				1.49
Williston ***	Missouri	T.					.20	.46	.16	.44			T.			T.	T.	T.	.01	T	T.	.03					T.	.07	.02			T.	1.39
Willow City	Mouse						T.	.05	.11				.04			T.	T.		T.	T	.31				T		T.	T.	.21		.02	.06	0.80
Moorhead, Minn ***	Red				T.	T.		T.	.22	T.			.02	.06			.02		.02	T.	.10	T.			T.			T.	1.35	.04	T.	.10	1.93

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for May, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum	73	53	62	95	96	84	85	79	81	70	68	71	63	66	93	80	69	77	71	65	42	72	78	85	90	83	76	70	80	85	70	75.
	Minimum	40	23	12	23	49	60	50	53	53	37	41	40	37	33	38	46	42	35	27	36	37	28	40	46	56	49	52	59	55	55	53	42.
Amidon	Maximum	84	71	76	73	..	75	60	60	50	62	57	61	58	74	76	72	65	65	73	78	72	85	80	88	81	68	75	67	79	74	72	[a]71.
	Minimum	53	43	51	48	..	47	46	46	41	43	42	43	36	40	52	50	43	43	45	50	43	58	59	50	53	48	54	54	46	52	44	[a]47.
Arnegard	Maximum	71	63	78	86	68	66	65	60	50	63	63	59	63	77	75	72	73	61	73	80	69	85	72	87	76	69	76	71	82	73	65	70.
	Minimum	47	49	36	47	52	47	43	45	41	44	39	42	33	34	51	42	42	41	35	48	34	44	46	49	50	39	50	52	46	47	35	43.
Ashley	Maximum	98	85	88	98	100	98	79	72	71	71	68	71	70	78	85	89	81	80	73	79	79	90	94	98	98	90	87	85	83	89	95	84.
	Minimum	53	34	20	29	60	63	53	53	51	43	39	40	28	33	43	44	39	37	30	43	37	33	49	52	57	47	54	58	51	52	50	44.
Beach	Maximum	72	67	84	88	83	65	55	66	62	63	62	62	60	64	66	76	66	62	75	78	79	88	80	89	74	64	76	67	75	69	68	71.
	Minimum	50	52	50	46	52	50	49	40	45	43	40	40	33	32	31	43	45	40	43	49	45	43	54	50	50	46	50	49	55	50	38	45.
Berthold Agency	Maximum	85	65	77	93	98	94	88	82	82	62	60	68	60	68	68	70	72	63	73	80	76	94	88	80	78	82	88	82	80	70	65	77.
	Minimum	55	35	32	46	56	68	60	48	48	48	45	44	30	36	34	34	32	42	32	40	36	52	56	60	62	40	48	60	48	57	42	45.
Bismarck	Maximum	75	61	72	94	97	75	60	61	57	64	62	66	59	71	75	75	70	67	69	77	56	85	77	96	80	76	69	69	81	81	65	72.
	Minimum	55	35	26	46	56	57	55	52	48	48	43	41	35	36	50	46	43	44	36	45	38	42	53	55	60	49	55	61	53	53	50	47.
Bottineau §§	Maximum	70	42	69	88	94	76	67	66	75	64	67	52	62	74	77	70	68	62	57	44	54	80	74	80	79	73	80	73	79	77	62	69.
	Minimum	39	21	20	26	56	56	50	54	51	46	39	45	28	36	40	40	38	44	35	37	34	37	47	52	57	47	58	55	48	53	45	43.
Bowman	Maximum	78	68	80	90	88	70	60	66	57	60	58	64	57	73	73	74	64	68	74	77	70	86	80	92	78	72	77	68	77	74	68	72.
	Minimum	54	30	36	48	54	48	47	45	38	42	41	42	47	31	43	39	36	36	37	42	41	43	52	46	52	48	51	52	42	48	35	43.
Carson	Maximum	68	70	75	94	97	75	58	60	55	66	64	74	60	70	78	80	80	70	73	78	65	85	79	102	86	78	70	71	80	80	66	74.
	Minimum	54	40	30	50	64	55	52	46	44	45	50	42	33	34	47	50	40	40	47	49	39	50	52	54	55	44	53	52	58	54	50	47.
Crosby	Maximum	79	82	78	84	92	82	73	60	63	64	68	65	75	78	67	78	75	66	72	72	75	80	82	83	75	76	74	78	85	73	65	74.
	Minimum	26	28	36	45	47	46	45	40	38	45	42	38	40	42	38	43	40	46	35	37	36	38	34	35	56	40	38	41	48	53	47	40.
Devils Lake	Maximum	72	38	63	91	97	83	78	71	76	65	65	57	59	73	81	74	69	66	66	45	53	81	73	83	80	80	71	74	78	83	62	71.
	Minimum	35	23	19	42	55	59	54	54	53	40	32	37	29	39	50	46	37	37	32	36	34	35	47	46	57	48	51	55	58	55	48	43.
Dickinson §§	Maximum	74	67	80	92	94	64	59	63	54	66	66	68	58	73	74	76	71	65	74	80	68	86	77	92	77	67	74	69	78	69	68	72.
	Minimum	47	37	35	38	48	51	51	47	43	44	44	45	35	34	41	42	37	42	36	50	38	40	51	50	53	45	48	54	46	51	44	44.
Donnybrook	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Dunn Center §§	Maximum	72	64	76	91	93	63	57	58	57	61	61	63	59	74	73	72	71	61	72	78	66	85	85	88	76	64	72	70	78	68	64	70.
	Minimum	58	43	32	34	45	49	50	49	43	42	39	45	31	28	45	39	35	45	32	46	34	35	49	48	53	40	48	52	45	52	44	42.
Dunseith	Maximum	77	66	67	87	94	93	71	67	74	74	70	70	61	75	79	74	70	69	65	65	56	80	78	79	79	79	79	73	78	80	67	74.
	Minimum	50	16	30	40	60	49	49	51	55	40	37	39	30	36	42	41	37	39	32	32	30	35	43	45	55	45	54	52	50	49	45	42.
Edgeley	Maximum	79	68	69	105	94	86	75	67	70	68	66	71	72	88	86	81	73	73	76	59	64	95	83	94	85	85	75	77	80	98	76	78.
	Minimum	54	28	15	27	37	64	52	55	52	39	39	34	31	43	45	43	41	36	27	37	37	29	42	40	46	51	50	55	52	51	48	41.
Ellendale	Maximum	78	58	68	93	92	81	73	68	66	65	64	68	60	69	85	77	71	71	67	63	53	83	81	93	86	84	73	77	79	86	67	74.
	Minimum	50	26	19	45	53	58	54	55	52	40	43	38	40	37	34	49	45	39	32	45	38	32	45	53	57	54	55	56	55	53	52	45.
Fessenden §§	Maximum	76	52	69	96	99	85	78	65	72	68	68	66	62	77	82	76	73	69	72	55	..	..	..	..	..	85	76	82	84	86	65	[e]74.
	Minimum	39	26	20	28	51	52	51	54	51	42	35	40	35	35	48	42	37	43	33	40	35	36	40	43	50	40	49	57	53	53	50	42.
Foxholm (near)	Maximum	85	63	72	86	94	79	60	63	70	64	64	63	70	72	73	69	68	67	67	63	55	80	78	84	82	74	77	71	78	72	67	71.6
	Minimum	49	24	25	50	52	49	47	52	46	41	37	42	28	40	52	44	39	49	32	38	32	44	41	41	54	44	52	58	50	55	44	43.
Fullerton	Maximum	81	56	71	96	95	83	79	71	72	68	67	70	62	73	90	80	79	76	71	65	57	85	83	94	89	85	73	77	80	89	70	77.
	Minimum	50	32	18	41	52	63	53	54	53	39	43	38	42	33	35	40	42	41	29	41	38	33	47	52	63	52	52	57	56	52	55	45.
Garrison	Maximum	82	65	71	93	96	75	59	62	62	63	61	..	59	72	74	74	71	71	70	75	57	85	76	88	79	68	77	72	81	75	63	[a]72.5
	Minimum	54	28	28	44	57	50	52	51	45	44	39	..	29	37	49	42	36	45	34	41	34	41	48	48	55	42	46	59	49	51	45	[a]44.1
Grafton	Maximum	77	66	58	86	98	89	88	81	75	69	68	65	62	76	89	77	72	71	67	51	57	69	76	80	74	79	75	72	78	86	83	74.6
	Minimum	54	23	10	48	50	67	57	57	56	39	38	42	32	40	47	49	41	37	25	32	36	34	44	45	50	47	51	57	59	54	53	44.3
Grand Forks	Maximum	74	41	58	88	96	84	83	79	76	71	66	66	60	74	88	77	67	69	67	52	53	68	74	81	75	76	75	71	76	83	69	72.2
	Minimum	41	24	17	48	50	67	58	58	55	60	41	44	32	39	49	50	40	36	29	34	38	30	49	49	52	49	54	60	60	53	52	45.7
Granville	Maximum	68	58	72	88	78	64	72	65	72	57	57	60	61	74	75	72	70	62	62	70	55	70	87	86	80	74	80	75	82	78	70	70.
	Minimum	42	25	24	45	48	48	43	42	55	42	35	33	26	38	47	42	35	40	36	30	35	42	35	46	42	38	45	48	48	52	40	40.2
Hansboro	Maximum	70	52	65	90	92	85	72	72	72	70	65	60	60	80	83	72	68	64	66	52	60	76	73	75	85	80	80	80	76	85	70	72.6
	Minimum	40	14	14	45	45	60	44	48	50	35	30	25	22	32	40	40	30	40	22	28	28	30	45	35	45	45	50	44	44	55	40	37.6
Hettinger	Maximum	88	76	84	86	71	75	62	66	62	59	65	69	62	81	69	71	70	68	74	80	78	83	82	96	83	88	81	89	91	81	78	76.4
	Minimum	48	46	49	54	58	54	45	48	39	39	47	44	44	56	47	54	49	48	52	49	50	64	62	72	64	58	51	56	59	39	35	51.0
Hillsboro	Maximum	76	73	58	89	95	90	81	78	79	74	67	66	62	74	88	79	68	71	67	63	58	72	75	83	83	79	78	73	77	84	72	75.2
	Minimum	52	26	18	46	55	63	54	55	54	39	41	44	35	38	44	49	42	39	30	37	38	32	47	47	52	50	52	54	59	55	53	45.2
Howard (near)	Maximum	62	58	75	82	87	65	61	55	53	60	60	52	60	70	70	67	70	59	67	65	64	79	70	82	72	70	72	68	80	69	60	67.2
	Minimum	40	30	36	52	45	44	44	43	40	44	40	35	30	38	38	42	35	41	38	40	31	34	38	44	44	42	42	42	41	45	35	39.
Jamestown §§	Maximum	74	55	54	94	96	89	77	66	75	66	66	68	61	72	85	77	68	69	69	61	51	82	76	86	77	84	71	78	78	80	66	73.3
	Minimum	34	27	15	33	45	51	49	55	52	39	37	38	38	33	41	45	41	37	35	35	35	34	42	50	50	52	51	54	55	50	50	42.0
Lamoine	Maximum	82	66	69	94	98	86	68	62	66	63	63	64	56	72	76	74	67	66	68	67	62	84	72	87	78	75	71	71	77	81	62	72.5
	Minimum	56	25	23	42	56	52	51	52	48	41	35	36	35	37	44	43	36	38	30	40	32	37	45	51	60	46	50	50	48	51	48	43.2
Langdon §§	Maximum	60	38	56	87	91	83	77	75	76	64	61	58	62	75	85	75	64	66	63	41	54	70	71	76	76	78	73	75	75	82	70	69.7
	Minimum	37	20	16	20	31	66	49	53	52	38	31	34	25	34	33	42	32	41	28	34	32	33	43	43	46	48	46	56	48	53	49	39.1
Larimore §§	Maximum	40	60	91	99	84	83	75	78	69	66	65	65	76	88	77	70	72	68	51	51	72	75	85	76	77	73	73	78	85	67	57	72.5
	Minimum	40	23	12	25	50	55	54	54	50	38	36	42	33	40	46	50	40	39	27	36	34	32	40	45	52	48	52	58	53	52	51	42.2
Linton	Maximum	87	72	72	97	95	88	65	63	60	..	65	55	65	72	81	75	70	73	71	70	74	88	84	98	92	92	77	74	81	86	69	[a]77.0
	Minimum	52	35	25	41	47	56	55	49	48	..	49	35	34	26	40	34	34	34	31	24	39	38	46	55	47	50	55	50	56	50	49	[a]42.7
Lisbon §§	Maximum	81	80	65	95	95	79	80	80	82	68	70	72	62	74	92	80	72	73	70	65	53	82	78	89	91	86	75	73	82	90	70	77.5
	Minimum	41	34	22	44	52	65	61	53	53	40	44	42	38	36	41	44	43	34	23	36	39	28	40	44	59	50	54	53	53	51	52	43.8
McKinney (near)	Maximum	75	60	72	90	95	78	60	60	75	65	68	60	63	77	75	75	70	67	70	60	58	82	75	84	72	81	72	80	74	65	..	[a]71.9
	Minimum	50	25	28	50	40	48	44	45	50	45	38	38	25	40	38	40	35	46	26	35	34	42	38	45	50	50	58	50	54	45	..	[a]41.7
Maddock	Maximum	78	72	66	92	99	95	74	65	76	71	66	65	59	73	80	75	71	69	68	69	52	80	81	86	83	81	78	76	79	82	71	75.2
	Minimum	56	24	18	42	51	54	50	52	50	40	36	36	31	36	46	43	33	36	29	39	33	38	41	45	57	41	47	55	52	51	49	42.0
Melville	Maximum	77	68	65	93	97	85	76	68	74	73	65	65	59	72	82	77	68	66	68	68	62	82	81	84	84	82	68	70	77	78	66	74.2
	Minimum	56	35	17	43	51	63	54	55	50	40	33	36	35	36	48	47	38	42	30	38	34	36	43	46	55	56	50	56	55	54	48	44.5
Minot §§	Maximum	87	57	74	91	98	75	67	64	68	65	68	67	63	75	75	73	72	63	65	68	65	85	73	87	80	72	80	75	80	75	63	73.2
	Minimum	54	29	28	52	49	59	50	54	49	44	39	41	30	40	51	41	42	52	31	41	35	43	45	46	56	42	45	60	46	53	48	45.1
Mott	Maximum	83	77	79	85	86	78	76	70	66	72	74	77	80	83	89	85	87	80	75	78	80	84	87	94	86	83	78	70	77	83	80	80.1
	Minimum	61	58	60	66	64	57	54	50	45	48	38	34	39	42	48	51	53	60	52	50	55	58	63	70	65	64	60	53	45	42	44	53.2
Napoleon §§	Maximum	73	60	68	97	97	82	72	53	66	66	63	70	60	72	81	78	72	71	67	70	55	87	80	99	82	79	68	75	89	84	68	74.3
	Minimum	45	28	18	43	57	63	50	51	45	40	34	34	32	30	43	40	35	36	26	37	32	33	42	50	50	46	48	55	48	48	47	41.5
New Salem	Maximum	93	69	73	92	100	80	52	65	59	60	61	74	59	72	75	77	73	69	78	78	65	89	78	97	85	76	75	75	78	80	69	75.0
	Minimum	46	34	28	54	52	52	28	49	44	46	46	56	28	36	49	44	41	40	34	49	35	48	50	51	57	43	51	59	51	53	47	45.2
Pembina §§	Maximum	74	36	54	88	95	85	84	84	75	68	70	67	60	69	72	75	63	69	65	45	65	68	66	79	73	82	77	77	84	93	75	72.2
	Minimum	63	24	15	42	47	58	50	51	54	52	34	35	37	41	40	41	40	40	28	24	28	25	26	34	40	45	42	52	52	55	38	40.4
Steele	Maximum	74	57	76	92	96	86	64	66	67	68	64	66	66	67	71	72	67	64	65	56	69	86	76	80	84	82	76	73	79	81	68	72.8
	Minimum	56	37	22	42	54	60	54	50	49	46	35	37	35	31	40	41	37	37	33	35	39	36	46	49	49	50	48	65	51	51	48	44.0
Towner	Maximum	78	70	72	93	99	93	75	80	75	76	70	65	62	68	75	70	71	68	70	65	65	83	81	87	81	85	75	73	85	82	75	76.4
	Minimum	27	25	22	41	54	53	45	48	40	39	41	35	26	34	39	42	36	39	34	35	30	40	44	45	46	55	42	46	48	45	47	40.1
Valley City	Maximum	75	61	60	92	95	84	79	68	66	67	65	67	60	71	87	77	68	70	68	58	59	80	79	72	81	78	94	78	77	84	67	73.8
	Minimum	50	25	12	43	54	62	57	52	47	49	37	35	36	34	45	45	36	39	28	37	34	69	35	51	55	48	49	53	55	54	50	44.4
Wahpeton	Maximum	84	78	60	93	94	90	82	79	81	76	79	69	73	90	87	77	77	70	67	62	62	72	84	85	89	88	81	78	82	84	79	79.1
	Minimum	54	32	14	47	49	61	53	57	45	39	39	42	31	42	42	40	40	26	32	34	40	28	50	54	66	51	57	55	60	57	54	44.9
Westhope	Maximum	56	40	70	88	96	73	63	65	77	65	69	67	64	75	75	73	70	63	69	55	58	80	75	81	79	77	83	75	80	72	62	70.8
	Minimum	36	20	22	40	50	42	47	49	50	48	47	30	27	38	45	43	32	43	33	29	32	40	38	42	56	42	52	50	49	53	45	41.0
Williston	Maximum	68	60	78	84	87	66	57	58	52	62	62	54	61	77	73	69	72	60	70	78	66	81	69	85	73	67	74	72	81	69	62	69.3
	Minimum	44	35	40	48	54	48	46	46	43	47	41	37	32	41	54	46	42	42	39	38	36	52	45	52	49	40	54	53	47	50	44	44.7
Moorhead, Minn	Maximum	77	52	39	93	94	84	81	77	79	66	68	68	61	72	88	76	66	73	67	64	55	71	76	83	89	83	76	69	78	82	68	74.0
	Minimum	52	24	18	47	58	62	52	57	52	43	41	43	38	38	47	52	44	38	32	42	38	31	49	52	58	53	56	56	60	54	54	46.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 6-29-26—970]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXV BISMARCK, N. D., JUNE, 1926 No. 6

GENERAL SUMMARY

Taken as a whole, the weather conditions throughout the State were somewhat unfavorable. The distribution of precipitation was uneven, both geographically and throughout the month. Very little precipitation occurred during the first decade, general moderate to heavy rains occurred during the second decade, and only light precipitation during the third decade. Due to drought, both spring wheat and winter rye headed short. Up to the close of the month corn was generally excellent, and mostly clean. Ranges, pastures and meadows were badly in need of rain at the close of the month.

TEMPERATURE

The mean temperature for the State was 60.7°, or 2.1° below the normal, and 0.8° lower than the mean for June, 1925. The highest mean reported was 70.5° at Hettinger, Adams County; the lowest was 54.0° at Pembina, Pembina County. The highest temperature reported was 104° at Napoleon, Logan County, on the 27th, and at Edgeley, LaMoure County, on the 28th; the lowest was 22° at Pembina, Pembina County, on the 18th. The greatest monthly range of temperature was 77° at Napoleon, Logan County; the least was 50° at Grafton, Walsh County. The greatest daily range was 62° at Lamoine, Kidder County, on the 27th.

PRECIPITATION

The average precipitation for the State was 2.65 inches, or 0.85 inch below the normal, and 3.42 inches less than the average for June, 1925. The greatest monthly amount reported was 5.66 inches at Mayville, Traill County; the least was 0.66 inch at Edgeley, LaMoure County. The greatest amount recorded in any 24 consecutive hours was 3.10 inches at Pembina, Pembina County, on the 21st. The average number of days with 0.01 inch or more of precipitation was 9.

AURORAS

Auroras were observed at Arnegard, Bottineau, Foxholm, Grand Forks and Willow City on the 1st; at Ellendale, Foxholm, McLeod, New England and Willow City on the 2d; at Williston on the 6th; at Devils Lake, Fessenden, Foxholm, Fullerton, McClusky, Mott and New England on the 7th; at Bismarck, Bowman, Devils Lake, Ellendale, Foxholm, Fullerton, McClusky, Moorhead and Valley City on the 8th; at Howard on the 12th; at Willow City on the 18th, and at Howard on the 24th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.94	30.31	4	29.55	20	57	7,858	10.9	48	n.	20
Devils Lake	29.91	30.32	18	29.47	20	44	7,785	10.8	56	nw.	5
Ellendale	29.94	30.30	18	29.50	20	56	11,059	15.4	62	nw.	21
Grand Forks	29.86	30.27	18	29.41	20	90	....	......	42	nw.	21
Williston	29.92	30.22	3	29.56	20	48	6,468	9.0	32	n	20
Moorhead, Minn	29.89	30.33	18	29.42	21	58	6,814	9.5	36	nw.	21
Av'ges and extremes	29.91	30.33	18	29.41	20	.....	....	11.1	62	nw.	21

*For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	271.3	475.1	57	− 5	73	45	42	19	7
Devils Lake	336.6	478.7	70	+10	73	48	52	20	5†
Ellendale	322.8	470.9	69	+ 8	75	45	....	18	28
Grand Forks	......	......	......	......	79	.....	62	.....	....
Williston	313.5	478.7	65	+ 4	75	46	47	19	27
Moorhead, Minn.	344.6	475.7	73	+10	75	52	56	21	6
Averages and extremes	317.8	475.8	67	+ 6	75	47	52	18	28

† And other dates.

COMPARATIVE STATE DATA FOR JUNE

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.
1922	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.
1923	66.1	+3.3	100	30	3.82	+0.32	8	13	12	5	se.
1924	58.6	−4.2	89	26	4.17	+0.67	11	10	12	8	nw.
1925	61.5	−1.3	98	30	6.07	+2.57	14	11	10	9	nw.
1926	60.7	−2.1	104	22	2.65	−0.85	9	13	9	8	nw.

Climatological Data for June, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	....	....	....	....	....	....	....	....	....	2.06	....	0.70	0	8	....	....	....	....	H. A. Bury.
Amenia	Cass	954	30	59.8	−3.7	92	30	32	18	41	2.21	−1.66	0.62	0	10	16	11	3	nw.	E. T. Carley.
Amidon	Slope	....	12	60.7^{f}	....	97^{f}	27	43^{f}	1†	33^{f}	3.38	+0.41	1.04	0	10	....	....	....	w.	H. M. Critchfield.
Arnegard	McKenzie	....	11	61.0	....	96	27	32	2	44	2.86	....	0.62	0	11	19	4	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	66.0	+4.0	102	28	28	3	51	1.10	−2.39	0.24	0	8	16	9	5	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	63.1	+2.0	97	27	38	1	37	1.94	−1.54	0.58	0	13	....	....	....	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	63.6	+1.0	100	27	33	2	44	1.11	−2.77	0.72	0	5	17	5	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	63.2	−0.5	100	27	34	2	44	1.81	−1.73	0.77	0	11	15	6	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	59.0	−2.0	94	27	29	2	41	3.94	+0.80	1.61	0	8	9	12	9	nw.	T. M. Street.
Bowman	Bowman	2,961	12	61.9	....	99	27	38	4	42	3.29	+0.08	0.90	0	12	17	8	5	nw.	R. Love, Jr.
Cando	Towner	1,488	25	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	A. J. Swanson.
Carson	Grant	2,500	14	62.9	−0.1	96	27	36	2	37	3.79	−0.08	1.32	0	10	17	7	6	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20	....	....	....	....	....	....	....	2.48	−1.16	0.60	0	7	14	13	3	nw.	S. Friswold.
Crosby	Divide	1,954	19	60.2	−0.4	92	27	29	2	53	4.30	+0.95	2.22	0	10	12	13	5	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	58.6	−4.0	97	27	36	2	47	1.74	−1.79	0.66	0	12	12	11	7	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	60.8	−0.5	97	27	35	1	46	1.92	−1.12	0.52	0	12	14	4	12	nw.	Leroy Moomaw.
Dogden	McLean	1,736	....	59.8	....	94	27	28	2	43	3.04	....	1.19	0	10	11	12	7	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	H. Feldner.
Dunn Center	Dunn	2,191	27	59.3	−2.6	97	27	33	2	44	2.21	−2.09	0.51	0	10	21	2	7	e.	W. H. Moede.
Dunseith	Rolette	1,682	30	57.8	−3.4	91	27	33	2	42	4.37	+1.41	1.95	0	8	8	12	10	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	58.8	−2.5	92	9†	25	2	43	4.39	+1.63	1.50	0	9	0	18	12	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	63.0	+0.2	104	28	33	2	49	0.66	−2.70	0.25	0	5	6	19	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	62.6	−3.4	100	28	35	2	47	0.77	2.23	0.25	0	9	6	13	11	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	62.2	....	98	27	28	2	48	2.58	−1.03	0.97	0	11	4	22	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	60.4	....	92	27	38	25	49	2.02	−1.32	0.54	0	11	15	9	6	ne.	A. O. Wang.
Fessenden	Wells	1,610	14	60.6	−0.4	102	28	29	2	46	1.84	−2.21	0.61	0	10	11	7	12	nw.	T. D. Monsen.
Finley	Steele	1,461	2	....	....	....	....	36	2	....	2.42	....	0.95	0	6	14	9	7	nw.	G. J. Mustad.
Forman	Sargent	1,249	32	....	....	....	....	....	....	....	1.10	−2.51	0.77	0	5	9	15	6	e.	O. Enger.
Fort Yates	Sioux	1,670	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	59.8	....	93	9	30	2	44	1.87	....	0.76	0	9	6	15	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	....	....	....	....	....	....	....	3.07	....	0.62	0	12	15	10	5	nw.	Verne King.
Fullerton	Dickey	1,439	28	62.9	+0.2	101	27	35	2	50	1.00	−2.28	0.29	0	7	15	10	5	nw.	F. O. Alin.
Garrison	McLean	1,901	31	60.8	−1.4	98	27	30	2	44	2.64	−0.68	1.40	0	10	16	8	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	60.0	−2.5	87	27	37	3†	42	3.74	+0.50	1.72	0	9	17	8	5	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	59.6	−3.3	89	10	37	18	41	4.30	+0.91	2.57	0	7	13	12	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	59.4	−3.7	95	27	26	2	41	2.32	−0.43	0.62	0	6	8	11	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	....	....	....	....	....	....	....	3.30	0.14	1.81	0	4	....	....	....	....	J. Moffatt.
Hansboro	Towner	1,597	18	55.8	−4.6	88	26	25	3	50	4.59	+1.90	2.60	0	8	11	13	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	70.5	+8.4	100	28	38	17	38	5.27	+2.03	1.03	0	12	19	1	10	nw.	C. J. Downey.
Hillsboro	Traill	901	20	60.4	−4.0	90	27†	39	2†	38	4.24	+0.89	1.70	0	8	10	13	7	nw.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	19	59.6	−0.1	92	27	30	2	42	2.07	−0.52	1.04	0	10	5	16	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	60.8	−2.3	100	27	36	2	53	0.94	2.84	0.50	0	6	16	0	14	nw.	S. Calvelage.
Lamoine	Kidder	1,936	21	59.0	−1.5	99	27	31	2	62	1.62	−1.70	0.53	0	6	15	7	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	56.7	−3.0	87	27	32	18	37	2.80	−0.70	0.90	0	8	18	3	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	59.8	−2.3	90	26	35	3†	47	3.18	−0.32	1.00	0	10	16	1	13	n.	Reuben Gray.
Linton	Emmons	1,711	8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Rev. O. Weber.
Lisbon	Ransom	1,091	22	62.3	−0.8	98	27	34	3	49	1.04	−3.25	0.31	0	9	23	4	3	....	W. S. Adams.
McClusky	Sheridan	1,943	8	56.6	....	86	10	26	2	38	2.13	....	0.95	0	12	17	7	6	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	32	58.4	−2.3	90	9†	24	2	46	3.90	+0.60	1.92	0	8	8	15	7	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	63.6	−1.4	94	28†	32	3	48	1.80	−2.40	0.46	0	9	16	5	9	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	59.0	....	97	27	31	2	52	2.17	−1.03	1.27	0	7	5	15	10	nw.	A. T. Felland.
Mandan	Morton	1,644	12	62.8	−1.4	101	27	33	2	50	1.20	−1.96	0.35	0	11	14	5	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	59.4	−2.1	96	27	34	2	38	1.88	−1.70	0.81	0	9	11	11	8	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	63.2^{a}	+2.9	96^{a}	27†	40^{a}	3†	36^{a}	2.12	−0.99	0.73	0	14	9	10	11	....	S. P. Grane.
Mayville	Traill	975	30	60.6	−3.9	89	28†	34	3†	43	5.66	+2.15	1.54	0	8	19	2	9	nw.	Ingvald Larson.
Melville	Foster	1,590	28	59.7^{b}	−3.2	98^{b}	27	35^{b}	2†	46^{b}	1.53	−1.98	0.40	0	5	9	12	9	nw.	J. P. Kidder.
Metigoshe‡‡	Bottineau	....	....	....	....	....	....	....	....	....	4.88	....	2.06	0	9	22	5	3	n.	J. A. Thorburn.
Minot	Ward	1,557	30	61.6	−0.9	96	27	29	2	43	2.06	−1.20	0.76	0	6	11	14	5	e.	W. I. Faris.
Minto	Walsh	820	33	58.2	−5.7	89	30	26	10	56	4.60	+1.30	1.25	0	7	11	11	8	n.	C. M. Evans.
Mott	Hettinger	2,424	19	63.8	+0.8	97	27	32	21	42	3.62	+0.22	1.26	0	11	7	9	14	nw.	O. H. Opland.
Napoleon	Logan	1,955	34	61.2	−1.0	104	27	27	2	54	1.36	−2.26	0.52	0	12	12	4	14	nw.	C. J. Hoof.
New England	Hettinger	2,400	32	62.6	+0.6	100	27	36	1	51	3.15	+0.46	1.25	0	8	12	13	5	nw.	W. S. Jones.
New Salem	Morton	2,163	22	64.6	+1.8	103	27	29	2	52	1.59	−2.12	0.38	0	13	14	12	4	nw.	J. Christiansen.
Park River	Walsh	998	22	59.0	−4.2	89	27	35	3	40	3.38	+0.05	1.32	0	7	12	7	11	nw.	C. B. Wright.
Parshall (near)	Mountrail	....	11	....	....	....	....	....	....	....	1.06	....	0.65	0	4	....	....	....	....	J. A. Johnson.
Pembina	Pembina	789	52	54.0	−8.6	85	26	22	18	55	5.10	+1.82	3.10	0	3	15	7	8	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	S. C. Shanks.
Power	Richland	1,020	32	....	....	....	....	....	....	....	4.61	+0.65	2.11	0	7	15	11	4	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	58.9	....	91	27	31	2†	50	4.10	+1.24	1.40	0	7	20	4	6	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	62.2	....	101	10	36	2	44	3.08	....	0.82	0	13	8	16	6	nw.	John Muggli.
Sharon	Steele	1,516	1	....	....	....	....	....	....	....	2.36	....	0.97	0	7	14	8	8	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2	....	....	....	....	....	....	....	2.36	....	1.20	0	8	16	12	2	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	61.6	−0.8	98	27	31	2	59	2.20	+1.13	0.78	0	10	12	11	7	nw.	H. S. Wood.
Towner	McHenry	1,482	24	61.2	−1.0	97	27	26	2	54	1.97	−1.11	0.65	0	5	17	5	8	nw.	B. Bagley.
Trotters	Golden Valley	....	....	....	....	....	....	....	....	....	1.91	....	0.51	0	12	15	5	10	....	A. J. Nellermoe.
Turtle Lake	McLean	1,899	11	62.1	....	98	27	29	2	47	2.69	−0.99	1.81	0	9	6	6	18	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	60.0	−3.2	96	27	35	2†	37	1.94	−1.37	0.80	0	7	18	3	9	nw.	H. Twito.
Wahpeton	Richland	962	32	62.8	−2.0	97	28	36	3	50	1.47	−2.48	0.57	0	7	20	0	10	nw.	C. G. Luick.
Washburn	McLean	1,731	25	....	....	....	....	....	....	....	1.42	−2.13	0.30	0	9	....	....	....	....	Karl Klein.
Westhope	Bottineau	1,508	20	58.9	−2.7	92	9†	28	2	43	3.43	+0.49	2.28	0	7	14	11	5	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	60.6	−2.1	94	27	39	2	37	1.83	−1.74	0.59	0	9	12	10	8	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	57.8	−3.2	94	27	25	2	48	2.90	−0.28	1.02	0	7	13	11	6	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	60.2	−4.2	91	27	38	2	41	2.09	−2.04	0.54	0	11	5	11	14	n.	U. S. Weather Bureau.
Averages	....	....	....	60.7	−2.1	104	27†	22	18	62	2.65	−0.85	3.10	0	9	13	9	8	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for June, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.02	.17							.04	T.	.35	.06	.70	T.				.60					.12								2.06
Amenia ‖	Red										.62	.15				T.	.17	.14	.05	.04	.62	.20			.14	.08							2.21
Amidon	Lit. Missouri			.07						.32		.50	.36	.26	1.01	.35			.12		.18				.18								3.38
Arnegard	Missouri										.55	.22	.07		.40	.62	T.	.01		.18	.50	.07	.04								.20		2.86
Ashley	Missouri										.11	.24	.08			.17	.07							.20	.14						.09		1.10
Beach	Lit. Missouri		T.	.04						T.		.27	.20	.05	.58	.05	.06		T.	.39	.09	.06	T.	.03	.09				.03				1.94
Berthold Agency	Missouri														.13	.01	.72				.10									.15			1.11
Bismarck ***	Missouri			.01						.73	.05	.01	.12		T.	.06			.30	T.	.33	T.	.01	.15	.04						T.		1.81
Bottineau‖	Mouse	.03	T.				T.						T.				.74	T.		.29	.92	1.61	.10		.07	.18							3.94
Bowman	Grand			.04						.12	.10		.25	.45	.90	.20			.42	.05	.15				T.				T	.43	.18		3.29
Cando	Devils Lake																																
Carson	Heart			.43									1.32	.03	.23	.31			.40		.46	.10	.05	.43									3.79
Cooperstown	Sheyenne															.60	.28			.55	.35	.20		.33	.17								2.48
Crosby	Mouse									.23		.82	.02		.10	.50	.12	.10		.15	2.22		.04										4.30
Devils Lake ***	Devils Lake	T.				.01					.06		T.			.65	.01	.01	.01	.23	.22	.25		.13	.14	.02							1.74
Dickinson‖	Heart			.08							.10	.04	.52	.35		.27	.02			.02	.22	.14			.11	.05							1.92
Dogden	Mouse			T.							.08		.05	T.			1.19	.35	.06	.31	.65	.16	.03	T.	.16								3.04
Donnybrook	Mouse																																
Dunn Center ‖	Knife				.27						.07		.54	.22		.06	.06				.19	.23			.27	.38							2.21
Dunseith	Mouse	.03														.20	.05			.89	1.95	.93		.20	.12								4.37
Eckman	Mouse										T.					.15	.73	.13	.02	.20	1.50	.48		.65	.48								4.39
Edgeley	James										.07					.25	.17				.08				.09								0.66
Ellendale***	James										.02	.25	T.	T.	T.	.05	.17	T.			T.	.01	.03	.01	.11						.12		0.77
Energy	Missouri			.04							.05	T	.21	.10		.97	.26	.03	T.	.11	.61	.05		T.	.15								2.58
Epping	Missouri											.24	.07	T.	.11	.54	.30	.15		.12	.34	.10	.02		.03								2.02
Fessenden‖	James	.02									.07			.04			.61	.08		.22	.23	.25	.16			.16							1.84
Finley	Red							T.			T.		T				.95	.04		.30	.55	.28		T.	.30								2.42
Forman	Sheyenne																.77	.05			.10	.10			.08								1.10
Fort Yates	Missouri																																
Foxholm (near)	Mouse										T.		.06			.02	.72	.18	.05	.06	.76	.01	T.		.01								1.87
Fryburg	Heart			.08					.15			.62	.55	.22	.26	T.	.53		T.	.14	.34	.10	.05	.03	T.								3.07
Fullerton	James											.29	T.		T.	.25	.20	.04			.04		.08	T.							.10		1.00
Garrison	Missouri			T						T.		.05	.05	.02		1.40	T.		.05	.18	.64	.15	T.	.02	.08								2.64
Grafton	Red	.04									.40						.63	.15		.05	1.72	.60	.08		.07								3.74
Grand Forks ***	Red							T.			.24	T.					2.57	.09		.06	.92	.29			.13								4.30
Granville	Mouse			T.							T.						.40	.31		.52	.62	T.	.05	T.	.42						T.		2.32
Hannah	Pembina		.08														1.06				1.81				.35								3.30
Hansboro	Devils Lake						.10				.03						.65			.50	2.60	.43		.05	.23								4.59
Hettinger	Grand									.32	.13		1.03	.63	.86	.35	T.		.65	.35				.07	.16					.51	.21		5.27
Hillsboro	Red										1.70	.06				.03	.44	.20		.15	1.53	.13											4.24
Howard (near)	Missouri	T.	T.						T.	.02		.02			.07	.10	.12	.34	T.	.14	1.04	T.	.20	.02	T.								2.07
Jamestown‖	James																.15	.12		T.	.04	.50	.03			.10							0.94
Lamoine	Missouri										T.		T.				.21	.20		.22	.32		.53	.14									1.62
Langdon‖	Pembina	.05	T.								.12		T.				.60	.12	.03	.20	.90	.78	T.										2.80
Larimore	Red											.05					1.00	.55	.05	.10	.40	.80	.06		.02	.15							3.18
Linton	Missouri																																
Lisbon ‖	Sheyenne										.05	.05					.17	.31		T.		.18			.28	T.							1.04
McClusky	Missouri			.03	.05						T.		.10	.05			.95	.25	.05	.10	.20	.13	.05	T.	.17								2.13
McKinney (near)	Mouse										.47	.16				.60	T.		.05	.50	1.92	T	.10	.10									3.90
McLeod	Sheyenne										.17	.28				.08	.46	.06			.22	.04		T.	.43						.06		1.80
Maddock	Sheyenne										.05						1.27	.03		.07	.53	.17		T.	.05								2.17
Mandan‖	Missouri			.01							T.		.11	.05		.02	.04			.35	.16	.20	.05		.18						.03		1.20
Manfred	James										.09		T.	.05			.81	.06	T.	.19	.13	.29		.04	.22								1.88
Marmarth	Lit. Missouri		.02								.02	T.	.40	.21	.73			.16	.06	.11	.05	.01	.01	.28	.01						.05		2.12
Mayville	Red										.84						1.40	.20		.50	1.54	.18		.20	.80								5.66
Melville	James										T.						.38			.40		.27		.10	.38								1.53
Metigoshe	Mouse	.03											.03				.83	.20		.55	2.06	.77		.26	.15								4.88
Minot‖	Mouse												.04				.76	.17		.10		.50				.49							2.06
Minto	Red										.60						.80	.60		.70	1.25	.35			.30								4.60
Mott	Cannon Ball					T.				.09	.07		1.26	.20		.75		T.	.55	.10	.18		.26	.05		.11	T.						3.62
Napoleon ‖	Missouri										.02	.01	.03			.05	.52	.03		.09	.08	.20	.13		.08	.12							1.36
New England	Cannon Ball									.15		1.25	.38	.25	.58	.15			T.		.25	T.		T.	.14								3.15
New Salem	Heart			.14							.04		.33	.02	.07	.17	.04		.10	.02	.38	.10		.02	.16								1.59
Park River	Red										.26						.71	.53		.14	1.32	.24			.18								3.38
Parshall (near)	Missouri																.65	.18		.13	.10												1.06
Pembina‖	Red	T.					T.		T.									.10		T.	1.90	3.10											5.10
Pettibone	James																																
Power	Sheyenne									1.09	2.11					.09	.60				.17	.10		.45	T.						T.		4.61
Powers Lake	Missouri										.46	.19				.48	1.40	.20			1.31				.06								4.10
Richardton	Heart			.15							.54		.51	.32	.17	.82	.02		.05	.02	.20	.03		.13	.12								3.08
Sharon	Red					T.	T.	T.			T.		T.		T.		.97	.06		.20	.44	.43		.05	.21								2.36
Stanton	Missouri			.13							.17	.08	.26			1.20				.08	.39				.05					T.			2.36
Steele	Missouri									.12		.10		T.	T.	T.	.10	T.		.10	.67	.03	.10	.10	.78	.10							2.20
Towner	Mouse																.45		.17	.65	.35	.35		T.	T.								1.97
Trotters	Lit. Missouri		.02							.06		.04	.08	.01	.51	.13				.51	.20		.05	.29	.01								1.91
Turtle Lake	Missouri										.10		.12				1.81	.05	T.	.02	.36	.11			.07						.05		2.69
Valley City	Sheyenne										.11	T.					.32	T		.10	.40	.05		.80	.16								1.94
Wahpeton	Red											.57				.01	.46	.09			.08	.11			.15								1.47
Washburn	Missouri									.30		.22	.04	.14			.26	.12		.15	.17	.02											1.42
Westhope	Mouse															.38		.11		.42	2.28	.11		.06	.07								3.43
Williston ***	Missouri		T.							.22	T.	.17			.41	.59	.01	.01		.12	.28	T.	T.		.02								1.83
Willow City	Mouse	.01						T.				T.	T.			T.	.51			.70	1.02	.45		.07	.14	T.							2.90
Moorhead, Minn ***	Red	T.						T.			.32	T.	T.	T.	.01	.07	.50	.03		.01	.46	.08		.10	.05						.46		2.09

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for June, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	61	60	70	69	86	72	76	74	82	84	70	67	71	66	67	63	60	62	70	68	71	70	82	77	66	77	91	89	78	92	....	73.0
	Minimum ...	48	38	36	41	48	50	45	43	42	57	55	51	49	48	51	52	53	32	46	42	42	43	42	48	40	40	50	59	52	55	....	46.6
Amidon	Maximum...	60	60	....	....	....	....	....	....	86	85	85	60	62	52	62	65	65	64	60	57	70	70	65	75	72	85	97	90	87	87	....	[f]71.7
	Minimum ...	43	44	....	....	....	....	....	....	47	55	55	53	50	46	47	44	45	44	45	43	44	45	46	49	45	52	65	65	55	65	....	[f]49.7
Arnegard	Maximum...	66	66	72	82	79	74	75	77	78	95	85	62	71	67	60	61	69	70	71	64	68	72	78	77	73	85	96	86	88	80	....	74.9
	Minimum ...	37	32	39	38	57	52	48	52	58	60	50	50	47	40	47	42	42	41	42	43	45	55	47	44	48	45	55	56	52	50	....	47.1
Ashley	Maximum...	84	70	69	75	100	95	74	85	93	96	90	80	80	80	69	76	80	77	80	84	83	79	92	82	70	90	101	102	98	98	....	84.4
	Minimum ...	42	33	28	37	50	47	50	39	42	63	52	54	51	49	44	57	49	37	50	56	46	46	44	47	38	41	50	63	59	61	....	47.5
Beach	Maximum...	70	76	76	80	82	72	73	84	90	80	90	67	60	55	66	58	71	70	76	68	70	72	76	75	73	85	97	89	92	89	....	76.1
	Minimum ...	38	40	45	50	60	53	52	61	60	61	53	50	45	46	48	42	43	42	52	43	43	48	48	45	45	50	60	59	60	60	....	50.1
Berthold Agency	Maximum...	68	62	72	80	74	76	78	93	85	80	70	70	70	68	64	66	68	68	70	65	73	72	80	80	73	85	100	92	94	92	....	76.3
	Minimum ...	48	33	42	54	50	52	36	58	68	60	46	46	46	45	46	48	48	52	53	42	52	52	52	60	40	44	56	52	72	72	....	50.8
Bismarck	Maximum...	63	62	64	74	80	73	74	77	89	81	82	70	69	59	67	67	67	65	70	70	72	72	81	78	71	85	100	93	90	92	....	75.2
	Minimum ...	45	34	46	38	58	57	54	44	54	62	59	56	53	51	51	53	49	44	53	48	48	52	49	48	42	50	56	63	58	65	....	51.3
Bottineau §§	Maximum...	56	63	66	76	78	73	72	75	90	79	76	79	71	63	69	72	64	62	53	55	69	69	73	74	68	78	94	83	80	81	....	72.0
	Minimum ...	39	29	43	36	53	41	41	37	51	57	53	47	41	46	47	54	45	43	45	45	46	46	49	41	36	46	53	63	52	56	....	46.0
Bowman	Maximum...	74	68	70	80	83	77	77	82	85	80	85	78	70	57	64	64	67	64	75	63	69	70	75	74	75	86	99	92	90	86	....	76.0
	Minimum ...	40	41	41	38	54	50	41	42	58	52	51	50	48	46	48	42	43	45	50	41	42	46	43	44	45	50	70	60	55	54	....	47.8
Carson	Maximum...	70	65	70	71	74	74	74	78	88	89	90	75	70	74	68	65	75	65	70	66	72	70	77	76	71	84	96	92	85	94	....	76.3
	Minimum ...	40	36	42	45	56	50	48	41	59	60	60	45	42	49	46	50	48	45	51	49	44	48	46	46	44	50	60	62	57	65	....	49.5
Crosby	Maximum...	60	62	78	80	72	74	82	85	91	84	75	65	72	62	60	57	75	65	56	52	67	78	72	72	76	82	92	84	88	83	....	73.4
	Minimum ...	45	29	50	48	44	48	44	48	38	50	52	45	48	48	48	50	42	48	46	41	42	49	56	50	43	48	54	48	48	53	....	46.9
Devils Lake	Maximum...	53	58	66	72	80	70	70	73	85	84	74	71	68	65	68	73	58	63	53	63	70	65	74	73	65	77	97	86	81	86	....	71.4
	Minimum ...	36	36	37	42	50	47	41	40	47	60	51	47	45	40	44	53	41	39	45	48	47	47	49	43	37	47	50	59	48	59	....	45.8
Dickinson §§	Maximum...	69	64	67	78	84	73	74	81	90	85	85	62	65	57	64	65	67	64	71	61	70	72	77	76	71	85	97	91	88	88	....	74.7
	Minimum ...	35	37	41	39	50	51	53	41	54	56	55	55	48	49	47	45	46	42	50	52	43	47	46	41	41	49	56	45	44	46	....	46.8
Donnybrook	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Dunn Center §§	Maximum...	63	58	65	76	79	71	72	76	89	78	83	60	54	56	64	64	68	67	71	65	70	70	75	76	69	81	97	88	88	81	....	72.5
	Minimum ...	38	33	38	36	49	49	49	36	50	55	53	54	46	47	47	44	46	39	47	51	44	44	44	40	37	46	53	55	53	60	....	46.1
Dunseith	Maximum...	56	61	67	75	78	70	70	74	88	86	77	67	68	68	68	72	64	61	55	55	70	67	72	72	68	78	91	90	80	80	....	71.6
	Minimum ...	38	33	38	35	49	46	41	36	46	59	46	43	40	42	40	51	41	38	40	45	44	42	42	38	35	49	51	59	59	54	....	44.1
Edgeley	Maximum...	65	62	70	75	88	80	78	77	88	92	88	79	80	81	73	74	69	66	73	72	78	72	71	79	76	84	101	104	91	99	....	79.5
	Minimum ...	41	33	36	38	47	43	48	37	41	61	64	60	40	50	40	48	50	34	48	57	47	42	41	43	36	41	52	65	53	60	....	46.5
Ellendale	Maximum...	62	60	67	72	86	73	74	74	88	90	72	72	71	61	66	73	64	65	73	72	73	75	81	76	66	81	99	100	85	94	....	75.6
	Minimum ...	44	35	40	43	44	53	51	42	48	66	58	55	53	52	49	55	47	40	51	53	49	48	46	46	40	40	52	69	69	57	....	49.5
Fessenden §§	Maximum...	65	60	61	69	74	82	72	73	73	90	86	82	74	74	65	69	71	69	65	64	78	71	68	81	78	71	85	102	93	89	....	75.1
	Minimum ...	45	29	37	37	55	45	47	37	49	58	52	53	50	41	49	52	48	40	45	44	45	47	48	43	36	42	50	56	47	58	....	46.2
Foxholm (near)	Maximum...	57	62	66	74	77	72	71	73	93	83	79	73	70	67	65	67	62	61	58	56	69	69	74	72	67	76	92	88	85	85	....	72.1
	Minimum ...	44	30	44	44	58	48	45	38	49	58	53	47	43	45	41	52	44	42	45	47	45	46	52	45	43	45	56	57	56	61	....	47.5
Fullerton	Maximum...	63	62	69	77	85	76	76	78	92	92	79	75	75	67	67	73	64	67	76	71	74	73	82	68	68	85	101	100	90	97	....	77.4
	Minimum ...	45	35	38	41	44	44	41	48	47	64	57	54	52	51	48	59	51	40	49	51	48	48	46	39	38	42	51	66	58	55	....	48.4
Garrison	Maximum...	63	64	69	74	79	73	73	77	83	79	74	63	69	64	70	79	65	66	66	68	70	71	76	75	71	80	98	88	89	87	....	74.3
	Minimum ...	43	30	44	37	55	49	49	35	54	59	56	54	53	48	48	50	45	44	46	49	45	48	46	43	36	45	54	55	48	63	....	47.4
Grafton	Maximum...	63	57	69	75	81	72	71	75	83	82	78	71	70	66	71	72	69	62	58	61	70	64	74	74	67	79	87	86	79	86	....	72.4
	Minimum ...	47	40	37	37	49	51	45	46	41	61	53	50	47	49	46	57	50	37	45	51	50	49	43	43	39	43	47	65	53	53	....	47.5
Grand Forks	Maximum...	67	62	67	73	82	75	71	73	82	89	70	70	70	66	68	72	60	59	62	64	71	63	75	74	64	76	87	85	71	88	....	71.5
	Minimum ...	39	39	47	38	52	50	43	45	46	62	54	46	48	49	50	57	51	37	47	53	50	51	42	45	39	40	46	62	51	54	....	47.8
Granville	Maximum...	53	63	67	76	78	74	72	77	94	83	84	73	74	65	70	70	62	64	60	57	63	70	77	76	67	78	95	84	85	80	....	73.0
	Minimum ...	42	26	38	34	54	48	45	43	52	58	54	42	54	47	46	42	45	34	47	47	48	45	48	42	42	43	51	56	54	48	....	45.8
Hansboro	Maximum...	55	65	70	76	80	71	75	72	85	84	74	67	70	63	68	68	60	73	55	55	70	66	72	70	78	88	85	85	82	82	....	72.1
	Minimum ...	35	35	25	30	50	45	39	37	35	55	45	40	32	35	35	35	32	30	38	40	42	43	42	36	32	45	50	45	50	50	....	39.4
Hettinger	Maximum...	86	91	89	88	90	87	84	91	90	84	86	87	83	65	66	71	67	70	73	70	69	70	85	79	79	95	96	100	88	87	....	82.2
	Minimum ...	61	59	51	59	56	51	49	62	61	68	56	59	57	54	53	46	38	55	70	58	53	56	69	58	55	65	77	72	69	68	....	58.8
Hillsboro	Maximum...	63	59	68	74	84	72	71	73	83	81	71	69	70	69	69	60	60	61	66	63	71	68	78	68	65	78	90	89	86	90	....	72.3
	Minimum ...	49	39	39	41	51	52	46	44	46	54	54	49	49	49	51	58	50	39	45	55	48	49	45	46	41	43	52	64	53	54	....	48.5
Howard (near)	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Jamestown §§	Maximum...	58	56	66	78	83	73	71	73	83	87	76	71	71	78	68	74	64	64	70	70	71	66	79	78	65	82	100	91	89	92	....	74.9
	Minimum ...	48	36	37	40	41	49	51	41	45	52	54	51	50	49	42	59	50	39	44	47	47	48	44	46	38	39	47	59	51	59	....	46.8
Lamoine	Maximum...	57	67	63	72	80	71	71	73	88	81	78	68	71	64	68	71	66	72	70	68	71	67	77	74	75	78	99	88	88	87	....	74.1
	Minimum ...	40	31	43	37	33	37	47	36	37	61	52	51	48	42	44	45	46	39	45	52	46	46	44	40	37	40	37	50	50	57	....	43.8
Langdon §§	Maximum...	56	54	66	75	78	69	69	70	81	80	66	65	65	61	68	70	57	62	51	53	69	62	70	72	71	75	87	81	78	84	....	68.9
	Minimum ...	41	37	34	38	50	45	51	39	49	58	50	47	45	41	41	51	45	32	42	44	47	45	45	40	36	41	50	57	49	55	....	44.5
Larimore §§	Maximum...	60	75	80	80	76	72	74	84	83	70	66	70	66	70	68	55	62	60	64	70	61	75	74	65	80	90	87	80	88	74	....	72.7
	Minimum ...	45	37	35	45	47	51	46	45	45	60	53	47	46	46	44	52	50	35	45	46	49	50	44	42	37	43	55	61	50	55	....	46.9
Linton	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Lisbon §§	Maximum...	62	64	72	75	83	74	75	75	91	94	73	72	71	65	67	70	60	68	74	70	75	74	85	79	67	84	98	97	89	97	....	76.7
	Minimum ...	45	35	34	42	45	52	47	40	42	59	53	53	54	50	53	57	55	47	48	45	48	49	38	47	39	37	49	62	55	57	....	47.9
McKinney (near)	Maximum...	55	62	70	78	78	74	74	76	90	85	77	65	70	65	68	65	65	60	60	54	70	74	72	72	72	82	90	88	81	82	....	72.5
	Minimum ...	45	24	38	34	45	40	45	30	50	50	50	50	45	45	60	45	45	45	40	40	45	45	44	40	42	38	52	52	50	52	....	44.2
Maddock	Maximum...	62	57	66	73	82	76	74	75	90	89	84	75	73	66	68	72	70	62	59	66	69	67	78	75	66	77	97	91	86	88	....	74.4
	Minimum ...	43	31	32	33	52	41	42	33	43	52	43	46	46	39	45	54	46	40	44	51	46	44	47	40	34	45	45	53	45	56	....	43.7
Melville	Maximum...	58	63	65	71	80	70	71	73	87	84	82	72	65	....	66	73	68	60	62	....	70	67	73	75	65	80	98	88	86	88	....	[b]73.6
	Minimum ...	51	35	36	38	50	43	44	37	46	60	52	48	45	....	46	56	46	40	45	....	45	47	48	43	35	43	52	52	42	56	....	[b]45.8
Minot §§	Maximum...	68	63	70	78	78	74	73	78	93	83	83	65	73	63	70	68	72	64	63	67	73	72	79	76	72	83	96	87	90	85	....	75.3
	Minimum ...	45	29	45	37	59	50	49	36	51	60	57	51	41	41	48	52	42	45	48	49	47	47	51	44	44	45	55	52	47	64	....	47.8
Mott	Maximum...	72	70	75	80	78	77	79	82	83	85	86	76	77	74	67	70	78	75	72	68	66	75	78	80	83	87	97	91	88	90	....	78.6
	Minimum ...	47	38	41	38	43	46	46	54	55	63	52	50	46	50	47	42	45	43	46	39	32	38	43	48	56	58	67	66	64	67	....	49.0
Napoleon §§	Maximum...	64	60	69	75	86	75	76	77	90	88	83	76	74	58	65	73	67	67	73	71	73	72	82	79	69	85	104	100	92	98	....	77.4
	Minimum ...	38	27	36	35	50	50	48	34	40	61	55	50	49	46	44	45	45	39	40	47	43	46	45	40	34	41	50	59	49	63	....	45.0
New Salem	Maximum...	64	63	67	75	85	74	95	86	96	85	85	77	69	62	70	69	68	67	68	70	73	72	80	86	72	95	103	96	93	96	....	78.7
	Minimum ...	40	29	41	41	55	50	51	41	61	59	66	55	57	47	49	48	43	41	51	55	43	50	50	48	52	59	51	63	54	64	....	50.5
Pembina §§	Maximum...	53	63	71	76	82	71	70	74	83	79	72	73	70	67	67	63	56	63	56	55	70	62	68	68	72	85	71	81	78	83	...	70.1
	Minimum ...	42	30	53	32	41	42	46	45	28	47	38	40	36	37	43	43	40	22	33	35	40	40	34	30	26	35	41	42	35	38	....	37.8
Steele	Maximum...	60	55	67	70	80	72	79	75	87	79	82	76	77	70	69	71	71	65	67	65	70	75	75	73	69	70	98	92	92	90	....	74.7
	Minimum ...	40	31	45	39	50	49	60	59	60	62	59	52	50	47	45	47	46	39	46	45	46	47	45	43	39	39	39	69	53	67	....	48.6
Towner	Maximum...	68	70	78	77	80	78	78	88	93	90	82	72	70	78	74	72	68	68	65	60	68	75	72	72	75	72	97	91	83	85	....	76.6
	Minimum ...	42	26	40	45	50	46	45	34	51	50	52	48	46	50	48	52	42	46	48	52	45	45	45	42	38	42	50	54	50	46	....	45.7
Valley City	Maximum...	58	65	67	72	84	72	75	73	85	87	82	74	71	63	66	68	64	60	66	62	71	67	79	73	65	79	96	89	82	91	....	73.5
	Minimum ...	40	35	35	41	51	35	42	37	48	57	48	52	49	46	46	48	47	36	44	55	46	45	42	42	45	53	62	60	53	55	....	46.5
Wahpeton	Maximum...	70	63	70	75	87	86	71	75	85	85	85	75	75	74	64	63	63	65	72	71	73	75	84	76	75	77	92	97	92	93	....	76.9
	Minimum ...	50	58	36	40	50	50	45	45	45	64	59	56	55	48	53	56	52	38	48	60	49	45	41	49	42	39	47	47	55	58	....	48.7
Westhope	Maximum...	55	65	58	78	74	75	74	70	92	78	70	68	69	67	72	72	83	62	54	76	70	70	74	74	72	82	92	83	85	81	....	73.2
	Minimum ...	42	28	42	36	42	43	42	35	49	54	52	42	42	42	46	49	50	40	46	47	47	43	50	43	42	40	50	55	45	55	....	44.6
Williston	Maximum...	63	59	68	80	75	71	82	76	89	71	82	62	66	57	60	58	65	69	66	55	71	71	75	73	71	85	94	83	90	81	....	71.9
	Minimum ...	40	39	44	43	58	55	48	41	61	53	56	49	44	49	51	47	46	48	53	45	46	48	50	46	41	51	61	54	55	59	....	49.4
Moorhead, Minn	Maximum...	57	59	68	73	84	72	72	72	84	83	68	68	71	63	66	62	57	60	68	65	71	66	81	75	63	76	91	90	79	91	....	71.8
	Minimum ...	41	38	40	43	49	52	46	47	47	58	56	51	52	48	51	55	46	40	47	53	49	48	42	48	41	41	50	64	55	56	....	48.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 7-29-26—970]

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AUG 24 1926
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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

ol. XXXV   Bismarck, N. D., July, 1926   No. 7

GENERAL SUMMARY

Taking the State as a whole, the weather conditions for the onth were somewhat unfavorable. The temperature averaged early three degrees above the normal, and while the precipiation only averaged 0.61 inch below the normal, the distribuion of rainfall was uneven geographically, and as a result of hese adverse conditions crops suffered from drought in many arts of the State. Dry weather with temperature above the ormal prevailed at the opening of the month, and not until he 8th did appreciable rainfall occur, showers being general n the 8th and 9th. Dry weather again prevailed until the 9th but with lower temperature, the minimum for the month eing usually recorded on the 12th. From the 19th to the 22d, nclusive, scattered showers occurred, and again on the 28th nd 29th showers occurred in many parts of the State. Crops eteriorated considerably in the central and western parts of he State, and practically all parts were in need of rain at the lose of the month.

TEMPERATURE

The mean temperature for the State was 70.3°, or 2.8° above he normal, and 3.6° higher than the mean for July, 1925. he highest mean reported was 78.8° at Hettinger, Adams ounty; the lowest was 64.8° at Hansboro, Towner County. he highest temperature reported was 108° at Ashley, Mcntosh County, and at Lisbon, Ransom County, on the 18th; he lowest was 32° at Hansboro, Towner County, on the 12th. he greatest monthly range of temperature was 70° at Hansoro, Towner County; the least was 45° at Mott, Hettinger ounty. The greatest daily range was 59° at Lisbon, Ransom ounty, on the 18th.

PRECIPITATION

The average precipitation for the State was 2.00 inches, or .61 inch below the normal, and 0.66 inch more than the verage for July, 1925. The greatest monthly amount reorted was 5.10 inches at Amenia, Cass County; the least as 0.31 inch at Foxholm, Ward County. The greatest mount recorded in any 24 consecutive hours was 3.40 inches t Hettinger, Adams County, on the 26th. The average umber of days with 0.01 inch or more of precipitation was 7.

AURORAS

Auroras were observed at Grand Forks on the 1st; at Willow ity on the 5th; at Valley City on the 6th; at Sharon on the 0th; at Devils Lake on the 18th; at Bottineau, Devils Lake, llendale, Foxholm, New England and Williston on the 27th; t Dogden, Ellendale and Towner on the 28th; at Arnegard, rand Forks and McClusky on the 30th, and at Bottineau, llendale, Foxholm and Williston on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	29.95	30.29	25	29.34	8	57	6,587	8.9	38	nw.	19
Devils Lake	29.93	30.26	25	29.32	8	44	5,728	7.7	27	ne.	8
Ellendale	29.96	30.28	25	29.28	8	56	8,389	11.3	47	nw.	3
Grand Forks	29.90	30.24	25	29.28	8	90	....	......	48	nw.	22
Williston	29.90	30.19	10	29.36	7	48	5,456	7.3	30	nw.	9
Moorhead, Minn	29.92	30.27	25	29.23	8	58	4,942	6.6	29	sw.	20
Av'ges and extremes	29.93	30.29	25	29.23	8	.....	....	8.4	48	nw.	22

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	322.1	479.2	67	− 4	73	37	38	18	17
Devils Lake	360.3	483.1	75	+ 7	79	46	52	17	31
Ellendale	330.4	475.2	70	− 1	81	44	....	14	16
Grand Forks	......	......	.....	.....	79	.....	60	.....	....
Williston	403.6	483.1	84	+14	74	37	39	11	31
Moorhead, Minn	409.4	479.2	85	+18	81	49	49	32	17
Averages and extremes	365.2	480.0	76	+ 6	78	43	50	11	31

† And other dates.

COMPARATIVE STATE DATA FOR JULY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	High-est	Low-est	Aver-age	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893...	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894...	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895...	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896...	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897...	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898...	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899...	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900...	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901...	70.8	+1.3	110	40	4.28	+1.67	6	18	7	6	se.
1902...	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903...	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904...	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905...	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906...	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907...	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908...	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909...	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910...	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911...	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912...	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913...	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914...	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915...	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916...	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917...	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918...	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919...	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920...	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921...	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922...	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.
1923...	71.2	+3.7	103	35	3.14	+0.53	8	16	11	4	se.
1924...	65.5	−2.0	99	32	1.95	−0.66	6	18	9	4	nw.
1925...	66.7	−0.8	106	29	1.34	−1.27	6	18	9	4	nw.
1926...	70.3	+2.8	108	18	2.00	−0.61	7	18	8	5	se.

Climatological Data for July, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	...	...	...	...	...	...	...	...	1.15	...	0.35	0	6	...	...	...	...	H. A. Bury.
Amenia	Cass	954	30	69.2	+0.5	95	7	40	12	44	5.10	+2.09	1.60	0	10	20	11	0	s.	E. T. Carley.
Amidon	Slope	...	12	70.5	...	101	14	44	1	43	1.08	1.57	0.48	0	5	20	8	3	e.	H. M. Critchfield.
Arnegard	McKenzie	...	11	70.6	...	105	31	45	2†	48	2.67	...	0.55	0	8	24	4	3	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	74.4	+6.0	108	18	44	12	49	2.02	−0.64	0.45	0	8	22	5	4	se.	H. D. Piper.
Beach	Golden Valley	2,579	20	71.7	+4.4	104	31	45	2	42	1.39	−0.41	0.36	0	6	16	11	4	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	71.8[b]	+2.9	105[a]	31	41[c]	17†	52[c]	1.83	−0.14	0.75	0	9	23	6	2	s.	C. L. Hall.
Bismarck	Burleigh	1,674	51	72.2	+2.4	98	31	47	22	44	1.84	−0.30	1.40	0	8	16	13	2	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	68.8	+3.0	104	31	43	10†	41	1.15	−1.13	0.56	0	6	13	13	5	se.	T. M. Street.
Bowman	Bowman	2,961	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	R. Love, Jr.
Cando	Towner	1,488	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. J. Swanson.
Carson	Grant	2,500	14	73.5	+5.4	104	19	49	13	45	2.32	+0.38	0.65	0	7	26	4	1	se.	J. W. Evens.
Cooperstown	Griggs	1,428	20	...	...	...	...	...	...	...	2.43	−0.30	1.20	0	4	17	11	3	nw.	S. Friswold.
Crosby	Divide	1,954	19	70.5	+4.6	102	31	46	10	46	2.99	+0.78	0.99	0	9	17	12	2	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	68.0	−0.1	100	31	38	12	41	1.65	−2.13	0.91	0	5	15	9	7	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	70.0	+2.0	101	31	39	22	49	1.16	−1.16	0.54	0	8	18	3	10	se.	Leroy Moomaw.
Dogden	McLean	1,736	...	70.0	...	101	31	45	13	39	1.72	...	0.63	0	7	20	8	3	se.	R. L. Williams.
Donnybrook	Ward	1,760	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. Feldner.
Dunn Center	Dunn	2,191	27			101	31	...	...	...	1.09	−0.96	0.47	0	5	...	...	...	...	W. H. Moede.
Dunseith	Rolette	1,682	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. G. Lamont.
Eckman	Bottineau	1,500	21	68.9	+3.1	103	31	40	13	51	1.12	−1.32	0.37	0	6	0	26	5	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	70.8	+2.3	106	18	40	12	48	4.33	+1.53	2.25	0	8	10	13	8	se.	O. A. Thompson.
Ellendale	Dickey	1,449	27	70.5	−0.2	103	18	46	12	43	2.39	−0.51	0.81	0	12	13	11	7	se.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	72.0	...	103	31	43	22	50	1.83	+0.35	0.88	0	9	11	17	3	se.	H. S. Solenberger.
Epping	Williams	2,224	18	68.9	...	104	31	44	16†	47	1.53	−0.39	0.56	0	8	18	12	1	se.	A. O. Wang.
Fessenden	Wells	1,610	14	70.4	+3.3	100	18†	41	12	50	2.72	+0.25	1.14	0	9	16	9	6	se.	T. D. Monsen.
Finley	Steele	1,461	2	68.2[j]	...	...	...	39[a]	12	...	2.35	...	0.72	0	7	17	5	9	nw.	G. J. Mustad.
Forman	Sargent	1,249	32	...	...	...	...	...	...	...	1.76	−1.27	1.03	0	6	13	11	7	n.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	1.03	−1.49	0.42	0	4	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	70.2	...	103	31	45	12	44	0.31	...	0.12	0	6	11	13	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	...	...	...	...	...	...	...	1.75	...	0.56	0	9	24	6	1	se.	Verne King.
Fullerton	Dickey	1,439	28	71.8	+3.4	105	18	44	12†	45	1.59	−1.73	0.45	0	8	19	10	2	se.	F. O. Alin.
Garrison	McLean	1,901	31	69.8	+1.7	99	31	42	26	46	1.85	−0.25	0.50	0	10	16	13	2	se.	Wm. H. Robinson.
Grafton	Walsh	827	34	67.8	+0.3	100	31	37	12	45	1.40	−1.08	0.70	0	7	21	6	4	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	67.8	+0.4	95	31	39	12	40	1.83	−0.92	0.86	0	9	18	12	1	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	70.2	+3.1	104	31	43	13	49	0.94	−1.13	0.72	0	2	13	13	5	s.	W. A. Christianson.
Hannah	Cavalier	1,568	32	...	...	...	...	...	...	...	3.97	+1.51	1.44	0	6	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	18	64.8	−0.6	102	31	32	12	50	2.06	+0.08	0.62	0	6	20	9	2	s.	C. E. Blackorby.
Hettinger	Adams	2,675	19	78.8	+9.3	103	15	57	1	37	4.70	+1.91	3.40	0	6	26	4	1	nw.	C. J. Downey.
Hillsboro	Traill	901	20	70.4[a]	+0.9	94[a]	19	40[a]	12	37[a]	1.16	−1.47	0.43	0	7	17	11	3	n.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	67.6	−0.9	96	6	44	12	44	2.54	−0.21	0.98	0	7	22	0	9	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	70.4	+4.5	100	31	42	12	47	1.67	−0.88	0.52	0	6	20	8	3	se.	E. V. Virgin.
Langdon	Cavalier	1,615	30	66.7	+2.2	104	31	35	12	47	3.27	+0.71	1.50	0	6	22	3	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	68.2	+1.5	101	31	36	12	43	1.75	−1.24	0.45	0	8	17	3	11	s.	Reuben Gray.
Linton	Emmons	1,711	8	73.4	...	105	18	38	22	51	0.72	...	0.34	0	4	20	5	6	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	71.7	+3.5	108	18	39	14	59	1.87	−1.66	0.65	0	11	23	6	2	...	W. S. Adams.
McClusky	Sheridan	1,943	8	68.2	...	98	31	40	12	39	2.21	...	0.77	0	11	19	9	3	se.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	32	68.8	+2.8	101	31	45	9†	55	1.51	−0.65	1.00	0	4	20	8	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	72.0	+1.8	103	18	40	14	48	1.67	−1.76	0.76	0	4	28	1	2	se.	J. G. Carlson.
Maddock	Benson	1,604	10	68.4	...	101	31	36	12	50	1.45	−1.19	0.56	0	6	6	20	5	ne.	A. T. Felland.
Mandan	Morton	1,644	12	71.6	+0.8	101	18	46	22	48	2.19	−0.77	0.81	0	8	16	2	13	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	68.6	+1.7	99	31	40	12	44	1.00	−1.30	0.30	0	6	17	12	2	se.	P. B. Anderson.
Marmarth	Slope	2,714	17	71.7	+3.9	99	31	42	21	42	0.63	−1.03	0.24	0	7	14	10	7	...	S. P. Grane.
Mayville	Traill	975	30	68.7	−0.7	95	31	37	12	37	4.96	+1.99	1.79	0	6	20	4	7	s.	Ingvald Larson.
Melville	Foster	1,590	28	69.3[b]	+1.4	98	31	40[c]	12	42[c]	3.19	+0.45	0.98	0	7	...	...	...	sw.	J. P. Kidder.
Metigoshe ‡‡	Bottineau	...	...	...	...	...	...	...	...	...	2.82	...	1.06	0	8	27	1	3	se.	J. A. Thorburn.
Minot	Ward	1,557	30	71.8	+3.7	104	31	43	22	49	0.45	−1.40	0.10	0	8	25	3	3	e.	W. I. Faris.
Minto	Walsh	820	33	67.2	+0.1	100	31	34	12	48	1.70	−1.06	0.81	0	5	15	13	3	ne.	C. M. Evans.
Mott	Hettinger	2,424	19	76.1	+7.0	100	11†	55	12†	32	1.25	−1.12	0.58	0	5	18	8	5	se.	O. H. Opland.
Napoleon	Logan	1,955	34	69.8	+1.5	104	18	39	24	53	1.89	−0.59	1.30	0	7	19	9	3	s.	C. J. Hoof.
New England	Hettinger	2,400	32	72.5	+4.0	100	31	50	10	43	1.80	−0.21	0.75	0	6	18	10	3	se.	W. S. Jones.
New Salem	Morton	2,163	22	73.7	+4.4	105	18	47	12†	51	1.24	−0.86	0.40	0	7	21	9	1	se.	J. Christiansen.
Park River	Walsh	998	22	67.8[a]	0.0	102[a]	31	38[a]	12	41[a]	1.08	−1.30	0.48	0	5	13	12	6	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. A. Johnson.
Pembina	Pembina	789	52	65.0	−2.7	96	6†	33	10	50	1.20	−1.18	0.40	0	4	25	5	1	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	72.4	+6.6	99	31	43	12†	46	2.62	−0.13	0.72	0	7	16	5	10	se.	S. C. Shanks.
Power	Richland	1,020	32	...	...	...	...	...	...	...	1.95	−1.43	0.83	0	5	26	3	2	s.	Frank B. Power.
Powers Lake	Burke	2,205	12	73.1	...	102	31	41	16†	36	1.07	−0.71	0.44	0	5	24	6	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	10	71.8[a]	...	101[a]	30	48[a]	21	49[a]	3.94	...	3.10	0	7	15	11	2	nw.	John Muggli.
Sharon	Steele	1,516	1	...	...	...	...	...	...	...	1.88	...	0.63	0	9	12	13	6	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	2	...	...	...	...	...	...	...	1.52	...	0.95	0	3	22	7	2	se.	J. H. Giffey.
Steele	Kidder	1,857	30	72.5	+3.1	98	18†	45	12†	47	4.19	+1.31	1.10	0	10	10	18	3	se.	H. S. Wood.
Towner	McHenry	1,482	24	69.7	+2.6	106	31	40	13	49	0.73	−1.50	0.40	0	3	24	4	3	nw.	B. Bagley.
Trotters	Golden Valley	...	...	...	...	...	...	...	...	...	0.73	...	0.15	0	7	20	5	6	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	11	70.4	...	97	31	45	12†	48	4.07	+1.61	1.82	0	12	10	8	13	se.	A. T. Anderson.
Valley City	Barnes	1,245	21	69.2	+1.2	92	6†	45	10†	37	3.76	+1.92	1.60	0	5	22	7	2	se.	H. Twito.
Wahpeton	Richland	962	32	72.6	+3.3	102	16	40	12	45	0.63	−3.17	0.47	0	4	18	0	13	se.	C. G. Luick.
Washburn	McLean	1,731	25	...	...	...	...	...	...	...	1.27	−1.03	0.54	0	6	...	...	...	...	Karl Klein.
Westhope	Bottineau	1,508	20	68.4	+2.3	102	31	42	13	52	1.25	−0.70	0.89	0	4	27	2	2	se.	W. A. Meddaugh.
Williston	Williams	1,878	47	71.6	+2.7	103	31	44	22	41	2.40	+0.37	1.76	0	12	21	6	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	67.6	+2.3	100	31	40	12	48	2.32	+0.23	1.22	0	6	18	8	5	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	70.2	+2.1	94	18	41	12	36	2.92	−0.82	1.53	0	10	10	12	9	n.	U. S. Weather Bureau.
Averages	...	...	...	70.3	+2.8	108	18	32	12	59	2.00	−0.61	3.40	0	7	18	8	5	se.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for July, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.28		.07					.17											.22	.06						.35						1.15
Amenia ‖	Red									1.30				.03			.10				.62	.06	.02	.06	.79					1.60	[illegible]		[illegible]
Amidon	Lit. Missouri	.25	.06						.20											T.	T.						.09		.48				1.08
Arnegard	Missouri			.20				.50	.55	.51			.10		.17					.42	T.	T.		.22									2.67
Ashley	Missouri	.27							.45			.11								.15	.45	.08		.38					.13				2.02
Beach	Lit. Missouri	.21	.22											T.		T.				.19	.06			.35			.36		T.				1.39
Berthold Agency	Missouri	.11	.75					.13	.33	.03			.11		T.				T.	.01	.02			.34					T.				1.83
Bismarck ***	Missouri	.01						T.	.02	T.			T.		.01				T.	.25	.02		1.01	.39			T.		.13				1.84
Bottineau ‖	Mouse			.28	.15				.56	.03	T.	T.					T.			.12	.01	T.		T.									1.15
Bowman	Grand																																
Cando	Devils Lake																																
Carson	Heart							.03	.20											.60		.10					.39		.65	.35			2.32
Cooperstown	Sheyenne			1.20																.41				.57					.25				2.43
Crosby	Mouse	.04	.04	.18				.04	.82	.64		.10	.14							.99									T.				2.99
Devils Lake ***	Devils Lake		T.	.65				T.	.01	T.		T.	T.		T.					.78	.13			.08				T.	T.				1.65
Dickinson ‖	Heart	.02	.30	T.					.06	.54	T.										.01	.03		.16					.04	T.			1.16
Dogden	Mouse			.15					.63	.02			.11							T.	.21	.04						.56					1.72
Donnybrook	Mouse																																
Dunn Center ‖	Knife								.47	.26												.08	T.	.20					.08				1.09
Dunseith	Mouse																																
Eckman	Mouse			.22				.15	.19											.37	.15	T.	T.	.04									1.12
Edgeley	James				1.00				.16	.18										.06	.05	.10		.53					2.25				4.33
Ellendale***	James	.01	T.	.54					.70	.11		.10	T.						.02	.15	.26	.09		.36				T.	.02	.03			2.39
Energy	Missouri	.13		.88				.26	T.	T.	.06		.17						T.	.04	T.	.09	.09	.11			T.	T.					1.83
Epping	Missouri			.12				.30	.29	.56			.12							.09	.04	.01											1.53
Fessenden ‖	James								.38	.35	.08					.01				.04	.63	.08	.01							1.14			2.72
Finley	Red		T.	.52					.72	.04		T.								T.	.27			.65					.05	.10			2.35
Forman	Sheyenne			.18									.09								.26	.03		1.03						.17			1.76
Fort Yates	Missouri								.19											.42		.17		.25									1.03
Foxholm (near)	Mouse		T.	.01				T.	T.	.02	.12	T.	.12		T.					T.	.01			T.					.03				0.31
Fryburg	Heart	.11	.32	.08				.56	.14	.14					T.		T.			.08	.19	.13					T.						1.75
Fullerton	James		T.	.26					T.	.25		.05	.05							.08	.31			.45						.14			1.59
Garrison	Missouri	.22		.37				.50	.02			.03	.12							.12	.03		.08						.36				1.85
Grafton	Red			.03					.07				.10			.18	.29							.70						.03			1.40
Grand Forks ***	Red			.07					.43	.06							.01				.30	.02	.86	.07						.01			1.83
Granville	Mouse	T.	T.	T.				.72	T.	T.			T.								.22	T.	T.	T.				T.	T.				0.94
Hannah	Pembina			1.35				.46								.53				.14			.05						1.44				3.97
Hansboro	Devils Lake			.23	.36				.40	.40							.62			.05													2.06
Hettinger	Grand							.09		.16						T.								.25			3.40		.60	.20			4.70
Hillsboro	Red				.15				.12	.05				.10							.10			.43						.21			1.16
Howard (near)	Missouri																																
Jamestown ‖	James		.03							.98				T.							.57			.41	.03					.51	.01		2.54
Lamoine	Missouri	T.		.35					.15				.15								.52	.05						T.	.45				1.67
Langdon ‖	Pembina			.78	1.50				.25	.04							.40				T.								T.	.30			3.27
Larimore	Red			.14	.20					.20											.45	.05		.02	.25				.44				1.75
Linton	Missouri	T.		T.					T.			T.								.06	.34	.10	.22						T.				0.72
Lisbon ‖	Sheyenne	.01			.03				T.	.27		T.	.10							.03	.40	.05		.65	.10					.02	.18		1.87
McClusky	Missouri	.15	.02	.22				.03	.77	.02			.15						T.	.28	.08	.06						.43					2.21
McKinney (near)	Mouse							1.00	T.	.25			.06	T.	T.	T.				.20	T.												1.51
McLeod	Sheyenne			T.					T.			T.								T.	.44	.04		.43						.76			1.67
Maddock	Sheyenne		T.	.20					.07	.02					T.				T.	T.	.49	.11		T.	T.				.56				1.45
Mandan ‖	Missouri		T.						.04	.05	T.				T.						.53	.01		.81				.02	.07	.66			2.19
Manfred	James	T.		.09					.26	.05								T.	.07	.30									.23				1.00
Marmarth	Lit. Missouri	.09	.10					.14					T.	T.				.01	T.	.01	.24		.04						T.			T.	0.63
Mayville	Red			.60			1.79		1.79	.30											.12			.36									4.96
Melville	James	.05		.18					.58											T.	.75	T.		.48					.98	.17			3.19
Metigoshe	Mouse			.70					.62	.04							1.06			.04	.05		.20						.11				2.82
Minot ‖	Mouse								.05		.10	.05		.10							.08	.02			.03				.02				0.45
Minto	Red								.43	.22											.81	.01		.23									1.70
Mott	Cannon Ball							T.	.07							T.	T.			.58	.14						.42		.04				1.25
Napoleon ‖	Missouri				.15					1.30			.04								.05			.22	.02			.11					1.89
New England	Cannon Ball	.18	.12					.75	.20	.35					T.					.20	T.						T.						1.80
New Salem	Heart	T.	T.					.23	T.	.01			T.		T.						.04			.40			.09		.19	.28			1.24
Park River	Red								.23	.16							.48				.08			.13									1.08
Parshall (near)	Missouri																																
Pembina ‖	Red			T.	.20				T.	.30							.30							T.						.40			1.20
Pettibone	James	T.		.56					.35	.03			.06								.70	T.		.72					.20				2.62
Power	Sheyenne								.05												.55	.05		.47						.83			1.95
Powers Lake	Missouri							.44					.41						.12	.07	.03												1.07
Richardton	Heart	.04	.15						.06												.09			3.10		.29			.21				3.94
Sharon	Red			.22	T.				.63			T.		.01						.01	.44	.06		.40					.03	.08			1.88
Stanton	Missouri			.95				.23													T.			.34									1.52
Steele	Missouri	T.		1.03				T.	1.10	T.		T.	.10						T.	T.	.77	.10	T.	.50	.10	.20		.10	.19				4.19
Towner	Mouse							*	.40												.33												0.73
Trotters	Lit. Missouri	.13	.13						.12					T.						.11	.06		.15				.03						0.73
Turtle Lake	Missouri	.18	.02	.30				.97	.27	.04			.11						T.		.18	.07		.02				1.82	.09				4.07
Valley City	Sheyenne								.80			T.				T.					.43			.60				.33		1.60			3.76
Wahpeton	Red																			.08	.03			.47						.05			0.63
Washburn	Missouri	.15		.54									.18							.16	.06			.18									1.27
Westhope	Mouse							.89							.12	.16				.08													1.25
Williston***	Missouri	.03	.01	1.75				.05	.04	.09			.07	.18	.01				.07	T.	.08	.02				T.			T.				2.40
Willow City	Mouse			.33				1.22	.53	T.		T.			.07	.03				T.	.14		T.										2.32
Moorhead, Minn ***	Red	T.						T.	.01	T.		T.	.01	.01		.01	T.		T.	.02	.49	.05	.01	.78					T.	1.53			2.92

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for July, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	80	87	86	87	83	92	95	91	72	71	81	68	77	82	94	91	87	92	94	81	78	82	70	80	86	81	83	88	76	85	92	83.6
	Minimum	43	58	61	54	52	58	51	62	58	49	52	40	45	45	51	61	52	58	64	64	57	53	55	50	55	56	58	57	63	56	57	54.8
Amidon	Maximum	75	75	75	80	85	90	87	85	82	76	93	80	85	101	95	85	92	94	98	74	74	86	88	87	83	80	90	79	83	95	100	85.5
	Minimum	44	48	50	52	53	56	57	55	53	47	57	55	52	58	64	59	54	70	66	56	46	50	57	55	55	55	60	56	50	58	71	55.5
Arnegard	Maximum	90	79	82	82	71	84	83	87	75	76	80	78	82	94	82	92	92	96	97	74	77	85	86	90	88	88	94	88	88	102	105	86.0
	Minimum	50	45	54	55	54	67	55	59	54	45	51	54	60	59	57	60	47	67	65	53	47	45	55	57	53	55	58	65	48	54	67	55.3
Ashley	Maximum	91	91	90	92	93	98	98	98	85	80	97	89	90	96	98	101	95	108	99	98	82	90	90	83	88	90	87	94	92	96	101	92.9
	Minimum	58	59	60	62	52	53	64	65	58	50	48	44	49	49	60	60	51	63	66	64	56	47	57	45	49	53	60	59	63	55	57	56.0
Beach	Maximum	67	72	82	80	90	92	98	82	83	80	85	86	94	98	95	81	95	95	100	78	74	86	84	90	87	87	95	80	86	98	104	87.3
	Minimum	55	45	58	53	58	60	65	61	50	50	51	54	53	62	63	59	54	65	71	54	50	45	54	53	53	57	58	61	49	56	62	56.1
Berthold Agency	Maximum	72	87	....	83	87	96	94	79	79	75	95	79	81	99	95	85	93	92	100	74	77	87	84	88	87	89	89	90	92	100	105	a87.8
	Minimum	62	58	....	56	51	59	68	62	59	49	50	52	48	60	59	59	41	64	63	58	49	41	57	51	58	61	....	....	53	49	64	c55.8
Bismarck	Maximum	72	82	91	84	88	92	92	83	75	76	94	75	84	92	96	88	91	98	97	72	76	84	74	82	83	82	88	84	83	88	98	85.3
	Minimum	64	61	61	60	53	60	71	65	60	54	50	52	52	60	64	62	52	68	68	60	54	47	58	52	58	60	63	66	62	55	62	59.2
Bottineau §§	Maximum	74	80	81	75	84	90	86	85	65	72	80	72	77	85	82	78	82	87	92	68	74	81	82	87	86	87	86	91	82	94	104	82.2
	Minimum	57	54	59	58	52	60	65	65	58	43	47	46	47	55	53	59	44	62	61	60	48	43	56	52	58	58	64	64	54	55	63	55.5
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carson	Maximum	84	80	90	86	91	90	89	85	80	77	95	86	90	94	100	89	92	102	104	84	79	84	80	85	84	82	86	80	90	96	101	88.2
	Minimum	60	62	64	53	57	62	67	64	58	52	50	50	49	60	64	60	54	61	75	62	50	60	56	50	59	60	56	64	56	60	66	58.8
Crosby	Maximum	82	75	79	84	91	93	90	80	69	75	83	81	81	83	93	83	86	87	92	83	75	87	89	92	89	88	89	79	88	101	102	85.5
	Minimum	56	53	55	56	56	59	63	61	61	46	52	54	50	57	61	58	50	53	58	51	55	47	48	58	54	63	62	60	46	55	61	55.5
Devils Lake	Maximum	76	85	80	73	83	89	93	78	69	71	78	70	76	83	86	83	85	97	94	68	75	80	72	84	81	84	82	88	81	88	100	81.8
	Minimum	50	53	61	59	52	58	65	60	54	44	49	38	40	50	61	59	50	60	62	56	51	49	52	52	53	56	62	61	56	47	64	54.3
Dickinson §§	Maximum	68	78	80	84	88	93	94	81	77	75	94	81	87	98	96	85	92	96	98	77	74	85	81	86	86	79	90	84	85	96	101	86.1
	Minimum	47	54	55	55	53	61	65	62	57	46	51	55	51	59	57	52	49	57	66	59	47	39	44	51	50	59	54	56	55	47	54	53.8
Donnybrook	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Dunn Center §§	Maximum	65	80	85	81	86	92	94	78	76	72	92	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	83	84	96	101	......
	Minimum	39	34	55	55	50	58	63	58	56	45	48	52	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...	46	46	51	57	......
Dunseith	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Edgeley	Maximum	88	87	88	85	85	90	94	90	76	75	94	75	80	83	98	97	90	106	95	95	80	86	82	80	84	83	85	82	83	95	94	87.3
	Minimum	60	58	57	60	53	57	63	62	57	48	46	40	45	45	58	55	49	60	65	62	56	44	57	46	51	52	57	55	55	57	56	54.4
Ellendale	Maximum	73	82	85	82	83	89	92	88	71	72	92	65	78	81	95	97	88	103	96	80	76	83	71	78	83	82	85	87	81	85	97	83.9
	Minimum	61	57	60	61	57	58	63	64	55	52	50	46	48	47	56	58	52	64	71	63	58	51	54	50	52	56	64	60	64	59	54	56.9
Fessenden §§	Maximum	81	84	87	83	90	97	96	85	82	84	85	71	81	94	93	89	90	100	98	72	75	87	78	88	86	85	85	92	83	90	100	86.8
	Minimum	59	48	61	58	50	53	63	66	55	45	44	41	42	44	58	60	50	55	62	62	50	45	57	50	49	51	60	62	60	50	60	53.9
Foxholm (near)	Maximum	77	76	84	81	85	93	94	77	70	70	83	77	79	94	87	85	87	89	96	81	75	83	83	87	86	87	88	91	84	97	103	84.8
	Minimum	56	52	58	56	56	60	70	62	55	46	52	45	47	50	58	56	48	63	58	55	50	46	51	55	58	62	58	65	51	55	70	55.6
Fullerton	Maximum	75	88	90	83	87	93	100	90	76	74	97	67	88	87	97	98	90	105	98	81	78	88	80	80	87	86	85	92	82	88	99	87.1
	Minimum	60	58	61	62	55	58	61	70	58	50	50	44	46	44	56	53	51	63	70	62	57	47	59	49	53	55	61	59	63	58	55	56.4
Garrison	Maximum	69	77	84	80	85	87	88	78	73	73	90	74	80	96	94	83	90	95	96	72	78	83	88	85	85	87	89	91	84	95	99	84.8
	Minimum	59	57	59	58	56	57	49	64	57	46	50	48	49	58	59	57	45	63	61	56	45	58	47	50	58	42	62	61	55	49	61	54.8
Grafton	Maximum	79	82	77	74	86	89	90	85	71	71	76	69	77	79	83	83	82	92	85	83	77	80	70	83	85	83	83	86	81	87	100	81.5
	Minimum	52	49	62	58	55	58	59	62	57	49	50	37	43	46	58	59	53	55	64	62	53	50	51	50	50	55	57	57	63	47	55	54.1
Grand Forks	Maximum	75	82	80	77	82	86	88	85	71	70	71	68	75	79	83	87	82	89	89	77	75	78	68	80	84	82	81	86	78	87	95	80.4
	Minimum	50	55	62	59	54	57	58	65	58	50	52	39	46	45	61	61	54	57	64	63	56	47	54	48	53	57	60	60	64	50	55	55.3
Granville	Maximum	80	80	87	78	86	95	95	77	70	72	85	73	73	97	87	87	80	88	92	97	87	78	84	90	87	87	90	90	36	97	104	85.7
	Minimum	54	50	60	58	50	57	67	65	57	47	48	44	43	52	58	57	48	62	62	52	55	52	56	50	55	54	61	66	59	48	61	55.1
Hansboro	Maximum	81	81	80	74	85	88	88	78	74	70	75	68	78	78	81	78	81	84	83	80	75	80	80	88	85	90	88	90	90	91	102	82.1
	Minimum	55	45	55	54	48	50	55	55	50	40	44	32	35	43	50	42	48	62	54	50	40	38	38	42	45	55	50	50	40	50	55	47.4
Hettinger	Maximum	93	90	91	89	94	94	97	101	85	95	99	98	100	102	103	89	91	91	102	82	87	85	85	70	68	78	76	88	80	88	97	90.0
	Minimum	57	70	69	63	68	69	71	69	65	58	73	63	70	78	62	78	73	79	76	65	60	66	64	65	64	58	62	67	65	71	75	67.5
Hillsboro	Maximum	82	89	83	78	86	91	91	91	73	73	76	72	76	81	90	89	84	88	94	92	...	82	80	81	86	83	84	89	86	87	93	a84.3
	Minimum	54	57	64	60	56	62	58	69	58	50	50	40	50	47	53	58	54	59	63	66	...	50	56	52	54	55	58	62	64	55	59	a56.4
Howard (near)	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Jamestown §§	Maximum	75	82	85	78	84	96	90	93	69	71	90	66	78	80	91	94	91	95	93	76	78	80	81	73	75	79	80	89	75	89	88	82.7
	Minimum	56	60	62	60	54	57	51	51	47	49	57	44	47	45	50	58	51	51	56	63	47	48	51	52	50	48	47	51	54	57	57	52.6
Lamoine	Maximum	70	78	83	80	85	92	90	84	74	72	93	81	78	93	94	87	88	94	95	70	75	82	77	83	84	83	86	87	89	90	100	84.4
	Minimum	57	58	58	56	52	57	69	64	56	45	46	42	48	50	65	68	47	67	60	61	50	46	60	64	64	52	60	65	60	50	56	56.5
Langdon §§	Maximum	79	84	79	71	86	87	89	81	76	72	72	68	74	80	79	79	79	90	83	80	74	79	75	84	86	85	82	88	78	90	104	81.1
	Minimum	49	50	59	51	51	52	57	60	54	44	46	35	38	48	54	58	58	60	58	59	47	46	50	50	53	55	59	58	56	50	57	52.3
Larimore §§	Maximum	74	84	80	74	83	93	92	86	70	72	77	69	77	82	82	88	87	95	82	73	77	84	70	82	86	82	84	87	81	90	101	82.0
	Minimum	50	52	61	61	54	56	63	70	56	50	46	32	42	47	56	56	54	57	64	64	55	47	52	50	52	56	55	58	63	50	58	54.5
Linton	Maximum	87	85	91	91	....	94	95	96	86	79	97	89	87	90	100	98	94	105	100	97	86	83	79	85	84	85	90	87	87	94	102	a90.8
	Minimum	61	62	60	55	....	51	69	65	58	53	46	46	47	58	61	57	51	65	58	64	56	38	58	43	57	56	60	62	63	46	54	a55.9
Lisbon §§	Maximum	78	90	90	94	93	96	101	95	79	74	93	72	82	90	98	100	94	108	100	84	81	87	72	79	96	86	85	92	79	88	101	88.7
	Minimum	58	60	52	65	68	53	54	67	58	49	47	43	43	39	55	57	56	49	56	65	58	46	56	50	51	51	59	59	61	57	54	54.7
McKinney (near)	Maximum	81	82	81	82	90	92	93	75	70	80	86	75	75	92	85	76	83	84	92	73	76	83	81	90	85	87	82	87	86	100	101	84.0
	Minimum	55	55	60	52	50	52	60	65	45	46	45	46	45	50	60	57	56	57	50	52	60	45	45	50	51	56	56	65	60	45	75	53.7
Maddock	Maximum	75	81	83	80	88	93	94	89	74	73	84	77	80	93	91	88	88	99	95	92	76	83	82	86	85	85	84	90	81	89	101	85.8
	Minimum	52	52	58	55	47	54	54	55	56	43	43	36	37	43	55	56	43	63	60	60	49	45	53	45	47	48	57	60	55	46	55	51.0
Melville	Maximum	78	82	80	78	86	94	92	86	74	76	90	68	78	73	93	88	91	88	92	89	75	82	80	80	82	83	80	88	80	88	98	83.6
	Minimum	55	57	60	57	50	60	62	67	55	46	48	40	46	....	....	...	46	58	59	61	53	61	56	50	55	53	59	58	55	55	59	c55.0
Minot §§	Maximum	76	78	87	84	90	97	95	79	74	76	85	75	83	96	91	80	87	94	99	70	78	87	84	92	88	89	90	92	91	100	104	86.8
	Minimum	59	51	60	57	57	58	69	65	59	49	49	48	44	53	60	55	48	65	64	61	50	43	51	56	60	61	63	68	53	51	69	56.7
Mott	Maximum	88	88	92	91	89	90	91	87	86	88	100	86	90	90	91	98	95	100	96	83	84	87	81	86	93	80	82	85	88	93	98	89.5
	Minimum	60	61	66	64	60	65	63	64	60	62	68	55	62	60	66	68	73	71	62	57	57	60	61	62	59	56	60	61	64	66	70	62.7
Napoleon §§	Maximum	74	85	90	86	88	95	95	90	70	75	93	71	80	89	96	93	92	104	98	77	79	98	67	82	84	85	87	91	85	93	103	86.9
	Minimum	59	56	60	54	46	47	63	64	55	49	43	42	44	47	45	58	46	62	63	61	52	45	57	39	45	50	54	59	60	48	60	52.7
New Salem	Maximum	80	85	96	85	98	98	96	85	84	77	98	86	98	96	100	100	93	105	100	75	100	85	74	85	86	85	85	82	86	90	100	90.1
	Minimum	59	54	60	57	62	58	69	62	54	49	53	47	47	57	63	59	58	65	66	52	62	47	53	53	53	58	63	63	54	54	64	57.3
Pembina §§	Maximum	83	88	88	75	92	96	89	79	70	70	71	68	70	78	83	81	82	91	82	71	75	79	75	85	86	85	84	86	83	87	96	81.5
	Minimum	35	40	46	46	42	47	65	62	36	33	36	34	41	41	42	60	53	53	60	59	50	48	49	43	51	57	57	53	58	52	55	48.5
Steele	Maximum	70	82	92	80	88	93	91	94	65	69	88	91	90	90	92	89	88	98	89	79	76	69	89	90	88	90	88	85	81	86	98	85.7
	Minimum	60	62	60	55	53	57	65	65	55	56	49	45	45	67	65	56	52	65	64	65	64	47	42	60	64	65	64	64	65	67	76	59.3
Towner	Maximum	80	83	88	85	89	96	90	75	68	75	75	78	81	85	98	94	88	95	99	95	75	82	84	88	89	89	89	94	96	95	106	87.3
	Minimum	53	51	53	52	50	55	58	46	58	46	47	42	40	48	54	53	51	54	56	46	43	45	47	50	55	58	56	64	60	61	63	52.1
Valley City	Maximum	81	84	82	80	83	92	92	90	82	71	69	68	76	85	89	89	86	92	92	81	76	81	72	79	80	79	77	82	79	85	91	82.1
	Minimum	60	58	63	60	48	60	61	70	63	45	46	45	45	52	60	59	49	58	62	60	56	50	56	47	49	57	56	59	60	59	57	55.8
Wahpeton	Maximum	91	88	88	89	87	92	95	92	87	78	90	86	80	81	98	102	94	101	86	92	82	86	76	81	87	83	84	90	90	91	95	88.5
	Minimum	59	57	57	64	54	55	59	70	59	50	45	40	47	46	57	60	54	66	72	67	58	52	58	52	52	56	51	63	65	60	57	56.8
Westhope	Maximum	80	82	83	77	86	94	89	73	66	73	79	77	81	88	84	76	87	87	95	70	77	86	86	92	88	90	89	89	88	99	102	84.3
	Minimum	55	52	59	58	55	58	65	60	55	46	50	44	42	52	50	50	48	59	60	55	49	45	52	50	52	50	56	50	46	47	57	52.5
Williston	Maximum	73	77	80	81	88	92	90	79	75	76	90	79	82	94	92	80	90	91	95	67	74	84	85	88	85	86	91	81	86	100	103	85.0
	Minimum	60	60	55	60	56	65	67	62	54	47	59	57	57	64	62	58	53	66	65	54	49	44	57	58	59	65	63	55	45	64	65	58.2
Moorhead, Minn	Maximum	78	84	83	80	81	89	92	90	71	71	81	66	75	80	93	93	85	91	93	81	77	82	64	79	84	81	81	88	74	85	94	82.2
	Minimum	56	60	64	62	56	57	59	70	56	51	49	41	52	46	57	63	56	66	68	60	57	55	58	53	58	57	64	64	66	59	60	58.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc.

WBO, Minneapolis, 8-26-26—970

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXV   BISMARCK, N. D., AUGUST, 1926   No. 8

GENERAL SUMMARY

The month opened with a general lack of soil moisture. Light to heavy local showers occurred in some parts of the State, but harvesting and early threshing made good progress during the first half of the month. From the 17th to the 20th showers were general in the greater portion of the State, delaying harvesting of flax and threshing, but greatly improving fall plowing conditions and pastures and ranges. From the 21st to the 29th fair weather generally prevailed, and rapid progress was made in all kinds of farm work. Heavy local showers occurred in some parts of the State on the 30th.

TEMPERATURE

The mean temperature for the State was 65.6°, or 0.2° above the normal, and 2.3° lower than the mean for August, 1925. The highest mean reported was 74.2° at Hettinger, Adams County; the lowest was 58.9° at Hansboro, Towner County. The highest temperature reported was 105° at Beach, Golden Valley County, on the 26th; the lowest was 36° at Epping, Williams County, on the 15th, and at Amidon, Slope County, and at Willow City, Bottineau County, on the 29th. The greatest monthly range of temperature was 63° at Amenia, Cass County, and at Dickinson, Stark County; the least was 45° at Hettinger, Adams County. The greatest daily range was 55° at Amenia, Cass County, on the 25th.

PRECIPITATION

The average precipitation for the State was 2.43 inches, or 0.15 inch above the normal, and 1.36 inches more than the average for August, 1925. The greatest monthly amount reported was 9.76 inches at Ellendale, Dickey County; the least was 0.80 inch at Cooperstown, Griggs County, and at Williston, Williams County. The greatest amount recorded in any 24 consecutive hours was 5.58 inches at Ellendale, Dickey County, on the 30th. The average number of days with 0.01 inch or more of precipitation was 7.

AURORAS

Auroras were observed at Dogden on the 1st; at Foxholm on the 12th; at Ellendale on the 13th; at Bottineau on the 15th; at Foxholm and Willow City on the 16th; at Bottineau and Willow City on the 25th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.99	30.30	23	29.63	19	57	6,136	8.2	38	nw.	5
Devils Lake	29.97	39.29	14	29.56	27	44	5,959	8.0	29	w.	27
Ellendale	30.00	30.26	3	29.56	19	56	8,311	11.2	40	nw.	5
Grand Forks	29.95	30.23	14†	29.56	19	90	......	......	30	w.	20
Williston	29.94	30.31	23	29.45	26	48	5,713	7.7	36	w.	27
Moorhead, Minn	29.97	30.26	29	29.51	19	58	4,704	6.3	35	nw.	5
Av'ges and extremes	29.97	30.31	23	29.45	26	.....	....	8.3	40	nw.	5

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

OCT 1 1926

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	243.4	439.4	55	−14	81	53	50	21	26
Devils Lake	281.2	442.0	64	− 1	84	52	56	17	1
Ellendale	279.1	437.4	64	− 1	88	58	....	24	25
Grand Forks	......	......	......	......	82	.....	58	.....	....
Williston	285.9	442.0	65	− 2	78	46	43	22	26
Moorhead, Minn	327.0	439.4	74	+ 7	88	55	59	23	22
Averages and extremes	283.3	440.0	64	− 2	84	53	53	17	1

† And other dates.

COMPARATIVE STATE DATA FOR AUGUST

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917	65.2	−0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.
1923	63.0	−2.4	97	28	1.90	−0.38	8	14	12	5	nw.
1924	63.8	−1.6	102	28	1.65	−1.45	6	17	9	5	nw.
1925	67.9	+2.5	110	29	1.07	−1.21	5	20	8	3	nw.
1926	65.6	+0.2	105	36	2.43	+0.15	7	14	8	9	nw.

Climatological Data for August, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	......	......	......	......	......	......	......	......	1.03	......	0.48	0	3	......	......	......	......	H. A. Bury.
Amenia	Cass	954	30	65.2	−1.1	97	27	38	25	55	2.00	−0.72	0.92	0	8	19	11	1	sw.	E. T. Carley.
Amidon	Slope	......	12	65.0^b	......	99^b	25	36^b	29	56^b	0.97	−0.28	0.62	0	2	......	......	......	......	H. M. Critchfield.
Arnegard	McKenzie	......	11	65.9	......	101	1	45	29	43	2.43	......	0.87	0	7	20	4	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	68.5	+2.6	100	25†	46	24	45	6.41	+4.21	3.92	0	9	15	8	8	se.	H. D. Piper.
Beach	Golden Valley	2,579	20	66.8	+1.8	105	26	43	24	42	1.17	−0.88	0.55	0	5	20	5	6	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	67.3^a	−0.4	99	1	43^a	21†	41^a	2.75	+0.98	1.27	0	10	17	6	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	66.8	−0.5	100	1	43	29	37	1.34	−0.64	0.50	0	6	12	12	7	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	63.5	−0.1	93	1	40	10†	47	1.19	−1.02	0.30	0	11	11	10	10	se.	T. M. Street.
Bowman	Bowman	2,961	12	67.6^c	......	100^c	1†	44^c	10	49^c	2.81	+1.86	1.10	0	4	20	3	8	nw.	R. Love, Jr.
Cando	Towner	1,488	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. J. Swanson.
Carson	Grant	2,500	14	69.6	+2.0	104	25	44	16	47	1.80	+0.40	0.90	0	4	22	5	4	se.	J. W. Evens.
Cooperstown	Griggs	1,428	20	......	......	......	......	......	......	......	0.80	−1.86	0.40	0	5	19	9	3	nw.	S. Friswold.
Crosby	Divide	1,954	19	64.5	+0.8	94	26	39	16	44	1.55	−0.55	1.00	0	5	12	12	7	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	64.0	−1.1	100	1	42	29	39	1.90	−0.86	0.58	0	11	8	13	10	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	64.4	−1.9	101	25	38	13	53	1.56	−0.39	0.51	0	7	14	6	11	ne.	Leroy Moomaw.
Dogden	McLean	1,880	......	65.2	......	96	1	43	29	39	2.45	......	0.97	0	9	15	8	8	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. Feldner.
Dunn Center	Dunn	2,191	27	63.3	−3.3	96	1†	37	16	49	0.83	−0.74	0.30	0	7	16	6	9	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	61.6	−2.0	92	1	40	16†	42	1.09	−1.32	0.40	0	6	9	9	13	se.	J. G. Lamont.
Eckman	Bottineau	1,500	21	63.6	+0.3	98	1	39	29	47	1.58	−0.74	0.75	0	7	0	23	8	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	66.4	0.0	94	25	39	10	39	4.73	+2.59	0.97	0	11	5	11	15	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	66.5	−2.3	99	25	46	29	45	9.76	+7.50	5.58	0	10	11	10	10	ne.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	66.9	......	102	1	41	29	45	1.47	−0.48	0.54	0	7	13	15	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	18	64.3	......	96	26	36	15	47	1.30	−0.85	0.38	0	7	16	9	6	w.	A. O. Wang.
Fessenden	Wells	1,610	14	64.0	−1.0	100	1	40	29	48	2.38	0.00	0.56	0	11	10	10	11	se.	T. D. Monsen.
Finley	Steele	1,461	2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	G. J. Mustad.
Forman	Sargent	1,249	32	......	......	......	......	......	......	......	5.11	+2.40	1.18	0	11	11	9	11	n.	O. Enger.
Fort Yates	Sioux	1,670	......	......	......	......	......	......	......	......	1.51	−0.46	0.94	0	3	......	......	......	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	64.2	......	100	1	46	10†	40	2.40	......	1.06	0	6	9	8	14	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8	......	......	......	......	......	......	......	1.03	......	0.47	0	4	15	11	5	nw.	Verne King.
Fullerton	Dickey	1,439	28	67.9	+1.6	98	1	42	17	41	5.54	+3.01	1.79	0	9	13	9	9	nw.	F. O. Alin.
Garrison	McLean	1,901	31	66.8	+1.1	97	1	41	29	42	3.50	+1.50	1.37	0	10	20	6	5	s.	Wm. H. Robinson.
Grafton	Walsh	827	34	65.0^a	+0.5	96^a	1	39^a	7	42^a	1.42	−1.17	0.88	0	6	15	7	9	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	65.4	+0.5	94	1†	42	7†	39	1.63	−0.83	0.60	0	9	14	9	8	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	63.8	−0.1	102	1	42	4†	48	3.09	+1.00	1.11	0	7	10	9	12	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32	......	......	......	......	......	......	......	2.37	+0.52	0.67	0	6	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	18	58.9	−3.9	91	1	38	7†	44	3.06	+0.84	0.90	0	8	11	13	7	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	74.2	+7.2	100	1	55	10	25	2.98	+1.73	1.35	0	5	22	2	7	ne.	U. J. Downey.
Hillsboro	Traill	901	20	67.4	+0.5	95	27	44	7	38	1.35	−1.59	0.36	0	7	13	14	4	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	19	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	63.2	−3.0	94	27	41	30	40	2.76	+0.02	0.81	0	12	10	4	17	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	64.8	+0.9	99	1	40	31	49	2.59	+0.61	1.02	0	6	20	6	5	se.	E. V. Virgin.
Langdon	Cavalier	1,615	30	62.6	+0.9	100	1	41	10†	41	2.17	−0.48	0.75	0	7	20	5	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	65.0	+0.7	92	24	42	7	46	2.59	−0.01	1.10	0	9	13	2	16	s.	Reuben Gray.
Linton	Emmons	1,711	8	68.6^b	......	102^b	1	41^b	21†	54^b	1.58	......	0.82	0	6	16	7	8	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	66.2	−0.3	103	1	44	29	45	6.36	+4.10	1.80	0	12	16	13	2	......	W. S. Adams.
McClusky	Sheridan	1,943	8	64.6	......	96	1†	41	10†	42	2.41	......	1.45	0	8	15	7	9	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	32	62.2	−1.3	95	1	38	11	45	1.70	−0.08	0.65	0	5	13	11	7	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	67.8	+0.2	95	1	46	5	39	3.75	+1.40	0.84	0	10	14	7	10	se.	J. G. Carlson.
Maddock	Benson	1,604	10	63.6	......	99	1	38	4†	48	2.91	+0.69	0.76	0	9	5	14	12	nw.	A. T. Felland.
Mandan	Morton	1,644	12	66.8	−1.0	101	1	43	29	43	1.31	+0.09	0.67	0	6	10	6	15	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	64.6	+0.3	98	1	40	29	40	2.65	+0.19	0.68	0	11	16	6	9	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	68.2	+2.6	104	26	45	10	42	2.81	+1.19	1.08	0	8	18	4	9	......	S. P. Grane.
Mayville	Traill	975	30	......	......	......	......	......	......	......	1.47	−1.47	0.42	0	5	14	5	12	s.	Ingvald Larson.
Melville	Foster	1,590	28	64.6^a	−1.8	98^a	1	43^a	10	42^a	2.32	+0.33	0.95	0	7	10	13	8	sw.	J. P. Kidder.
Metigoshe ‡‡	Bottineau	......	......	......	......	......	......	......	......	......	1.75	......	0.50	0	11	17	9	5	se.	J. A. Thorburn.
Minot	Ward	1,557	30	65.0	−0.1	98	1	41	3	44	2.73	+0.53	1.05	0	10	17	5	9	e.	W. I. Faris.
Minto	Walsh	820	33	64.4	−0.2	98	1	38	7	46	1.75	−0.66	0.60	0	5	12	11	8	nw.	C. M. Evans.
Mott	Hettinger	2,424	19	69.1	+3.2	101	27	44	6†	40	2.08	+0.44	0.82	0	4	10	10	11	e.	O. H. Opland.
Napoleon	Logan	1,955	34	65.2	−0.8	103	1	42	10†	47	2.12	−0.27	0.68	0	8	11	5	15	s.	C. J. Hoof.
New England	Hettinger	2,400	32	66.2	−0.5	101	1	46	20	51	1.70	−0.07	0.95	0	3	15	11	5	nw.	W. S. Jones.
New Salem	Morton	2,163	22	68.4	+2.0	103	1	42	16	50	3.26	+1.59	1.63	0	8	18	7	6	se.	J. Christiansen.
Park River	Walsh	998	22	64.6	−0.9	100	1	41	7†	39	1.91	−0.32	0.84	0	6	13	7	11	se.	C. B. Wright.
Parshall (near)	Mountrail	......	11	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Johnson.
Pembina	Pembina	789	52	62.0	−2.1	95	1	40	8†	41	2.20	+0.07	0.90	0	4	25	4	2	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	17	65.4^a	+3.0	101^a	1	44^a	10†	48^a	2.50	+0.21	0.65	0	11	3	6	22	se.	A. L. Carlson.
Power	Richland	1,020	32	......	......	......	......	......	......	......	4.51	+2.04	1.34	0	10	16	7	8	s.	Frank B. Power.
Powers Lake	Burke	2,205	12	65.0^a	......	96^a	1	41^a	10†	44^a	1.47	−0.12	0.65	0	6	23	4	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	69.4	......	100	1†	42	16	46	1.16	......	0.54	0	4	14	4	13	nw.	John Muggli.
Sharon	Steele	1,516	1	......	......	......	......	......	......	......	1.45	......	0.75	0	7	10	10	11	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2	......	......	......	......	......	......	......	2.01	......	0.84	0	5	13	11	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	67.5	+0.7	99	1	40	29	36	3.42	+1.08	1.47	0	7	14	9	8	w.	H. S. Wood.
Towner	McHenry	1,482	24	64.8	+0.4	102	1	42	6	45	3.05	+0.96	1.15	0	7	17	7	7	nw.	B. Bagley.
Trotters	Golden Valley	......	......	......	......	......	......	......	......	......	0.86	......	0.36	0	7	13	8	10	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	11	65.7^d	......	96^d	25	41^d	21	43^d	4.06	+2.18	3.01	0	6	......	......	......	se.	A. T. Anderson.
Valley City	Barnes	1,245	21	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. Twito.
Wahpeton	Richland	962	32	68.4	+1.5	103	27	48	9	38	4.62	+1.72	1.27	0	10	17	0	14	se.	C. G Luick.
Washburn	McLean	1,731	25	......	......	......	......	......	......	......	0.89	−0.44	0.65	0	3	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	20	63.2	−0.9	96	1	42	10†	50	1.43	−0.80	0.45	0	8	19	4	8	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	65.8	−0.3	98	26	40	16	39	0.80	−0.51	0.41	0	9	13	10	8	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	62.6^a	−0.9	94^a	1	36^a	29	48^a	1.99	−0.09	0.98	0	6	13	8	10	e.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	66.6	+0.5	96	27	48	29	35	1.83	−1.27	0.91	0	8	9	11	11	s.	U. S. Weather Bureau.
Averages	......	......	......	65.6	+0.2	105	26	36	15†	55	2.43	+0.15	5.58	0	7	14	8	9	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for August, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
lpha	Lit. Missouri			.31														.24			.48												1.03
menia ||||	Red				.92				.10							.50	.04		.07	.27	.04											.06	2.00
midon	Lit. Missouri			.35															.62		T												0.97
rnegard	Missouri								T.	.87		.10		.12				.30	.12	.80	.12												2.43
shley	Missouri			.10	.09				.05			.22		.34				.15	.99	.55											3.92		6.41
Beach	Lit. Missouri	T.	T.	.26		.18			T.	T.								.07		.55	.11												1.17
Berthold Agency	Missouri			.03		.01			T.	1.27		T	.20	T.		.03		.12	.42	.41	.02										.24		2.75
Bismarck ***	Missouri		T.	.36		T		.08		T.					.24	T.		.16	.01	.49	T.	T.							T.				1.34
Bottineau|| ||	Mouse	T.	.30			.14				.27	.01	.04	T.		.06	.03	T.		.02	.16	.14	.02											1.19
Bowman	Grand			.35								1.06		.30				1.10															2.81
Cando	Devils Lake																																
Carson	Heart			.90	.08													.42		.40													1.80
Cooperstown	Sheyenne			.15											.15				.05	.40			.05										0.80
Crosby	Mouse			T.		T.			.06			T.		.10				.38	.01	1.00	T.	T.											1.55
Devils Lake ***	Devils Lake	.28	.21			.02				.15		T.			.53	.05		.13	.17	.28	.03										T	.05	1.90
Dickinson|| ||	Heart		.38	T.	.17	T.			T.				.17					.17	.10	.51	.06												1.56
Dogden	Mouse		.19			.04				.50						.09		.14	.17	.31	.04										.97		2.45
Donnybrook	Mouse																																
Dunn Center ||||	Knife					.07				.12						.11		.06	.07	.30	.10												0.83
Dunseith	Mouse					.14			.40						.12	.05			.08	.30													1.09
Eckman	Mouse					.02			.09	.75								.10	.14	.44											.04		1.58
Edgeley	James			.60	.50	.01				.05		.06	.95					.17	.77	.63									.02		.97		4.73
Ellendale***	James		.01	1.20	T.	T.		.11	.01			.86	T.			.02		1.17	T.	.74		T.	T.					T.	.06		5.58	T.	9.76
Energy	Missouri		.02	.11		T.			T.	.22				T.			T.	.08	T.	.54	.48										.02		1.47
Epping	Missouri		T.						T.	.12		.38		.13				.23	.03	.30	.11	T.											1.30
Fessenden|| ||	James		.31		.21		.02				.08					.16			.23	.56	.11	.05									.55	.10	2.38
Finley	Red																																
Forman	Sheyenne			.28	.84				.12			.18	.45					.04	1.18	.70			.15						.05		1.12		5.11
Fort Yates	Missouri			.33														.24	.94														1.51
Foxholm (near)	Mouse		T.			T.			T.	.43		T.			.18	T.		.17	.28	1.06											.28		2.40
Fryburg	Heart			.21				T.	T.	T.		T.		T.				.21	T.	.47	.14		T.										1.03
Fullerton	James		T.	.50	.29	T.			.42			.52	.78					.12	.42	.70	T.	T.	T.								1.79		5.54
Garrison	Missouri	.23	.09	.02		.04				.58					.02	T.		T.	.58	.52	.05										1.37		3.50
Grafton	Red		.06			.12				T.						.20			.02	.88	.14												1.42
Grand Forks ***	Red		.04	.25		.26				.08					.20	.40		.18		.16	.06												1.63
Granville	Mouse		T							1.11		T.			.65	.03		.27	.37	.27	T.	T.									.39	T.	3.09
Hannah	Pembina	.28				.34				.65					.36			.07		.67													2.37
Hansboro	Devils Lake		.38			.25			.10	.90					.18	.60				.53	.12												3.06
Hettinger	Grand			.32								.16						1.35	.10	1.05													2.98
Hillsboro	Red			.16	.11	.16										.28			.03	.25			.36										1.35
Howard (near)	Missouri																																
Jamestown|| ||	James		T.		.81	.03	.01		.03					.36		.50		T.	.01	.37	.07	.01									.30	.26	2.76
Lamoine	Missouri				.18	T.		T.								.51		T	T.	.52	.14										1.02	.22	2.59
Langdon|| ||	Pembina		.15				T.			.50					T.	.38	.05			.18	.75	.16											2.17
Larimore	Red			.23	.35		.15				.10					1.10			.26	.10	.25		.05										2.59
Linton	Missouri			.30	.06			T.				.13				T.		.23	.04	.82									T.		T.		1.58
Lisbon ||||	Sheyenne				1.59		T.		.10				.20	.10	T.	1.80			.30	.60	.58		.10						.07		.04	.88	6.36
McClusky	Missouri		.02	.12	.06			T.		.07						.02			T.	.55	.12										1.45		2.41
McKinney (near)	Mouse									.40	.05				T.				.55	.65		T.									.05		1.70
McLeod	Sheyenne				.47				.20				.35		.02	.83		.04	.42	.84			.06								.52		3.75
Maddock	Sheyenne		.11			.04				.07					.76				.75	.57	.10										.41	.10	2.91
Mandan|| ||	Missouri			.06	.27	T.			.08							.07	T.	.16	T.	.67	T.		T										1.31
Manfred	James		.41	.18	.02	.02				.13						.17		.07	.35	.68	.02										.60		2.65
Marmarth	Lit. Missouri		.19	.19				T.				.08	.16	.04			1.08	.03	1.04														2.81
Mayville	Red	.30				.12	.42												.40	.23													1.47
Melville	James		.04	.12		.04										.28		T.		.95	.05	T.									.84		2.32
Metigoshe	Mouse	.05	.12			.18			.10	.23		.03			.50	.08		T.	.11	.33	.02												1.75
Minot|| ||	Mouse									1.05	.10				.06	.20			.45	.35	.10	.02									.20	.20	2.73
Minto	Red					.29				.12					T.	.60			.17		.57												1.75
Mott	Cannon Ball		.46												.01			.79		.82													2.08
Napoleon ||||	Missouri				.68	.01			.03							.26		.12	.10	.60										.32			2.12
New England	Cannon Ball			.20														.95		.55													1.70
New Salem	Heart			.21			.07									.24		.21	.04	.77	.09											1.63	3.26
Park River	Red		.30			.15				.18						.84				.12	.32												1.91
Parshall (near)	Missouri																																
Pembina|| ||	Red										.20						.50				.90											.60	2.20
Pettibone	James		.05	.44		.11		.05					.05			.07			.01	.50	.10										.65	.47	2.50
Power	Sheyenne			1.34				.02			T.	.23	.06			.65		.70	.91	.18		.08							T.		.34		4.51
Powers Lake	Missouri					.06			.07					.11				.65	.46			.12											1.47
Richardton	Heart				.05											.37		.20		.54													1.16
Sharon	Red		T.	.07	.05	.16			T.	.04						.75		T.		.37	T.	.01						T.			T.		1.45
Stanton	Missouri			.22		T.				.84								T.		.75	.15	.05											2.01
Steele	Missouri			.40	.08			T.	T.	.15		T.	T.	T		.35	T.	.70	T.		T.										1.47	.27	3.42
Towner	Mouse		.50	T.						.82		T.			1.15	.05		.33	.15	.05	T.	T.											3.05
Trotters	Lit. Missouri			.05	T.				.04					.04				.04		.36	.28										.05		0.86
Turtle Lake	Missouri			.15						.25								.09	T.	.48	.08											3.01	4.06
Valley City	Sheyenne																																
Wahpeton	Red			.12	1.18				.21			.14	.19			.30			.80	1.27			.20								.21		4.62
Washburn	Missouri																			.65	.12										.12		0.89
Westhope	Mouse					.32			.15	.33						.06		.06	.04	.45	.02												1.43
Williston ***	Missouri	.01		T.	T.				.11	.01		.02	.01	.02		T.		.20	T.	.41	.01	T						T					0.80
Willow City	Mouse	T.				.12				.98		T.			.21	.45			.07	.16	T.										T.	T.	1.99
Moorhead, Minn ***	Red		T.	.62	.01	T.		.03								.20		.02		.91		T.							.02		.02		1.83

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for August, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	91	87	71	73	83	77	74	79	71	75	76	79	81	80	81	73	70	75	74	81	83	84	80	84	93	89	97	74	81	68	88	79.7
	Minimum	58	62	51	54	53	54	44	54	58	47	46	50	51	51	52	48	47	52	55	55	61	43	48	45	38	47	44	55	41	50	54	50.6
Amidon	Maximum	98	85	70	85	75	....	80	75	....	70	73	80	....	....	....	84	....	72	70	70	83	73	83	91	99	98	90	75	92	....	....	[b]81.3
	Minimum	71	65	52	53	57	....	54	54	....	45	47	49	....	....	....	44	....	44	39	44	44	42	44	38	56	50	53	38	36	....	....	[b]48.7
Arnegard	Maximum	101	82	71	90	79	84	82	69	65	76	77	78	77	83	68	72	69	67	72	67	82	77	81	92	93	98	91	74	82	89	83	79.7
	Minimum	61	57	55	50	60	46	50	53	52	48	48	49	53	53	52	52	53	53	56	54	48	47	49	49	62	56	51	47	45	47	59	52.1
Ashley	Maximum	98	93	80	74	91	80	75	78	78	74	71	80	80	80	84	73	71	69	75	75	81	82	79	90	100	100	100	90	85	86	90	82.6
	Minimum	63	64	53	53	55	53	47	57	60	49	47	48	52	47	57	50	48	51	54	51	49	57	51	46	60	55	70	64	62	47	65	54.4
Beach	Maximum	100	85	65	90	75	86	82	65	68	72	77	80	82	87	72	76	71	68	72	75	80	79	85	95	100	105	85	75	83	96	86	81.2
	Minimum	65	59	55	52	55	47	58	53	52	48	44	49	48	52	53	43	54	50	53	51	50	47	53	43	65	63	58	44	50	53	54	52.3
Berthold Agency	Maximum	99	96	75	85	84	82	78	81	67	77	75	77	77	85	80	72	73	63	74	69	80	82	80	90	93	95	92	78	82	84	86	81.0
	Minimum	72	65	53	51	66	48	54	52	54	45	47	51	56	53	52	48	51	55	57	55	43	....	45	49	55	49	65	47	43	60	68	[a]53.6
Bismarck	Maximum	100	81	63	73	86	79	74	75	69	71	69	80	80	81	72	69	71	71	75	71	82	79	80	90	97	92	88	66	80	84	87	78.5
	Minimum	66	62	56	54	60	54	53	56	55	48	52	55	50	52	54	50	54	55	58	54	50	54	51	49	65	56	65	50	43	62	67	55.2
Bottineau §§	Maximum	93	78	78	81	73	78	82	74	64	75	77	75	71	64	62	70	69	68	58	68	76	81	73	91	90	89	86	74	71	75	86	75.8
	Minimum	62	62	51	44	53	52	54	54	51	40	48	49	53	50	51	40	50	53	55	53	46	50	48	44	51	56	62	50	44	56	56	51.2
Bowman	Maximum	100	90	74	78	80	80	78	76	70	69	76	80	77	87	78	75	74	71	....	74	....	....	86	99	100	100	89	75	80	96	80	[c]81.9
	Minimum	69	65	53	54	53	45	55	57	53	44	48	46	55	50	47	53	54	53	....	51	....	....	51	50	57	60	59	48	47	57	60	[c]53.4
Carson	Maximum	101	95	80	75	84	95	80	77	77	80	78	92	86	86	81	75	85	75	75	73	84	80	85	92	104	101	93	73	80	94	90	84.7
	Minimum	66	68	62	54	58	56	49	54	56	60	56	45	54	56	52	44	53	52	54	54	50	48	53	55	65	60	60	50	45	50	52	54.5
Crosby	Maximum	90	80	60	87	76	85	86	73	68	78	75	78	76	72	61	77	68	61	62	65	78	78	80	91	89	94	85	79	88	85	83	77.7
	Minimum	56	52	45	50	59	46	50	52	50	48	46	54	58	50	48	39	52	52	56	54	49	47	49	53	57	56	56	52	52	41	62	51.3
Devils Lake	Maximum	100	78	72	77	83	78	80	79	61	75	74	76	76	70	69	69	65	64	60	70	80	75	76	87	91	87	87	70	78	71	88	76.3
	Minimum	66	58	49	43	57	53	48	55	52	45	49	50	48	48	52	44	47	52	54	55	52	51	48	49	58	48	61	52	42	57	61	51.8
Dickinson §§	Maximum	99	79	60	82	79	79	74	77	68	73	75	78	77	86	73	75	69	69	74	70	82	78	83	92	101	97	86	73	82	94	85	79.6
	Minimum	67	61	57	53	48	50	41	50	51	42	41	43	38	48	48	41	41	53	51	50	47	44	44	48	48	54	55	47	46	48	66	49.1
Donnybrook	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Dunn Center §§	Maximum	96	78	64	82	79	79	76	78	63	75	74	73	78	76	67	71	69	67	72	67	81	76	80	91	94	96	84	72	80	88	84	77.7
	Minimum	64	63	54	50	54	46	51	50	51	43	40	53	44	50	45	37	41	47	54	53	44	40	42	43	49	47	54	44	43	59	60	48.9
Dunseith	Maximum	92	78	77	79	77	77	80	78	75	72	76	73	68	65	64	68	64	67	59	67	78	72	72	86	85	86	84	80	77	74	85	75.3
	Minimum	65	54	49	42	54	50	48	46	45	42	46	46	46	45	45	40	40	49	49	50	44	46	50	44	50	50	58	49	42	50	55	48.0
Edgeley	Maximum	87	78	71	62	82	71	74	73	73	71	70	73	81	76	75	80	67	66	72	74	77	80	78	85	94	86	89	80	76	75	87	76.9
	Minimum	65	63	52	52	52	53	45	57	60	39	48	52	49	51	47	48	48	57	56	52	48	56	48	46	60	55	50	60	43	55	62	55.8
Ellendale	Maximum	95	87	67	68	90	77	74	69	72	69	64	75	77	78	82	67	70	66	73	76	78	81	77	84	99	87	92	72	75	74	87	77.5
	Minimum	57	64	54	54	54	54	49	59	60	55	52	56	59	50	59	54	49	58	59	54	50	58	54	49	54	54	64	57	46	60	66	55.5
Fessenden §§	Maximum	100	78	67	77	88	81	75	80	60	80	75	83	82	82	71	70	74	75	69	70	82	77	80	92	95	92	90	71	82	77	87	79.4
	Minimum	62	66	52	46	48	53	45	52	55	42	48	50	43	42	46	45	46	47	50	49	48	53	48	44	57	50	55	54	40	47	57	49.7
Foxholm (near)	Maximum	100	94	77	84	82	78	80	78	63	75	77	72	73	70	64	68	61	60	59	69	71	76	86	87	93	89	72	74	77	76	83	76.4
	Minimum	70	60	48	49	59	49	50	50	50	46	48	46	52	49	50	47	49	52	56	53	50	52	49	58	53	63	47	46	48	52	60	52.0
Fullerton	Maximum	98	90	73	70	90	79	76	73	84	73	66	96	77	80	83	68	72	67	73	78	79	80	78	83	96	87	93	78	87	78	87	80.4
	Minimum	57	63	54	54	54	55	48	59	64	53	51	55	57	49	59	54	42	58	59	50	50	58	51	48	55	62	65	59	62	47	65	55.4
Garrison	Maximum	97	79	73	79	81	80	75	79	66	70	71	76	75	82	74	73	71	61	72	68	82	77	80	89	92	92	85	72	82	78	82	78.0
	Minimum	67	63	51	42	60	59	49	51	52	45	45	49	56	50	51	47	52	53	56	54	49	48	48	47	56	51	65	46	41	57	66	55.7
Grafton	Maximum	96	93	75	80	77	77	81	79	66	74	79	75	75	68	69	72	70	68	66	73	....	80	75	83	90	87	90	75	81	78	87	[a]78.0
	Minimum	59	65	50	46	53	58	39	53	54	45	49	51	54	50	53	47	46	56	54	53	....	52	52	44	57	48	62	55	43	48	61	[a]51.9
Grand Forks	Maximum	94	81	71	76	77	75	78	78	66	73	77	76	78	70	79	69	67	73	70	77	80	80	76	83	92	87	94	70	78	76	88	77.7
	Minimum	61	58	48	52	53	58	42	56	53	46	48	49	56	48	57	47	47	57	56	59	54	59	51	47	62	48	64	54	42	49	63	53.0
Granville	Maximum	102	80	75	83	84	80	80	78	70	75	74	75	72	75	63	67	63	60	65	70	82	72	77	88	88	93	85	75	80	75	85	77.1
	Minimum	70	60	45	42	42	51	45	48	44	44	48	47	50	50	53	48	48	52	57	51	50	48	50	55	55	45	60	48	42	52	62	50.4
Hansboro	Maximum	91	80	78	81	77	77	84	62	62	75	76	75	70	65	60	70	67	67	60	70	77	72	74	75	77	85	86	76	78	77	85	74.5
	Minimum	55	57	50	40	45	45	38	38	38	38	40	40	40	40	45	38	39	45	48	50	40	44	44	40	40	44	45	40	40	45	50	43.3
Hettinger	Maximum	100	96	82	77	87	78	80	83	79	73	71	78	84	79	79	73	73	77	73	73	83	78	82	79	97	95	94	87	85	91	89	82.4
	Minimum	78	73	61	63	69	61	66	64	60	55	60	63	64	63	68	61	65	64	64	63	67	63	66	72	79	76	69	64	62	74	73	66.1
Hillsboro	Maximum	94	91	80	76	81	76	78	77	77	76	76	81	82	79	80	73	72	72	75	80	81	82	79	84	94	88	95	87	81	76	89	81.0
	Minimum	60	66	51	56	49	57	44	56	57	48	48	52	52	52	59	49	49	53	55	55	53	58	51	49	[illegible]	50	61	59	45	51	63	53.7
Howard (near)	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Jamestown §§	Maximum	91	78	79	70	70	77	74	75	70	72	69	66	84	80	78	68	69	73	68	68	73	75	74	88	86	75	94	74	71	68	87	75.6
	Minimum	51	57	50	49	54	51	46	51	56	50	49	49	51	51	53	53	46	47	51	52	48	49	50	51	56	57	64	54	43	41	47	50.9
Lamoine	Maximum	99	81	72	73	87	78	77	76	77	76	71	78	78	83	72	74	72	65	67	70	82	78	80	89	96	91	87	72	78	82	89	79.0
	Minimum	62	67	53	48	48	51	50	51	50	42	45	44	48	50	50	50	46	47	47	47	45	46	45	47	55	54	61	60	58	60	40	50.5
Langdon §§	Maximum	100	76	76	80	78	72	74	70	61	75	79	75	68	62	62	61	73	64	62	67	77	73	73	85	89	88	88	84	82	77	85	75.4
	Minimum	60	62	50	44	54	55	46	54	50	41	45	50	50	46	49	41	45	49	52	52	48	50	47	44	53	50	54	52	45	50	55	49.8
Larimore §§	Maximum	82	70	78	79	70	74	79	61	75	77	79	78	75	78	72	68	74	69	73	82	78	76	88	92	89	90	70	80	80	90	91	78.0
	Minimum	65	67	50	47	52	55	42	54	55	44	50	52	49	45	50	46	47	53	54	54	53	55	50	46	53	49	55	55	53	55	53	51.9
Linton	Maximum	102	97	78	75	91	82	79	80	79	79	73	85	....	83	84	74	74	80	78	78	86	....	85	92	100	98	93	86	83	83	96	[b]84.6
	Minimum	52	66	54	52	56	49	51	57	63	49	49	51	....	50	56	46	51	56	54	46	41	....	48	41	46	61	56	57	45	61	65	[b]52.7
Lisbon §§	Maximum	103	94	67	70	89	79	72	77	71	74	67	80	79	82	80	78	71	67	73	79	81	82	80	87	96	87	95	72	81	71	89	79.8
	Minimum	58	64	54	54	54	55	54	50	60	57	46	50	46	51	54	54	49	55	55	53	49	49	48	45	53	50	57	57	44	50	55	52.6
McKinney (near)	Maximum	95	80	80	85	75	80	83	75	65	76	78	74	70	65	65	72	65	65	62	70	71	72	77	90	87	90	91	79	78	75	84	76.6
	Minimum	65	60	45	50	60	50	50	50	45	45	38	45	44	45	50	40	50	50	49	50	48	50	50	55	58	45	42	49	38	40	40	47.9
Maddock	Maximum	99	93	78	77	87	80	80	79	68	76	76	78	79	78	78	66	66	65	60	69	80	78	76	87	91	89	87	84	76	71	86	78.6
	Minimum	56	64	48	38	51	52	42	47	52	40	38	41	45	45	53	43	44	52	54	53	49	49	46	45	58	41	60	50	38	50	60	48.5
Melville	Maximum	98	84	68	73	87	78	76	78	68	76	75	78	78	78	76	68	68	65	66	70	77	76	77	88	95	87	....	74	78	72	85	[a]77.2
	Minimum	70	65	51	51	54	52	46	55	45	43	49	50	52	45	54	50	47	53	50	53	48	52	47	46	60	53	....	52	56	56	58	[a]52.1
Minot §§	Maximum	98	82	78	87	83	83	79	76	63	77	75	75	76	75	67	73	65	60	61	70	85	75	79	90	88	94	83	75	78	82	84	77.9
	Minimum	71	65	41	48	61	52	48	51	52	47	47	49	53	51	51	51	48	53	57	53	47	47	48	47	57	50	61	49	42	56	63	52.1
Mott	Maximum	99	90	88	81	73	73	76	78	77	80	87	80	81	77	76	77	81	78	70	76	88	83	88	85	83	94	101	96	92	88	90	83.4
	Minimum	71	70	62	63	56	44	47	53	55	56	60	52	53	50	46	48	46	46	44	45	48	50	53	51	46	62	73	70	64	60	55	54.8
Napoleon §§	Maximum	103	89	62	71	90	80	75	77	76	75	67	84	80	85	80	70	75	73	76	73	83	82	83	90	100	92	93	72	83	80	92	81.0
	Minimum	60	65	51	49	51	47	46	52	55	42	43	45	44	45	47	48	45	50	53	50	44	50	42	43	57	54	58	53	42	45	55	49.4
New Salem	Maximum	103	96	70	77	93	83	73	72	91	75	75	81	82	85	80	73	72	75	79	75	82	81	83	96	100	95	83	85	81	95	88	83.2
	Minimum	63	54	55	52	58	68	52	53	55	48	45	50	49	48	45	42	52	53	53	55	50	51	51	50	63	65	52	43	62	69	53	53.5
Pembina §§	Maximum	95	82	77	80	74	76	80	71	71	73	71	74	72	65	66	71	73	74	62	74	73	78	74	78	85	87	89	79	81	82	81	76.4
	Minimum	60	61	47	47	54	43	41	40	42	45	45	41	48	41	41	41	42	51	52	53	53	58	50	43	47	51	52	52	40	45	51	47.6
Steele	Maximum	99	75	64	75	83	76	73	75	71	72	73	73	75	83	70	71	72	75	70	72	76	82	83	91	96	91	75	62	76	83	90	77.5
	Minimum	74	64	58	65	59	54	57	59	60	50	52	50	50	58	60	59	62	60	59	54	52	50	52	62	65	69	54	52	40	60	62	57.5
Towner	Maximum	102	95	80	84	83	82	81	78	65	70	75	84	80	75	68	70	68	61	60	71	81	79	80	90	89	90	88	85	80	76	75	78.9
	Minimum	64	50	45	44	45	42	43	52	50	57	52	53	55	57	54	57	49	50	51	56	52	46	46	52	54	55	50	50	50	48	47	50.8
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Wahpeton	Maximum	93	92	90	74	89	85	77	74	75	73	72	78	79	81	85	82	73	71	74	82	79	83	80	83	91	86	103	94	74	72	87	81.6
	Minimum	61	60	56	54	54	55	48	60	62	51	52	55	57	54	60	52	49	57	55	57	51	51	50	48	58	50	69	56	49	53	65	55.1
Westhope	Maximum	96	82	82	86	73	80	85	75	61	77	77	74	76	76	61	61	60	70	59	69	82	73	78	90	85	94	85	76	82	77	88	77.1
	Minimum	63	47	47	45	55	50	47	50	50	42	47	46	48	46	52	50	40	53	55	53	47	49	45	48	53	44	62	47	42	52	52	49.3
Williston	Maximum	97	79	70	88	76	80	81	66	68	76	75	78	74	83	66	73	68	60	70	68	81	76	81	93	95	98	81	75	81	88	82	78.3
	Minimum	67	58	57	54	57	48	54	53	52	45	50	45	53	56	49	40	54	54	58	52	52	50	48	54	57	61	56	48	51	62	55	53.2
Moorhead, Minn	Maximum	92	86	68	72	82	75	75	76	73	75	74	78	78	79	81	71	67	68	72	79	78	83	78	80	92	86	96	74	77	70	87	78.1
	Minimum	60	63	54	54	53	57	49	59	56	51	51	54	55	53	58	50	50	57	55	56	53	60	52	50	57	53	66	58	48	54	64	55.2

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 9-28-26—970]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXV   Bismarck, N. D., September, 1926   No. 9

GENERAL SUMMARY

The month opened with cloudy and stormy weather, a condition which prevailed throughout the greater portion of the first sixteen days. During this period threshing of all grains and harvesting of flax made little progress. There was much fall plowing and seeding of winter rye accomplished, the ample precipitation placing the soil in excellent condition for this work. From the 17th to the 20th the weather was generally fair, but before threshing became general rains occurred, the period 20th to 24th producing general precipitation. The weather from the 25th to the 29th was fair, and much farm and other outdoor work was accomplished. A general rain occurred on the last day of the month.

TEMPERATURE

The mean temperature for the State was 52.3°, or 4.1° below the normal, and 5.8° lower than the mean for September, 1925. The highest mean reported was 63.6° at Hettinger, Adams County; the lowest was 48.6° at Dunseith, Rolette County, and Jamestown, Stutsman County. The highest temperature reported was 95° at Lamoine, Kidder County, on the 16th, and at Mayville, Traill County, on the 1st; the lowest was 9° at Crosby, Divide County, on the 24th. The greatest monthly range of temperature was 84° at Carson, Grant County; the least was 60° at Larimore, Grand Forks County. The greatest daily range was 60° at Lamoine, Kidder County, on the 16th.

PRECIPITATION

The average precipitation for the State was 2.42 inches, or 0.78 inch above the normal, and 0.32 inch less than the average for September, 1925. The greatest monthly amount reported was 5.00 inches at Pembina, Pembina County; the least was 0.39 inch at Hettinger, Adams County. The greatest amount recorded in any 24 consecutive hours was 2.39 inches at Fort Yates, Sioux County, on the 2d. Snow, ranging in amount from a trace to 8.0 inches, occurred, the greater portion occurring in the northwest part of the State, the average fall for the Section being 0.5 inch. The average number of days with 0.01 inch or more of precipitation was 9.

AURORAS

Auroras were observed at Melville on the 6th; at Bismarck, Dogden, Ellendale, Foxholm, Marmarth, New England and Willow City on the 8th; at Bottineau, Ellendale and New England on the 9th; at Ellendale and Foxholm on the 15th; at Devils Lake, Ellendale, Foxholm, McClusky and Towner on the 16th; at Bottineau and Towner on the 17th; at Sharon on the 19th, and at Minto on the 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
								Average	Highest*	Direction	Date
Bismarck	29.99	30.54	25	29.44	30	57	7,204	10.0	42	nw.	23
Devils Lake	29.97	30.43	25	29.37	23	44	6,836	9.5	38	nw.	23
Ellendale	29.98	30.52	25	29.40	30	56	9,639	13.4	48	nw.	23
Grand Forks	29.96	30.40	25	29.48	23	90	......	......	39	se.	16†
Williston	29.97	30.50	24	29.29	30	48	5,148	7.2	35	ne.	23
Moorhead, Minn	29.97	30.48	25	29.40	21	58	6,283	8.7	31	s.	16
Av'ges and extremes	29.97	30.54	25	29.29	30	......	......	9.8	48	nw.	23

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent			Lowest observed	Date
					7 a. m.	Mean noon	7 p. m.		
Bismarck	167.8	376.6	45	−17	84	55	59	22	27
Devils Lake	199.3	377.2	53	− 4	89	58	70	21	27
Ellendale	210.2	376.0	56	− 6	91	62	....	26	27
Grand Forks	......	......	......	......	86	....	63	....	....
Williston	179.3	377.2	48	−10	85	57	57	24	1
Moorhead, Minn	230.0	376.6	61	− 1	91	62	66	31	27
Averages and extremes	......	......	53	− 8	88	59	63	21	27

† And other dates.

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COMPARATIVE STATE DATA FOR SEPTEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw
1916	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw
1920	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw
1922	59.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw
1923	60.1	+3.7	99	15	2.39	+0.75	6	14	8	8	n
1924	55.0	−1.4	98	20	2.31	+0.67	7	15	7	8	n
1925	58.1	+1.7	103	20	2.74	+1.10	8	12	8	10	n
1926	52.3	−4.1	95	9	2.42	+0.78	9	11	9	10	n

Climatological Data for September, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										0.98		0.45	T.	6					H. A. Bury.
Amenia	Cass	954	30	53.2	−4.1	90	1	22	25	45	3.50	+1.53	1.18		11	8	20	2	n.	E. T. Carley.
Amidon	Slope		12			83^{t}	6	12^{i}	25		0.68		0.30	0.5	6					H. M. Critchfield.
Arnegard	McKenzie		11	51.2		83	1	10	24	41	1.78		1.11	3.5	7	16	4	10	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	55.4	−1.9	89	16	17	25	43	3.63	+2.61	1.63	T.	8	12	9	9	se.	H. D. Piper.
Beach	Golden Valley	2,579	20																	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	52.6	−4.4	86	1	17	25	43	2.68	+1.24	0.80	T.	10	10	9	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	53.7	−4.4	87	1	19	25	43	2.31	+1.12	0.86	T.	10	10	8	12	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	50.0^{c}	−5.5	85^{c}	1	16	24†	37^{c}	2.78	+1.21	0.90	1.0	11	10	10	10	nw.	T. M. Street.
Bowman	Bowman	2,961	12																	R. Love, Jr.
Cando	Towner	1,468	25																	A. J. Swanson.
Carson	Grant	2,500	14	55.9	−0.5	94	1	10	25	57	1.66	−0.07	0.72	0.2	6	17	9	4	se.	J. W. Evens.
Cooperstown	Griggs	1,428	20								1.96	+0.30	0.80	0	7	7	15	8	nw.	S. Friswold.
Crosby	Divide	1,954	19	50.4	−3.3	80	15	9	25	42	1.24	−0.15	0.48	8.0	8	9	9	12	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	50.5	−5.1	86	1	20	25	38	2.87	+1.48	0.98	T.	13	10	9	11	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	50.8	−5.7	87	1	12	25	52	1.48	+0.41	0.47	0.5	10	14	4	12	nw.	Leroy Moomaw.
Dogden	McLean	1,880		50.6		80	1	18	25	38	2.08		0.63	T.	11	15	10	5	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27																	H. Feldner.
Dunn Center	Dunn	2,191	27	49.5	−7.6	83	1†	14	25	49	2.62	+1.50	0.58		9	14	2	14	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	48.6	−6.2	82	1	13	25	38	3.70	+2.13	0.82		11	5	11	14	se.	J. G. Lamont.
Eckman	Bottineau	1,500	21	50.6	−4.9	83	1	19	25	37	3.60	+2.47	0.94	0	8	0	19	11	se.	C. E. Strock.
Edgeley	LaMoure	1,468	25	54.0	−3.5	84	16	19	25	37	3.32	+1.66	1.22	T.	9	2	12	16	se.	O. A. Thompson.
Ellendale	Dickey	1,419	27	54.2	−4.2	85	16	21	25	34	2.29	+0.94	0.68	T.	10	10	11	9	se.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	53.6		88	1	19	25	45	1.32		0.46	0	5	3	20	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	18																	A. O. Wang.
Fessenden	Wells	1,610	14	52.0	−3.1	87	16	19	25	42	2.21	+0.49	1.14		14	15	5	10	se.	T. D. Monsen.
Finley	Steele	1,461	2																	G. J. Mustad.
Forman	Sargent	1,249	32								2.96		1.18		7	12	8	10	n.	O. Enger.
Fort Yates	Sioux	1,670									4.11	+3.14	2.39		6					P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	50.4		82	1	19	25	38	2.61		0.74	0.2	11	7	12	11	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								1.07		0.30	2.0	9	18	7	5	se.	Verne King.
Fullerton	Dickey	1,439	28	54.1	−2.6	84	1	21	25	36	3.78	+1.71	1.70	T.	7	11	8	11	se.	F. O. Alin.
Garrison	McLean	1,901	31	52.3	−4.5	83	1	18	25	37	2.39	+1.03	0.92		6	13	9	8	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	52.5^{a}	−3.4	89^{a}	1	23^{a}	25	43^{a}	1.76	−0.06	0.88	0	10	9	6	15	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	52.8	−3.4	88	1	24	25	41	1.29	−0.57	0.33	T.	10	7	10	13	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	51.2	−3.2	82	1	20	25	38	2.85	+1.60	0.78	T.	11	5	14	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32								4.04	+1.90	1.82	1.0	8					J. Moffatt.
Hansboro	Towner	1,597	18	49.6	−4.5	85	1	12	25	48	3.43	+1.53	0.95		9	12	12	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	63.6	+5.6	88	14†	12	24	44	0.39	−0.91	0.22	0.5	2	21	0	9	nw.	U. J. Downey.
Hillsboro	Traill	901	20	54.3^{a}	−4.7	91^{a}	1	23^{a}	25	39^{a}	1.50	−0.99	0.54	0	8	9	10	11	nw.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	19																	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	48.6	−8.1	86	1	18	25	40	2.20	+0.67	0.67	T	10	12	5	13	s.	S. Calvelage.
Lamoine	Kidder	1,936	21	52.0	−4.6	95	16	15	25	60	1.75	+0.47	0.61	1.0	8	16	6	8	se.	E. V. Virgin.
Langdon	Cavalier	1,615	30																	R. T. Burke.
Larimore	Grand Forks	1,134	32	51.8	−3.4	80	14	20	25	43	1.34	−0.55	0.34		10	13	5	12	s.	Reuben Gray.
Linton	Emmons	1,711	8	55.7^{b}		89^{b}	2	22	27	47^{b}	3.35		1.10	T.	8	12	8	10	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	54.4	−3.3	88	1	20	25	53	3.73	−1.58	1.54	T.	13	11	11	8		W. S. Adams.
McClusky	Sheridan	1,943	8	52.8		87	1	16	25	41	1.73		0.35	0.5	11	16	4	10	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	32	49.4	−4.7	84	1	18	25	44	2.32	+0.79	0.80	1.0	6	5	13	12	se.	N. P. Swenson.
McLeod	Ransom	1,075	14	57.0	+0.1	86	1	19	25	44	2.31	−0.23	0.87	T.	9	11	6	13	se.	J. G. Carlson.
Maddock	Benson	1,604	10	51.8		85	1†	19	25	44	1.89		0.63	0	10	7	9	14	se.	A. T. Felland.
Mandan	Morton	1,644	12	53.4	−4.7	88	1	16	25	39	1.79	+0.33	0.98	0.1	9	14	5	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	52.0	−3.9	83	16	19	25	41	1.41	+0.06	0.54	T.	9	14	6	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	52.9	−2.7	83	6	11	24	46	1.53	+0.30	0.90	T.	7	14	7	9		S. P. Grane.
Mayville	Traill	975	30	55.7^{a}	−2.0	95^{a}	1	22^{a}	25	52^{a}	1.46	−0.82	0.35	0	6	14	3	13	n.	Ingvald Larson.
Melville	Foster	1,590	28	52.8^{a}	−3.6	86^{a}	1†	16^{a}	25	40^{a}	1.30	−0.08	0.33	T.	9				se.	J. P. Kidder.
Metigoshe‡‡	Bottineau										3.56		0.83	T.	13	17	5	8	se.	J. A. Thorburn.
Minot	Ward	1,557	30	52.3^{a}	−4.4	85^{a}	1	20^{a}	25	44^{b}	2.89	+1.31	0.80		9	8	9	13	e.	W. I. Faris.
Minto	Walsh	820	33	52.4	−4.0	90	1	22	25	45	3.10	+1.10	1.00	0	9	11	8	11	nw.	C. M. Evans.
Mott	Hettinger	2,424	19																	O. H. Opland.
Napoleon	Logan	1,955	34	52.2	−4.7	88	16	12	25	43	3.40	+2 16	1.36	1.0	12	9	7	14	s.	C. J. Hoof.
New England	Hettinger	2,400	32	54.0	−1.8	88	1	12	25	43	1.20	+0.08	0.75	T.	2	17	8	5	nw.	W. S. Jones.
New Salem	Morton	2,163	22	54.0	−3.2	94	1	14	25	42	2.66	+1.31	1.00	0.3	10	13	12	5	sw.	J. Christiansen.
Park River	Walsh	998	22	52.5^{b}	−4.4	92^{b}	15	23^{b}	25	52^{b}	2.44	+0.85	0.91	T.	10				nw.	C. B. Wright.
Parshall (near)	Mountrail		11																	J. A. Johnson.
Pembina	Pembina	789	52	51.2	−2.6	78	1†	12	24	42	4.90	+3.21	1.50		8	13	11	6	s.	C. W. Shumaker
Pettibone	Kidder	1,856	17	53.2	−0.5	88	1	14	25	41	1.23	−0.16	0.46	T.	8	9	5	16	se.	A. L. Carlson.
Power	Richland	1,020	32								2.62	+0.56	0.99		8	9	10	11	s.	Frank B. Power.
Powers Lake	Burke	2,205	12	51.4		90	2	16	25	37	4.81	+3.72	1.59	3.4	9	15	3	12	se.	Geo. B. Gee.
Richardton	Stark	2,467	10	52.7		86	1	16	25	41	1.18		0.42	T.	4	8	11	11	nw.	John Muggli.
Sharon	Steele	1,516	1								2.96		1.30	T.	12	13	4	13	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2								1.35		0.50	T.	5	16	9	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	50.4	−7.4	86	1	21	24†	37	3.20	+1.96	1.75	0.2	6	16	9	5	nw.	H. S. Wood.
Towner	McHenry	1,482	24	52.4	−3.4	80	1†	18	27	46	3.36	+1.71	1.10	T.	9	10	12	8	nw.	B. Bagley.
Trotters	Golden Valley										0.86		0.60	1.0	6	7	8	15		A. J. Nellermoe.
Turtle Lake	McLean	1,899	11	52.8		83	1	18	25	36	1.42	−0.02	0.30	T.	9	7	6	17	s.	A. T. Anderson.
Valley City	Barnes	1,245	21																	H. Twito.
Wahpeton	Richland	962	32	56.0	−2.6	86	7	23	25	38	2.27	+0.05	1.57	0	7	16	0	14	se.	C. G Luick.
Walhalla	Pembina	966	21								3.66	+1.84	1.09	0	11	10	12	8	nw.	
Washburn	McLean	1,731	25								1.73	+0.54	0.94		5					Karl Klein.
Westhope	Bottineau	1,508	20	50.2	−4.6	82	1	20	24	44	1.57	+0.38	0.50	2.3	8	20	2	8	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	51.0	−5.6	80	1	19	25	37	2.41	+1.50	0.87	2.8	12	9	8	13	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	50.1	−4.2	84	1	19	25	42	4.27	+2.72	1.74	1.0	12	8	11	11	se.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	53.8	−4.4	85	1	24	25	38	4.18	+1.88	1.94	T.	11	9	8	13	s.	U. S. Weather Bureau.
Averages				52.3	−4.1	95	1†	9	25	60	2.42	+0.78	2.39	0.5	9	11	9	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for September, 1926

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
pha	Lit. Missouri				.20					.09		.09									.15			T	.02						.13		0.68
menia ‖‖	Red	.02	T.	1.18	.03				T			.72			.18		.05	.02				.25	.06	.93	.06								3.50
midon	Lit. Missouri	.30			.05		.10	.10			.08														.05								0.68
rnegard	Missouri		.05	.10				.03	.10		1.11	T										T		.35							.04		1.78
shley	Missouri	.09	1.63	.22	.35	.05						1.10		.09			.10								T								3.63
each	Lit. Missouri																																
erthold Agency	Missouri		.19		.15			.15				.80		.07			.07					.13	.06	.10	T		T				.10		2.68
ismarck ***	Missouri	.43	.43	.28	.07			.09	.01		T	.25		T.	T.							.09	.08	T	T						.58		2.31
ottineau	Mouse	T.		.90	.02	.20	.01	.11	T.		T.	.23			.13	T	.32					.36		.35	.15		T				T		2.78
owman	Grand																																
ando	Devils Lake																																
arson	Heart	.06	.72	.20								.35													.02						.31		1.66
ooperstown	Sheyenne	.38				.07		.06			.25					.80								.26							.20		1.96
rosby	Mouse		.09				T.	.48		T.	.10	.19	.08	.02					.11					.14									1.21
evils Lake ***	Devils Lake	.02	.76	.27	.30	.05		.18	.12			.05		.10		.19					T	.36	T	.32							.15		2.87
ickinson ‖	Heart			.47	.20	.02		.12	.03			.23										.32	.03	.05	.01								1.48
ogden	Mouse		.31	.06	T.			.02	.08	.02		.38		.04								.41	T.	.63	.02						.08		2.08
onnybrook	Mouse																																
unn Center ‖‖	Knife			.34	.09	.20		.20	.05			.58			.06							.51		.56									2.62
unseith	Mouse		.82	.38	.12		.26	.40				.12		.10			.40					.40		.55							.15		3.70
ckman	Mouse		.94					.11				.67		.37								.42	.48	.59							.02		3.60
dgeley	James		.30	1.22	.03							.72		.12			.05					.14		.66	T.						.08		3.32
llendale***	James	.08	.60	.16	.02	T.		T.	.01			.63		.13			.02	T.			T.	.06	T.	T.	T.						.55		2.29
nergy	Missouri		.24					T.				.45		.02								.46	T.	.15							T.		1.32
pping	Missouri																																
essenden ‖	James	.08		1.14	.08	.08		.08	.12			.12			.22		.01					.06	.06	.10	.04	.02							2.21
inley	Red																																
orman	Sheyenne		.25	1.18								1.17		.22			.02	.06				.06											2.96
ort Yates	Missouri		2.39	.37	.60						.18				.16																.41		4.11
oxholm (near)	Mouse		.31	.01	.01		T.	.14	.06	T.		.62		.28			T.					.31	.11	.74							.02		2.61
ryburg	Heart	T.	.02	.03	.04			.25	T.			.30										.18	.05	.10	.10								1.07
ullerton	James		1.70	.54	.08	T.						.95		.35	T.	T.		.06		T.	T.	.10	T.		T.	T					T.		3.78
arrison	Missouri		.18									.54										.92	T.	.33	.12						.30		2.39
Grafton	Red	.03	.04	.15	.07	.02		.10	.04								.88					.37		.06									1.76
Grand Forks ***	Red	.03	.14	.18	.33			.07			.02	T		.11		.20						.09		.12	T.						T.		1.29
Granville	Mouse		.10	.02	T.	T.	.15	.12	T.	.04	T.	.36		.16		T.						.48	.10	.78	T.						.54		2.85
Hannah	Pembina		.10		1.82			.08			.03			.12								.35		1.45							.09		4.04
Hansboro	Devils Lake		.10	.10	.30	.10											.60					.95	.05	.90							.33		3.43
Hettinger	Grand		.22																												.17		0.39
Hillsboro	Red		.12	.10	.08							.28			.17	T.	.03					.18		.54									1.50
Howard (near)	Missouri																																
amestown ‖‖	James	.31		.28	.67	.02						.47	.02		.11		.19					T		.11		T.					.02		2.20
Lamoine	Missouri		*	*	.58							.22		T.								.14	T.	.10	T.	.10					.61		1.75
Langdon ‖‖	Pembina																																
Larimore	Red		.34	.20	.20	.03			.03			.02			.06		.16							.22	.08								1.34
Linton	Missouri	1.10	.65	.81	.26							.22		T.	.20	.03						T.		T.	T.						.08		3.35
Lisbon ‖‖	Sheyenne	.53	.40	1.54	.05				.02			.82		T.	.10		.04	.03				.08		.06	.03	T.					.03		3.73
McClusky	Missouri	.25	.20	.35	.03			.10	.06			.20										.29	T.	.16	.05						.04		1.73
McKinney (near)	Mouse		.32					.15		T.	T.		.50		.25			T				.30	T.	.80							T		2.32
McLeod	Sheyenne		T.	.87					.01			.72		.18			.08	.08				.11		.15		T.					.11		2.31
Maddock	Sheyenne		.12	.15	.02			.47	.12	T.		.11		.05			.06					.16		.63							T.		1.89
Mandan ‖‖	Missouri			.98	.02	.05	T.	.02	.05	T.		.25										.40		.01		.01							1.79
Manfred	James	.08	.54	.16				.18	.10			.13		.08										.10	.04								1.41
Marmarth	Lit. Missouri		.02	.53	.02		.03	.02			.01											T.		T	T.						.90		1.53
Mayville	Red		.10		.15						.31		.25				.30							.35									1.46
Melville	James	.28	.03	.05	.12	.03						.33		.08			T.					.08		T.	T.						.30		1.30
Metigoshe	Mouse		.52	.08	.24	.23	T.	.15	.04			.15		.34			.83					.21	.08	.68							.01		3.56
Minot ‖	Mouse			.42		.05		.10	.02			.50			.20							.60		.80	.20								2.89
Minto	Red	.09	.47	.17	.08	.06		.58									1.00					.55		.10									3.10
Mott	Cannon Ball																																
Napoleon ‖‖	Missouri	1.36	.07	.28	.14	.02			.06			.70				.33	.02					.27		.05		.10							3.40
New England	Cannon Ball		.45		T.			T.																	T.						.75		1.20
New Salem	Heart		1.00	.27	.26			.14				.18		.02							T.	.66	.01	T.	.03						.09		2.66
Park River	Red	.91		.18	.10	.11		.15	.08						.12		.42					.27		.10	T.								2.44
Parshall (near)	Missouri																																
Pembina ‖‖	Red	.60		.10	.90			T.	.50						.30							T.	1.00	.10	1.50								4.90
Pettibone	James		.46	.02	.10				.10			.23					T.					.03		.27	T.						.02		1.23
Power	Sheyenne	.07	.10	.99								.68		.23		.05		T.				.33		.17									2.62
Powers Lake	Missouri							.17		.11	.87		.07	.47							.49			1.59	.53						.51		4.81
Richardton	Heart		.42					.12				.29													T.						.35		1.18
Sharon	Red	.02	.59	.04	.25	.01		T.	.05	T.		.19		T.	.01		1.30					.04	T.	.24	T.						.22		2.96
Stanton	Missouri		.50						.05			.22										.23			T.						.35		1.35
Steele	Missouri	1.75	.47	.55	.10							.30											T.	T.	.03					T.			3.20
Towner	Mouse		.33	T.	.15			.15		.05		.22		.16		.60						T.	T.	1.10	T.				T.		.60		3.36
Trotters	Lit. Missouri				.05							.60	.07	.01										.10	.03								0.86
Turtle Lake	Missouri		.25	.14	.15							.24		.05								.30	.03	.23	.03								1.42
Valley City	Sheyenne																																
Wahpeton	Red		.05	.11					.05			1.57		.17								.05		.27									2.27
Walhalla	Pembina	.43	.32	1.09	.42			.08	.06			.04		.08	.02							.10		1.02									3.66
Washburn	Missouri		.94					.15				.10											.40								.14		1.73
Westhope	Mouse		.50	.04				.19			.23			.23								.08	.07	.23									1.57
Williston ***	Missouri		.12				.05	.06			.64	.24	.03	.26			T.		.01				.03	.54	.02						.41		2.41
Willow City	Mouse	.27	.15	.04	T.	.13		.12		T.		.39		.10	.01	T.	1.74					.60	.04	.68	T.						T.		4.27
Moorhead, Minn ***	Red	1.94	T.	.61					T.		T.	.69		.27		.01		.03			.04	.28	.05	.12	T.		T.				.14		4.18

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for September, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	90	71	73	63	62	76	84	66	72	73	63	66	55	75	74	77	57	66	66	68	68	57	68	53	48	59	70	73	63	58	....	67.
	Minimum	55	49	55	50	50	39	41	51	37	39	43	34	39	43	42	49	57	42	30	33	38	29	33	26	22	23	26	28	36	37	....	39.
Amidon	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Arnegard	Maximum	83	64	73	72	77	77	61	62	77	56	62	67	76	82	71	69	46	60	67	76	61	54	42	43	45	57	70	68	61	53	....	64.
	Minimum	44	47	42	47	42	49	51	41	37	41	46	45	40	41	42	39	33	38	30	42	38	33	28	10	31	30	29	33	39	34	....	38.
Ashley	Maximum	84	80	68	78	71	81	78	69	70	72	68	61	59	74	77	89	84	62	70	63	65	56	60	40	49	70	70	63	62	62	....	68.
	Minimum	58	53	57	51	52	48	59	48	38	45	45	34	41	47	47	62	41	36	35	36	51	30	36	26	17	30	28	34	37	46	....	42.
Beach	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Berthold Agency	Maximum	86	72	71	68	74	85	74	63	75	72	60	64	63	76	80	76	57	58	67	69	60	51	50	36	46	56	71	68	71	60	....	66.
	Minimum	44	47	46	52	47	47	53	44	44	40	45	46	49	23	43	40	33	35	27	39	46	31	32	27	17	26	29	29	34	50	....	39.
Bismarck	Maximum	87	72	62	65	71	82	71	59	72	70	59	62	64	75	80	82	60	58	68	64	60	55	58	37	47	58	70	71	73	57	....	65.
	Minimum	55	57	55	55	52	53	53	43	41	44	43	35	48	41	51	48	39	36	35	45	43	35	30	23	19	28	27	35	38	46	....	41.
Bottineau §§	Maximum	85	82	59	55	62	77	63	..	..	..	59	67	56	68	77	75	54	50	60	69	53	45	41	34	42	52	64	65	68	52	....	[c]60.
	Minimum	53	55	56	51	50	48	50	42	33	36	45	35	44	45	46	50	35	34	35	41	46	32	34	16	16	22	28	28	33	46	....	39.
Bowman	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Carson	Maximum	94	80	79	74	75	84	71	64	75	74	66	66	70	80	80	70	80	74	68	70	73	60	45	40	50	54	70	90	80	66	....	70.
	Minimum	50	54	52	55	55	49	52	46	36	39	44	42	50	44	51	48	35	30	33	45	42	36	30	21	10	28	35	33	41	46	....	41.
Crosby	Maximum	79	70	76	75	78	71	65	51	73	63	61	59	64	75	80	74	60	65	64	76	62	45	44	32	38	64	60	64	75	57	....	64.
	Minimum	54	48	41	37	40	48	51	42	40	39	39	36	39	37	43	40	33	31	32	34	37	36	26	21	9	28	31	38	36	37	....	36.
Devils Lake	Maximum	86	68	57	53	59	77	65	58	64	65	58	63	58	71	78	79	56	56	63	66	57	49	52	35	42	52	67	66	68	52	....	61.
	Minimum	59	56	52	49	47	43	51	42	38	44	41	39	43	46	47	46	36	34	32	36	32	27	27	24	20	27	25	39	37	47	....	39.
Dickinson §§	Maximum	87	61	71	75	75	83	66	65	74	75	55	63	67	76	82	61	59	59	69	74	58	60	38	38	51	60	72	70	70	56	....	65.
	Minimum	46	43	44	48	41	42	44	45	35	39	38	44	41	34	30	38	34	28	26	44	42	33	33	20	12	19	28	28	31	43	....	35.
Donnybrook	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Dunn Center §§	Maximum	83	61	71	69	72	83	65	60	72	68	56	63	64	74	80	56	53	56	66	72	52	54	34	33	44	55	76	67	70	55	....	62.
	Minimum	43	45	41	46	45	44	49	44	33	39	42	43	48	33	35	39	32	33	27	38	47	30	31	25	14	17	27	28	32	35	....	36.
Dunseith	Maximum	82	78	60	54	65	77	63	58	62	64	57	63	60	67	77	77	54	49	59	68	60	44	43	34	41	51	65	64	67	56	....	60.
	Minimum	54	54	49	45	40	42	49	48	32	42	40	31	36	40	44	48	32	32	30	35	39	27	25	15	13	23	28	26	36	40	....	36.
Edgeley	Maximum	82	80	64	60	69	77	78	69	72	70	66	61	58	74	77	84	75	62	64	64	67	56	62	43	49	58	66	71	69	61	....	66.
	Minimum	54	58	56	53	48	45	54	46	38	43	45	32	39	46	46	60	42	35	32	33	51	26	39	26	19	30	31	34	31	45	....	41.
Ellendale	Maximum	82	72	61	62	68	78	77	60	69	69	58	59	64	70	77	85	55	60	62	63	67	57	63	39	48	57	66	70	69	58	....	64.
	Minimum	61	60	56	53	53	50	60	47	41	46	42	36	43	51	49	54	44	41	36	39	40	31	31	29	21	34	33	36	40	48	....	43.
Fessenden §§	Maximum	86	76	60	60	65	79	74	67	73	70	62	67	58	67	81	87	65	60	68	69	60	54	54	40	48	58	68	70	70	54	....	65.
	Minimum	55	55	57	54	53	44	56	43	33	39	41	37	43	40	43	53	37	30	26	30	39	29	31	24	19	25	29	37	31	38	....	39.
Foxholm (near)	Maximum	82	76	67	62	64	78	62	59	67	63	58	61	56	71	77	74	54	50	60	70	63	47	42	33	39	50	65	62	69	62	....	61.
	Minimum	51	48	52	51	49	45	51	39	41	42	44	41	44	38	47	49	33	31	34	32	44	31	30	22	19	28	33	38	34	45	....	39.
Fullerton	Maximum	84	72	62	61	68	76	77	67	70	68	69	59	61	71	78	82	56	62	62	62	67	57	62	40	47	56	68	67	69	57	...	65.
	Minimum	60	61	58	54	50	46	57	50	40	44	47	33	42	50	48	54	44	39	35	37	45	30	37	27	21	30	32	36	36	47	...	43.
Garrison	Maximum	83	68	67	64	73	81	71	61	76	65	68	64	59	77	80	69	54	54	68	68	60	49	52	31	44	55	70	66	73	59	....	64.
	Minimum	50	50	48	54	47	48	51	44	43	40	44	44	48	40	46	46	35	32	31	37	41	31	30	25	18	30	37	33	37	47	....	40.
Grafton	Maximum	89	76	60	58	62	75	67	60	68	68	62	67	63	71	79	..	70	59	65	69	62	48	63	39	44	54	67	67	71	56	....	[a]64.
	Minimum	61	59	53	50	50	45	54	49	39	43	49	36	35	45	36	..	44	39	32	32	44	29	38	28	23	29	23	40	33	49	....	[a]40.
Grand Forks	Maximum	88	68	60	58	60	74	78	60	66	67	61	65	58	72	78	75	61	60	66	69	62	53	69	47	44	54	66	67	69	57	....	64.
	Minimum	60	60	54	50	48	40	55	49	39	47	43	35	37	45	44	58	46	40	32	32	39	26	33	26	24	25	25	39	36	50	....	41.
Granville	Maximum	82	76	66	58	65	80	62	60	70	65	60	65	56	74	80	77	68	60	65	70	63	55	47	36	42	53	67	65	70	57	....	63.
	Minimum	60	48	55	52	50	45	52	42	38	40	41	42	42	36	44	41	34	30	30	36	35	33	28	25	20	28	30	32	36	37	....	38.
Hansboro	Maximum	85	80	65	65	70	75	73	75	70	74	73	70	70	77	77	80	70	68	65	67	67	44	44	38	45	58	60	69	60	56	....	66.
	Minimum	52	50	40	40	38	38	40	40	32	36	35	35	28	35	35	35	30	20	22	24	28	26	20	20	12	20	32	36	42	42	....	32.
Hettinger	Maximum	84	84	82	71	76	82	79	69	76	77	72	71	71	88	82	77	72	61	64	76	78	88	63	48	53	60	69	73	76	78	....	78.
	Minimum	68	62	60	64	63	68	61	60	62	62	59	56	58	64	68	65	51	45	50	65	60	52	18	12	44	45	45	29	48	47	....	53.
Hillsboro	Maximum	91	85	64	59	63	76	84	71	67	71	66	66	59	75	77	76	..	71	66	66	64	55	57	42	46	55	66	70	66	55	....	[a]66.
	Minimum	61	64	55	50	50	39	54	49	38	45	47	37	38	49	46	46	..	42	32	32	48	27	42	27	23	29	27	37	38	48	....	[a]42.
Howard (near)	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Jamestown §§	Maximum	86	72	62	58	58	73	71	68	71	70	60	60	59	62	72	56	48	48	61	58	59	56	45	32	38	42	58	60	52	51	....	58.
	Minimum	46	46	45	49	51	44	58	48	43	39	45	36	39	40	42	48	39	35	31	33	40	27	38	24	18	20	25	28	35	39	....	38
Lamoine	Maximum	86	76	70	63	67	79	72	63	73	68	61	62	57	76	80	95	53	58	65	66	59	57	56	39	45	58	67	68	68	68	....	65.
	Minimum	40	40	48	56	50	48	57	45	38	38	43	34	42	36	47	35	35	34	29	38	44	29	33	23	15	25	31	33	38	42	....	38.
Langdon §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Larimore §§	Maximum	77	61	55	58	78	78	60	74	70	65	67	58	73	80	70	55	58	64	70	55	59	58	45	45	55	68	70	70	56	50	....	63.
	Minimum	60	61	53	50	48	41	44	45	40	47	47	34	38	42	44	50	45	37	28	31	50	23	15	24	20	25	29	30	33	40	....	40.
Linton	Maximum	86	89	71	79	73	85	77	67	75	75	68	63	65	75	80	..	..	..	..	67	67	58	60	41	61	67	69	69	72	65	....	[d]70.
	Minimum	54	59	56	54	51	56	57	47	33	38	42	33	44	38	48	35	33	32	32	56	46	31	34	25	23	33	22	34	43	46	....	41.
Lisbon §§	Maximum	88	71	61	68	65	79	81	65	74	72	65	62	56	75	76	85	68	67	65	65	68	67	85	47	48	59	72	73	59	52	....	67.
	Minimum	62	62	55	53	44	40	50	52	37	43	45	35	34	45	43	49	47	41	32	31	37	30	32	47	20	29	30	35	31	33	....	40.
McKinney (near)	Maximum	84	75	68	60	65	76	65	65	65	68	60	60	65	60	65	80	65	65	66	70	60	45	43	32	40	50	66	63	72	60	....	62.
	Minimum	40	48	50	50	50	47	46	40	40	40	32	45	35	40	40	38	35	32	32	30	34	31	30	21	18	26	26	26	29	33	....	36.
Maddock	Maximum	85	83	63	56	62	77	76	60	68	67	66	63	61	74	79	85	63	58	65	67	60	50	52	37	41	52	67	67	68	53	....	64.
	Minimum	55	56	54	50	50	40	56	49	35	40	44	31	42	38	39	58	35	32	28	30	48	25	35	22	19	25	23	36	35	46	....	39.
Melville	Maximum	86	80	63	58	63	75	72	61	71	68	72	..	63	74	77	86	65	60	67	65	62	62	62	40	42	55	68	70	65	52	....	[a]65.
	Minimum	55	56	55	51	50	43	56	45	36	38	52	..	35	42	42	57	37	30	31	33	46	30	32	22	16	26	28	38	32	45	....	[a]40.
Minot §§	Maximum	85	78	79	65	67	83	64	63	70	64	64	65	53	73	..	80	63	55	67	70	67	47	44	37	43	52	71	65	71	56	....	[a]64.
	Minimum	48	48	54	43	52	47	55	47	39	42	46	42	48	40	50	..	34	35	32	34	50	32	40	25	20	28	27	35	35	47	....	[a]40.
Mott	Maximum	89	76	78	75	80	78	68	65	57	50	54	68	75	78	71	66	63	76	70	72	63	56	48	46	57	62	68	75	70	58	....	67.
	Minimum	61	50	52	48	55	53	47	45	38	34	37	38	40	42	41	37	40	41	34	37	28	30	30	9	31	38	35	41	38	37	....	39.
Napoleon §§	Maximum	85	70	62	67	70	82	75	62	73	70	61	63	60	75	78	88	65	60	66	64	63	58	60	40	50	59	67	71	70	..	....	[a]66.
	Minimum	52	53	54	52	47	47	55	44	38	39	40	30	38	41	43	45	36	29	29	32	39	27	40	22	12	26	24	33	37	40	....	38.
New Salem	Maximum	94	79	64	73	74	83	76	60	74	74	65	67	65	71	80	79	68	59	74	69	63	52	61	30	48	61	62	68	69	68	....	67.
	Minimum	54	51	53	57	47	46	54	46	38	42	43	39	47	43	47	56	34	30	32	39	40	34	30	24	14	30	35	34	33	40	....	40.
Pembina §§	Maximum	78	72	65	56	64	73	64	60	64	64	60	63	60	63	78	76	65	56	63	74	54	54	58	38	54	48	67	65	72	58	....	62.
	Minimum	62	52	51	50	50	52	52	48	40	40	44	31	37	40	42	45	44	42	36	32	34	30	35	12	25	28	24	40	30	33	....	39.
Steele	Maximum	86	75	67	69	68	77	73	69	66	66	67	62	66	70	76	79	77	60	66	62	55	50	44	34	49	55	49	55	54	52	....	63.
	Minimum	52	60	45	54	47	46	46	49	40	36	39	31	38	36	53	52	47	31	29	34	26	26	25	21	21	22	27	29	30	30	....	37.
Towner	Maximum	80	75	76	73	69	75	70	69	70	71	68	65	62	75	80	75	80	75	70	68	70	68	50	32	50	52	50	47	68	68	....	66.
	Minimum	50	53	48	49	46	46	45	42	38	40	42	40	42	45	44	42	34	32	30	31	45	34	32	22	24	20	18	24	40	42	....	38.
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	.....
Wahpeton	Maximum	85	83	65	61	64	76	86	76	73	75	72	65	63	70	73	79	78	62	66	67	71	62	65	50	46	59	68	71	68	58	....	68.
	Minimum	67	58	57	50	52	42	58	53	36	47	48	34	34	35	50	57	40	45	34	36	52	31	47	28	23	29	30	37	42	49	....	43.
Westhope	Maximum	82	72	63	67	76	78	60	62	69	62	50	67	56	76	79	72	62	49	64	70	55	42	41	36	42	54	67	66	72	62	....	62.
	Minimum	52	44	54	50	54	42	49	40	37	43	43	38	42	40	43	42	42	32	32	35	42	32	29	20	21	27	29	22	34	32	....	38.
Williston	Maximum	80	64	71	66	75	70	58	60	74	61	55	61	63	73	79	61	46	50	64	75	57	51	44	31	41	56	68	64	68	57	....	61.
	Minimum	48	47	43	52	44	52	49	45	45	40	45	47	46	42	42	37	34	37	33	46	39	38	26	23	19	33	34	35	45	50	....	40.
Moorhead, Minn	Maximum	85	68	61	60	60	74	83	61	69	70	60	62	53	72	73	77	69	64	64	66	65	58	65	42	45	55	67	69	59	58	....	64.
	Minimum	62	58	55	51	50	41	57	44	38	48	44	37	42	51	50	57	47	44	35	40	38	31	33	28	24	30	29	37	41	50	....	43.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXV Bismarck, N. D., October, 1926 No. 10

GENERAL SUMMARY

The month opened with showery weather, which delayed the harvesting of late flax and threshing, but fall plowing and the seeding of winter wheat generally made excellent progress during the first and second decades. The third decade opened with general showers, which delayed farm work somewhat, but on the whole fair progress was made. At the close of the month most of the threshing was accomplished, and seeding of winter rye completed. Livestock ranged generally on pastures and harvested fields, thus saving much feed. More than the usual road construction was accomplished.

TEMPERATURE

The mean temperature for the State was 42.6°, or 1.2° below the normal, and 9.3° higher than the mean for October, 1925. The highest mean reported was 47.6° at Hettinger, Adams County, and at New England, Hettinger County; the lowest was 36.4° at Lisbon, Ransom County. The highest temperature reported was 85° at Beach, Golden Valley County, on the 6th; the lowest was 4° at Hansboro, Towner County, on the 24th. The greatest monthly range of temperature was 77° at Beach, Golden Valley County; the least was 45° at Grafton, Walsh County. The greatest daily range was 51° at Hettinger, Adams County, on the 18th.

PRECIPITATION

The average precipitation for the State was 1.49 inches, or 0.49 inch above the normal, and 0.71 inch more than the average for October, 1925. The greatest monthly amount reported was 5.06 inches at Larimore, Grand Forks County; there were but traces at Lamoine, Kidder County; Marmarth, Slope County, and New England, Hettinger County. The greatest amount recorded in any 24 consecutive hours was 3.14 inches at McLeod, Ransom County, on the 4th. The average snowfall was 1.0 inch; the greatest fall reported being 8.2 inches at Grand Forks, Grand Forks County. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Arnegard and Foxholm on the 2d; at Bottineau, McClusky and Williston on the 3d; at Williston on the 4th and 5th; at Bottineau, Foxholm and McLeod on the 6th; at Bottineau, Devils Lake and Foxholm on the 7th; at Foxholm on the 11th; at Dogden and Minto on the 12th; at Foxholm and McClusky on the 13th; at Arnegard, Ashley, Bismarck, Devils Lake, Ellendale, Foxholm, McClusky, Metigoshe, Valley City, Williston and Willow City on the 14th; at Ashley, Bottineau, Minto, New England, Sharon and Towner on the 15th, and at Ashley on the 16th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.94	30.38	29	29.39	1	57	7,809	10.5	39	nw.	25
Devils Lake	29.88	30.29	31	29.28	1	44	7,513	10.1	42	nw.	17
Ellendale	29.91	30.34	29	29.40	1	56	10,169	13.7	48	nw.	19
Grand Forks	29.86	30.23	29	29.31	1	90	....	......	44	nw.	4
Williston	29.91	30.39	29	29.32	1	48	6,894	9.3	41	nw.	1
Moorhead, Minn	29.89	30.29	29	29.29	17	58	6,736	9.1	31	w.	1
Av'ges and extremes	29.90	30.39	29	29.28	1	.....	....	10.5	48	nw.	19

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-ct.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	161.3	336.9	48	−12	81	51	56	24	9
Devils Lake	126.8	335.6	38	−16	86	63	71	35	9
Ellendale	223.1	383.3	66	+ 4	85	53	....	28	9
Grand Forks	.....	.....	.....	.....	82	.....	70	.....	....
Williston	186.4	335.6	56	+ 2	80	51	59	24	9
Moorhead, Minn	182.8	336.9	54	− 6	86	59	68	28	9
Averages and extremes	176.1	336.6	52	− 6	83	55	65	24	9

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.
1923	44.0	+0.2	84	− 8	0.88	−0.12	4	14	7	10	nw.
1924	50.3	+6.5	86	19	2.43	+1.43	7	17	5	9	se.
1925	33.3	−10.5	66	−16	0.78	−0.22	6	8	9	14	nw.
1926	42.6	−1.2	85	4	1.49	+0.49	6	10	10	11	nw.

Climatological Data for October, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										1.12		1.00	T.	3					H. A. Bury.
Amenia	Cass	954	30	42.2	−2.1	72	8†	15	30	40	3.43	+2.14	1.73	2.0	8	14	13	4	n.	E. T. Carley.
Amidon	Slope		12																	H. M. Critchfield.
Arnegard	McKenzie		11	44.0		72	6	11	23	43	0.99		0.86	T.	6	21	5	5	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	44.6	+0.9	74	3†	10	30	41	0.92	−0.14	0.57	T.	3	12	13	6	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	45.7	+1.7	85	6	8	25	48	1.25	+0.26	1.10							J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	44.4	−0.3	71	6	9	30	48	0.42	−0.44	0.23	1.0	4	13	11	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	45.0	+0.1	75	10	13	30	39	0.23	−0.80	0.09	T.	5	5	18	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	39.4	−2.2	65	9	5	30	33	1.60	+0.61	0.62	1.0	12	4	14	13	nw.	T. M. Street.
Bowman	Bowman	2,961	12																	R. Love, Jr.
Cando	Towner	1,488	25																	A. J. Swanson.
Carson	Grant	2,500	14	46.7	+3.2	79	8	13	24	44	0.15	−0.73	0.10	1.5	2	17	10	4	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20								2.46	+1.59	1.05	1.8	8	11	7	13	nw.	S. Friswold.
Crosby	Divide	1,954	19	43.0	+1.5	76	10	14	31	48	1.23	+0.48	0.91		5	10	12	9	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	40.4	−0.1	66	9	15	30	35	0.97	−0.26	0.29	0.7	12	5	10	16	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	43.6	−0.3	72	6†	15	23†	49	1.00	+0.22	0.66	1.2	11	21	6	4	nw.	Leroy Moomaw.
Dogden	McLean	1,880		42.4		69	15	12	30	33	0.57		0.25	1.0	9	7	12	12	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27																	H. Feldner.
Dunn Center	Dunn	2,191	27	44.7	−0.9	71	6†	13	24	47	0.42	−0.21	0.42	0	1	11	3	17	nw.	W. H. Moede.
Dunseith	Rolette	1,682	30	38.2	−2.9	65	9†	5	30	36	1.59	+0.84	0.60	2.6	8	2	9	20	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	40.4	−2.3	67	7	10	30	37	1.36	+0.51	0.57	0.5	5	0	11	20	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	44.8	−1.1	74	15	11	30	40	1.12	+0.20	0.66	0	2	2	10	19	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	45.0	−0.6	74	15	17	30	38	1.78	+0.74	1.68	0.1	8	3	19	9	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	44.4		72	10	7	30	46	0.35	−0.35	0.16	T.	4	4	22	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	18																	A. O. Wang.
Fessenden	Wells	1,610	14	41.9	−0.1	70	16	8	30	46	1.08	+0.30	0.32	2.5	9	8	6	17	sw.	T. D. Monsen.
Finley	Steele	1,461	2																	G. J. Mustad.
Forman	Sargent	1,249	32								3.76	+2.42	1.78		4				n.	O. Enger.
Fort Yates	Sioux	1,670																		P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	41.4		67	7	12	30	35	0.92		0.31	1.1	7	3	13	15	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								1.23		0.77	1.0	7	18	6	7	nw.	Verne King.
Fullerton	Dickey	1,439	28	45.1	+0.8	75	15	15	30	41	2.40	+1.11	0.76	0.4	6	4	16	11	nw.	F. O. Alin.
Garrison	McLean	1,901	31	43.2	−0.6	69	25	12	30	39	0.20	−0.70	0.20	T.	1	17	10	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	42.3[a]	−0.4	70[a]	10	25[a]	30	37[a]	2.89	+2.00	1.25	0.4	10				nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	42.0	−1.5	69	8	19	30	37	4.03	+2.87	1.00	8.2	13	5	12	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	19																	W. A. Christianson.
Hannah	Cavalier	1,568	32								0.88	0.08	0.20	6.5	7					J. Moffatt.
Hansboro	Towner	1,597	18	37.2	−4.1	76	2	4	24†	44	0.89	−0.02	0.30		4	6	17	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	47.6	+1.2	81	17	15	24	51	0.23	0.41	0.23	T.	1	25	1	5	nw.	C. J. Downey.
Hillsboro	Traill	901	20	43.6[a]	−2.4	71[a]	8	18[a]	30	36[a]	3.11	+2.09	0.98	0.5	9	5	22	4	nw.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	19																	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	36.5	−8.3	64	1†	10	31	37	0.95	+0.02	0.69	0.2	7	13	5	13	w.	S. Calvelage.
Lamoine	Kidder	1,936	21	43.6	+0.5	70	15†	10	30	42	T.	−0.58	T.	T.	0	9	12	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	39.2	−1.2	69[a]	10	13	30	39[a]	0.57	−0.37	0.20	2.0	6	13	9	9	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	41.2	−2.1	68	8†	15	30	40	5.06	+3.83	1.30		10	9	7	15	s.	Reuben Gray.
Linton	Emmons	1,711	8	44.8[a]		78[a]	15	5[a]	30	48[a]	0.52		0.52	T.	1	15	4	12	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	37.1	−8.2	73	2	15	24†	43	2.63	+1.61	1.98	T.	3	13	11	7		W. S. Adams.
McClusky	Sheridan	1,943	8	43.4		70	10†	10	30	42	0.74		0.34	1.5	6	16	9	6	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	32	40.7	−1.0	70	7	9	23	38	1.66	+0.73	0.45	1.0	9	1	16	14	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	45.4	−0.1	79	9	13	30	46	3.37	+2.31	3.14	0.2	4	19	4	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	41.7		69	17	12	24†	39	1.05	+0.26	0.44	0.1	6	7	9	15	nw.	A. T. Felland.
Mandan	Morton	1,644	12	43.6	−1.3	75	10	9	30	45	0.77	+0.06	0.59	0.2	5	5	3	23	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	41.8	−1.5	67	7†	12	30	37	1.06	+0.25	0.33	2.3	8	9	13	9	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	46.2	+2.1	78	7	18	23	41	T.	−0.79	T.	T.	0	16	11	4		S. P. Grane.
Mayville	Traill	975	30	43.8	−1.1	70	8†	15	30	40	3.48	+2.37	1.14	T.	10	9	9	13	n.	Ingvald Larson.
Melville	Foster	1,590	28	42.4[a]	−1.2	68[a]	15†	12[a]	30	37[a]	1.34	+0.47	0.47	2.0	5	5	14	12	nw.	J. P. Kidder.
Metigoshe‡‡	Bottineau										1.79		1.04		5	20	6	5	nw.	J. A. Thorburn.
Minot	Ward	1,557	30	43.0	−0.6	70	8	11	30	37	0.77	−0.17	0.35	T	6	9	9	13	w.	W. I. Faris.
Minto	Walsh	820	33	40.8[a]	−2.4	71[a]	9	10[a]	31	36	2.95	+1.85	1.20	T.	7	8	13	10	nw.	C. M. Evans.
Mott	Hettinger	2,424	19	40.8	−2.2	76	16	12	24	50	0.20	−0.89	0.08	0.5	4	11	9	11	nw.	O. H. Opland
Napoleon	Logan	1,955	34	42.0	+0.1	73	15	8	30	43	1.11	+0.17	0.57	T.	7	4	7	20	w.	C. J. Hoof.
New England	Hettinger	2,400	32	47.6	+3.9	80	10	16	23	47	T.	−0.65	T.	T.	0	16	8	7	nw.	W. S. Jones.
New Salem	Morton	2,163	22	45.4	+1.1	76	10	14	23†	41	0.35	−0.60	0.21		4	12	16	3	nw.	J. Christiansen.
Park River	Walsh	998	22	41.0[a]	−3.3	69[a]	10	15[a]	30	35[a]	2.86	+1.85	1.00	2.0	7	6	9	16	nw.	C. B. Wright.
Parshall (near)	Mountrail		11																	J. A. Johnson.
Pembina	Pembina	789	52	40.1	−0.8	68	10	15	30	41	2.60	+1.26	1.20	T.	5	12	5	14	s.	C. W. Shumaker
Pettibone	Kidder	1,856	17	42.7	+1.5	72	15	7	30	40	1.64	+0.99	1.02	T.	6	5	4	22	nw.	A. L. Carlson.
Power	Richland	1,020	32								2.75	+1.28	1.26	1.5	5	10	12	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	38.4		61	9	13	23	28	0.65	−0.17	0.23	0.5	5	16	11	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	10	44.6		71	10	11	30	44	0.17		0.10	1.0	2	15	12	4	nw.	John Muggli.
Sharon	Steele	1,516	1								3.09		1.04	1.5	12	6	11	14	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2								0.21		0.20	0.1	2	10	9	12	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	38.0	−6.0	66	10	7	30	36	1.00	+0.12	0.75	0.5	3	7	17	7	se.	H. S. Wood.
Towner	McHenry	1,482	24	42.4	0.0	68	9†	13	24	43	1.32	+0.42	0.90	T.	9	6	14	11	nw.	B. Bagley.
Trotters	Golden Valley										1.31		1.13	0.8	3	19	5	7		A. J. Nellermoe.
Turtle Lake	McLean	1,899	11	42.9		70	15	10	30	38	0.28	−0.48	0.24	T.	2	3	10	18	nw.	A. T. Anderson.
Valley City	Barnes	1,245	21	41.9	−3.3	69	8	15	30	38	2.23	+1.40	0.81	1.0	9	8	9	14	nw.	H. Twito.
Wahpeton	Richland	962	32	45.9	0.0	74	8	16	30	37	1.87	+0.36	1.08		9	15	0	16	nw.	C. G Luick.
Walhalla	Pembina	966	21								1.62	+0.59	0.58	T.	5	7	11	13	nw.	
Washburn	McLean	1,731	25								0.39	−0.55	0.12		6					Karl Klein.
Westhope	Bottineau	1,508	20	38.4	−3.0	69	10	14	24	36	1.01	+0.34	0.52	0.4	5				nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	44.0	+0.6	73	6	18	23	35	0.71	−0.06	0.42	1.8	7	9	14	8	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	39.6	−2.1	67	9	8	30	41	1.53	+0.83	0.68	2.5	10	2	17	12	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	43.0	−1.5	72	8	17	30	39	2.22	+0.15	1.43	1.8	10	3	10	18	nw.	U. S. Weather Bureau.
Averages				42.6	−1.2	85	6	4	24	51	1.49	+0.49	3.14	1.0	6	10	10	11	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for October, 1926

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri	1.00																				.08			.04								1.12
Amenia ‖	Red	.50		.40	1.73							T	T.			T.		.12	T		.38	.10	T	.10	.10								3.43
Amidon	Lit. Missouri	.80	.19																					T.	.18					T.	.05		1.22
Arnegard	Missouri	.86																				.02	.02						.04	.02	.03		0.99
Ashley	Missouri	.15		.20	.57																										T	T.	0.92
Beach	Lit. Missouri	1.10												.11												.04					T.		1.25
Berthold Agency	Missouri	.23	.02		T.									T.						T.		T.	.10	T					T.	T	.07		0.42
Bismarck ***	Missouri		T.		.02	.02					T.	T.	T.	.09	T.				T.	.01	T	T	.09			T.				T	T.	T	0.23
Bottineau ‖	Mouse	.62	.29	.01	T				T.				.05	.10		.02		.10		.25	T	.05	T.	.04	T			T	T.	.03	T	.04	1.60
Bowman	Grand																																
Cando	Devils Lake																																
Carson	Heart																							.10							.05		0.15
Cooperstown	Sheyenne		.45	1.05							.10						.18			.42		.08	.10	T								.08	2.46
Crosby	Mouse	.91	T.						.07					.03						.21			.01									T.	1.23
Devils Lake ***	Devils Lake	.02	.07	.11	.03						.24			.06	T.			.08	T.	.29	T.	.01	.02	.01		T.				.03		T.	0.97
Dickinson ‖	Heart	.66				.02							T.	T.	.06			T.		.02		.01	.02	.05		.06				.05	.03	.02	1.00
Dogden	Mouse	.25	T.		.02						.01	T		.05			T			.08		.03	T.	.06						.02		.05	0.57
Donnybrook	Mouse																																
Dunn Center ‖	Knife	.42																															0.42
Dunseith	Mouse	.60											.05	.15		.02		.15		.56			.04							.02			1.59
Eckman	Mouse	.57	T.		T.									.22						.32	T.	.23										.02	1.36
Edgeley	James		.46	.66																													1.12
Ellendale***	James		.02	1.61	.08						T.		T.	T.		T.	T.			.01	.03	.01	.01	.01		T.				T.	T	T.	1.78
Energy	Missouri	.15	T.		.01	T.						T.		T.						T.	T.	T.	T.	.16						.03	T.		0.35
Epping	Missouri																																
Fessenden ‖	James	.32		.03								.01		T.	.12			.03		.28				.18						.06		.05	1.08
Finley	Red																																
Forman	Sheyenne	.35		1.78	1.55															.08													3.76
Fort Yates	Missouri																																
Foxholm (near)	Mouse	.31	T.		.13									.01		T.	T.	.06		.25		T.	.06	T.		T.				T.	T.	.10	0.92
Fryburg	Heart	.77	.23		.02		T.														.08			.04		.04				.05		T.	1.23
Fullerton	James	.60	T.	.76	.70						T.	T.								.05		.25	T.	T.		T.				T.		.04	2.40
Garrison	Missouri		T.		T.																		.20									T.	0.20
Grafton	Red	.52		.45	1.25							.05	.03	.04				.24		.24		.03		.04									2.89
Grand Forks ***	Red	.92	.40	1.00	.52						.03			.10		.01		.19		.75		.04	T.	.03						.02		.02	4.03
Granville	Mouse																																
Hannah	Pembina		.07						T.				.20				.10				.16			.20						.05		.10	0.88
Hansboro	Devils Lake	.30	.05	T.										.27				.27															0.89
Hettinger	Grand	.23																						T.									0.23
Hillsboro	Red	.43		.81	.98							.13		.10				.11		.44		.06		T.		T.				T.		.05	3.11
Howard (near)	Missouri																																
Jamestown ‖	James	.13		.69					.01				.04			.05						.01	.02			T.							0.95
Lamoine	Missouri			T.	T.						T.			T.						T.		T.		T.								T.	T.
Langdon ‖	Pembina				.03									.05				.12		.10		.07	.20							T.		T.	0.57
Larimore	Red	.64		.57	1.30							.15			.08			.15			1.09	.05	.02									1.00	5.06
Linton	Missouri	T		.52	T.	T.								T.								T.		T.		T.				T.	T.		0.52
Lisbon ‖	Sheyenne		.55		1.98	.10													T.												T.	T.	2.63
McClusky	Missouri	.34	.04	.02										.04						.15			T.	T.								.15	0.74
McKinney (near)	Mouse	.45	.25		.21				T.					.10		T.			.10	.25	T.	.10	.10							T.		.10	1.66
McLeod	Sheyenne				3.14						T.			.02						.19		T.				T.						.02	3.37
Maddock	Sheyenne	.26									T.			.11						.44		.11		.12						T.		.01	1.05
Mandan ‖	Missouri	.59				.03									.07				T.	T.			T.	.06						T.		.02	0.77
Manfred	James	.33		T.	T.						T.			.10		T.	T.	.02		.29	T.	.02		.15						.08		.07	1.06
Marmarth	Lit. Missouri												T.				T.		T.	T.	T.		T.		T.								T.
Mayville	Red	.35		.32	1.14							.24		.10				.12		.51	.20	.20		.30									3.48
Melville	James		.29	.47							T.									.38				.10						T.		.10	1.34
Metigoshe	Mouse	1.04											.08	T.				.29		.34		T	.04										1.79
Minot ‖	Mouse	.35				.10											.05			.20	.02									.05			0.77
Minto	Red	.40		.60	1.20									.08				.18		.43		.03				T.				T.			2.95
Mott	Cannon Ball				.03																			.05		.04					.08		0.20
Napoleon ‖	Missouri	.20		.03	.57							.06		T.	.05					.07			.13	T.								T.	1.11
New England	Cannon Ball																							T.									T.
New Salem	Heart	.21			T.									.06	T.					T.		T.		.05						T	.03		0.35
Park River	Red	.40		.67	1.00						T.	.06		T.				.31		.40				T.								.02	2.86
Parshall (near)	Missouri																																
Pembina ‖	Red	.80		.10	1.20											T.			.40	T.	.10		T.				T.						2.60
Pettibone	James		.17	.17							1.02			.11			T.				.11	T		T.						T.		T.	1.64
Power	Sheyenne			1.26	1.18								.09								T.	.07										.15	2.75
Powers Lake	Missouri	.23											.07							.13		.03									.19		0.65
Richardton	Heart													.07										.10							T.		0.17
Sharon	Red	.26	T.	.81	1.04						.04	.02		.15	T.	T.		.05		.55		.07	T.	.05		T.				.04		.01	3.09
Stanton	Missouri																							.01		T.					.20		0.21
Steele	Missouri	.75	T.	.20				T.			T.	T.	T.	T.	T.				T.	T.	T.	T.	T.	.05						T.		T.	1.00
Towner	Mouse	.05	T.								.01						.05			.90	.01	.03	.25					.01	.01			T.	1.32
Trotters	Lit. Missouri	1.13																						.05		.13					T.		1.31
Turtle Lake	Missouri	.24	T.		.04															T.												T.	0.28
Valley City	Sheyenne	.13	T.	.56	.81						.08		T.	.10	T.	T.				.40		.05		.05						T.		.05	2.23
Wahpeton	Red	.06		.20	1.08									.02	.08			.01		.25		.05										.12	1.87
Walhalla	Pembina	.50		.58									T.		.31							T.		.17	T.	.06			T.				1.62
Washburn	Missouri				.04	.02								.12							.08			.11						.02			0.39
Westhope	Mouse	.52											.14			.07								.04					T.	.24			1.01
Williston ***	Missouri	.42			T.				.03					.01			T.	T.		T.		.03	.13		T.	T.			.06	T.	.03	T	0.71
Willow City	Mouse	.68	T.		.03									.13		.02		.13		.24	T.	.05	.05	T.					T.	.10		.10	1.53
Moorhead, Minn ***	Red	T.	.01	.98	.49						.02			.08	T.	T.		.03	T.	.35	T.	.08	.07	T.		T				T.		.11	2.22

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for October, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	60	70	60	66	53	60	67	72	53	59	55	54	56	50	72	50	71	48	47	54	56	42	38	43	46	62	61	53	41	41	40	54.9
	Minimum	44	32	40	43	33	26	28	37	35	23	26	26	26	30	32	37	32	33	33	32	33	26	22	20	26	24	26	32	27	15	18	29.6
Amidon	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Arnegard	Maximum	55	57	65	52	62	72	70	60	71	67	56	59	41	68	66	65	69	52	46	57	47	47	35	51	65	68	57	52	36	37	34	56.1
	Minimum	35	34	42	43	37	35	45	40	33	39	37	27	28	25	36	34	42	33	34	27	38	32	11	18	34	34	36	33	16	19	16	32.0
Ashley	Maximum	60	63	74	50	51	70	74	63	70	70	65	67	59	55	72	70	62	60	42	55	54	44	41	35	58	55	54	54	45	32	33	56.7
	Minimum	41	30	40	41	40	30	40	53	30	37	45	28	38	24	31	38	41	28	34	30	37	24	23	12	28	30	45	35	25	10	22	32.6
Beach	Maximum	56	65	62	60	63	85	74	62	70	73	78	53	62	60	70	68	72	53	55	60	50	57	50	55	29	35	39	49	52	40	41	58.0
	Minimum	47	42	39	40	38	38	44	38	32	35	30	28	37	34	38	40	50	30	33	25	32	34	33	29	8	24	27	26	30	28	27	33.4
Berthold Agency	Maximum	58	56	61	55	61	71	69	65	69	70	62	63	54	69	69	66	70	54	50	61	55	50	38	44	64	68	60	54	40	35	35	57.9
	Minimum	42	31	36	42	39	30	44	44	28	34	36	23	32	21	34	35	40	35	37	23	36	23	17	11	28	27	41	37	25	9	18	31.0
Bismarck	Maximum	59	67	54	53	59	66	67	62	68	75	54	63	54	65	71	60	71	50	53	62	52	48	36	41	64	68	60	53	36	35	39	56.9
	Minimum	43	35	40	46	36	31	44	43	32	44	33	26	32	26	36	43	39	34	38	29	38	30	19	18	34	34	40	34	18	13	20	33.2
Bottineau §§	Maximum	49	58	55	57	56	62	62	60	65	64	62	41	41	48	51	42	59	41	44	54	47	33	31	28	57	55	55	49	42	35	25	49.3
	Minimum	46	29	33	43	31	33	40	45	32	32	36	19	28	23	37	33	33	31	28	28	33	25	15	14	27	28	33	31	21	5	20	29.4
Bowman	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Carson	Maximum	67	69	59	56	64	70	71	79	76	76	64	65	52	68	64	65	70	64	54	65	54	59	40	45	60	70	63	60	50	36	44	61.3
	Minimum	42	36	34	44	38	34	43	44	33	45	30	25	30	24	43	32	54	36	30	24	27	25	14	13	35	30	40	36	19	15	19	32.1
Crosby	Maximum	55	57	61	60	64	74	72	64	60	76	60	53	43	61	62	53	63	51	41	54	53	47	46	51	56	54	56	36	32	36	35	54.4
	Minimum	37	46	39	43	36	36	34	36	32	28	32	25	32	30	38	36	38	34	35	30	34	36	18	24	28	32	37	26	20	18	14	31.7
Devils Lake	Maximum	53	64	53	58	53	60	64	64	66	65	50	49	42	46	60	38	64	40	39	53	45	36	31	36	57	56	57	47	38	35	31	50.0
	Minimum	40	36	46	36	31	25	39	46	35	40	30	24	27	26	34	31	30	31	32	30	30	28	19	18	27	30	37	34	23	15	22	30.7
Dickinson §§	Maximum	57	61	60	54	61	72	72	60	68	71	48	62	50	72	69	71	71	54	51	62	51	49	34	54	63	71	55	52	31	39	40	57.6
	Minimum	39	33	38	40	36	32	40	44	24	32	38	25	33	23	35	31	34	30	34	23	25	27	15	15	21	29	31	28	19	17	27	29.6
Donnybrook	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Dunn Center §§	Maximum	56	58	60	51	61	71	71	70	68	69	68	61	50	69	66	70	70	61	48	60	51	49	35	48	49	69	68	58	52	38	32	58.4
	Minimum	35	30	32	38	33	29	40	32	26	26	32	23	32	22	48	29	59	35	33	26	34	32	15	13	25	42	34	32	32	22	20	31.0
Dunseith	Maximum	52	60	54	58	54	61	61	58	65	65	60	42	41	47	61	42	62	40	40	44	50	36	34	37	58	55	55	48	40	34	34	49.9
	Minimum	35	27	40	40	25	25	35	42	30	28	32	18	28	18	32	27	28	26	28	25	29	20	13	13	21	31	34	34	18	5	16	26.5
Edgeley	Maximum	63	70	63	59	55	60	69	68	67	68	61	62	58	52	74	63	73	64	52	59	56	44	38	40	59	62	63	54	40	41	38	57.9
	Minimum	41	31	31	47	35	29	34	54	33	33	39	27	37	25	34	32	38	29	32	29	32	25	21	17	25	34	46	31	26	11	24	31.7
Ellendale	Maximum	64	72	60	58	55	59	70	70	66	68	54	62	59	52	74	48	72	43	53	56	55	43	36	39	59	64	64	51	37	37	40	56.1
	Minimum	44	36	49	48	37	30	38	50	41	39	34	29	33	27	36	33	37	30	35	36	29	28	25	25	29	35	45	34	21	17	23	34.0
Fessenden §§	Maximum	54	64	54	53	58	66	69	62	68	67	45	60	47	52	70	45	69	44	43	56	48	41	35	35	59	60	60	59	48	41	40	53.9
	Minimum	44	35	37	46	35	27	30	47	30	38	39	22	26	23	24	39	37	33	32	29	32	27	18	14	29	32	33	21	26	8	11	29.9
Foxholm (near)	Maximum	52	57	56	51	57	65	67	57	64	64	58	51	41	52	65	45	61	43	45	55	51	42	34	38	60	54	55	50	44	36	34	51.8
	Minimum	38	35	35	41	42	33	39	40	36	30	33	25	29	24	30	35	36	32	33	30	35	29	21	15	29	34	39	34	22	12	19	31.1
Fullerton	Maximum	64	71	58	58	55	58	69	70	65	68	52	55	60	52	75	48	72	45	52	57	54	43	35	38	59	62	63	60	57	40	39	56.6
	Minimum	43	35	51	48	38	30	39	54	37	37	40	28	34	25	34	32	45	29	32	32	36	28	24	22	26	32	36	30	26	15	24	33.6
Garrison	Maximum	56	57	58	51	59	66	67	62	66	71	63	62	50	64	68	60	64	49	49	60	48	47	36	40	69	60	58	52	29	36	33	55.5
	Minimum	40	32	34	42	41	31	42	44	30	36	35	25	25	25	33	40	41	32	34	27	34	25	18	14	31	33	37	32	18	12	19	31.0
Grafton	Maximum	58	65	57	53	45	56	64	67	68	70	60	49	45	..	53	45	58	49	41	48	51	47	36	37	41	63	60	54	45	37	30	51.7
	Minimum	47	38	47	44	36	25	32	49	34	33	42	24	29	..	30	28	30	30	33	34	36	30	24	27	23	30	36	35	29	25	26	32.9
Grand Forks	Maximum	57	64	55	56	44	54	66	69	67	68	54	53	48	50	58	44	68	43	39	48	56	40	40	35	38	62	62	48	39	39	34	51.5
	Minimum	46	38	49	42	33	27	33	52	41	34	35	27	27	29	33	27	31	30	32	33	32	29	22	21	24	30	39	35	27	19	23	32.4
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Hansboro	Maximum	65	76	68	60	65	60	55	50	60	60	45	50	50	52	40	45	60	50	50	55	50	48	43	44	47	68	58	52	36	41	46	53.2
	Minimum	28	32	36	32	28	30	32	32	38	35	20	10	10	18	17	25	25	11	10	20	15	15	13	4	20	24	24	23	16	4	14	21.3
Hettinger	Maximum	80	67	62	60	60	73	74	71	69	77	61	64	61	75	76	72	81	60	60	61	62	53	43	55	65	74	62	52	56	19	46	63.9
	Minimum	46	33	36	48	33	30	24	46	22	47	37	22	39	24	25	32	55	26	29	26	32	24	19	15	32	29	43	36	19	18	20	31.2
Hillsboro	Maximum	59	65	60	56	52	55	65	71	68	68	57	55	51	52	56	49	67	63	..	50	51	45	42	38	39	60	61	54	44	40	32	[a]54.2
	Minimum	43	35	50	47	34	28	33	50	36	34	44	28	29	28	33	30	31	33	..	33	40	30	21	24	23	35	36	34	28	18	23	[a]33.0
Howard (near)	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Jamestown §§	Maximum	64	49	50	55	58	64	58	64	60	52	49	57	45	36	40	38	40	38	40	39	36	28	30	35	48	52	48	54	39	30	28	45.9
	Minimum	31	29	30	37	34	27	27	34	33	33	36	25	25	22	23	32	34	31	32	30	27	22	19	20	22	28	30	30	15	11	10	27.1
Lamoine	Maximum	55	62	58	53	50	64	64	60	67	66	58	60	60	56	70	65	68	70	47	58	52	43	40	40	62	63	60	51	41	36	40	56.1
	Minimum	42	50	43	45	45	28	40	40	28	37	37	23	32	22	37	40	30	28	30	27	34	25	18	13	27	30	30	30	25	10	20	31.2
Langdon §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Larimore §§	Maximum	50	57	58	57	47	60	64	68	67	68	60	57	56	60	58	60	65	45	40	53	50	38	38	37	42	55	61	50	31	40	25	52.2
	Minimum	46	35	40	38	32	27	35	45	32	37	34	30	25	24	34	30	25	30	32	30	37	28	20	19	22	25	30	35	26	15	20	30.3
Linton	Maximum	69	71	66	53	57	66	69	66	72	71	62	64	60	65	78	60	73	66	55	62	57	48	52	44	62	..	67	53	35	34	44	[a]60.0
	Minimum	39	28	48	44	41	25	40	47	39	26	39	19	27	18	30	40	44	33	34	19	20	25	24	12	32	..	24	26	19	5	17	[a]29.5
Lisbon §§	Maximum	49	73	52	60	54	48	51	56	51	50	44	48	38	44	46	45	41	48	44	50	44	36	38	42	46	36	35	38	42	36	..	[a]47.9
	Minimum	32	30	30	34	30	34	32	38	34	32	36	28	24	22	30	29	20	24	30	28	32	22	18	15	20	19	24	20	15	16	18	26.3
McKinney (near)	Maximum	51	58	58	50	60	60	70	58	66	55	55	40	45	55	63	50	46	46	45	56	45	40	40	66	60	55	56	50	40	38	36	52.0
	Minimum	38	20	30	40	42	30	40	36	35	39	30	22	25	22	30	28	28	28	30	30	35	30	9	28	28	28	30	28	24	24	24	29.4
Maddock	Maximum	52	63	56	60	58	63	64	64	66	66	52	53	54	50	65	52	69	44	41	55	54	39	39	34	56	56	58	54	48	48	35	53.8
	Minimum	42	32	45	43	30	24	36	47	29	30	36	22	24	22	29	30	38	30	31	29	33	28	15	12	25	31	37	32	23	12	20	29.6
Melville	Maximum	52	64	58	57	56	61	61	66	67	62	..	60	53	48	68	57	68	57	42	57	50	40	36	37	57	60	60	48	46	38	34	[a]54.0
	Minimum	42	35	48	45	31	29	36	46	33	35	..	23	28	24	32	32	34	30	32	30	34	20	16	17	26	34	40	31	23	12	22	[a]30.7
Minot §§	Maximum	56	50	63	63	50	60	68	70	64	69	65	51	58	43	55	68	47	67	44	47	55	53	43	32	43	62	58	58	42	43	38	54.4
	Minimum	44	30	34	43	44	29	44	40	30	32	35	25	27	24	29	39	39	33	30	30	32	31	21	15	30	36	43	35	25	11	24	31.7
Mott	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Napoleon §§	Maximum	61	70	57	50	51	64	66	65	67	69	47	61	52	59	73	57	72	48	52	60	55	43	33	43	61	60	62	51	31	36	38	55.3
	Minimum	37	27	44	43	35	26	30	40	27	29	38	22	35	20	40	30	35	22	37	23	40	22	16	14	22	28	30	35	22	8	15	28.8
New Salem	Maximum	61	62	60	52	61	70	70	61	61	76	65	65	57	66	67	66	65	64	56	61	55	50	35	40	67	56	65	59	42	36	40	58.4
	Minimum	40	34	31	41	30	35	38	42	38	41	35	24	34	27	44	35	36	34	37	33	29	30	14	15	31	36	41	31	22	14	28	32.3
Pembina §§	Maximum	60	65	64	60	54	58	66	64	66	68	50	55	40	47	45	55	45	41	40	48	40	44	42	35	38	61	60	44	32	38	32	50.2
	Minimum	50	40	40	38	38	25	25	26	28	36	37	25	30	33	25	25	33	31	29	31	34	26	33	22	21	22	36	38	22	15	17	30.0
Steele	Maximum	52	65	55	46	59	52	49	60	62	66	44	50	48	50	60	55	48	46	48	54	40	44	30	42	50	50	48	49	27	32	32	48.8
	Minimum	40	30	42	42	23	25	21	30	31	40	38	30	30	20	30	33	30	26	28	30	22	21	10	26	30	28	30	18	12	7	19	27.2
Towner	Maximum	50	50	54	60	58	56	60	65	68	50	54	52	50	68	57	60	65	56	50	56	58	60	36	40	60	57	47	50	43	46	36	53.9
	Minimum	44	42	40	48	36	34	46	34	36	34	36	20	28	25	32	34	30	32	34	32	28	24	18	13	28	21	32	30	23	25	21	31.0
Valley City	Maximum	56	64	60	60	52	55	64	69	67	67	67	54	52	48	68	60	68	40	45	53	51	39	34	35	49	58	51	52	38	38	30	53.0
	Minimum	48	33	45	44	29	27	32	47	35	44	37	23	29	22	30	30	32	30	30	28	33	26	16	22	24	28	41	27	25	15	23	30.8
Wahpeton	Maximum	67	70	67	63	60	57	65	74	70	68	64	57	64	52	70	67	57	70	65	53	56	48	40	40	40	61	64	55	48	41	35	58.3
	Minimum	45	35	54	48	35	28	37	37	39	35	48	26	32	26	36	30	34	34	32	35	40	28	28	23	26	29	42	32	28	16	22	33.5
Westhope	Maximum	43	56	53	45	60	65	55	57	57	69	57	41	42	50	52	40	61	40	44	45	46	33	34	34	45	56	46	46	45	26	28	47.5
	Minimum	36	29	39	35	37	29	34	43	34	36	28	29	29	22	35	33	35	29	34	32	31	22	20	14	28	30	33	20	22	15	16	29.3
Williston	Maximum	58	56	65	52	62	73	71	59	69	66	43	58	43	64	63	59	67	51	45	57	47	48	35	50	66	65	55	50	31	39	35	54.9
	Minimum	39	35	37	43	40	41	49	40	35	33	29	28	31	29	39	40	39	34	31	29	38	25	18	21	37	35	37	30	20	22	19	33.0
Moorhead, Minn	Maximum	61	67	59	58	47	55	64	72	67	65	57	54	57	50	66	43	70	40	45	50	52	38	35	36	38	60	60	50	39	38	33	52.5
	Minimum	44	36	49	41	33	31	36	52	40	39	35	30	30	30	36	31	31	33	34	35	32	31	25	25	23	31	42	33	27	17	22	33.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 11-23-26—970]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXV   Bismarck, N. D., November, 1926   No. 11

GENERAL SUMMARY

The month opened with generally fair weather and mild emperature, a condition that prevailed throughout the greater part of the first decade. During this period rapid progress was nade in fall plowing and the completion of late seeding of win-er rye. Nearly normal temperature prevailed during the second decade, and corn husking made good progress. During he first and second decades livestock ranged freely upon pas-ures, ranges and harvested fields. The third decade was cold nd more or less stormy, necessitating considerable yard feed-ng of livestock, and stopping most outdoor farm work.

TEMPERATURE

The mean temperature for the State was 21.5°, or 5.1° below he normal, and 7.3° lower than the mean for November, 1925. The highest mean reported was 31.6° at Carson, Grant County; the lowest was 12.8° at Hansboro, Towner County. The highest temperature reported was 68° at Hettinger, Adams County, on the 5th, and at Minot, Ward County, on the 6th; he lowest was −23° at Valley City, Barnes County, on the 26th. The greatest monthly range of temperature was 79° at Hettin-er, Adams County; the least was 40° at Powers Lake, Burke County. The greatest daily range was 47° at Dickinson, Stark County, on the 29th; at Hettinger, Adams County, on the 1st, nd at Valley City, Barnes County, on the 23d.

PRECIPITATION

The average precipitation for the State was 0.65 inch, or .07 inch above the normal, and 0.40 inch more than the verage for November, 1925. The greatest monthly amount re-orted was 2.00 inches at Larimore, Grand Forks County; there was but a trace at Lisbon, Adams County. The average snow-all was 6.2 inches. The average number of days with 0.01 nch or more of precipitation was 5.

AURORAS

Auroras were observed at Linton on the 20th; at Devils Lake n the 25th; at Arnegard, Beach, Carson, Ellendale, Grand Forks, Sharon, Trotters and Williston on the 28th, and at Williston on the 29th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.10	30.67	30	29.49	25	57	7,484	10.4	36	nw.	15
Devils Lake	30.10	30.70	30	29.60	15	44	8,510	11.8	36	n.	30
Ellendale	30.06	30.62	30	29.45	25	56	12,043	16.7	47	nw.	15
Grand Forks	30.07	30.56	9	29.53	16	90	......	......	38	nw.	15
Williston	30.10	30.64	19	29.51	24	48	5,778	8.0	31	nw.	5
Moorhead, Minn	30.07	30.68	30	29.48	25	58	7,381	10.3	28	n.	30
Av'ges and extremes	30.08	30.70	30	29.45	25	.....	....	11.4	47	nw.	15

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	60.3	281.1	31	−31	81	63	70	26	5
Devils Lake	73.9	278.2	27	−19	89	80	84	52	5
Ellendale	114.2	284.1	40	−12	87	71	....	36	5
Grand Forks	......	......	......	......	82	.....	77	.....	....
Williston	78.5	278.2	28	−19	85	73	79	32	5
Moorhead, Minn	111.3	281.1	40	− 8	88	72	81	43	8
Averages and extremes	87.6	280.5	31	−19	85	72	78	26	5

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	High-est	Low-est	Aver-age	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891...	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892...	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893...	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894...	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895...	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896...	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897...	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898...	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899...	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900...	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901...	26.8	+0.2	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902...	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903...	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904...	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905...	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906...	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907...	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908...	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909...	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910...	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911...	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912...	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913...	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914...	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915...	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916...	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917...	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918...	28.9	+2.3	71	−18	1.04	+0.46	4	13	6	11	nw.
1919...	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920...	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921...	21.0	−5.6	69	30	0.68	+0.10	5	7	8	15	nw
1922...	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.
1923...	36.5	[illegible]	72	5	0.50	−0.08	3	13	8	9	nw.
1924...	27.6	[illegible]	[illegible]	15	0.18	−0.40	2	11	9	10	nw.
1925...	28.8	+2.2	69	[illegible]	[illegible]	−0.33	2	14	8	8	nw.
1926...	21.5	−5.1	68	−23	0.65	+0.07	5	6	7	17	nw.

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Climatological Data for November, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										0.85		0.60		4					H. A. Bury.
Amenia	Cass	954	30	20.4	-6.9	60	5	-8	21	44	0.73	+0.19	0.28	4.0	4	15	12	3	n.	E. T. Carley.
Amidon	Slope		12	24.0		55	6	0	21	30	0.68	+0.20	0.25	4.0	4				nw.	W. H. Toussaint.
Arnegard	McKenzie		11	22.9		61	5	7	30	33	0.55		0.45	4.5	3	8	1	21	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	22.6	-5.1	61	5	-1	30	40	0.24	-0.30	0.16	3.0	2	11	2	17	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	26.2	-5.2	65	5	-2	21	33	0.98	+0.44	0.70	5.9	9	5	11	14	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	23.6	-5.2	62	5	0	21	37	0.20	-0.28	0.12	2.0	2	10	3	17	e.	C. L. Hall.
Bismarck	Burleigh	1,674	51	24.8	-3.7	63	5	-8	30	40	0.51	-0.17	0.31	3.8	6	4	6	20	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	19.5	-4.1	48	5†	-7	30	28	0.67	+0.13	0.25	7.1	8	4	5	21	nw.	T. M. Street.
Bowman	Bowman	2,961	12																	R. Love, Jr.
Cando	Towner	1,488	25																	A. J. Swanson.
Carson	Grant	2,500	14	31.6	+0.9	65	5	-9	30	35	0.50	-0.06	0.25	3.1	7	8	2	20	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20								0.95	+0.41	0.50	9.5	3	7	6	17	nw.	S. Friswold.
Crosby	Divide	1,954	19	19.6	-8.2	58	4	-14	30	33	0.76	+0.05	0.20	8.8	7	5	12	13	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	18.8	-3.8	52	5	-17	30	30	0.69	-0.02	0.22	8.1	11	5	6	19	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	23.8	-4.8	63	5	-2	29	47	0.77	+0.29	0.25	7.4	9	9	2	19	nw.	Leroy Moomaw.
Dogden	McLean	1,880		21.3		58	5	-7	30	28	0.62		0.22	4.5	1	7	2	21	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27																	H. Feldner.
Dunn Center	Dunn	2,191	27	22.5[a]	-5.9	61[a]	5	-10[a]	30	36[a]	0.38	-0.24	0.30	1.0	2	4	26	0	e.	W. H. Moede.
Dunseith	Rolette	1,682	30	17.4	-8.8	50	5	-15	30	33	0.68	+0.25	0.32	8.0	5	4	8	18	ne.	J. G. Lamont.
Eckman	Bottineau	1,500	21	20.0	-6.3	55	5	-12	30	32	1.05	+9.51	0.35	5.0	4	3	11	16	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	25	22.6	-7.8	63	5	-3	30	37	0.43	+0.09	0.23	4.3	3	4	8	18	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	23.2	-2.9	63	5	-10	30	42	0.25	-0.53	0.08	2.6	8	2	7	21	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	14	24.6		61	5	-8	30	37	0.38	+0.12	0.30	3.8	5	5	9	16	nw.	H. S. Solenberger.
Epping	Williams	2,224	18																	A. O. Wang.
Fessenden	Wells	1,610	14	21.4	-5.6	56	5	5	20†	29	0.66	+0.02	0.28	6.5	3	4	7	19	nw.	T. D. Monsen.
Finley	Steele	1,461	2																	G. J. Mustad.
Forman	Sargent	1,249	32								0.70	+0.14	0.25	5.0	4					O. Enger.
Fort Yates	Sioux	1,670																		P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	19.6		57	5	-12	30	30	0.72		0.20	7.2	10	3	7	20	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								0.85		0.30	8.0	6	5	2	23	nw.	Verne King.
Fullerton	Dickey	1,439	28	23.4	-6.3	62	5	-1	20	35	0.69	0.04	0.24	6.6	6	3	14	13	nw.	F. O. Alin.
Garrison	McLean	1,901	31	22.6	-4.4	61	5	-8	30	34	0.42	-0.16	0.42	4.2	1	9	6	15	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	20.2	-3.8	54	5	-9[a]	27	29[a]	1.07	+0.41	0.30	9.2	7	7	7	16	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	35	20.4	-5.7	56	5	-12	30	36	1.26	+0.56	0.36	12.7	11	1	12	17	n.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	19.8	-6.3	56	5	-5	30	30	0.37	-0.24	0.29	4.0	2	6	8	16	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32								0.89	+0.21	0.32	11.0	5					J. Moffatt.
Hansboro	Towner	1,597	18	12.8	-13.1	40	2†	-22	30	36	0.50	+0.01	0.35	6.0	2	8	6	16	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	26.6	-6.8	68	5	-11	26	47	0.75	+0.43	0.10	7.5	8	11	2	16	nw.	U. J. Downey.
Hillsboro	Traill	901	20	21.8	-7.0	56	5	-8	30	31	1.42	+0.61	0.70	10.5	7	6	10	14	n.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	19																	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	16.3	-11.3	57	4	5	20†	36	0.84	+0.11	0.35	8.5	6	10	1	16	nw.	S. Calvelage.
Lamoine	Kidder	1,936	21	21.9	-5.1	57	5	-5	20†	35	0.32	-0.22	0.32	4.0	1	11	5	14	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	17.4	-8.3	46	5†	-12	20	27	0.86	+0.16	0.32	10.5	6	9	10	11	ne.	R. T. Burke.
Larimore	Grand Forks	1,134	32	21.2	-4.6	55	6	-8	30	29	2.00	+1.32	1.00	20.0	4	8	6	16	n.	Reuben Gray.
Linton	Emmons	1,711	8	24.5		64	5	2	26	42	0.30		0.15	3.0	2	6	4	20	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	16.8	-13.4	36	4†	-17	30	43	T.	-0.62	T.	T.	0	6	14	10		W. S. Adams.
McClusky	Sheridan	1,943	8	21.2		58	5	-8	30	37	0.75		0.40	7.5	5	7	7	16	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	32	19.2	-5.4	52	4	-9	30	26	0.78	+0.13	0.32	7.0	5	2	6	22	nw.	N. P. Swenson.
McLeod	Ransom	1,075	14	24.4	5.3	62	5	-5	21	35	0.40	-0.19	0.20	4.0	5	12	7	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	10	20.2		57	5	-9	30	33	0.19	-0.49	0.13	2.1	3	7	5	18	nw.	A. T. Felland.
Mandan	Morton	1,644	12	24.0	-5.9	63	5	2	21	38	0.30	-0.25	0.20	1.7	4	6	0	24	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	19.8	-9.2	55	5	8	30	33	0.79	-0.15	0.21	6.5	6	5	8	17	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	27.9	-6.1	62	5	2	20	34	0.92	+0.59	0.60	7.1	3	5	5	20		S. P. Grane.
Mayville	Traill	975	30	21.6	7.7	56	5†	-8	20	34	0.90	+0.23	0.56	10.6	5	10	5	15	n.	N. C. Burhans.
Melville	Foster	1,590	28	20.9	-8.1	56	5	-10	30	40	1.12	+0.59	0.40	13.0	5	4	12	14	nw.	J. P. Kidder.
Metigoshe‡‡	Bottineau										1.13		0.30	10.0	5	23	2	5	n.	J. A. Thorburn.
Minot	Ward	1,557	30	23.0	-6.7	68	6	-3	20	37	0.60	0.08	0.50	6.0	2	4	8	18	w.	W. I. Faris.
Minto	Walsh	820	33	18.1	-6.4	55	5	-19	26	33	0.67	-0.02	0.40	8.0	7	9	10	11	nw.	C. M. Evans.
Mott	Hettinger	2,424	19	24.9	-6.3	53	12	3	21	34	0.55	+0.09	0.19	5.3	5	5	7	18	nw.	O. H. Opland.
Napoleon	Logan	1,955	34	20.2	-6.4	62	6	-6	21	41	0.56	-0.03	0.20	4.0	4	2	4	24	n.	C. J. Hoof.
New England	Hettinger	2,400	32	23.2	-7.0	62	5	2	21†	36	0.20	-0.29	0.10	2.0	2	8	3	19	nw.	W. S. Jones.
New Salem	Morton	2,163	22	25.3	-5.4	65	6	-8	30	44	0.35	0.00	0.18	3.0	8	8	5	17	nw.	J. Christiansen.
Park River	Walsh	998	22																	C. B. Wright.
Parshall (near)	Mountrail		11																	J. A. Johnson.
Pembina	Pembina	789	52	18.8	-3.9	48	6	-20	27	26	0.80	+0.12	0.24	10.0	5	10	14	6	n.	C. W. Shumaker
Pettibone	Kidder	1,856	17	21.3	-5.6	57	5	-4	20	35	0.23	-0.32	0.15	2.2	2	1	0	29	nw.	A. L. Carlson.
Power	Richland	1,020	32								1.00	+0.38	0.30	10.0	6	12	7	11	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	18.2		34	28	-6	30	31	0.62	+0.06	0.32	8.1	4	2	9	19	e.	Geo. B. Gee.
Richardton	Stark	2,467	10	24.0		61	5	-5	30	38	0.32		0.24	4.0	2	5	5	20	nw.	John Muggli.
Sharon	Steele	1,516	1								0.50		0.16	5.3	10	8	6	16	n.	Nels O. Gretsheim.
Stanton	Mercer	1,722	2								0.45		0.40	4.0	2	5	9	16	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	18.9	-9.5	52	5	-5	21†	32	0.39	-0.20	0.15	4.5	6	7	12	11	nw.	H. S. Wood.
Towner	McHenry	1,482	24	22.9	-2.1	50	6	-13	21	28	0.84	+0.36	0.32	10.0	4	8	7	15	nw.	B. Bagley.
Trotters	Golden Valley										0.54		0.38	5.5	5	5	3	22		A. J. Nellermoe.
Turtle Lake	McLean	1,899	11																	A. T. Anderson.
Valley City	Barnes	1,245	21	15.8	-13.9	54	5	-23[a]	26	47[a]	0.33	-0.29	0.15	3.3	5	4	5	21	w.	H. Twito.
Velva	McHenry										0.75		0.26	7.1	8	4	7	19	e.	Oscar Anderson.
Wahpeton	Richland	962	32	24.0	-4.3	58	5	-3	20	33	0.22	-0.47	0.13	3.0	6	13	0	17	nw.	C. G. Luick.
Walhalla	Pembina	966	21																	
Washburn	McLean	1,731	25																	Karl Klein.
Westhope	Bottineau	1,508	20	17.8	-9.0	53	5	-21	26	37	0.24	-0.34	0.10	3.5	4	5	10	15	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	23.4	-3.8	62	5	-8	30	33	0.77	+0.17	0.40	5.3	11	3	8	19	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	18.5[c]	-3.6	57	4	-8[g]	30	26[g]	0.90	+0.39	0.20	8.5	9	3	7	20	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	21.7	-5.4	58	5	-12	30	44	1.10	+0.12	0.45	10.6	12	5	7	18	n.	U. S. Weather Bureau.
Averages				21.5	-5.1	68	5†	-23	6	47	0.65	+0.07	1.00	6.2	5	6	7	17	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, [a], [b], [c], appearing in the table indicate number of days missing; for example, [b] represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for November, 1926

Stations	Drainage Basin	Day of Month																															[illegible]
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri							.60	T.	T.			T.											.10	.08	.07	T.						[illegible]
Amenia ||	Red			T.	.13									T.		T.	.28	T.						.08						.24			[illegible]
Amidon	Lit. Missouri		T.					.20	.20								T.	.25	T.	T.	T.			[illegible]	T.			T.			T.		0.68
Arnegard	Missouri							.45						.05			T.						T.			.05							0.55
Ashley	Missouri																	.16										.08					0.24
Beach	Lit. Missouri			T.				.70	.01	T.			.09	.02	T.		.03						.02	T.		.06	.04	.01					[illegible]
Berthold Agency	Missouri		T.					T.	.12								T.	T.								T.	T.	T.	.08				0.20
Bismarck ***	Missouri	.05	.10					T.	T.	T.	T.						.01	.01	T.	T.			T.		T.	T.	.04	.30	T.	T.	T.		0.51
Bottineau ||	Mouse	T.	.25	T.				T.	.05	T.	T.			.05			.01	.01	T.	T.			T.	T.		.13		T.	.11		.06		0.67
Bowman	Grand																																
Cando	Devils Lake																																
Carson	Heart		.25	.02				.01									.04	.04								.06		.08					0.50
Cooperstown	Sheyenne		.35											T.			T.		.10									.50					0.95
Crosby	Mouse							.20			.18						.04	.02							.16				.08		.08		0.76
Devils Lake ***	Devils Lake		.17						.01		T.			.13			.06	.02	.03	.01				.01	.02	T.		.22	T.		.01		0.69
Dickinson ||	Heart		.02	.03				T.	.13	T.	T.			.01	T.			.03	T.	T.	T.		.03		T.	T.	.15	.12	.25				0.77
Dogden	Mouse		.21						.02								T.	T.	T.	T.						T.	T.	.22	.17				0.62
Donnybrook	Mouse																																
Dunn Center ||	Knife							.30						T.			T.											.08					0.38
Dunseith	Mouse		.10						.05					.05			.16								.32								0.68
Eckman	Mouse								.18					T.	T.										.28			.35			.21		[illegible]
Edgeley	James		T.		.23														.10										.10				0.43
Ellendale***	James	T.	.07	.01					T.	T.				T.	T.	T.	.02	.03	.01	.01			T.		T.	.02	T.	.08			T.		0.25
Energy	Missouri		.04					T.		T.							T.	.02	T.	T.					T.	T.	.01	.30	.01		T.		0.38
Epping	Missouri																																
Fessenden ||	James			.25															.13										.28				0.66
Finley	Red																																
Forman	Sheyenne		.25	.05																.24									.16				0.70
Fort Yates	Missouri																																
Foxholm (near)	Mouse		.13	.01			T.	T.	.10					.01			.08	.02	T.						.02	.07	T.	[illegible]	.20		T.		0.72
Fryburg	Heart		T.	.05				.30	.12				T.		T.		T.	.10	T.	T.	T.	T.	T.	T.	T.	.08	.20	T.	T.		T.		0.85
Fullerton	James	T.	.20											.03	T.		T.	.15	.05	T.							.02	T.	.24		T.		0.69
Garrison	Missouri								T.	T.							T.	T.									T.	.42					0.42
Grafton	Red		.30											.03			.08	.11		T.				.06					.22		.27		1.07
Grand Forks ***	Red		.08											.06	.02	.02	.06	.12						.03	.01			.35	.36		.15		1.26
Granville	Mouse		T.						T.							T.	T.	T.	T.	T.						T.	T.		.29		.08		0.37
Hannah	Pembina		.24											.01					T.	T.	T.				.16				.32		.16		0.89
Hansboro	Devils Lake													T.	T.	T.	T.	T.							T.				.35		.15		0.50
Hettinger	Grand			.05				.10	.10								.10									.10	.10	.10	.10				0.75
Hillsboro	Red		.10	.20										.15	.12	.05	T.	T.						.10	T.			T.	.70				1.42
Howard (near)	Missouri																																
Jamestown ||	James	.05		.25								.11				T.		.06	T.	T.							.02		.35				0.84
Lamoine	Missouri								T.								T.	T.	T.									.32					0.32
Langdon ||	Pembina	.10																.16	.08	.16					T.	.04		T.	.32				0.86
Larimore	Red			.40														.40					.20						1.00				2.00
Linton	Missouri		T.							T.							T.	.15					T.					T.	.15				0.30
Lisbon ||	Sheyenne		T.						T.																				T.				T.
McClusky	Missouri		.15						.05								.05		T.							T.		.40	.10				0.75
McKinney (near)	Mouse		.20	T.				.10						T.				.08	T.	T.									.32		.08		0.78
McLeod	Sheyenne			.20			T.									.06	.04	.06										T.	.04				0.40
Maddock	Sheyenne		.13						.02		T.			T.			T.	T.	T.						T.	T.			.04				0.19
Mandan ||	Missouri		.06	T.				T.			T.							.01	T.	T.								.03	.20				0.30
Manfred	James		.21						T.	T.				T.	T.		.01	.04	.04	T.						T.	T.	.10	.16		T.		0.59
Marmarth	Lit. Missouri		T.				T.	.60									T.					T.	T.		T.	.30		T.		.02	T.		0.92
Mayville	Red			.20												.04		.02						.08					.56				0.90
Melville	James		.40						.08					T.				.16										.40			.08		1.12
Metigoshe	Mouse		.30						T.								.21						.09			.24					.29		1.13
Minot ||	Mouse																									.10			.50				0.60
Minto	Red		.13	.02										.02			.05	.03				.02							.40				0.67
Mott	Cannon Ball	.08		T.				.11											.11						.06			.19			T.		0.55
Napoleon ||	Missouri		.10		.16													.20											.10				0.56
New England	Cannon Ball								.10								T.	T.								T.	T.	.10					0.20
New Salem	Heart		.02	T.				.02	T.								.02	.03	.02							.04	T.	.18	.02		T.		0.35
Park River	Red																																
Parshall (near)	Missouri																																
Pembina ||	Red		T.																	.08				.16	.24			.16	.16				0.80
Pettibone	James			T.					T.	T.	T.							T.	.08						T.	T.		.15					0.23
Power	Sheyenne	T.	.30	T.										T.		.20	.10	.10										.20			.10		1.00
Powers Lake	Missouri			.08					.12												.10							.32					0.62
Richardton	Heart		T.					T.	T.	T.						T.										.08	T.	.24			T.		0.32
Sharon	Red	T.	.12	.03										.03	.01		.03	.04	.01	T.			T.	T.	T.			.02	.16	T.	.05		0.50
Stanton	Missouri							T.										T.								.05	.40						0.45
Steele	Missouri	T.	.15	T.						T.	.04					T.	.04	.04	T.	T.					T.		T.	.04	.08				0.39
Towner	Mouse		.20													T.	T.	T.	T.				T.	T.	T.	.16		.32	.16	T.	T.		0.84
Trotters	Lit. Missouri		.05					.38						.08			.01	T.								.02					T.		0.54
Turtle Lake	Missouri																																
Valley City	Sheyenne		.13	.01					T.								T.	.01	T.			T.			T.			.03	.15				0.33
Velva			.18						.05					T.			.05	.01	T.							.05		.26	.09		.06		0.75
Wahpeton	Red			.01										.13	.02	.01													.01	.01			0.22
Walhalla	Pembina																																
Washburn	Missouri																																
Westhope	Mouse																.04						.06	.04				.10					0.24
Williston ***	Missouri		.01					.40		T.			.06				.02	.01	T.	T.			T.		.04	.02	.01	.02	.02		.16		0.77
Willow City	Mouse		.20						.05	T.	T.			.05			T.	T.	.05	T.				.05	.10	.10	T.	.10	.20		T.		0.90
Moorhead, Minn ***	Red	T.	.10	.04			T.			T.				.02	.14	.16	.05	.07	T.	.01			T.	T.	T.		.01	.29	.16		.05		1.10

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for November, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	31	33	33	44	60	48	35	26	21	28	48	47	40	32	37	27	22	22	21	20	22	23	30	27	22	16	22	16	18	14	....	29.5
	Minimum	15	21	26	21	23	26	22	13	4	0	4	16	17	22	19	17	17	13	11	-4	8	10	11	-1	10	0	2	10	1	2	....	11.3
Amidon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum	37	42	31	57	61	53	40	27	26	37	46	35	35	34	36	31	19	13	12	10	15	20	22	26	27	12	18	19	25	23	....	29.6
	Minimum	15	30	25	24	32	35	27	18	16	18	16	24	30	30	26	19	12	10	9	2	0	10	12	13	10	9	10	7	5	-7	....	16.2
Ashley	Maximum	25	33	35	42	61	54	41	30	27	20	36	37	36	40	34	30	20	18	20	10	19	21	29	23	24	15	23	28	32	30	....	29.8
	Minimum	19	24	25	20	21	38	25	16	12	8	14	20	29	29	25	18	15	10	5	4	0	11	13	12	13	4	9	11	9	-1	....	15.3
Beach	Maximum	42	40	31	57	65	64	42	30	32	36	43	38	36	35	42	32	27	20	12	14	15	20	28	21	17	12	23	22	43	40	....	32.6
	Minimum	20	29	22	24	38	40	25	25	28	26	23	30	33	32	30	25	12	9	10	9	-2	10	10	12	10	10	9	10	17	16	....	19.7
Berthold Agency	Maximum	35	41	33	56	62	55	50	29	24	31	42	42	38	38	40	32	21	18	14	13	25	20	25	25	25	11	20	19	22	20	....	30.9
	Minimum	9	32	25	20	25	30	29	21	19	20	16	20	32	28	29	20	11	12	9	3	0	11	12	11	10	8	10	9	3	3	....	16.2
Bismarck	Maximum	34	37	31	57	63	54	37	34	24	30	49	41	41	37	38	33	20	17	14	15	27	21	29	25	22	12	23	21	34	32	....	31.7
	Minimum	19	29	26	22	29	37	24	23	17	16	17	24	32	29	29	20	15	13	9	6	3	12	15	15	8	8	10	16	16	-8	....	17.7
Bottineau §§	Maximum	28	34	29	44	48	48	32	32	19	22	30	40	36	33	31	28	20	15	14	11	19	20	22	21	12	13	15	18	20	19	....	25.8
	Minimum	20	27	24	16	25	31	27	16	10	5	10	24	29	29	23	18	11	13	10	-6	-1	3	9	12	-3	3	2	8	10	-7	....	13.2
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carson	Maximum	40	40	40	55	65	55	45	33	30	30	50	41	42	46	39	30	25	24	18	16	30	30	33	28	27	18	22	22	40	25	....	47.3
	Minimum	5	26	25	20	35	35	25	23	19	14	16	30	21	30	24	18	13	8	7	4	-4	10	10	20	10	5	4	18	12	-9	....	15.8
Crosby	Maximum	36	36	32	58	56	52	40	29	20	30	28	30	38	34	30	29	21	17	11	7	16	18	20	17	13	8	15	14	14	14	....	26.1
	Minimum	18	29	25	25	28	24	26	12	10	18	20	20	27	25	24	17	11	11	7	-1	-1	8	7	1	1	0	10	9	-1	14	....	13.2
Devils Lake	Maximum	30	32	28	42	52	44	30	21	18	24	38	41	33	32	29	25	19	17	15	14	19	20	25	16	16	6	16	13	23	13	....	25.0
	Minimum	24	26	25	24	26	30	20	15	6	5	17	20	30	28	22	18	15	13	0	4	3	6	4	-3	6	-3	2	8	12	-17	....	12.5
Dickinson §§	Maximum	41	35	30	52	63	57	35	35	29	33	50	36	37	38	37	30	26	12	12	13	28	23	26	26	17	16	21	17	45	16	....	31.2
	Minimum	17	13	25	17	25	34	35	25	22	22	16	16	25	31	30	26	12	10	8	8	0	0	8	17	16	2	8	15	-2	10	....	16.4
Donnybrook	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Dunn Center §§	Maximum	35	....	31	56	61	55	41	30	25	34	45	40	36	36	37	32	30	16	13	15	26	26	23	27	20	12	21	21	24	24	....	[a]30.8
	Minimum	9	....	24	20	36	34	25	19	18	18	13	22	29	27	29	17	11	8	7	4	1	8	12	11	6	6	7	14	-4	-16	....	[a]14.2
Dunseith	Maximum	28	34	47	35	50	47	35	26	18	21	27	38	34	33	32	24	23	18	16	15	20	19	23	18	15	12	15	16	20	18	....	25.9
	Minimum	16	24	30	16	22	30	20	10	5	0	10	16	25	26	20	14	10	8	3	5	-5	2	5	10	5	-4	8	2	-6	-15	....	8.9
Edgeley	Maximum	32	36	31	50	63	55	40	28	23	23	39	37	37	37	37	31	24	19	18	15	27	24	30	21	25	14	24	23	33	31	....	31.0
	Minimum	21	19	25	20	26	36	23	9	10	2	10	17	28	32	22	21	16	9	8	-1	4	9	11	10	13	1	6	12	5	3	....	14.1
Ellendale	Maximum	30	36	29	51	63	53	34	28	21	25	42	40	37	36	38	30	20	19	18	16	25	23	31	25	22	14	26	24	35	32	....	30.8
	Minimum	21	25	27	22	27	31	21	17	8	6	14	23	33	32	26	20	11	13	6	5	6	13	15	13	10	5	10	9	11	10	....	15.7
Fessenden §§	Maximum	34	33	35	50	56	50	37	22	20	26	41	37	39	42	40	31	21	22	20	15	24	23	28	19	15	11	22	21	30	12	....	29.2
	Minimum	19	24	26	24	27	32	27	21	14	5	15	15	25	29	23	12	11	10	9	5	5	7	12	8	9	1	1	6	8	0	....	13.7
Foxholm (near)	Maximum	29	36	29	52	57	49	41	27	15	27	26	36	34	38	34	28	20	15	13	11	20	17	22	15	15	9	15	16	20	18	....	26.2
	Minimum	15	27	24	25	31	33	26	13	10	12	11	16	28	27	24	11	13	11	7	-3	3	6	12	0	0	2	2	7	9	-12	....	13.0
Fullerton	Maximum	29	36	29	48	62	53	35	28	24	26	41	38	38	35	38	32	24	19	17	16	27	21	29	25	21	21	25	24	33	32	....	30.8
	Minimum	19	25	26	23	27	30	25	16	12	3	11	21	31	32	25	22	17	13	11	1	4	12	11	12	15	4	8	14	10	0	....	16.1
Garrison	Maximum	31	36	29	56	61	53	41	29	23	28	47	39	38	31	33	30	21	16	12	14	24	20	28	27	22	17	20	20	23	20	....	29.7
	Minimum	17	28	24	22	32	31	26	19	16	16	15	24	30	29	27	19	12	12	7	-2	0	10	13	6	9	6	7	11	9	8	....	15.6
Grafton	Maximum	30	32	33	43	54	43	35	25	21	24	38	44	39	34	31	30	24	21	19	14	24	22	26	16	17	11	16	16	23	20	....	27.5
	Minimum	....	26	28	25	25	30	25	15	5	1	14	17	32	29	28	22	17	16	10	6	2	9	4	-2	9	3	-9	7	-6	9	....	[a]13.0
Grand Forks	Maximum	30	30	32	43	56	46	32	20	20	24	42	46	37	35	37	27	22	22	18	14	25	20	27	19	20	12	21	18	25	24	....	28.1
	Minimum	26	26	28	27	29	32	22	14	4	1	15	18	31	29	28	22	18	16	10	5	0	9	6	-6	10	-9	5	3	5	-12	....	12.6
Granville	Maximum	32	33	30	52	56	52	35	25	25	20	36	36	35	32	25	26	26	20	15	5	10	20	15	16	15	10	18	15	15	14	....	25.3
	Minimum	22	25	25	27	26	26	24	18	12	12	12	20	30	25	24	18	13	14	12	-1	0	12	5	-2	10	0	5	10	5	-5	....	14.2
Hansboro	Maximum	36	40	34	33	40	35	37	30	33	18	28	32	38	37	32	28	18	16	11	12	22	20	28	12	17	7	0	11	24	4	....	21.6
	Minimum	16	18	7	10	13	14	18	8	2	3	-4	0	10	12	10	6	8	6	11	3	2	5	2	-15	9	12	-21	-15	0	-22	....	1.1
Hettinger	Maximum	58	50	40	57	68	57	48	40	32	35	57	52	52	57	57	47	31	22	11	17	41	41	29	27	30	22	24	26	44	46	....	40.3
	Minimum	11	26	24	15	23	29	25	19	24	20	16	24	30	33	37	21	11	6	7	4	5	-2	1	19	-7	-11	-7	6	-2	-9	....	12.9
Hillsboro	Maximum	30	32	32	45	56	50	38	28	18	25	41	46	41	36	32	30	25	21	19	20	26	21	27	21	22	11	19	17	24	23	....	29.3
	Minimum	26	24	28	26	25	31	22	14	5	2	14	27	33	31	27	22	18	16	11	1	1	12	9	-2	10	1	0	7	-2	-8	....	14.3
Howard (near)	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Jamestown §§	Maximum	27	31	28	57	40	24	18	15	17	13	34	32	33	27	24	23	22	14	12	14	15	12	18	20	18	10	22	22	15	10	....	22.6
	Minimum	22	21	19	21	23	17	15	12	10	2	10	14	26	19	18	19	14	11	-2	5	-2	2	4	4	-5	0	2	8	4	6	....	10.0
Lamoine	Maximum	34	40	48	51	57	55	47	33	24	24	47	43	36	34	35	28	21	16	14	11	23	21	25	21	18	12	19	19	29	30	....	30.5
	Minimum	17	20	27	23	27	33	21	20	14	7	12	23	36	30	21	18	6	11	8	-5	-5	8	10	3	11	0	6	7	6	5	....	13.3
Langdon §§	Maximum	30	42	38	40	46	46	33	35	26	26	31	38	31	30	26	26	19	16	15	13	19	24	23	17	12	8	14	15	20	14	....	25.9
	Minimum	20	22	24	24	28	27	20	12	3	3	10	15	20	26	24	19	15	12	10	-12	4	2	2	10	-11	6	12	0	-3	9	....	9.0
Larimore §§	Maximum	36	35	31	45	50	55	40	26	25	28	41	47	35	30	30	27	24	20	18	20	22	25	24	20	14	16	18	18	25	5	....	28.4
	Minimum	22	20	22	20	28	30	26	11	2	0	15	30	27	25	25	20	18	14	10	4	16	12	12	5	9	0	10	10	12	-8	....	14.1
Linton	Maximum	36	36	32	56	61	56	40	34	32	27	47	42	44	38	39	35	22	17	15	15	27	29	30	25	25	15	23	27	38	37	....	33.4
	Minimum	16	27	26	19	22	29	26	16	16	12	13	14	19	27	26	20	12	9	9	5	9	0	9	12	12	2	16	12	16	15	....	15.6
Lisbon §§	Maximum	32	29	32	36	32	28	30	36	30	30	26	24	30	22	24	20	26	28	26	23	28	27	20	23	24	23	23	26	28	26	....	27.2
	Minimum	16	13	18	15	18	12	10	12	8	16	10	11	3	6	13	12	6	12	11	-10	4	-2	-12	3	2	0	10	6	-10	-17	....	6.3
McKinney (near)	Maximum	30	38	30	52	48	44	30	30	20	28	30	35	35	35	31	30	25	20	15	10	20	18	20	15	16	10	15	18	20	15	....	26.2
	Minimum	9	28	25	26	25	30	20	20	12	14	11	11	29	15	20	15	15	11	9	-4	6	7	10	5	5	-3	0	9	5	-9	....	12.3
Maddock	Maximum	31	34	29	46	57	51	42	28	20	23	35	40	37	34	33	27	23	18	16	11	20	18	2	19	18	14	17	18	25	23	....	27.8
	Minimum	22	26	24	22	24	31	24	16	9	0	9	19	19	30	21	18	11	12	8	-5	1	5	13	-5	8	-4	0	10	10	9	....	12.5
Melville	Maximum	31	32	28	46	56	50	41	28	22	22	42	46	45	35	33	28	23	17	17	14	23	22	22	22	18	11	18	18	28	30	....	28.9
	Minimum	22	25	24	22	25	35	22	16	10	3	20	19	29	39	25	18	14	10	7	-4	6	7	9	0	8	7	6	3	3	10	....	12.9
Minot §§	Maximum	37	32	38	32	63	68	52	35	32	28	31	34	38	37	38	33	32	22	17	15	15	18	18	25	18	20	10	17	13	23	....	29.7
	Minimum	20	30	25	28	26	31	29	24	17	14	15	20	30	26	28	19	16	14	10	-3	5	12	18	-1	11	3	4	9	4	2	....	16.2
Mott	Maximum	33	36	28	48	46	39	28	33	38	43	46	53	45	42	38	35	31	27	23	18	23	25	24	25	22	18	20	22	43	33	....	32.8
	Minimum	20	26	25	30	26	20	14	11	16	21	20	26	29	34	28	24	22	17	14	12	3	10	12	13	11	10	9	5	9	0	....	17.0
Napoleon §§	Maximum	34	35	28	38	40	62	33	32	23	27	50	40	38	36	35	27	18	17	15	13	15	22	28	25	18	13	15	22	35	8	....	28.1
	Minimum	17	18	21	18	20	28	22	18	13	5	9	18	28	20	22	23	11	6	5	-1	-6	5	10	18	10	3	0	9	3	4	....	12.4
New Salem	Maximum	40	34	35	62	64	65	36	32	29	31	50	40	45	41	37	37	24	19	14	31	33	31	25	27	22	14	21	21	36	36	....	34.3
	Minimum	20	18	20	21	39	36	25	22	18	15	15	21	29	31	27	34	14	9	4	0	7	11	9	11	10	6	6	16	14	-8	....	16.3
Pembina §§	Maximum	32	38	31	35	40	48	34	22	20	20	23	42	40	33	33	28	32	28	18	20	13	20	24	22	20	13	5	13	13	12	....	25.7
	Minimum	25	20	25	28	22	26	20	15	2	0	3	28	18	30	28	20	28	15	16	6	-7	7	10	10	10	-8	20	-4	-5	2	....	11.9
Steele	Maximum	26	31	40	50	52	43	40	31	20	23	30	31	33	32	29	22	15	15	12	10	20	24	24	20	21	15	20	25	31	10	....	26.5
	Minimum	12	16	12	19	20	18	19	18	12	5	10	5	13	25	22	15	10	9	8	-2	-5	7	7	8	10	6	18	18	10	-5	....	11.3
Towner	Maximum	32	31	31	46	48	50	45	45	46	48	50	48	45	34	33	31	30	21	20	13	15	20	25	16	14	11	18	20	24	10	....	30.7
	Minimum	24	28	27	31	30	29	28	25	26	32	33	30	28	26	15	18	13	13	3	-3	13	5	10	3	-6	2	2	4	10	-6	....	15.1
Valley City	Maximum	26	30	29	40	54	45	34	24	27	24	41	41	35	34	32	30	24	17	12	15	20	20	27	19	17	15	15	15	24	22	....	26.9
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Wahpeton	Maximum	33	33	33	45	58	55	48	36	25	27	44	46	40	40	31	31	20	23	21	18	22	23	29	25	30	25	18	23	29	31	....	32.4
	Minimum	22	23	28	25	25	31	27	16	7	1	16	24	34	32	26	23	19	14	12	3	0	8	11	1	19	7	6	16	0	2	....	15.6
Westhope	Maximum	30	32	29	49	53	49	32	26	16	20	26	25	40	35	28	23	19	19	19	19	20	16	23	20	19	16	16	16	19	10	....	25.5
	Minimum	18	22	25	24	26	29	23	13	11	11	10	15	26	25	22	19	13	10	9	-6	0	10	0	-2	10	-21	-10	5	10	-8	....	10.0
Williston	Maximum	43	44	33	57	62	52	40	27	25	31	40	36	35	35	37	29	19	15	14	13	20	22	22	27	19	13	20	20	22	24	....	29.9
	Minimum	20	29	24	24	34	33	27	17	18	21	17	28	30	30	27	19	13	12	8	4	3	11	13	12	9	9	12	7	3	8	....	16.9
Moorhead, Minn	Maximum	30	33	31	43	58	48	34	25	17	24	42	44	37	35	33	26	22	21	18	18	24	20	27	24	28	17	20	20	29	32	....	29.2
	Minimum	23	24	28	26	25	32	21	12	6	3	15	23	33	29	26	22	16	14	7	-1	1	10	12	2	11	2	3	5	8	-12	....	14.2

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 12-20-26—970]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

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NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXV BISMARCK, N. D., DECEMBER, 1926 No. 12

GENERAL SUMMARY

Changeable temperature characterized the weather during December, 1926. A cold wave accompanied by continued high wind prevailed from the 13th to 17th, inclusive, and caused great suffering to livestock and delayed railway and highway traffic. During the greater part of the month livestock ranged freely on ranges and harvested fields, and only during the period before mentioned was there much yard feeding done. A general storm covered the State on the 3d and 4th, while light to moderate scattered snowfall occurred on the 11th and 12th, and 22d and 23d.

TEMPERATURE

The mean temperature for the State was 9.2°, or 3.8° below the normal, and 7.3° lower than the mean for December, 1925. The highest mean reported was 16.8° at Amidon, Slope County; the lowest was 3.6° at Langdon, Cavalier County. The highest temperature reported was 55° at Grafton, Walsh County, on the 29th; the lowest was -36° at Dunseith, Rolette County, on the 14th. The greatest monthly range of temperature was 80° at Grafton, Walsh County; the least was 57° at Ellendale, Dicky County, and at Hillsboro, Traill County. The greatest daily range was 69° at Grafton, Walsh County, on the 29th.

PRECIPITATION

The average precipitation for the State was 0.57 inch, or 0.03 inch above the normal, and 0.29 inch more than the average for December, 1925. The greatest monthly amount reported was 1.50 inches at Fort Yates, Sioux County; the least was 0.10 inch at Maddock, Benson County. The greatest amount recorded in any 24 consecutive hours was 1.00 inch at Ashley, McIntosh County, on the 4th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 4.5 inches; the greatest fall reported being 15.0 inches at Fort Yates, Sioux County.

AURORAS

Auroras were observed at Grand Forks, on the 3d and 11th; at Metigoshe on the 12th; at McLeod on the 22d, and at Foxholm on the 29th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds						
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour				
	Average	Highest	Date	Lowest	Date			Average	Highest	Direction	Date
Bismarck	30.08	30.67	1	29.01	11	57	7,251	9.8	40	nw.	12
Devils Lake	30.04	30.71	1	28.95	11	44	8,203	11.1	36	nw.	10
Ellendale	30.09	30.62	1	29.06	11	56	10,955	14.7	45	nw.	30
Grand Forks	30.03	30.70	1	29.00	11	90	....	......	39	se.	11
Williston	30.06	30.58	1	28.98	11	48	5,902	7.9	31	w.	29
Moorhead, Minn	30.08	30.74	1	29.06	11	58	7,518	10.1	32	nw.	30
Av'ges and extremes	30.06	30.74	1	28.95	11	.....	....	10.7	45	nw.	30

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	145.9	265.8	55	+ 6	86	73	82	58	29
Devils Lake	97.0	262.1	37	7	88	83	85	60	29
Ellendale	176.2	269.6	65	+16	83	79	....	61	14
Grand Forks	....	....	......	......	84	....	86	.....	....
Williston	184.6	262.1	70	+21	80	66	75	41	21
Moorhead, Minn	90.0	265.8	34	-15	90	79	88	56	14
Averages and extremes	....	....	52	+ 4	85	76	83	41	21

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891...	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892...	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893...	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894...	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895...	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896...	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897...	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898...	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	uw.
1899...	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900...	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901...	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902...	7.8	−5.2	49	−35	0.51	−0 03	4	14	7	10	nw.
1903...	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904...	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905...	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906...	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907...	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908...	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909...	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910...	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911...	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912...	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913...	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914...	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915...	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916...	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917...	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918...	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919...	7.4	− 5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920...	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921...	16.5	+3.5	59	−33	0.41	−0.13	4	14	7	10	nw.
1922...	8.5	−4.5	55	−34	0.67	+0.13	5	11	8	12	nw.
1923...	22.2	+9.2	62	36	0.32	−0.22	3	16	8	7	nw.
1924...	2.9	−10.1	58	−46	0.43	−0.11	4	12	7	12	nw.
1925...	16.5	+3.5	67	−38	0.28	−0.26	3	12	8	11	nw.
1926	9.2	−3.8	55	36	0.57	+0.03	3	14	8	9	nw.

Climatological Data for December, 1926

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										0.33		0.18		4					H. A. Bury.
Amenia	Cass	954	30	8.1	−4.6	35	31	−24	14	43	0.90	+0.39	0.40	9.0	4	16	13	2	nw.	E. T. Carley
Amidon	Slope		12	16.8^{b}		45^{b}	2	−17^{b}	15	49^{b}	0.30	−0.15	0.20	T.	2				nw.	W. H. Toussaint.
Arnegard	McKenzie		11	12.2		38	7†	−20	14	44	1.01		0.55	10.5	4	23	2	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	30	11.4	−2.1	48	11	−21	14	42	1.25	+0.74	1.00	9.0	2	21	3	7	nw.	H. D. Piper.
Beach	Golden Valley	2,579	20	15.6^{b}	−0.9	42^{b}	11	−25^{b}	14	42^{b}	0.40	−0.11	0.16	4.0	4					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	33	10.0^{a}	−5.7	46^{a}	11	−23^{a}	14	49^{a}	0.40	0.00	0.40	2.5	1	20	3	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	11.4	−3.3	45	11	−18	14	47	0.64	+0.02	0.45	5.2	3	11	14	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	34	5.4^{b}	−1.3	35^{b}	30	−31^{b}	14	39^{b}	0.36	−0.13	0.13	5.0	5	8	8	15	nw.	T. M. Street.
Bowman	Bowman	2,961	12																	R. Love, Jr.
Cando	Towner	1,488	25																	A. J. Swanson.
Carson	Grant	2,500	14	11.6	−4.4	40	11†	−22	14†	45	0.87	+0.33	0.50	8.7	4	25	1	5	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	20								0.65	+0.08	0.40	6.5	3	6	20	5	nw.	S. Friswold.
Crosby	Divide	1,954	19	5.8	−6.5	33	29†	−25	14	42	0.22	−0.27	0.10	2.2	3	0	14	17	nw.	John Jensen.
Devils Lake	Ramsey	1,478	29	6.8	−1.2	35	30	−25	14	47	0.43	+0.04	0.26	6.1	5	9	7	15	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	34	10.6	−6.7	41	11	−22	14†	41	0.75	+0.33	0.30	6.5	4	21	3	7	sw.	Leroy Moomaw.
Dogden	McLean	1,880		8.6		41	11	−26	1	47	0.39		0.17	2.5	3	15	9	7	nw.	R. L. Williams.
Donnybrook	Ward	1,760	27																	H. Feldner.
Dunn Center	Dunn	2,191	27	10.3^{a}	−10.2	43^{a}	31	−23^{a}	14	36^{a}	0.50	−0.06	0.40	5.0	2	12	8	11	w.	W. H. Moede.
Dunseith	Rolette	1,682	30	6.8	−1.5	38	31	−36	14	54	0.25	−0.16	0.20	2.5	2	6	7	18	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	21	5.4	4.2	37	11	−27	1†	45	0.60	−0.02	0.30	5.0	3	0	19	12	w.	C. E. Strock.
Edgeley	LaMoure	1,468	25	11.9	−4.6	41	11	−20	14	39	0.50	+0.11	0.50	5.0	1	7	15	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	27	11.6	−5.2	41	11	−16	13†	42	0.55	+0.22	0.48	5.8	4	6	11	14	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	14	10.8		43	11	−22	14	48	0.66	+0.31	0.63	5.0	2	11	16	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	18																	A. O. Wang.
Fessenden	Wells	1,610	14	10.0	−2.2	45	11	−26	1	47	0.34	−0.39	0.34	3.5	1	17	6	8	nw.	T. D. Monsen.
Finley	Steele	1,461	2																	G. J. Mustad.
Forman	Sargent	1,249	32								0.80	+0.26	0.60	8.0	2	11	10	10	nw.	O. Enger.
Fort Yates	Sioux	1,670									1.50		0.50	15.0	4					P. J. Jacobson.
Foxholm (near)	Ward	1,657	5	8.2		39	11	−24	14	49	0.37		0.24	5.2	4	13	12	6	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	8								0.80		0.30	8.0	4	17	10	4	nw.	Verne King.
Fullerton	Dickey	1,439	28	13.5	−0.2	42	11	−17	14†	39	1.05	+0.21	0.55	10.5	3	9	13	9	s.	F. O. Alin.
Garrison	McLean	1,901	31	10.0	−3.6	43	11	−22	14	43	1.06	+0.49	0.84	7.0	2	21	3	7	nw.	Wm. H. Robinson.
Grafton	Walsh	827	34	6.4	−1.3	55	29	−25	14	69	0.63	+0.09	0.38	6.1	6	12	5	14	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	35	7.0	−3.6	36	30	−25	14	41	0.37	0.26	0.17	6.5	8	6	8	17	s.	U. S. Weather Bureau.
Granville	McHenry	1,504	19	6.6	−5.8	38	11	−28	1	50	0.43	−0.12	0.28	4.0	3	13	12	6	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	32								0.54	−0.09	0.30	5.0	3					J. Moffatt.
Hansboro	Towner	1,597	18	7.8	+0.5	48	9	−35	1†	50	1.10	+0.44	0.70	7.0	3	8	13	10	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	19	16.7	+0.9	44	11	−22	14	43	0.70	+0.36	0.40	7.0	3	24	3	4	nw.	U. J. Downey.
Hillsboro	Traill	901	20	7.8^{a}	−4.8	35^{a}	30	−22^{a}	1†	37^{a}	0.70	−0.20	0.40	7.0	3	6	16	9	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	19																	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	34	6.2	−7.4	38	28	−25	15	50	0.52	−0.23	0.50	5.2	2	18	3	10	nw.	S. Calvelage.
Lamoine	Kidder	1,936	21	8.4	−2.8	41	11	−26	14†	46	0.20	−0.30	0.20	2.0	1	25	4	2	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	30	3.6	−3.7	36	29	−32	14†	40	0.45	−0.28	0.20	4.5	4	10	16	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	32	6.8	−4.0	37	21	−26	14	35	0.70	+0.16	0.40	7.0	3	11	6	14	s.	Reuben Gray.
Linton	Emmons	1,711	8	10.0^{c}		43^{c}	11	−23^{c}	14†	51^{c}	0.32		0.32	3.2	1	23	0	8	n.	Rev. O. Weber.
Lisbon	Ransom	1,091	22	7.0	−7.1	40	31	−22	13	36	1.20	+0.79	0.60	12.0	3	15	9	7		W. S. Adams.
McClusky	Sheridan	1,943	8	8.2		35	12	−27	14	45	0.20		0.20	2.0	1	21	8	2	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	32	7.1	−3.6	40	11	−29	1	45	0.15	−0.28	0.15	1.5	1	11	15	5	w.	N. P. Swenson.
McLeod	Ransom	1,075	14	11.3	−3.0	37	30	−23	14	41	0.32	−0.13	0.23	3.2	3	13	5	13	se.	J. G. Carlson.
Maddock	Benson	1,604	10	7.7		41	30	−26	14	40	0.10	−0.22	0.05	1.0	2	5	15	11	nw.	A. T. Felland.
Mandan	Morton	1,644	12	9.8	−3.3	44	11	−19	14	45	0.44	−0.01	0.30	5.0	4	6	7	18	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	23	9.2	−2.1	38	11	−22	14	41	0.28	−0.48	0.15	3.2	6	17	9	5	nw.	P. B. Anderson.
Marmarth	Slope	2,714	17	14.5	−3.2	43	2†	−18	13	41	0.58	+0.24	0.23	4.1	4	12	11	8		S. P. Grane.
Mayville	Traill	975	30	8.2	−4.9	35	30	−26	14	33	0.50	−0.08	0.20	5.0	3	13	4	14	s.	N. C. Burhans.
Melville	Foster	1,590	28	8.4^{a}	−3.4	39^{a}	11	−26^{a}	1	41^{a}	0.40	−0.06	0.40	4.0	1	8	16	7	nw.	J. P. Kidder.
Metigoshe ‡‡	Bottineau										0.65		0.65	3.0	1	30	0	1	sw.	J. A. Thorburn.
Minot	Ward	1,557	30	9.7	−2.7	43	11	−22	14	38	0.60	+0.09	0.30	6.0	3	15	5	11	w.	W. I. Faris.
Minto	Walsh	820	33	4.6	−6.3	38	30	−28	14	39	0.68	+0.20	0.37		7	14	11	6	nw.	C. M. Evans.
Mott	Hettinger	2,424	19	9.9	4.2	41	11	−22	14†	37	0.80	+0.22	0.44	7.5	3	14	10	7	se.	O. H. Opland.
Napoleon	Logan	1,955	34	7.7	−4.7	40	11	−30	14	47	0.35	−0.13	0.35	4.6	1	15	7	9	w.	C. J. Hoof.
New England	Hettinger	2,400	32	14.6	−2.8	44	11	−18	14	50	0.30	−0.11	0.20	3.0	2	18	9	4	nw.	W. S. Jones.
New Salem	Morton	2,163	22	13.4	−1.5	44	11†	−22	14	53	0.53	0.00	0.30	5.0	3	22	6	3	nw.	J. Christiansen.
Park River	Walsh	998	22	6.7^{c}	−4.4	38^{c}	30	−27^{c}	14	46^{c}	0.52	−0.01	0.20	6.5	4	11	6	14	nw.	C. B. Wright.
Parshall (near)	Mountrail		11								0.40									J. A. Johnson.
Pembina	Pembina	789	52	5.2	−0.8	35	9	−26	14†	47	0.60	−0.16	0.20	6.0	3	8	12	11	n.	C. W. Shumaker
Pettibone	Kidder	1,856	17																	A. L. Carlson.
Power	Richland	1,020	32								0.65	+0.11	0.40	6.5	3	14	10	7	n.	Frank B. Power.
Powers Lake	Burke	2,205	12	11.2		33	21†	−30	14	38	1.18	+0.55	0.80	8.3	3	24	3	4	sw.	Geo. B. Gee.
Richardton	Stark	2,467	10	12.1		40	31	−23	14	39	0.50		0.20	5.0	4	18	5	8	sw.	John Muggli.
Sharon	Steele	1,516	1								0.40		0.31	4.5	6	8	11	12	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	2								0.22		0.20	7.5	2	17	9	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	30	4.8	−8.8	37	11	−28	14	40	0.27	−0.26	0.15	2.7	4	21	5	5	w.	H. S. Wood.
Towner	McHenry	1,482	24	6.2	−3.8	39	11	−26	1	47	0.20	−0.21	0.10	2.0	2	16	7	8	nw.	B. Bagley.
Trotters	Golden Valley										0.91		0.45	8.0	3	21	5	5		A. J. Nellermoe.
Turtle Lake	McLean	1,899	11																	A. T. Anderson.
Valley City	Barnes	1,245	21	10.8^{d}	−2.9	43^{d}	30	−25^{d}	14	52^{d}	0.18	−0.37	0.18	1.8	1	15	9	7	nw.	H. Twito.
Velva	McHenry										0.32		0.20	3.7	3	15	12	4	w.	Oscar Anderson.
Wahpeton	Richland	962	32	11.6	−3.1	36	30	−24	13	40	0.50	+0.05	0.30	5.0	3	14	0	17	se.	C. G. Luick.
Walhalla	Pembina	966	21								0.65	−0.41	0.25	6.0	3	9	11	11	nw.	
Washburn	McLean	1,731	25																	Karl Klein.
Westhope	Bottineau	1,508	20	4.8	−4.2	38	31	−28	14	43	0.37	0.00	0.25	3.7	2	8	17	6	nw.	W. A. Meddaugh.
Williston	Williams	1,878	47	10.3	−3.5	41	11	−19	14	32	0.81	+0.15	0.43	8.5	6	14	8	9	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	34	5.0^{a}	−3.5	38^{a}	11	−28^{a}	14	36^{a}	0.98	+0.44	0.40	8.3	4	8	17	6	nw.	M. A. Ostby.
Moorhead, Minn.	Clay	935	45	9.0	−2.5	36	30	−22	14	44	0.79	+0.05	0.43	8.2	8	3	7	21	s.	U. S. Weather Bureau.
Averages				9.2	−3.8	55	29	−36	14	69	0.57	+0.03	1.00	5.5	3	14	8	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for December, 1926

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			.03							.03		.09										.18										0.33
Amenia ‖	Red	T			.10		.40						T.	.30							T			.10				T					0.90
Arandon	Lit. Missouri			.16	T.								T.										.20										[illegible]
Arnegard	Missouri				.55							.06											.10	.30									1.01
Ashley	Missouri				1.00								.25																				1.25
Beach	Lit. Missouri			.14	.16					T	.06		T.										.04										0.40
Berthold Agency	Missouri				.40																					T.							0.40
Bismarck ***	Missouri			T	.45							.11	.08										T.										0.64
Bottineau‖ ‖	Mouse	T.	T.	.02	.07							.05	.09				T.	T.		T.	T.			.13									0.36
Bowman	Grand																																......
Cando	Devils Lake																																......
Carson	Heart			.02	.50							.05	.30																				0.87
Cooperstown	Sheyenne				.40							.20	.05																				0.65
Crosby	Mouse				.02																		.10	.10									0.22
Devils Lake ***	Devils Lake		.01	T.	.26							.14					.01	T.		.01				T.									0.43
Dickinson‖	Heart	T			.30	T.						.10	.20								T.			.15									0.75
Dogden	Mouse				.17							.13												.09				T.					0.39
Donnybrook	Mouse																																......
Dunn Center ‖	Knife				.40								.10											T.									0.50
Dunseith	Mouse				.20																	.05											0.25
Eckman	Mouse			.14	.30							T.												.16									0.60
Edgeley	James			T.	.50																												0.50
Ellendale***	James			.07	.41	T.					T.	T.	.06	T			T.	T.	T.				T.					.01					0.55
Energy	Missouri				.63																			.03									0.66
Epping	Missouri																																......
Fessenden‖	James					.34																											0.34
Finley	Red																																......
Forman	Sheyenne				.60								.20																				0.80
Fort Yates	Missouri				.50							.50	.20	.30																			1.50
Foxholm (near)	Mouse		T.	.01	.24							.08												.04		T.							0.37
Fryburg	Heart			.30	.20															.10			.20										0.80
Fullerton	James			T.	.55						T.	T.	.40	.10		T.	T.						T.										1.05
Garrison	Missouri			T.	.84																		.22										1.06
Grafton	Red				.38							.09		.05			T.				.03		.06	.02				T.			T.		0.63
Grand Forks ***	Red		.04		.17							.05	.02						T.	.01	.05		.02								.01		0.37
Granville	Mouse				.28						T.	.05											.10		T.		T.	T.					0.43
Hannah	Pembina			.30							.04	.20												T.									0.54
Hansboro	Devils Lake				.30							.70						T.												.10			1.10
Hettinger	Grand			.20	.10								.40																				0.70
Hillsboro	Red				.40	.20					T.	.10	T.						T.	T.	T.												0.70
Howard (near)	Missouri																																......
Jamestown‖ ‖	James			.50																								.02					0.52
Lamoine	Missouri																							.20									0.20
Langdon‖ ‖	Pembina			.20							.10	T.	.10															.05					0.45
Larimore	Red				.40								.20															.10					0.70
Linton	Missouri			T.	.32													T.	T.														0.32
Lisbon ‖	Sheyenne				.60	.40	.20	T.																									1.20
McClusky	Missouri				.20																												0.20
McKinney (near)	Mouse																						T.	.15									0.15
McLeod	Sheyenne			T.	.23						T.	T.	*	.09			T.						T.										0.32
Maddock	Sheyenne				.05							.05												T.			T.	T.					0.10
Mandan‖	Missouri			T.	.30	.02						.10	.02											T.									0.44
Manfred	James			.02	.15		.02					.05								T.	.02			.02			T.	T.					0.28
Marmarth	Lit. Missouri			.18	T.					T.	.08	.09											.23										0.58
Mayville	Red				.20								.20								.10												0.50
Melville	James				.40																												0.40
Metigoshe	Mouse											T												.65									0.65
Minot‖	Mouse				.10	.30																			.20								0.60
Minto	Red	.16			.37						T.	.08	.02				.01				.03		.01										0.68
Mott	Cannon Ball			.21									.44									.15											0.80
Napoleon ‖	Missouri				.35																												0.35
New England	Cannon Ball			T.	.20								.10																				0.30
New Salem	Heart	T.		T.	.30	T.							.18											.05									0.53
Park River	Red			.11	.20							.12											.09										0.52
Parshall (near)	Missouri				.40																												0.40
Pembina ‖ ‖	Red			.20	.20	.20																											0.60
Pettibone	James																																......
Power	Sheyenne			.05	.40								.20																				0.65
Powers Lake	Missouri					.30						.80											.08										1.18
Richardton	Heart	T.		.11	.20								.10										.09										0.50
Sharon	Red				.31						.01	.04	.02				T.	T.	T.	.01				.01			T.						0.40
Stanton	Missouri			.20																				.02									0.22
Steele	Missouri	T.	T.	.05	.15							.05	.02	T.																			0.27
Towner	Mouse			T.	.10		*					T.												.10									0.20
Trotters	Lit. Missouri				.45							.10	T.										.36										0.91
Turtle Lake	Missouri																																......
Valley City	Sheyenne											.18	T.																				0.18
Velva				T.	.20							.04											T.	.08				T.					0.32
Wahpeton	Red				.30									.10									.10										0.50
Walhalla	Pembina			.20	.25	.20																											0.65
Washburn	Missouri																																......
Westhope	Mouse				.25																									.12			0.37
Williston ***	Missouri		T.	.08	.20						.09	T	T										.38	.05		.01							0.81
Willow City	Mouse			.03	.40							.25									T.			.30		T.	T.	T.					0.98
Moorhead, Minn ***	Red		T.	T.	.43	T.	T.	T.		T.	T.	.12	.16			T.	T.		.02	.02	.01	T.	.02	T.			T.	.01	T.		T.	T.	0.79

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for December, 1926

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	18	28	20	12	13	24	21	19	34	30	25	23	0	−8	−2	8	17	22	30	28	30	32	18	18	20	17	18	20	28	30	35	20.3
	Minimum	−21	−10	12	−2	−9	−19	−2	−8	12	17	−6	−13	−19	−24	−23	−17	−15	−10	0	17	3	7	12	−17	−16	−6	−2	0	8	10	15	−4.1
Amidon	Maximum	28	45	40	12	23	30	21	30	32	32	44	37	16	20	11	15	20	15	34	33	30	25	10	....	25	29	26	30	31	41	....	[b]27.1
	Minimum	−1	20	3	2	−2	5	11	12	20	22	28	−12	−8	−7	−17	−11	−8	3	10	15	15	10	−5	....	12	15	5	11	17	20	....	[b]6.4
Arnegard	Maximum	22	26	12	7	13	25	38	21	36	35	41	30	−14	−14	−7	6	12	34	35	35	35	23	3	23	26	16	17	26	36	34	38	21.6
	Minimum	−9	12	3	−3	−7	12	10	1	16	17	24	−14	−16	−20	−18	−13	−12	2	13	17	19	3	−7	−7	16	−3	−7	8	22	16	14	2.9
Ashley	Maximum	10	30	26	8	5	18	23	14	30	27	48	37	0	−9	−7	15	−2	16	34	33	37	36	30	15	26	24	25	10	29	35	30	21.1
	Minimum	−14	7	6	−2	−5	−11	10	−2	9	20	10	−5	−19	−21	−20	−12	−5	−5	12	21	15	23	−2	−10	6	9	−2	−5	9	26	12	1.8
Beach	Maximum	....	....	29	25	23	28	22	26	35	35	42	30	−12	−5	−2	15	18	16	23	32	30	26	5	21	24	27	26	34	36	36	41	[b]23.7
	Minimum	....	....	15	10	6	15	6	0	5	20	30	−12	−19	−25	−18	−12	−7	5	15	12	12	4	−6	12	11	15	17	27	26	28	22	[b]7.4
Berthold Agency	Maximum	....	20	12	6	9	24	24	20	37	40	46	39	6	−4	4	0	−4	15	34	35	27	12	30	24	30	24	10	30	40	42	40	[a]22.1
	Minimum	....	12	3	−3	−16	−5	−4	−7	18	15	18	−10	−14	−23	−10	−12	22	−12	−12	18	7	−4	−7	−10	−6	4	−6	−10	5	22	11	[a]−2.0
Bismarck	Maximum	16	30	15	10	10	22	17	20	39	38	45	33	−9	−8	−3	7	3	16	35	34	36	29	10	20	32	21	14	21	38	37	35	21.4
	Minimum	14	14	1	−1	−7	−2	−2	−8	20	14	17	−14	−15	−18	15	−12	−4	−1	10	16	14	10	−5	7	15	11	−5	−8	10	21	12	1.5
Bottineau §§	Maximum	1	12	3	4	8	20	18	22	32	32	32	28	−10	−18	−14	2	2	9	20	21	24	24	19	19	20	....	....	14	29	35	35	[b]15.3
	Minimum	−20	1	0	−8	−13	−7	−4	−6	−3	10	3	−10	−27	−31	−25	−16	−4	−7	9	13	−13	−15	−5	−9	−19	....	....	5	14	29	25	[b]−4.6
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carson	Maximum	20	24	22	15	10	18	18	27	32	35	40	35	−8	−11	−2	15	20	13	35	33	32	25	20	30	25	20	25	25	30	35	40	22.5
	Minimum	−12	15	1	−5	−10	0	5	6	15	16	15	−10	−20	−22	−22	−17	−10	−2	−2	15	10	15	−8	−10	10	4	0	2	14	20	10	0.7
Crosby	Maximum	15	14	3	6	8	14	16	13	32	16	26	26	−16	−18	−16	−8	16	26	26	22	20	14	−1	14	20	18	8	12	33	33	33	13.7
	Minimum	−20	3	−3	−8	−12	8	5	2	13	13	13	−16	−22	−25	−21	−19	−7	8	6	8	6	−1	−11	−12	−1	−8	−16	−8	12	23	23	−2.2
Devils Lake	Maximum	4	12	7	1	8	19	11	23	33	32	34	31	−16	−16	−10	1	2	11	25	23	30	33	20	18	30	20	5	11	33	35	27	16.0
	Minimum	−21	4	−10	−12	−7	−6	−2	0	8	4	6	−16	−22	−25	−21	−10	−7	−8	11	10	8	19	−13	−14	17	−2	−5	−6	10	27	10	−2.4
Dickinson §§	Maximum	30	32	5	10	18	28	20	27	35	38	41	13	1	−6	4	13	12	23	35	31	23	23	3	24	21	20	24	28	37	32	30	22.1
	Minimum	−11	3	3	−1	7	−8	11	−4	−1	23	13	1	−16	−22	−22	−15	−11	−11	0	16	10	7	−6	8	−3	4	−5	−5	8	20	10	−0.9
Donnybrook	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Dunn Center §§	Maximum	20	26	16	9	11	28	24	26	34	33	42	32	−10	−11	−8	8	8	13	34	32	28	24	12	22	27	14	....	28	35	37	43	[a]21.2
	Minimum	16	13	0	−6	−15	−2	8	4	20	12	22	−12	−18	−23	−21	−18	−17	−12	10	16	8	7	−8	−11	14	−13	....	−8	24	24	9	[a]−0.6
Dunseith	Maximum	0	10	5	−1	8	18	30	24	34	34	34	35	12	18	27	14	2	10	22	25	24	26	18	8	22	24	5	10	32	37	38	19.5
	Minimum	−20	−5	−15	−16	−14	−10	5	−4	−5	8	0	−15	−28	−36	−10	−18	−10	−12	4	11	7	8	−10	−20	3	−10	−12	−10	4	25	20	−6.0
Edgeley	Maximum	6	29	26	10	12	23	23	32	33	35	41	37	−2	7	−5	7	5	17	33	33	32	33	32	20	30	31	21	21	34	35	33	22.9
	Minimum	−18	5	6	−1	−10	−11	9	0	16	23	5	−2	−19	−20	−19	−11	−2	−8	2	21	8	22	−1	−7	0	2	1	−7	1	28	15	0.9
Ellendale	Maximum	16	30	19	12	11	26	25	22	36	37	41	32	−10	−7	−4	7	10	23	35	32	34	33	31	21	27	24	12	11	34	36	32	22.2
	Minimum	−13	16	2	4	−11	−11	5	2	15	3	2	−10	−16	−16	−13	−6	−6	−8	17	13	8	26	−2	−9	−1	5	−3	−5	6	30	18	1.0
Fessenden §§	Maximum	15	23	15	12	15	29	21	30	35	36	45	18	−10	−1	−4	4	6	24	34	33	35	34	8	27	32	8	15	37	35	36	36	22.0
	Minimum	−26	−16	0	−10	−16	−15	−4	−2	4	23	4	6	−18	−22	−20	−9	−10	−12	−1	14	10	18	5	−12	−10	8	3	−10	5	28	20	−2.1
Foxholm (near)	Maximum	9	14	9	0	9	23	22	20	34	33	39	35	−14	−14	−9	1	0	11	27	30	28	24	11	19	28	28	6	22	35	36	36	17.8
	Minimum	−23	3	−2	−10	−10	−10	6	6	6	15	13	−14	−21	−24	−21	−15	−14	−11	4	16	14	10	−8	−10	14	−4	−6	−5	15	23	15	−1.5
Fullerton	Maximum	14	33	29	11	11	26	26	20	34	37	42	35	13	0	1	9	9	20	34	34	33	34	33	20	27	24	18	12	33	36	33	23.9
	Minimum	−14	14	10	0	−8	−13	10	−2	10	18	6	0	−16	−17	−17	−8	−4	7	17	21	6	22	12	−7	3	15	8	−9	2	27	17	3.1
Garrison	Maximum	13	21	13	8	8	25	20	18	36	36	43	34	−7	−10	−4	3	5	12	32	34	33	29	8	24	28	13	18	23	36	36	32	20.0
	Minimum	−20	12	1	−4	−9	−5	4	−3	11	14	13	−9	−19	−22	−17	−14	−7	−5	10	18	13	8	−7	−9	6	4	0	−11	14	21	12	0.1
Grafton	Maximum	22	15	12	0	10	15	20	26	35	34	23	28	1	−13	−13	2	3	6	23	28	27	31	31	3	21	20	10	0	55	39	28	17.5
	Minimum	−3	−3	−7	−11	−16	−19	0	−4	9	11	−9	−1	20	−25	−20	−14	−12	−8	2	10	6	17	−2	−14	1	8	−7	−18	−14	−3	22	−4.6
Grand Forks	Maximum	9	18	19	5	8	21	20	21	34	35	24	34	−7	−11	−6	4	−1	15	24	26	23	31	32	5	20	23	8	1	32	36	26	17.1
	Minimum	−23	6	−5	−6	−21	−15	1	−6	7	3	7	−7	−20	−25	−18	−10	−10	−6	15	20	9	17	8	−16	4	8	−7	−18	−4	21	22	−3.2
Granville	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Hansboro	Maximum	4	7	15	20	22	20	26	36	48	35	39	28	−6	−22	−18	2	6	10	24	26	21	28	30	23	32	30	37	32	37	30	30	21.0
	Minimum	−35	−18	−15	−14	−8	−6	−5	−6	−2	−6	12	−6	−35	33	−29	−20	−15	−12	13	0	6	10	2	−5	4	10	12	10	32	18	12	−5.4
Hettinger	Maximum	28	40	40	32	29	30	31	32	38	40	44	20	−8	−6	−1	15	10	12	32	33	31	31	32	24	31	20	20	29	35	26	43	26.4
	Minimum	−5	17	2	−11	−6	−1	6	5	28	19	20	−12	−18	−22	−17	−10	4	3	25	19	20	15	−2	15	13	7	18	20	20	19	26	7.0
Hillsboro	Maximum	2	25	18	10	....	8	23	16	33	31	28	25	0	−10	−8	4	3	12	26	29	26	31	32	7	27	23	21	2	23	35	29	[a]17.7
	Minimum	−22	1	5	−2	....	−17	8	−7	8	15	−4	0	−18	−22	−19	−8	−13	−11	−11	16	7	20	2	−14	3	1	0	−16	−5	16	21	[a]−2.2
Howard (near)	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Jamestown §§	Maximum	20	10	6	8	22	24	25	28	26	33	14	11	−17	−7	1	4	19	24	28	28	27	12	13	18	16	11	11	38	37	28	28	17.6
	Minimum	−22	−20	−5	−5	−15	−12	6	−2	0	12	7	11	−19	−24	−25	−19	−10	−9	1	16	8	3	0	−14	−12	−2	−6	−12	−13	11	12	−5.1
Lamoine	Maximum	7	24	18	18	8	18	12	24	33	33	41	36	−10	−14	−14	1	3	10	30	31	33	30	20	18	15	18	11	17	32	33	29	18.2
	Minimum	−20	7	−4	4	−12	−12	2	−1	10	18	6	−10	−23	−26	−26	−19	−6	−10	10	21	8	18	−5	−3	7	6	−4	−3	7	20	7	−1.3
Langdon §§	Maximum	0	8	1	6	11	20	16	18	31	24	32	14	6	−5	−4	0	4	8	10	25	28	31	17	15	24	17	7	15	36	32	28	15.3
	Minimum	−25	−8	0	−15	−18	−11	−5	−3	−3	10	−7	−2	−25	−32	−32	−23	−20	−20	−4	−5	−7	17	7	−19	−16	5	−7	−10	−2	11	15	−8.2
Larimore §§	Maximum	0	13	8	8	10	15	24	29	34	30	30	18	0	−11	−8	4	4	8	15	27	37	32	14	15	30	15	5	15	30	34	35	16.8
	Minimum	−24	0	−2	−11	−15	−16	4	0	9	14	5	0	−21	−26	−24	−3	−17	−10	5	8	5	14	0	16	10	4	−13	−18	−5	25	21	−3.1
Linton	Maximum	15	35	29	9	10	28	19	19	35	....	43	35	−7	−7	−3	....	8	17	34	35	36	37	23	23	31	27	12	....	39	34	33	[c]23.1
	Minimum	5	9	4	−7	−15	−7	0	−7	−1	....	5	8	−18	−23	−23	....	−15	−15	9	18	5	21	−17	−12	5	1	−13	....	−12	20	5	[c]3.1
Lisbon §§	Maximum	20	16	18	19	22	19	18	10	12	16	12	−10	−12	−6	−6	−4	10	18	16	22	18	17	22	30	28	32	26	24	24	36	40	16.4
	Minimum	−16	12	−8	2	−4	−6	−8	−10	−12	−16	−14	20	−22	−20	−18	−18	−16	−12	6	10	8	10	−10	6	14	14	12	10	12	12	18	−2.5
McKinney (near)	Maximum	10	10	5	5	22	22	20	22	35	32	40	35	−10	−18	−10	4	5	10	27	30	30	24	15	20	27	25	20	25	31	39	30	18.8
	Minimum	−29	−5	0	−11	−10	−10	8	−10	5	10	20	−10	−22	−24	−22	−18	−15	−15	0	12	−10	5	−10	−10	15	−5	−10	−10	10	19	10	−4.6
Maddock	Maximum	1	14	12	0	9	22	18	19	31	33	38	34	−6	−14	8	3	4	12	24	27	30	32	22	22	29	23	8	14	32	41	31	18.1
	Minimum	−24	−1	−4	−10	−13	−11	−3	−3	7	15	8	−6	−23	−26	−21	−11	−2	−14	7	17	2	19	−4	−16	10	1	−2	−13	4	25	9	−2.7
Melville	Maximum	2	22	18	4	10	20	15	23	33	34	39	36	−5	−8	−6	2	5	12	28	28	30	32	32	14	30	23	9	15	....	35	30	[a]18.7
	Minimum	−26	0	2	−7	−16	−10	0	2	8	15	6	5	−21	−25	−20	−10	3	−10	7	19	7	21	−3	−12	9	9	10	−14	....	8	4	[a]−1.8
Minot §§	Maximum	12	20	10	10	10	25	25	23	33	33	43	5	−8	−12	−7	6	6	13	28	32	33	23	5	20	29	25	10	25	38	40	35	19.0
	Minimum	−25	6	2	−10	−9	−5	3	−1	8	26	5	−1	−19	−22	−17	−13	−3	6	6	16	9	20	2	−13	5	7	−5	−6	12	30	11	0.4
Mott	Maximum	22	40	30	15	13	16	21	24	25	27	41	33	4	−6	−5	12	14	15	33	37	4	−2	17	23	25	23	21	23	32	31	33	20.7
	Minimum	10	11	4	0	−10	0	1	−3	4	11	30	0	−15	22	−22	−17	0	5	5	0	−18	−16	−12	8	9	1	−5	6	12	21	23	−0.9
Napoleon §§	Maximum	22	32	11	10	12	25	15	26	25	30	40	18	−5	−10	−7	2	8	20	33	30	36	35	9	15	27	22	15	22	23	32	33	19.5
	Minimum	−20	−15	4	6	−12	9	3	−10	7	20	15	5	−24	−30	−26	−24	−11	−10	10	10	10	22	−8	−23	−10	9	−10	−12	0	10	8	−4.1
New Salem	Maximum	24	29	24	9	12	24	21	25	36	37	44	44	0	−8	−5	11	7	13	41	35	31	31	25	26	30	34	20	31	33	39	36	24.5
	Minimum	3	15	3	−4	−9	−4	9	0	14	26	15	−9	−20	−22	−20	−13	−16	−7	10	20	9	15	−9	−8	11	9	−7	−4	13	24	23	2.2
Pembina §§	Maximum	10	15	5	4	13	16	15	20	35	25	20	18	−18	−10	−2	−2	5	24	10	15	26	32	28	25	28	18	5	5	25	22	25	14.7
	Minimum	5	8	6	−15	−13	−6	−5	−5	−2	16	16	4	−20	−26	−25	−20	−10	−11	−8	4	6	18	5	18	−2	−5	−11	−26	−22	−5	5	−4.4
Steele	Maximum	−10	0	3	5	20	30	32	30	30	30	37	30	−10	−12	−8	0	7	12	32	30	32	32	14	0	5	0	0	8	83	35	25	14.1
	Minimum	20	−10	15	−7	−10	−10	0	0	0	20	30	−10	−22	−28	−25	−18	−18	−10	10	10	12	14	8	−12	−8	−11	−7	−8	10	10	5	−4.4
Towner	Maximum	9	13	10	−1	10	20	16	13	34	30	39	35	−12	−15	−10	0	5	10	20	25	28	30	23	24	26	23	25	28	30	28	32	17.7
	Minimum	−26	3	−1	−12	−14	11	−5	−6	10	4	3	−12	−22	−25	−21	−17	−8	−12	3	10	6	13	−8	−19	13	−3	−12	−4	−6	0	15	−5.3
Valley City	Maximum	10	10	8	0	4	16	16	20	32	26	31	33	22	2	6	2	....	....	....	....	28	32	34	28	24	26	26	11	29	43	39	[d]20.2
	Minimum	−20	−6	−5	−14	−12	5	−2	0	10	6	11	−19	−19	−25	−18	−8	....	....	....	....	16	23	19	19	6	12	11	8	2	22	13	[d]1.3
Wahpeton	Maximum	11	29	28	20	15	20	25	20	35	35	30	32	25	−7	−5	5	6	13	30	30	27	30	32	19	21	28	28	9	24	36	35	22.1
	Minimum	−18	5	5	7	−2	−10	19	−4	4	15	0	10	−15	−24	−19	5	−14	−4	−5	21	12	22	9	13	−6	10	4	−11	1	19	23	1.1
Westhope	Maximum	3	3	16	10	6	20	18	20	33	30	36	20	−4	−4	−11	0	14	25	24	23	25	20	21	18	17	17	6	12	30	26	38	16.5
	Minimum	−23	−10	0	−6	−21	−10	−2	0	−10	0	0	−18	−23	−28	−22	−18	−12	4	8	10	0	−12	−16	0	−1	0	−6	−4	1	3	6	−6.8
Williston	Maximum	24	23	6	8	15	25	23	23	37	34	41	14	−12	−12	−5	1	12	17	33	34	33	23	2	20	25	21	15	28	40	32	40	20.0
	Minimum	−8	6	1	−4	−9	8	0	−1	22	20	14	−15	−18	−19	−18	−13	−12	−4	11	22	17	−2	9	−8	13	−3	−9	−3	15	14	11	0.6
Moorhead, Minn	Maximum	11	28	23	13	9	23	24	18	34	33	28	35	−9	−8	−5	6	1	16	28	29	27	31	33	10	20	22	18	2	29	36	26	19.1
	Minimum	−20	11	0	−2	−11	−11	4	−2	5	3	−2	−9	−20	−22	−18	−5	−12	−1	16	14	10	23	−6	−13	2	14	−4	−14	−3	20	21	−1.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 1-29-27—970]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXV Bismarck, N. D., Annual, 1926 No. 13

GENERAL SUMMARY

The year 1926 opened with conditions very similar to those which characterized the opening of 1925. The weather was unusually mild, the temperature being decidedly above the normal, there was more than the normal sunshine, the wind movement was moderate, the precipitation was deficient, and there were no severe storms. The weather and soil conditions at the opening of spring work on farms were excellent in practically all parts of the State. There was, however, a deficiency in precipitation during the first three months, and a still greater deficiency during April. Although all other conditions were favorable for crops, precipitation continued deficient during May, June and July, and as a result of such deficiencies there was a severe deterioration in crops in the central and western parts of the State. Late summer and fall rainfall was generally ample for fall plowing and feed, and generally livestock went into winter in good condition.

The mean temperature for the State was 40.7°, or 1.9° above the normal, and 0.1° higher than the mean for 1925. The highest mean annual temperature reported was 45.1° at Hettinger, Adams County; the lowest was 35.2° at Hansboro, Towner County. The highest temperature reported was 108° at Ashley, McIntosh County, and at Lisbon, Ransom County, on July 18th; the lowest was -36° at Dunseith, Rollette County, on December 14th.

The average annual precipitation for the State was 15.70 inches, or 2.24 inches below the normal, and 1.11 inches less than the average for 1925. The greatest annual precipitation reported was 21.78 inches at Larimore, Grand Forks County; the least was 10.01 inches at Beach, Golden Valley County. The greatest monthly amount reported was 9.76 inches at Ellendale, Dickey Conuty, in August; stations reporting none were Hansboro, Towner County, in January; Hettinger, Adams County, and Minot, Ward County, in March, and Fort Yates, Sioux County, in August. The precipitation averaged below the normal from January to July, inclusive, and above the normal from August to December, inclusive. The average snowfall for the State was 22.7 inches. The average number of days with 0.01 inch or more of precipitation was 68. There were 151 clear days, 105 partly cloudy days and 109 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

January.—Mild and pleasant weather prevailed throughout the State. Only light scattered precipitation occurred, allowing outdoor work to proceed without interuption; the temperature was the highest of record since the climatological service was established in 1892. Ice harvest was completed and much highway construction was accomplished. Livestock ranged freely on pastures, ranges and harvested fields, thus saving much feed, and at the close of the month range cattle and horses were in excellent condition.

February.—Unusually mild temperature, deficient precipitation, more than the average sunshine, and an absence of bad storms made the weather during the month one of the most enjoyable of record in the climatological history of the State. As a result of these favorable conditions outdoor work continued uninterruptedly throughout the month, the wagon roads were open in all sections and livestock ranged freely.

March.—Nearly normal conditions prevailed at the opening of the month. Preparations for spring work on farms made good headway during the first decade, and during the second decade this activity was general, much seeding of spring wheat being accomplished in the central and western portions of the State. Tame grasses were well started, affording much feed for livestock, which was in good condition generally.

April.—Unusually dry weather prevailed during the month, the average precipitation for the State being the lowest of record for April. There was more than the usual sunshine, and vegetation made rapid growth. The weather was favorable for work on farms and rapid progress was made in seeding spring wheat, oats and barley, and much plowing for corn was accomplished. An exceptionally large volume of road construction was done throughout the State. At the close of the month livestock was in excellent condition. A large number of destructive prairie fires occurred in the central and western portions of the State, causing much property damage, and the loss of several human lives.

May.—The month opened with weather favorable for crops and outdoor work. Early seeded grain was up to good stand and color, and late sown seed was germinating. Light to moderate showers occurred in practically all sections from the 6th to the 10th, inclusive, and scattered showers from the 16th to the 21st, inclusive. Plowing for corn made rapid progress during the first decade and planting was general during the second and early part of the third decade. Flax seeding was general during the last decade. Rain was generally needed in all sections of the State at the close of the month, and crops were in most sections somewhat backward.

June.—Taken as a whole, the weather conditions throughout the State were somewhat unfavorable. The distribution of precipitation was uneven, both geographically and throughout the month. Very little precipitation occurred during the first decade, only moderate rains occurred during the second decade, and light precipitation during the third decade. Although corn appeared in excellent condition at the close of the month, small grains generally deteriorated, spring wheat and rye heading short.

[Continued on page 53]

Climatological Data for the Year 1926

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number rainy days	Sky			Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall		Number clear days	Number partly cloudy days	Number cloudy days	
Alpha	Golden Valley		1						1											
Amenia	Cass	954	31	39.7	97	Aug. 27	-24	Jan. 28†	31	20.28	5.10	July	T.	Apr.	23.0	65	185	151	29	n.
Amidon	Slope		13		101	July 14	-17	Dec. 15	13	12.08	3.38	June	T.	Mar.	11.6	55				w.
Arnegard	McKenzie		12	41.7	105	July 31	-20	Dec. 14	12	14.78	2.86	June	0.04	Mar.	28.8	66	227	47	91	nw.
Ashley	McIntosh	2,001	31	45.0	108	July 18	-21	Dec. 14	31	20.08	6.41	Aug.	T.	Mar.	19.5	54	195	71	99	nw.
Beach	Golden Valley	2,579	21	43.9	105	Aug. 26	-25	Dec. 14	21	10.01	1.94	June	0.09	Apr.	18.9	66				
Berthold Agency	McLean	2,082	34	42.8	105	July 31	23	Dec. 14	34	12.34	2.82	May	T.	Feb.†	6.5	46	209	55	101	nw.
Bismarck	Burleigh	1,674	52	42.8	100	June 27†	-18	Dec. 14	52	12.37	2.69	May	T.	Mar.	21.5	73	147	116	102	nw.
Bottineau	Bottineau	1,638	35	38.1	104	July 31	-31	Dec. 14	35	14.62	3.94	June	0.30	Jan.	22.7	93	91	157	117	nw.
Bowman	Bowman	2,961	13		102	July 31			14											nw.
Cando	Towner	1,488	26						26											
Carson	Grant	2,500	15	43.6	104	July 19†	-27	Jan. 28	15	11.41	3.79	June	0.08	Mar.	25.3	65	197	90	78	nw
Cooperstown	Griggs	1,428							21	16.20	3.72	May	T.	Apr.	27.3	49	173	114	78	nw.
Crosby	Divide	1,954	20	40.4	102	July 31	-25	Dec. 14	20	14.63	4.30	June	0.05	Mar.	25.1	65	100	165	106	nw.
Devils Lake	Ramsey	1,478	30	38.3	100	July 31†	-25	Dec. 14	30	13.28	2.87	Sept.	0.16	Jan.	26.1	102	118	114	133	nw.
Dickinson	Stark	2,543	35	41.4	101	July 31†	-22	Dec. 14†	35	13.11	2.90	May	0.28	Mar.	26.3	88	167	63	35	nw.
Dogden	McLean	1,880	1	40.3	101	July 31	-26	Dec. 1	1	14.50	3.01	June	0.18	Jan.	17.6	78	145	117	103	nw.
Dunn Center	Dunn	2,191	28		101	July 31	23	Dec. 14	28	12.48	3.37	May	0.10	Mar.	16.0	47				nw.
Dunseith	Rolette	1,682	31	37.4	100	July 31	36	Dec. 14	31	15.82	4.37	June	0.08	Jan.	25.0	70	94	127	144	nw.
Eckman	Bottineau	1,500	22	39.2	103	July 31	27	Dec. 1	22	16.27	4.39	June	0.03	Jan.	13.5	60	8	227	130	nw.
Edgeley	LaMoure	1,468	26	42.2	106	July 18	20	Jan. 28†	26	17.12	4.73	Aug.	T.	Jan.	15.0	49	66	149	150	nw.
Ellendale	Dickey	1,449	28	41.8	103	July 18	-16	Jan. 28†	28	20.85	9.76	Aug.	0.20	Mar.	18.6	103	94	129	142	nw.
Energy	McLean	1,750	15	42.7	101	July 31	-22	Dec. 14	15	10.87	2.58	June	0.05	Mar.	12.8	56	97	206	62	nw.
Epping	Williams	2,224	19		104	July 31			19	10.95	2.02	June	0.07	Mar.	22.0	64	186	102	77	nw.
Fessenden	Wells	1,610	15	40.4	102	June 28	-26	Dec. 1	15	15.84	2.72	July	0.34	Dec.	23.4	88	125	102	138	nw.
Forman	Sargent	1,249							33	20.00	5.11	Aug.	0.10	Mar.	24.0	54	139	121	105	n.
Fort Yates	Sioux	1.670							27	14.31	4.11	Sept.	0.00	Apr.	29.7	43				
Foxholm	Ward	1,657	6	40.0	103	July 31	24	Dec. 14	6	13.03	2.61	Sept.	0.31	July	25.2	85	88	151	126	nw.
Fryburg	Billings	2,790							9	12.74	3.07	June	0.08	Mar.	28.5	73	184	101	80	nw.
Fullerton	Dickey	1,439	29	42.7	105	July 18	-17	Dec. 14†	29	20.24	5.54	Aug.	0.21	Jan.	39.1	70	131	133	101	nw.
Garrison	McLean	1,901	32	41.4	99	July 31	-22	Dec. 14	32	15.14	3.15	Aug.	0.04	Mar.	16.8	54	205	89	71	nw.
Grafton	Walsh	827	35	39.3	100	July 31	28	Jan. 28	35	16.13	3.74	June	0.08	Apr.	20.9	73	161	73	131	n.
Grand Forks	Grand Forks	830	36	39.0	96	May 5	-26	Jan. 28	36	18.57	4.30	June	0.25	Apr.	37.8	106	122	121	122	nw.
Granville	McHenry	1,504	20	39.0	104	July 31	-28	Dec. 1	20	13.96	3.09	Aug.	0.21	Jan.	13.5	61	89	174	102	nw.
Hannah	Cavalier	1,568							33	18.42	4.04	Sept.	0.12	Feb.	36.6	53				
Hansboro	Towner	1,597	19	35.2	102	July 31	-35	Dec. 1†	19	18.07	4.59	June	0.00	Jan.	27.4	52	158	125	82	nw.
Hettinger	Adams	2,675	20	45.1	103	July 15	-25	Jan. 22	20	20.40	5.27	June	0.00	Mar.	29.8	52	266	37	62	nw.
Hillsboro	Traill	901	21	40.8	95	May 5†	-22	Jan. 28	21	17.36	4.24	June	T.	Apr.	33.5	66	124	163	78	nw.
Howard	Williams	2,275	20						20											
Jamestown	Stutsman	1,390	35	38.1	100	June 27	25	Dec. 15	35	11.83	2.76	Aug.	0.18	Jan.†	26.2	76	172	35	158	w.
Lamoine	Kidder	1,936	22	40.0	100	July 31	-26	Dec. 14†	22	12.52	3.09	May	T.	Apr.†	22.0	41	185	87	93	nw.
Langdon	Cavalier	1,615	31	36.2	104	July 31	-32	Dec. 14†	31	18.52	6.02	Sept.	T.	Jan.	23.3	67	192	81	92	sw.
Larimore	Grand Forks	1,134	33	38.8	101	July 31	-26	Jan. 28†	33	21.78	5.06	Oct.	0.42	Apr.	55.6	77	155	51	159	s.
Linton	Emmons	1,711	9		105	July 18	-23	Dec. 14†	9	12.76	3.35	Sept.	0.10	Mar.	12.9	53	181	53	131	nw.
Lisbon	Ransom	1,091	23	39.3	108	July 18	-24	Jan. 28	23	19.90	6.36	Aug.	T.	Nov.	20.0	62	199	111	55	
McClusky	Sheridan	1,943	9	39.0	98	July 31	27	Dec. 14	9	15.31	2.74	May	0.15	Mar.	35.0	77	193	91	81	nw.
McKinney	Renville	1,640	33	39.0	101	July 31	-29	Dec. 1	33	15.54	3.90	June	0.15	Dec.	16.5	52	107	153	105	nw.
McLeod	Ransom	1,075	15	42.9	103	July 18	-23	Dec. 14	15	17.52	3.75	Aug.	0.11	Mar.	22.3	67	193	69	103	nw.
Maddock	Benson	1,604	12	39.6	101	July 31	-26	Dec. 14	12	12.69	2.91	Aug.	0.10	Dec.	9.4	66	82	153	130	nw.
Mandan	Morton	1,644	13	42.0	101	June 27†	-19	Dec. 14	13	11.51	2.41	May	0.04	Mar.	15.3	70	120	46	199	nw.
Manfred	Wells	1,605	24	40.1	99	July 31	22	Dec. 14	24	13.25	2.65	Aug.	0.28	Dec.	29.3	89	154	104	107	nw.
Marmarth	Slope	2,714	18	43.6	104	Aug. 26	-26	Jan. 21	18	13.07	2.81	Aug.	T.	Oct.	36.2	82	126	104	130	
Mayville	Traill	975	31				26	Dec. 14	31	21.62	5.66	June	0.01	Apr.	24.6	56	172	60	133	n.
Melville	Foster	1,590	29	40.4	98	June 27†	-26	Dec. 1	29	15.69	3.44	May	0.65	Mar.	27.5	55	88	159	118	nw.
Metigoshe	Bottineau		1						1											
Minot	Ward	1,557	31	41.6	104	July 31	-22	Dec. 14	31	13.42	2.89	Sept.	0.00	Mar.	19.4	68	155	110	100	w.
Minto	Walsh	820	34	38.2	100	May 5†	30	Jan. 28	34	17.48	4.60	June	T.	Apr.	21.6	60	144	134	87	nw.
Mott	Hettinger	2,424	20	43.2	101	Aug. 27	-22	Dec. 14†	20	15.69	4.02	May	0.06	Apr.	27.3	55	126	108	131	nw.
Napoleon	Logan	1.955	35	39.8	104	June 27†	30	Dec. 14	35	14.24	3.40	Sept.	0.20	Jan.	15.0	73	139	66	160	s.
New England	Hettinger	2,400	33		101	Aug. 1	-22	Jan. 22	33	11.67	3.15	June	T.	Mar.†	15.5	33	184	92	89	nw.
New Salem	Morton	2,163	23	43.7	105	July 18	-22	Dec. 14	23	12.68	3.26	Aug.	0.09	Mar.	15.8	79	191	110	64	nw.
Park River	Walsh	998	23	39.4	102	July 31	-27	Dec. 14	23	15.56	3.38	June	0.03	Apr.	35.7	67	128	95	142	nw.
Parshall	Mountrail								12	11.27	3.45	May	T.	Jan.†	18.0	34				
Pembina	Pembina	789	53	36.9	96	July 6†	-26	Dec. 14†	53	19.47	5.10	June	0.11	Feb.	22.0	45	173	107	85	s.
Pettibone	Kidder	1,856	18	39.9	101	Aug. 1	25	Dec. 14	18	12.15	2.62	July	T.	Mar.†	6.4	50	126	62	177	nw.
Power	Richland	1,020							33	23.78	4.61	June	0.03	Apr.	46.5	64	175	104	86	n.
Powers Lake	Burke	2,205	13	39.7	102	July 31	-30	Dec. 14	13	20.79	4.81	Sept.	0.26	Feb.	39.3	63	225	70	70	w.
Richardton	Stark	2,467	11	43.0	101	June 10†	-23	Dec. 14	11	14.90	3.94	July	T.	Mar.	15.8	53	141	129	95	nw.
Sharon	Steele	1,516							2	16.59	3.15	May	0.13	Mar.	19.1	90	130	106	129	nw.
Stanton	Mercer	1,722							3	11.25	2.36	June	0.08	Apr.	23.7	38	166	122	77	nw.
Steele	Kidder	1,857	31	39.7	99	Aug. 1	-28	Dec. 14	31	17.92	4.79	July	T.	Feb.	11.4	65	150	137	78	nw.
Towner	McHenry	1,482	25	40.7	106	July 31	-26	Dec. 1	25	12.87	3.56	Sept.	0.05	Mar.	20.0	52	180	100	85	nw.
Trotters	Golden Valley								1											
Turtle Lake	McLean	1,899	12	41.2	98	May 5†	-22	Dec. 14	12	17.11	4.07	July	0.15	Mar.	18.8	65	101	88	176	nw.
Valley City	Barnes	1,245	22		96	June 27	-25	Dec. 14	22	12.80	3.76	July	T.	Jan.†	11.6	42	182	106	77	nw.
Velva	McHenry								1											
Wahpeton	Richland	962	33	42.9	103	Aug. 27	-24	Dec. 13	33	15.73	4.62	Aug.	0.13	Feb.	16.7	68	199	1	165	nw.
Walhalla	Pembina	966							22											
Westhope	Bottineau	1,508	21	38.3	102	July 31	28	Dec. 14	21	11.93	3.43	June	0.04	Mar.	17.9	56	185	93	87	nw.
Williston	Williams	1,878	48	41.9	103	July 31	-19	Dec. 14	48	12.36	2.41	Sept.	0.12	Mar.	27.2	92	132	125	108	nw.
Willow City	Bottineau	1,471	35	37.9	100	July 31	-28	Dec. 14	35	18.03	4.27	Sept.	0.42	Jan.	34.5	82	124	137	104	nw.
Moorhead ,Minn.	Clay	935	46	40.4	96	Aug. 27	-23	Jan. 28	46	19.22	4.18	Sept.	0.08	Apr.	43.2	116	72	116	177	n.

† Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1926, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Alpha	...	...	...	...	...	...	...	...	...	...	2.06	...	1.15	...	1.03	...	0.98	...	1.12	...	0.85	...	0.33	...	...	...
Amenia	0.16	-0.34	0.40	0.00	0.10	-0.47	T.	-1.88	1.75	-1.09	2.21	1.66	5.10	+2.09	2.00	-0.72	3.50	+1.53	3.43	+2.14	0.73	+0.19	0.90	+0.39	20.28	+0.18
Amidon	0.34	-0.13	0.45	-0.14	T.	-0.84	0.07	-1.34	2.91	+0.54	3.38	+0.41	1.08	-1.57	0.97	-0.28	0.68	-1.01	1.22	+0.21	0.68	+0.20	0.30	-0.15	12.08	-4.20
Arnegard	0.86	...	0.07	...	0.04	...	0.22	...	1.30	...	2.86	...	2.67	...	2.43	...	1.78	...	0.99	...	0.55	...	1.01	...	14.78	...
Ashley	0.40	0.45	0.42	-0.05	T.	-1.19	0.34	-1.63	3.65	+1.19	1.10	-2.39	2.02	-0.64	6.41	+4.21	3.63	+2.61	0.92	0.11	0.24	-0.30	1.25	+0.74	20.38	+1.96
Beach	0.36	-0.27	0.24	-0.27	0.22	-0.56	0.09	-1.33	1.31	-1.50	1.94	-1.54	1.39	-0.41	1.17	0.88	0.66	-0.61	1.25	+0.26	0.98	+0.44	0.40	-0.11	10.01	-6.78
Berthold Agency	0.08	-0.32	T.	-0.55	T.	-0.84	0.05	-1.11	2.82	+0.36	1.11	-2.77	1.83	-0.14	2.75	+0.98	2.68	+1.24	0.42	-0.44	0.20	-0.28	0.40	0.00	12.34	-3.87
Bismarck	0.54	0.00	0.35	-0.15	T.	-1.04	0.11	-1.77	2.69	+0.19	1.81	-1.73	1.84	-0.30	1.34	-0.64	2.31	+1.12	0.23	-0.80	0.51	-0.17	0.64	+0.02	12.37	-5.27
Bottineau	0.30	-0.16	0.40	+0.03	0.39	-0.41	0.50	-0.37	1.34	-0.70	3.94	+0.80	1.15	-1.13	1.19	-1.02	2.78	+1.21	1.60	+0.61	0.67	+0.13	0.36	-0.13	14.62	-1.14
Bowman	0.36	-0.14	0.03	-0.28	T.	0.45	0.10	-1.14	2.94	+0.70	3.29	+0.08	1.11	+1.65	2.81	+1.86	...	...	...	...	...	...	...	...	...	...
Cando	...	...	...	...	...	...	0.68	-0.21	2.59	+0.19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carson	0.56	+0.22	0.32	+0.02	0.08	-0.58	0.17	-1.38	2.19	-0.45	3.79	-0.08	2.32	+0.38	1.80	+0.40	1.66	-0.07	0.15	-0.73	0.50	-0.06	0.87	+0.33	14.41	-2.00
Cooperstown	0.40	-0.10	0.30	-0.01	0.25	-0.29	T.	-1.05	3.52	+1.31	2.48	-1.16	2.43	-0.30	0.80	-1.86	1.96	+0.30	2.46	+1.59	0.95	+0.41	0.65	+0.08	16.20	-1.08
Crosby	0.36	-0.13	0.22	-0.07	0.05	-0.53	0.18	-1.01	1.53	-0.47	4.30	+0.95	2.99	+0.78	1.55	-0.55	1.24	-0.15	1.23	+0.48	0.76	+0.05	0.22	-0.27	14.63	-0.92
Devils Lake	0.16	-0.44	0.25	-0.28	0.45	-0.56	0.49	-1.54	1.68	-0.52	1.74	-1.79	1.65	-2.13	1.90	-0.86	2.87	+1.48	0.97	-0.26	0.69	-0.02	0.43	+0.04	13.28	-6.88
Dickinson	0.45	+0.03	0.38	-0.05	0.28	-0.56	0.46	-0.77	2.90	+0.47	1.92	-1.12	1.16	-1.16	1.56	-0.39	1.48	+0.41	1.00	+0.22	0.77	+0.29	0.75	+0.33	13.11	2.30
Dogden	0.18	...	0.68	...	0.19	...	0.41	...	1.97	...	3.04	...	1.72	...	2.45	...	2.08	...	0.57	...	0.62	...	0.39	...	14.30	...
Donnybrook	0.24	-0.15	0.41	-0.10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dunn Center	0.24	-0.27	0.40	-0.16	0.10	-1.01	0.32	-1.00	3.37	+0.83	2.21	-2.09	1.09	-0.96	0.83	-0.74	2.62	+1.50	0.42	-0.21	0.38	-0.24	0.50	-0.06	12.48	-4.41
Dunseith	0.08	-0.39	0.42	0.00	0.28	-0.49	0.25	-0.58	0.73	-0.97	4.37	+1.41	2.38	+0.04	1.09	-1.32	3.70	+2.13	1.59	+0.84	0.68	+0.25	0.25	-0.16	15.82	+0.76
Eckman	0.03	-0.53	0.24	-0.11	0.05	-0.45	0.72	-0.33	1.53	-0.65	4.39	+1.63	1.12	-1.32	1.58	-0.74	3.60	+2.47	1.36	+0.51	1.05	+9.51	0.60	-0.02	16.27	+0.97
Edgeley	T.	-0.29	0.34	+0.02	0.10	-0.70	0.05	-1.83	1.54	-1.13	0.66	-2.70	4.33	+1.53	4.73	+2.59	3.32	+1.66	1.12	+0.20	0.43	+0.09	0.50	+0.11	17.12	-0.45
Ellendale	0.22	-0.18	0.47	-0.01	0.20	-1.00	0.44	-1.39	1.73	-1.28	0.77	-2.23	2.39	-0.51	9.76	+7.50	2.29	+0.94	1.78	+0.74	0.25	-0.53	0.55	+0.22	20.85	+2.27
Energy	0.22	-0.07	0.10	-0.16	0.05	-0.62	0.18	-0.96	1.73	-0.47	2.58	-1.03	1.83	+0.35	1.47	-0.48	1.32	-0.22	0.35	-0.35	0.38	+0.12	0.66	+0.31	10.87	-4.28
Epping	0.63	+0.07	0.17	-0.18	0.07	-0.49	0.16	-0.99	1.20	-1.11	2.02	-1.32	1.53	-0.39	1.30	-0.85	1.85	+0.39	0.90	+0.01	0.50	+0.08	0.62	+0.19	10.95	-4.59
Fessenden	0.45	-0.15	0.97	+0.64	0.50	-0.22	0.45	-1.09	2.24	-0.04	1.84	-2.21	2.72	+0.25	2.38	0.00	2.21	+0.49	1.08	+0.30	0.66	+0.02	0.34	-0.39	15.84	-2.40
Finley	0.32	...	0.70	...	0.45	...	0.19	...	2.75	...	2.42	...	2.35	...	0.92	...	...	...	...	...	...	...	...	...	...	...
Forman	0.32	-0.21	1.02	+0.49	0.10	-0.80	0.23	-1.96	2.14	-0.84	1.10	-2.51	1.76	-1.27	5.11	+2.40	2.96	...	3.76	+2.42	0.70	+0.14	0.80	+0.26	20.00	-0.74
Fort Yates	0.38	-0.15	0.50	-0.24	0.02	-1.00	0.00	-1.67	2.39	+0.62	1.83	-1.83	1.03	-1.49	1.51	-0.46	4.11	+3.14	0.54	-0.25	0.50	-0.03	1.50	...	14.31	-2.19
Foxholm (near)	0.38	...	0.49	...	0.52	...	0.58	...	1.86	...	1.87	...	0.31	...	2.40	...	2.61	...	0.92	...	0.72	...	0.37	...	13.03	...
Fryburg	0.33	...	0.28	...	0.08	...	0.36	...	1.89	...	3.07	...	1.75	...	1.03	...	1.07	...	1.23	...	0.85	...	0.80	...	12.74	...
Fullerton	0.21	-0.54	1.44	+0.63	0.44	-0.78	0.51	-1.49	1.59	-1.65	1.00	-2.28	1.59	-1.73	5.54	+3.01	3.78	+1.71	2.40	+1.11	0.69	-0.04	1.05	+0.21	20.24	-1.84
Garrison	0.28	-0.15	0.18	-0.35	0.04	-1.00	0.25	-0.95	2.33	+0.16	2.64	-0.68	1.85	-0.25	3.50	+1.50	2.39	+1.03	0.20	-0.70	0.42	-0.16	1.06	+0.49	15.14	-1.06
Grafton	0.20	-0.40	0.38	-0.20	0.59	-0.10	0.08	-1.40	1.97	-0.14	3.74	+0.50	1.40	-1.08	1.42	-1.17	1.76	-0.06	2.89	+2.00	1.07	+0.41	0.63	+0.09	16.13	-1.55
Grand Forks	0.45	-0.13	0.26	-0.27	0.45	-0.26	0.25	-1.68	2.45	-0.09	4.30	+0.91	1.83	-0.92	1.63	-0.83	1.29	-0.57	4.03	+2.87	1.26	+0.56	0.37	-0.26	18.57	-0.67
Granville	0.24	-0.27	0.28	-0.10	0.32	-0.25	0.93	-0.03	0.93	-0.91	2.32	-0.43	0.94	-1.13	3.09	+1.00	2.85	+1.60	1.26	+0.38	0.37	-0.24	0.43	-0.12	13.96	-0.50
Hannah	0.25	-0.47	0.12	-0.44	0.52	-0.14	0.32	-0.94	1.22	-0.88	3.30	-0.14	3.97	+1.51	2.37	+0.52	4.04	+1.90	0.88	-0.08	0.89	+0.21	0.54	-0.09	18.42	+0.96
Hansboro	0.00	-0.95	0.90	+0.42	T.	-0.66	0.07	-1.22	1.47	-0.61	4.59	+1.90	2.06	+0.08	3.06	+0.84	3.43	+1.53	0.89	-0.02	0.50	+0.04	1.10	+0.44	18.07	+1.79
Hettinger	1.10	+0.78	0.45	+0.17	0.00	-0.76	0.03	-1.13	3.80	+1.68	5.27	+2.03	4.70	+1.91	2.98	+1.73	0.39	-0.91	0.23	-0.41	0.75	+0.43	0.70	+0.36	20.40	+5.88
Hillsboro	0.60	-0.14	0.45	-0.23	0.68	-0.06	T.	-2.01	2.15	-1.37	4.24	+0.89	1.16	-1.47	1.35	-1.59	1.50	-0.99	3.11	+2.09	1.42	+0.61	0.70	-0.20	17.36	-4.47
Howard (near)	0.70	-0.05	0.45	-0.24	T.	-1.14	0.06	-1.34	1.49	-0.69	2.07	-0.52	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Jamestown	0.18	-0.46	0.82	+0.24	0.22	-0.78	0.18	-1.56	2.68	-0.01	0.94	-2.84	2.54	-0.21	2.76	+0.02	2.20	+0.67	0.95	+0.02	0.84	+0.11	0.52	-0.23	14.83	-5.03
Lamoine	0.40	-0.21	0.78	+0.39	0.10	-0.67	T	-0.97	3.09	+0.73	1.62	-1.70	1.67	-0.88	2.59	+0.61	1.75	+0.47	T.	+0.58	0.32	-0.22	0.20	-0.30	12.52	-3.33
Langdon	T.	-0.65	0.11	-0.54	0.51	-0.33	0.10	-1.23	1.66	-0.59	2.80	-0.70	3.27	+0.71	2.17	-0.48	6.02	+4.03	0.57	-0.37	0.86	+0.16	0.45	-0.28	18.52	-0.27
Larimore	0.70	-0.01	0.80	+0.33	0.63	-0.06	0.42	-1.20	2.61	+0.14	3.18	-0.32	1.75	-1.24	2.59	-0.01	1.34	-0.55	5.06	+3.83	2.00	+1.32	0.70	+0.16	21.78	+2.37
Linton	0.54	...	0.51	...	0.10	...	0.18	...	2.90	...	1.74	...	0.72	...	1.58	...	3.35	...	0.52	...	0.30	...	0.32	...	12.76	...
Lisbon	0.24	-0.46	0.45	-0.28	0.04	-0.52	0.22	1.67	2.12	-1.07	1.01	-3.25	1.87	-1.66	6.36	+4.10	3.73	1.58	2.63	+1.61	T.	-0.62	1.20	+0.79	19.90	-1.45
McClusky	0.80	...	1.00	...	0.15	...	0.45	...	2.74	...	2.13	...	2.21	...	2.41	...	1.73	...	0.74	...	0.75	...	0.20	...	15.31	...
McKinney	0.24	-0.12	0.43	+0.12	0.65	-0.06	0.55	-0.40	1.65	-0.30	3.90	+0.60	1.51	-0.65	1.70	-0.08	2.32	+0.79	1.66	+0.73	0.78	+0.13	0.15	-0.28	15.54	+0.48
McLeod	0.40	-0.27	0.78	+0.20	0.11	-0.52	0.13	-2.26	2.48	-1.30	1.80	-2.40	1.67	-1.76	3.75	+1.40	2.31	-0.23	3.37	+2.31	0.40	-0.19	0.32	-0.13	17.52	-5.15
Maddock	0.14	-0.17	0.14	-0.29	0.27	-0.16	0.37	-1.05	2.01	-0.02	2.17	-1.03	1.45	-1.19	2.91	+0.69	1.89	-0.37	1.05	+0.26	0.19	-0.49	0.10	-0.22	12.69	-4.04
Mandan	0.71	+0.48	0.22	-0.13	0.04	-0.80	0.13	-1.42	2.41	-0.09	1.20	-1.96	2.19	-0.77	1.31	+0.09	1.79	+0.33	0.77	+0.06	0.30	-0.25	0.44	-0.01	11.51	-4.47
Manfred	0.55	-0.10	0.56	+0.13	0.51	-0.27	0.36	-0.91	2.40	+0.04	1.88	-1.70	1.00	-1.30	2.65	+0.19	1.41	+0.06	1.06	+0.25	0.59	-0.15	0.28	-0.48	13.25	4.24
Marmarth	1.06	+0.76	0.50	+0.11	0.45	0.00	0.52	-0.61	1.95	-0.33	2.12	-0.99	0.63	-1.03	2.81	+1.19	1.53	+0.30	T.	-0.79	0.92	+0.59	0.58	+0.24	13.07	-0.56
Mayville	0.12	-0.37	0.38	-0.01	0.24	-0.47	0.01	-1.74	2.44	-0.53	5.66	+2.15	4.96	+1.99	1.47	-1.47	1.46	-0.82	3.48	+2.37	0.90	+0.23	0.50	-0.08	21.62	+1.26
Melville	0.10	-0.28	0.35	+0.02	0.05	-0.63	0.55	-0.56	3.44	+0.77	1.53	-1.98	3.19	+0.45	2.32	+0.33	1.30	-0.08	1.34	+0.47	1.12	+0.59	0.40	-0.06	15.69	-0.96
Metigoshe	...	...	...	...	...	...	...	...	1.16	...	4.88	...	2.82	...	1.75	...	3.56	...	1.79	...	1.13	...	0.65	...	...	...
Minot	0.28	-0.17	0.25	-0.21	0.00	-0.77	0.74	-0.58	2.05	+0.08	2.06	-1.20	0.45	-1.40	2.73	+0.53	2.89	+1.31	0.77	-0.17	0.60	-0.08	0.60	+0.09	13.42	-2.57
Minto	0.24	-0.25	0.32	-0.18	0.03	0.79	T.	-1.57	1.44	-0.90	4.60	+1.30	1.70	-1.06	1.75	-0.66	3.10	+1.10	2.95	+1.85	0.67	+0.02	0.68	+0.20	17.48	-0.94
Mott	0.82	-0.06	0.62	+0.05	0.16	-0.88	0.06	-1.44	4.02	+1.66	3.62	+0.22	1.25	-1.12	2.08	+0.44	0.91	-0.66	0.20	-0.89	0.55	+0.09	0.80	+0.22	15.09	-2.37
Napoleon	0.20	-0.25	0.30	-0.10	0.40	-0.53	0.34	-1.33	2.21	-0.19	1.36	-2.26	1.89	-0.59	2.12	-0.27	3.40	+2.16	1.11	+0.17	0.56	-0.03	0.35	-0.13	14.24	-3.35
New England	0.60	+0.18	0.30	-0.24	T	-0.87	0.15	-0.87	2.27	+0.12	3.15	+0.46	1.80	-0.21	1.70	-0.07	1.20	+0.08	T.	-0.65	0.20	-0.29	0.30	-0.11	11.67	-2.47
New Salem	0.51	-0.12	0.12	-0.26	0.09	-0.87	0.14	-1.09	1.84	-0.53	1.59	-2.12	1.24	-0.86	3.26	+1.59	2.66	+1.31	0.35	-0.60	0.35	0.00	0.53	0.00	12.68	-3.55
Park River	0.28	-0.16	0.37	-0.07	0.46	-0.09	0.03	-1.28	1.57	-0.66	3.38	+0.05	1.08	-1.30	1.91	-0.32	2.44	+0.85	2.86	+1.85	0.66	-0.10	0.52	-0.01	15.56	-1.24
Parshall (near)	T.	...	0.10	...	T.	...	0.48	...	3.45	...	1.06	...	1.79	...	2.34	...	0.95	...	0.40	...	0.30	...	0.40	...	11.27	...
Pembina	0.18	-0.46	0.11	-0.60	0.37	-0.53	0.25	-1.16	1.16	-1.06	5.10	+1.82	1.20	-1.18	2.20	+0.07	4.90	+3.21	2.60	+1.26	0.80	+0.12	0.60	-0.16	19.47	+1.33
Pettibone	0.02	-0.49	0.57	+0.21	T.	-0.54	0.65	-0.75	1.51	-1.34	1.18	-2.04	2.62	-0.13	2.50	+0.21	1.23	-0.16	1.64	+0.99	0.23	-0.32	T.	0.68	12.15	-5.04
Power	0.95	+0.30	1.00	+0.44	0.90	+0.20	0.03	-1.80	2.81	-0.08	4.61	+0.65	1.95	-1.43	4.51	+2.04	2.62	+0.56	2.75	+1.28	1.00	+0.38	0.65	+0.11	23.78	+2.65
Powers Lake	0.39	-0.39	0.26	-0.22	1.27	+0.39	1.56	0.00	3.41	+1.61	4.10	+1.24	1.07	-0.71	1.47	-0.12	4.81	+3.72	0.65	-0.17	0.62	+0.06	1.18	+0.55	20.79	+5.96
Richardton	0.39	...	0.18	...	T.	...	0.27	...	3.71	...	3.08	...	3.94	...	1.16	...	1.18	...	0.17	...	0.32	...	0.50	...	14.90	...
Sharon	0.21	...	0.21	...	0.13	...	0.23	...	3.17	...	2.36	...	1.88	...	1.45	...	2.96	...	3.09	...	0.50	...	0.40	...	16.59	...
Stanton	1.00	...	0.33	...	0.20	...	0.08	...	1.52	...	2.36	...	1.52	...	2.01	...	1.35	...	0.21	...	0.45	...	0.22	...	11.25	...
Steele	0.18	-0.34	T.	-0.45	0.09	-0.84	0.31	-0.80	2.67	+0.18	2.20	+1.13	4.19	+1.31	3.42	+1.08	3.20	+1.96	1.00	+0.12	0.39	-0.20	0.27	-0.26	17.92	+0.63
Towner	0.28	-0.21	0.16	-0.22	0.05	-0.85	0.42	-0.58	0.43	-1.89	1.97	-1.11	0.73	-1.50	3.05	+0.96	3.36	+1.71	1.32	+0.42	0.84	+0.36	0.20	-0.21	12.81	-3.22
Trotters	...	...	...	...	...	...	...	...	...	...	1.91	...	0.73	...	0.86	...	0.86	...	1.31	...	0.54	...	0.91	...	...	...
Turtle Lake	0.22	-0.19	0.56	+0.12	0.15	-0.66	0.24	-0.96	2.60	+0.33	2.69	-0.99	4.07	+1.61	4.06	+2.18	1.42	-0.02	0.28	-0.48	0.42	-0.07	0.40	-0.16	17.11	+0.71
Valley City	T.	-0.66	0.16	-0.27	0.35	-0.15	T.	-1.59	1.17	-1.96	1.94	-1.37	3.76	+1.92	1.39	-0.86	1.35	-0.29	2.23	+1.40	0.33	-0.29	0.18	-0.37	12.80	-5.47
Wahpeton	0.70	+0.19	0.13	-0.40	0.21	-0.70	0.26	-1.97	2.85	+0.04	1.47	-2.48	0.63	-3.17	4.62	+1.72	2.27	+0.05	1.87	+0.36	0.22	-0.47	0.50	+0.05	15.73	-6.78
Walhalla	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.66	+1.84	1.62	+0.59	...	...	0.65	-0.41	...	...
Washburn	0.69	+0.30	0.32	-0.07	0.13	-0.52	0.15	-0.95	1.41	-0.97	1.42	-2.13	1.27	-1.03	0.89	-0.44	1.73	+0.54	0.39	-0.55	...	...	...	...	...	...
Westhope	0.13	0.43	0.63	+0.44	0.04	0.45	0.34	-0.72	1.49	-0.55	3.43	+0.49	1.25	-0.70	1.43	-0.80	1.57	+0.38	1.01	+0.34	0.24	-0.34	0.37	0.00	11.93	-2.34
Williston	0.68	+0.10	0.20	-0.27	0.12	-0.56	0.24	0.99	1.39	-0.87	1.83	-1.74	2.40	+0.37	0.80	-0.51	2.41	+1.50	0.71	-0.06	0.77	+0.17	0.81	+0.15	12.36	-2.71
Willow City	0.42	-0.16	0.52	+0.06	0.91	+0.18	0.49	-0.46	0.80	-1.12	2.90	-0.28	2.32	+0.23	1.99	-0.09	4.27	+2.72	1.53	+0.83	0.90	+0.39	0.98	+0.44	18.03	+2.74
Moorhead, Minn.	0.66	-0.05	0.65	-0.08	0.77	-0.37	0.08	-2.25	1.93	-1.02	2.09	-2.04	2.92	-0.82	1.83	-1.27	4.18	+1.88	2.22	+0.15	1.10	+0.12	0.79	+0.05	19.22	+5.70
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1926, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	12.6	+8.1	20.6	+13.6	25.0	+1.4	41.0	−1.3	58.6	+4.5	59.8	−3.7	69.2	+0.5	65.2	−1.1	53.2	−4.1	42.2	−2.1	20.4	−6.9	8.1	−4.6	39.7	+0.4
Amidon	.....	.....	28.8	.....	30.8	.....	44.6	.....	^{a}59.2	.....	^{f}60.7	.....	70.5	.....	^{b}65.0	.....	.....	.....	.....	.....	24.0	.....	^{b}16.8	.....	.....	.....
Arnegard	19.3	.....	24.6	.....	28.2	.....	43.9	.....	57.1	.....	61.0	.....	70.6	.....	65.9	.....	51.2	.....	44.0	.....	22.9	.....	12.2	.....	41.7	.....
Ashley	22.0	+14.5	^{b}27.5	+19.7	33.2	+11.2	49.4	+6.9	64.5	+11.8	66.0	+4.0	74.4	+6.0	68.5	+2.6	55.4	−1.9	44.6	+0.9	22.6	−5.1	11.4	−2.1	45.0	+5.8
Beach	21.4	+12.1	29.0	+15.4	30.9	+4.4	44.4	+1.9	58.2	+8.1	63.1	+2.0	71.7	+4.4	66.8	+1.8	54.2	−2.1	45.7	+1.7	26.2	−5.2	^{b}15.6	−0.9	43.9	+3.6
Berthold Agency	19.3	+11.8	^{a}25.5	+16.1	28.7	+4.0	45.8	+2.1	61.5	+7.8	63.6	+1.0	^{b}71.8	+2.9	^{a}67.3	−0.4	52.6	−4.4	44.4	−0.3	23.6	−5.2	^{a}10.0	−5.7	42.8	+2.4
Bismarck	18.6	+10.8	24.6	+14.3	28.4	+4.2	46.6	+4.5	59.8	+5.3	63.2	−0.5	72.2	+2.4	66.8	−0.5	53.7	−4.4	45.0	+0.1	24.8	−3.7	11.4	−3.3	42.8	+2.3
Bottineau	13.6	+14.3	^{c}18.0	+16.2	23.9	+6.2	39.8	+0.4	56.2	+4.9	59.0	−2.0	68.8	+3.0	63.5	−0.1	^{b}50.0	−5.5	39.4	−2.2	19.5	−4.1	^{b}5.4	−1.3	38.1	+2.5
Bowman	19.4	.....	25.6	.....	30.2	.....	44.0	.....	57.8	.....	61.9	.....	70.8	.....	^{c}67.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cando	.....	.....	.....	.....	.....	.....	^{i}46.0	+5.4	58.1	+6.6	59.6	−1.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carson	13.4	+3.5	23.6	+9.9	29.4	+4.9	44.2	+2.2	61.0	+8.7	62.9	−0.1	73.5	+5.4	69.6	+2.0	55.9	−0.5	46.7	+3.2	31.6	+0.9	11.6	−4.4	43.6	+3.0
Crosby	17.5	+15.8	24.4	+17.3	27.4	+5.4	44.0	+3.4	57.8	+7.4	60.2	−0.4	70.5	+4.6	64.5	+0.8	50.4	−3.3	43.0	+1.5	19.6	−8.2	5.8	−6.5	40.4	+3.1
Devils Lake	14.2	+13.9	19.2	+14.7	21.7	+3.2	40.4	+2.2	57.2	+4.5	58.6	−4.0	68.0	−0.1	64.0	−1.1	50.5	−5.1	40.4	−0.1	18.8	−3.8	6.8	−1.2	38.3	+1.9
Dickinson	19.5	+9.2	25.0	+13.2	27.7	+3.3	42.7	−0.2	58.2	+6.0	60.8	−0.5	70.0	+2.0	64.4	−1.9	50.8	−5.7	43.6	−0.3	23.8	−4.8	10.6	−6.7	41.4	+1.1
Dogden	17.6	.....	21.6	.....	25.6	.....	42.8	.....	57.8	.....	59.8	.....	70.0	.....	65.2	.....	50.6	.....	42.4	.....	21.3	.....	8.6	.....	40.3	.....
Donnybrook	17.8	+14.4	20.2	+13.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dunn Center	^{a}20.8	+7.0	25.2	+12.2	^{c}30.0	+5.9	42.0	−0.6	56.8	+3.5	59.3	−2.6	.....	.....	63.3	3.3	49.5	−7.6	41.7	−0.9	^{a}22.5	−5.9	^{a}10.3	−10.2	.....	.....
Dunseith	13.0	+11.5	18.2	+14.8	22.2	+3.4	40.9	+0.5	58.2	+6.3	57.8	−3.4	66.4	+2.0	61.6	2.0	48.6	−6.2	38.2	−2.9	17.4	−8.8	6.8	−1.5	37.4	+1.1
Eckman	16.8	+16.2	20.8	+14.4	25.0	+2.9	42.7	+1.1	57.6	+7.0	58.8	−2.5	68.9	+3.1	63.6	+0.3	50.6	−4.9	40.4	−2.3	20.0	−6.3	5.4	−4.2	39.2	+2.0
Edgeley	18.5	+10.7	23.2	+12.3	26.8	+0.3	43.8	+0.6	60.2	+6.7	63.0	+0.2	70.8	+2.3	66.4	0.0	54.0	−3.5	41.8	−1.1	22.6	−7.8	11.9	−4.6	42.2	+1.4
Ellendale	16.6	+5.9	23.2	+12.5	26.5	+0.9	41.6	−2.0	59.8	+4.1	62.6	−3.4	70.5	−0.2	66.5	−2.3	51.2	−4.2	45.0	−0.6	23.2	−2.9	11.6	−5.2	41.8	+0.2
Energy	^{b}19.3	.....	24.4	.....	29.2	.....	45.2	.....	59.8	.....	62.2	.....	72.0	.....	66.9	.....	53.6	.....	44.4	.....	24.6	.....	10.8	.....	42.7	.....
Epping	16.0	.....	25.2	.....	26.4	.....	46.2	.....	60.4	.....	60.4	.....	68.9	.....	64.3	.....	48.0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fessenden	17.2	+14.0	21.3	+13.4	24.6	+3.2	42.2	+2.0	58.4	+6.9	60.6	0.4	70.4	+3.3	61.0	−1.0	52.0	−3.1	41.9	−0.1	21.4	−5.6	10.0	−2.2	40.4	+2.6
Finley	.....	.....	^{a}20.6	.....	.....	.....	41.9	.....	^{c}57.9	.....	.....	.....	^{i}68.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Foxholm (near)	17.7	.....	21.8	.....	25.8	.....	43.2	.....	57.6	.....	59.8	.....	70.2	.....	64.2	.....	50.4	.....	41.4	.....	19.6	.....	8.2	.....	40.0	.....
Fullerton	18.5	+10.7	23.4	+14.1	27.8	+2.6	43.2	+0.4	61.0	+7.7	62.9	+0.2	71.8	+3.4	67.9	+1.6	54.1	−2.6	45.1	+0.8	23.4	−6.3	13.5	−0.2	42.7	+2.7
Garrison	17.8	+11.3	23.8	+15.4	27.7	+6.0	43.9	+1.3	^{a}58.3	+5.7	60.8	−1.4	69.8	+1.7	66.8	+1.1	52.3	−4.5	43.2	−0.6	22.6	−4.4	10.0	−3.6	41.4	+2.3
Grafton	^{b}13.4	+12.5	19.0	+14.1	23.5	+4.3	41.6	+1.3	59.4	+6.5	60.0	−2.5	67.8	+0.3	^{a}65.0	+0.5	^{a}52.5	−3.4	^{a}42.3	−0.4	20.2	−3.8	6.4	−1.3	39.3	+2.4
Grand Forks	12.4	+8.8	18.4	+11.9	22.6	+0.2	41.2	−0.8	59.0	+5.6	59.6	−3.3	67.8	+0.4	65.4	+0.5	52.8	−3.4	42.0	−1.5	20.4	−5.7	7.0	−3.6	39.0	+0.7
Granville	16.4	+14.7	21.4	+13.0	22.8	−0.9	40.4	−2.1	55.5	+4.1	59.4	−3.7	70.2	+3.1	63.8	−0.1	51.2	−3.2	40.8	−3.3	19.8	−6.3	6.6	−5.8	39.0	+0.8
Hansboro	8.0	+10.3	13.7	+10.0	18.5	−2.8	39.8	−0.1	55.1	+4.8	55.8	−4.6	64.8	−0.6	58.9	−3.9	49.6	1.5	37.2	−4.1	12.8	−13.1	7.8	+0.5	35.2	−0.6
Hettinger	11.5	−1.0	24.4	+11.2	24.6	−3.0	^{f}39.5	−5.3	63.7	+7.0	70.5	+8.4	78.8	+9.3	74.2	+7.2	63.6	+5.6	47.6	+1.2	26.6	−6.8	16.7	+0.9	45.1	+3.2
Hillsboro	^{e}15.6	+11.7	21.3	+12.8	24.0	−0.7	^{a}43.4	−0.2	60.2	+5.3	60.4	−4.0	^{a}70.4	+0.9	67.4	+0.5	^{a}54.3	−4.7	^{a}43.6	−2.4	21.8	−7.0	^{a}7.8	−4.8	40.8	−0.7
Howard (near)	15.6	+14.1	22.4	+16.4	25.4	+4.6	41.6	+1.8	53.5	+4.1	59.6	−0.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jamestown	15.4	+8.9	20.6	+12.7	24.4	+1.8	40.4	−2.1	57.6	+4.1	60.8	−2.3	67.6	−0.9	63.2	3.0	48.0	−8.1	36.5	−8.3	16.3	−11.3	6.2	−7.4	38.1	−1.4
Lamoine	^{a}15.5	+11.5	19.1	+11.4	25.4	+2.4	42.2	−0.4	57.8	+7.1	59.0	−1.5	70.4	+4.5	64.8	+0.9	52.0	−4.6	43.6	+0.5	21.9	−5.1	8.4	−2.8	40.0	+2.0
Langdon	9.5	+12.2	15.9	+12.9	20.0	+1.0	38.8	+0.7	54.4	+3.6	56.7	−3.0	66.7	+2.2	62.6	+0.9	50.2	−3.3	39.2	−1.2	17.4	−8.3	3.6	−3.7	36.2	+1.1
Larimore	13.3	+10.7	18.1	+12.9	21.1	+0.1	36.5	−3.9	57.4	+5.0	59.8	−2.3	68.2	+1.5	65.0	+0.7	51.8	−3.4	41.2	−2.1	21.2	−4.6	6.8	−4.0	38.8	+1.3
Linton	20.2	.....	^{c}24.9	.....	.....	.....	45.2	.....	^{a}59.8	.....	^{a}64.4	.....	73.4	.....	^{i}68.6	.....	55.7	.....	^{a}44.8	.....	24.5	.....	^{c}10.0	.....	.....	.....
Lisbon	10.5	+4.6	19.3	+9.7	23.4	−3.2	42.0	−0.7	60.6	+7.7	62.3	−0.8	71.7	+3.5	66.2	−0.3	54.4	−3.3	37.1	−8.2	16.8	−13.4	7.0	−7.1	39.3	−0.9
McClusky	13.5	.....	19.0	.....	24.4	.....	40.2	.....	54.6	.....	56.6	.....	68.2	.....	64.6	.....	52.8	.....	43.4	.....	21.2	.....	8.2	.....	39.0	.....
McKinney	17.8	+14.6	21.3	+16.2	24.4	+5.2	42.0	+1.0	^{a}56.8	+4.8	58.4	−2.3	68.8	+2.8	62.2	−1.3	49.4	−4.7	40.7	−1.0	19.2	−5.4	7.1	−3.6	39.6	+2.2
McLeod	18.2	+10.5	22.2	+10.8	27.6	+1.7	45.0	+1.7	59.8	+5.7	63.6	−1.4	72.0	+1.8	67.8	+0.2	57.0	+0.1	45.4	−0.1	24.4	−5.3	11.3	−3.0	42.9	+1.9
Maddock	16.2	.....	21.0	.....	24.6	.....	42.2	.....	58.6	.....	59.0	.....	68.4	.....	63.6	.....	51.8	.....	41.7	.....	20.2	.....	7.7	.....	39.6	.....
Mandan	18.9	+10.4	23.4	+12.9	27.1	+1.9	43.8	+1.7	59.2	+5.3	62.8	−1.4	71.6	+0.8	66.8	−1.0	53.4	1.7	43.6	−1.3	24.0	−5.9	9.8	−3.3	42.0	+1.2
Manfred	17.2	+13.2	22.6	+15.8	25.0	+1.9	^{a}42.0	+0.2	59.0	+7.4	59.4	−2.1	68.6	+1.7	64.6	+0.3	52.0	−3.9	41.8	−1.5	19.8	−9.2	9.2	−2.1	40.1	+1.8
Marmarth	^{a}20.1	+9.8	^{b}28.3	+15.2	30.0	+4.0	43.6	+0.8	56.6	+6.6	^{a}63.2	+2.9	71.7	+3.9	68.2	+2.6	52.9	−2.7	46.2	+2.1	27.9	−6.1	14.5	−3.2	43.6	+3.0
Mayville	16.3	+10.2	21.7	+14.0	24.4	+1.2	44.6	+1.4	59.8	+5.3	60.6	−3.9	68.7	−0.7	.....	.....	^{a}55.7	−2.0	43.8	−1.1	21.6	−7.7	8.2	−4.9	.....	.....
Melville	18.0	+12.4	21.4	+14.8	25.4	+3.1	^{b}42.8	+2.7	59.4	+6.9	^{b}59.7	−3.2	^{b}69.3	+1.4	^{a}64.6	−1.8	^{a}52.8	−3.6	^{a}42.4	−1.2	20.9	−8.1	^{a}8.4	−3.4	40.4	+1.6
Minot	19.0	+14.0	24.0	+16.1	27.4	+6.0	43.5	+1.8	59.2	+6.9	61.6	−0.9	71.8	+3.7	65.0	−0.1	^{a}52.3	−4.4	43.0	−0.6	23.0	−6.7	9.7	−2.7	41.6	+2.7
Minto	12.8	+11.0	18.2	+12.3	22.2	+1.1	40.6	0.0	58.8	+5.4	58.2	−5.7	67.2	+0.1	64.4	−0.2	52.4	4.0	40.8	−2.4	18.1	−6.4	4.6	−6.3	38.2	+0.4
Mott	17.4	+9.9	24.3	+12.5	28.4	+1.8	43.7	+1.1	66.6	+15.0	63.8	+0.8	76.1	+7.0	69.1	+3.2	53.4	−2.9	40.8	−2.2	24.9	−6.3	9.9	−4.2	43.2	+3.0
Napoleon	14.8	+8.9	20.8	+14.0	24.8	+3.5	41.2	−0.3	57.9	+5.5	61.2	−1.0	69.8	+1.5	65.2	−0.8	52.2	4.7	42.0	+0.1	20.2	−6.4	7.7	−4.7	39.8	+1.3
New England	.....	.....	.....	.....	26.0	+1.6	43.2	+0.1	58.0	+6.4	62.6	+0.6	72.5	+4.0	66.2	−0.5	54.0	−1.8	47.6	+3.9	23.2	−7.0	14.6	−2.8	.....	.....
New Salem	20.4	+12.7	25.0	+14.4	^{a}29.2	+4.7	44.8	+2.3	60.1	+8.8	64.6	+1.8	73.7	+4.4	68.4	+2.0	54.0	−3.2	45.4	+1.1	25.3	−5.4	13.4	−1.5	43.7	+3.5
Park River	^{a}14.2	+12.4	^{d}19.5	+13.8	23.4	+1.3	41.8	+0.3	58.8	+6.6	59.0	−4.2	^{a}67.8	0.0	64.6	−0.9	52.5	−4.4	^{a}41.0	−3.3	^{a}23.4	−4.6	^{c}6.7	−4.4	39.4	+1.1
Pembina	7.8	+10.7	19.4	+18.0	19.7	+3.7	^{a}43.0	+5.1	56.3	+3.8	54.0	−8.6	65.0	−2.7	62.0	−2.1	51.2	−2.6	40.1	−0.8	18.8	−3.9	5.2	−0.8	36.9	+1.7
Pettibone	^{f}10.6	+10.6	^{j}21.2	+16.6	^{a}25.1	+1.3	42.4	+0.5	57.6	+7.1	58.7	−1.5	72.4	+6.6	^{a}65.4	+3.0	53.2	−0.5	42.7	+1.5	21.3	−5.6	8.2	−2.2	39.9	+3.1
Powers Lake	15.6	.....	20.1	.....	26.6	.....	42.4	.....	55.8	.....	58.9	.....	73.1	.....	^{a}65.0	.....	51.4	.....	38.4	.....	18.2	.....	11.2	.....	39.7	.....
Richardton	^{a}20.8	.....	26.9	.....	29.5	.....	^{a}44.1	.....	58.4	.....	62.2	.....	^{a}71.8	.....	69.4	.....	52.7	.....	44.6	.....	24.0	.....	12.1	.....	43.0	.....
Steele	15.2	+7.6	22.8	+15.7	24.2	+2.1	42.4	−2.0	58.4	+4.6	61.6	−0.8	72.5	+3.1	67.5	+0.7	50.4	−7.4	38.0	−6.0	18.9	−9.5	4.8	−8.8	39.7	−0.1
Towner	17.0	+14.4	22.6	+17.4	24.5	+5.3	47.0	+5.6	58.2	+5.9	61.2	−1.0	69.7	+2.6	64.8	+0.4	52.4	−3.4	42.4	0.0	22.9	−2.1	6.2	−3.8	40.7	+3.4
Turtle Lake	15.8	.....	22.8	.....	26.3	.....	44.4	.....	58.8	.....	62.1	.....	70.4	.....	^{d}65.7	.....	52.8	.....	42.9	.....	.....	.....	11.4	.....	41.2	.....
Valley City	18.2	+13.4	22.4	+12.8	24.9	−1.2	41.6	−2.2	59.1	+6.5	60.0	−3.2	69.2	+1.2	66.6	+1.0	.....	.....	41.9	−3.3	15.8	−13.9	^{d}10.8	−2.9	.....	.....
Wahpeton	17.0	+9.2	23.2	+13.3	26.6	+0.4	44.7	+0.4	62.0	+6.7	62.8	−2.0	72.6	+3.3	68.4	+1.5	56.0	−2.6	45.9	0.0	24.0	−4.3	11.6	−3.1	42.9	+1.9
Westhope	16.0	+17.4	21.6	+18.3	^{a}23.4	+2.5	40.8	+1.1	55.9	+4.5	58.9	−2.7	68.4	+2.3	63.2	−0.9	50.2	−4.6	38.4	−3.0	17.8	−9.0	4.8	−4.2	38.3	+1.8
Williston	19.4	+13.0	26.0	+17.9	29.0	+6.1	44.6	+2.6	57.0	+3.0	60.6	−2.1	71.6	+2.7	65.8	−0.3	51.0	−5.6	44.0	+0.6	23.4	−3.8	10.3	−3.5	41.9	+2.6
Willow City	14.4	+14.1	18.8	+16.1	23.2	+4.9	40.1	−0.1	56.6	+5.1	57.8	−3.2	67.6	+2.3	^{a}62.6	−0.9	50.1	−4.2	39.6	−2.1	^{c}18.5	−3.6	^{a}5.0	−3.5	37.9	+2.1
Moorhead, Minn.	14.3	+10.5	20.5	+12.4	23.4	+0.7	42.0	+1.4	60.2	+5.1	60.2	−4.2	70.2	+2.1	66.6	+0.5	53.8	−4.4	43.0	−1.5	21.7	−5.4	9.0	−2.5	40.4	+1.2

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. ^{a}, 1 day missing, ^{b}, 2 days missing, etc.

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JULY.—Generally weather conditions throughout the State were somewhat unfavorable. The temperature averaged three degrees above the normal, and, while the precipitation only averaged 0.61 inch below the normal, the distribution was uneven geographically. As a result of these adverse conditions crops suffered in many parts of the State from drought, and pastures, ranges and meadows suffered accordingly, particularly in the central and western portions of the section.

AUGUST.—The month opened with a general lack of moisture in the soil. Light to heavy local showers relieved this condition in some sections, but generally more rain was needed. Harvesting and early threshing made good progress during the first half of the month, being delayed more or less by showers during the last half. From the 17th to the 20th, inclusive, showers were general and greatly benefitted pastures and ranges, and improved conditions for fall plowing.

SEPTEMBER.—The month opened with cloudy and stormy weather, a condition which prevailed throughout the first half of the month. During this period threshing of grains and the harvesting of flax made small progress. Rains from the 20th to 24th, inclusive, improved conditions for fall plowing, and much seeding of winter rye was accomplished.

OCTOBER.—Showery weather characterized the opening of the month, which delayed threshing and the harvesting of late flax, but fall plowing and seeding of winter rye made excellent progress during the first and second decades. The third decade opened with general showers, which delayed farm work somewhat, but on the whole fair progress was made. Livestock ranged freely on pastures, ranges and harvested fields throughout the month and was in excellent condition. More than the usual volume of road work was accomplished.

NOVEMBER.—Generally fair weather and mild temperature prevailed during the first decade, and during this period rapid progress was made in fall plowing and late seeding of winter rye. Nearly normal temperature prevailed during the second decade and much corn husking was done. During the first and second decades livestock ranged freely, saving much feed. The third decade was cold and stormy, effectively stopping most outdoor work, and necessitating much yard feeding of livestock.

DECEMBER.—Changeable temperature characterized the weather during the month. A cold wave accompanied by continued high wind prevailed from the 13th to the 17th, inclusive, and caused great suffering to live-stock and delayed railway and highway traffic. During the greater part of the month live-stock ranged freely on ranges and harvested fields, and only during the cold period was much yard feeding done. A general storm covered the State on the 3d and 4th, while light to moderate scattered snowfall occurred on the 11-12th and 22-23d.

Killing Frosts

STATIONS	Last in Spring	First in Autumn	STATIONS	Last in Spring	First in Autumn
Amenia	May 22	Sept. 19	Langdon	May 19	....
Amidon	Apr. 27	" 12	Larimore	" 19	Sept. 19
Arnegard	" 27	" 19	Linton	" 20	" 24
Ashley	June 3	" 22	Lisbon	" 22	" 20
Beach	May 15	....	McClusky	June 2	" 18
Berthold Agency	" 13	Sept. 25	McKinney	" 8	" 20
Bismarck	" 3	" 24	McLeod	" 3	" 25
Bottineau	June 2	" 24	Maddock	" 2	" 19
Bowman	May 14	....	Mandan	May 3	" 24
Cando	" 19	....	Manfred	" 3	" 19
Carson	" 3	Sept. 19	Marmarth	" 13	" 22
Crosby	June 2	" 24	Mayville	" 22	" 19
Devils Lake	May 19	" 22	Melville	" 19	" 18
Dickinson	Apr. 28	" 19	Minot	June 2	" 24
Dogden	June 2	" 24	Minto	" 10	" 19
Dunn Center	May 14	" 19	Mott	Apr. 18	" 21
Dunseith	" 21	" 24	Napoleon	June 2	" 24
Eckman	June 2	" 18	New England	Apr. 27	" 18
Edgeley	May 22	" 22	New Salem	June 2	" 25
Ellendale	" 3	" 22	Park River	May 20	" 19
Energy	June 2	" 18	Pembina	June 25	" 12
Epping	May 13	....	Pettibone	" 2	" 19
Fessenden	June 2	Sept. 18	Power	" 9	" 23
Finley	May 3	....	Powers Lake	" 9	" 21
Foxholm	June 2	Sept. 24	Richardton	Apr. 25	" 19
Fryburg	....	" 23	Sharon	May 19	" 22
Fullerton	May 19	" 25	Stanton	....	....
Granville	June 2	" 19	Steele	June 2	Sept. 12
Garrison	May 19	" 22	Towner	" 2	" 19
Grafton	" 22	" 22	Turtle Lake	" 2	" 18
Grand Forks	June 2	" 18	Valley City	May 19	" 19
Hansboro	" 18	" 13	Wahpeton	" 22	" 25
Hettinger	May 31	" 23	Washburn	....	" 24
Hillsboro	" 19	" 22	Westhope	June 2	" 23
Howard	June 2	....	Williston	Apr. 27	" 23
Jamestown	May 3	Sept. 22	Willow City	June 8	" 9
Lamoine	June 2	" 19	Moorhead, Minn.	May 22	" 24

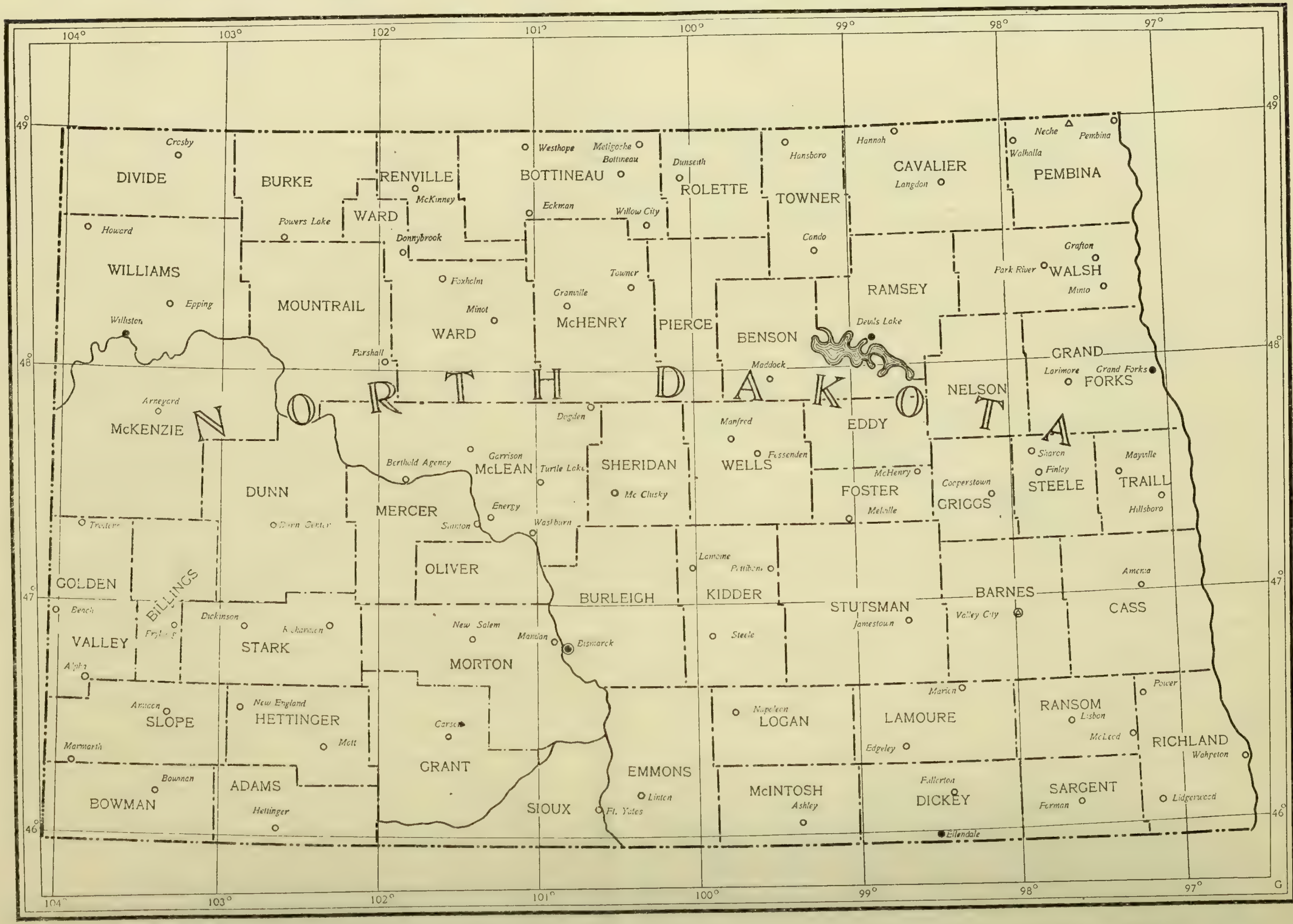
Comparative Annual State Data

Year	Temperature				Average precipitation	Departure
	Mean	Departure	Highest	Lowest		
1892	37.8	−1.0	108	−52	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	−2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	−48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	−44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60
1921	42.0	+3.2	110	−33	19.59	+1.65
1922	39.7	+0.9	115	−46	19.75	+1.81
1923	40.7	+1.9	103	−40	17.76	−0.18
1924	38.2	−0.6	105	−46	17.55	−0.39
1925	40.6	+1.8	111	−39	16.81	−1.13
1926	40.7	+1.9	108	−36	15.70	−2.24

Climatological Summary, 1926

Month	Temperature in degrees Fahrenheit				Precipitation, in inches				Sky			Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Number of rainy days	Clear	Pt. cloudy	Cloudy	
January	16.3	+11.4	55	−30	0.38	−0.16	4.1	4	13	8	10	nw.
February	22.3	+14.4	58	−19	0.41	−0.08	3.7	4	9	9	10	nw.
March	25.8	+3.2	83	−23	0.24	−0.59	1.8	3	13	10	8	nw.
April	42.8	+1.1	98	− 4	0.28	−1.10	0.9	3	17	8	5	nw.
May	58.5	+5.9	105	10	2.18	−0.37	T.	7	13	11	7	nw.
June	60.7	−2.1	104	22	2.65	−0.85	0	9	13	9	8	nw.
July	70.3	+2.8	108	32	2.00	−0.61	0	7	18	8	5	[illegible]
August	65.6	+0.2	105	36	2.43	+0.15	0	7	14	8	9	nw.
September	52.3	−4.1	95	9	2.42	+0.78	0.5	9	11	9	10	nw.
October	42.6	−1.2	85	4	1.19	+0.49	1.0	6	10	10	11	nw.
November	21.5	−5.1	68	−23	0.65	+0.07	6.2	5	6	7	17	nw.
December	9.2	−3.8	55	−36	0.57	+0.03	4.5	4	14	8	9	nw.
Annual	40.7	+1.9	108	−36	15.70	−2.24	22.7	68	151	105	109	nw.

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI BISMARCK, N. D., JANUARY, 1927 No. 1

GENERAL SUMMARY

Mild and pleasant weather characterized the opening of the the month, a condition that prevailed during the first six days. General snows occurred on the 7th and 8th, with scattered snows ot the 9th. Mostly fair weather prevailed from the 10th to the 15th, inclusive. Snow was general from the 16th to the 20th, clearing on the 21st and remaining pleasant until the 29th, when scattered snows again occurred, continuing to the close of the month. Taken as a whole, the weather of the month was favorable for outdoor work and for livestock. Ice harvesting made excellent progress and was practically completed at the close. With the exception of some old and crippled horses, the loss of livestock was comparatively light. The snow covering was generally ample for winter rye.

TEMPERATURE

The mean temperature for the State was 10.1°, or 5.2° above the normal, and 6.2° lower than the mean for January, 1925. The highest mean reported was 21.6° at Hettinger, Adams County; the lowest was -0.8° at Dunseith, Rolette County. The highest temperature reported was 60° at Valley City, Barnes County, on the 8th; the lowest was -44° at Hansboro, Towner County, on the 24th. The greatest monthly range of temperature was 86° at Hansboro, Towner County. The greatest daily range was 55° at Steele, Kidder County on the 29th.

PRECIPITATION

The average precipitation for the State was 0.41 inch, or 0.13 inch below the normal, and 0.03 inch more than the average for January, 1926. The greatest monthly amount reported was 1.24 inches at Lisbon, Ransom County; there was none at Westhope, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Lisbon, Ransom County, on the 30th. The average snowfall was 4.8 inches. The average number of days with 0.01 inch or more of precipitation was 4.

AURORAS

Auroras were observed at Linton, Trotters and Willow City on the 1st; at Foxholm on the 2d; at Bottineau and Foxholm on the 3d; at Devils Lake and Foxholm on the 4th; at Foxholm on the 6th and 10th; at Willow City on the 24th; at Arnegard, Bottineau, Eckman, Foxholm, Sharon, Stanton, Willow City, and Moorhead (Minn.) on the 25th; at Napoleon and Towner on the 26th, and at Howard on the 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.21	31.05	14	29.49	29	57	6,658	8.9	42	nw.	8
Devils Lake	30.18	30.99	14	29.43	3	44	7,345	9.9	37	n.	8
Ellendale	30.20	31.03	14	29.40	29	56	11,204	15.1	50	nw.	9
Grand Forks	30.16	30.94	14†	29.40	3†	90	....	......	44	nw.	9†
Williston	30.20	31.01	14	29.47	29	48	5,474	7.4	37	nw.	8
Moorhead, Minn	30.20	31.03	14	29.34	29	58	6,920	9.3	36	nw.	9
Av'ges and extremes	30.19	31.05	14	29.34	29	.....	....	10.1	50	nw.	9

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	125.0	279.2	45	− 8	83	67	79	40	22
Devils Lake	197.2	275.8	72	+21	86	84	86	71	1
Ellendale	183.0	282.9	65	+12	83	73	....	53	1
Grand Forks	......	......	......	......	80	....	82	.....	....
Williston	161.1	275.8	58	+ 5	82	68	77	41	22
Moorhead, Minn	159.5	279.2	57	+ 4	93	74	89	50	1
Averages and extremes	165.2	278.6	59	+ 7	84	73	83	40	22

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893	0.8	−4.1	52	−48	0.98	+0.44	7	11	11	9	nw.
1894	0.6	−4.3	60	−47	0.39	−0.15	4	13	9	9	nw.
1895	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896	5.3	+0.4	58	−42	0.70	+0.16	6	9	9	13	nw.
1897	3.6	−1.3	49	−38	0.79	+0.25	5	11	9	11	nw.
1898	14.6	+9.7	69	−32	0.11	−0.43	2	15	8	8	nw.
1899	5.2	+0.3	55	−41	0.25	−0.29	3	13	9	9	nw.
1900	15.4	+10.5	70	−30	0.22	−0.32	3	15	9	7	nw.
1901	7.7	+2.8	68	−39	0.28	−0.26	4	14	8	9	nw.
1902	12.7	+7.8	51	−40	0.14	−0.40	2	17	7	7	nw.
1903	9.4	+4.5	56	−37	0.66	+0.12	5	13	8	10	nw.
1904	3.6	−1.3	50	−52	0.37	−0.17	5	15	6	10	nw.
1905	0.9	−4.0	48	−40	0.30	−0.24	3	15	8	8	nw.
1906	12.2	+7.3	60	−38	0.69	+0.15	4	14	6	11	nw.
1907	−6.2	−11.1	45	−45	1.40	+0.86	8	12	8	11	nw.
1908	17.0	+12.1	70	−44	0.18	−0.36	2	17	8	6	nw.
1909	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914	14.8	+9.9	62	−38	0.50	−0.04	4	12	8	11	nw.
1915	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916	6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921	15.9	+11.0	58	−31	0.24	−0.30	2	13	9	9	nw.
1922	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.
1923	10.1	+5.2	56	−35	0.53	−0.01	5	9	9	13	nw.
1924	2.6	−2.3	61	−42	0.23	−0.31	3	14	9	8	nw.
1925	8.6	+3.7	52	−35	0.22	−0.32	3	11	10	10	nw.
1926	16.3	+11.4	55	−30	0.38	−0.16	4	13	8	10	nw.
1927	10.1	+5.2	60	−44	0.41	−0.13	4	14	8	9	nw.

Climatological Data for January, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										0.19		0.11		2					H. A. Bury
Amenia	Cass	954	31	8.6	+4.1	41	1	-29	26	52	0.48	-0.02	0.32	6.0	3	23	6	2	n.	E. T. Carley
Amidon	Slope		13	17.0	+2.9						0.60	+0.13	0.30	6.0	3					W. H. Toussaint.
Arnegard	McKenzie		12	11.6[a]	+0.9	41[a]	2	-27[a]	21†	37[a]	0.90	+0.34	0.40	9.0	4	18	6	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	13.5	+6.0	45	3	-22	22	32	0.85	+0.30	0.30	8.0	3	15	4	12	nw.	H. D. Piper.
Beach	Golden Valley	2,579	21	15.2	+5.9	41	2†	25	21	30	0.26	-0.37	0.10		6					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	11.9	+4.4	44	1†	33	21	34	0.40	0.00	0.40	4.0	1	17	0	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	14.0	+6.2	44	2	-26	21	33	0.24	-0.30	0.15	2.9	4	11	7	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	4.7	+5.4	39	28	37	21	32	0.23	-0.23	0.12		3	14	8	9	nw.	T. M. Street.
Bowman	Bowman	2,961	13																	R. Love, Jr.
Cando	Towner	1,488	26								0.42	+0.02	0.39		3	16	5	10	w.	A. J. Swanson.
Carson	Grant	2,500	15	14.6	+4.7	40	1†	25	21	35	0.40	+0.06	0.24	4.8	5	10	12	9	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	21								0.60	+0.10	0.30	6.0	4	15	8	8	nw.	S. Friswold.
Crosby	Divide	1,954	20	5.5	+3.8	38	1	-34	21	28	0.35	0.14	0.27	4.0	4	12	7	12	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	6.5	+6.2	39	1	-26	21	34	0.55	-0.05	0.40	3.0	6	13	10	8	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	12.4	+2.1	40	1†	33	21	49	0.49	+0.07	0.15	3.8	10	17	2	12	sw.	Leroy Moomaw.
Dogden‡‡	McLean	1,880		10.0		40	1	-31	21	32	0.17		0.05	2.2	4	15	5	11	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	13.0	-0.8	41	2	32	21	37	0.20	-0.31	0.20	1.0	1	10	0	21	w.	W. F. Moede.
Dunseith	Rolette	1,682	31	-0.8	-2.3	38	1	36	10†	39	0.04	-0.43	0.02	0.5	2	10	15	6	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	22	6.6	+6.0	48	1	37	21	35	0.37	0.19	0.22	2.0	2	3	14	14	w.	C. E. Strock.
Edgeley	LaMoure	1,468	26	13.6	+5.8	46	2	22	26	37	0.54	+0.25	0.30	6.0	2	8	8	15	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	28	13.5	+2.8	45	1	27	22	59	0.19	+0.09	0.18	9.1	6	9	8	11	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	15	13.2[a]		45[a]	1†	36[a]	21	35[a]	0.14	-0.15	0.10	1.5	2	10	15	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	19	7.7		39	28	34	21	36	0.29	0.27	0.10	6.0	6	19	6	6	nw.	A. O. Wang.
Fessenden	Wells	1,610	15	8.8	+5.6	43	3	-28	21	45	0.46	0.14	0.29	4.5	2	20	6	5	sw.	T. D. Monsen.
Forman	Sargent	1,249	33								0.68	+0.15	0.22	9.0	5	10	12	9	n.	O. Luger.
Fort Yates	Sioux	1,670									0.80	+0.27	0.20	8.0	7					P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	9.7		40	1	-27	21	32	0.41		0.19	2.8	6	8	13	10	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9								0.51		0.22	5.0	5	17	8	6	nw.	Verne King.
Fullerton	Dickey	1,439	29	14.2	+6.4	44	1	25	22	34	1.23	+0.48	0.62	12.3	5	11	10	10	s.	F. O. Alin.
Garrison	McLean	1,901	32	11.5	+5.0	42	1	27	21	36	1.02	+0.59	0.62		3	19	4	8	nw.	Wm. H. Robinson.
Grafton	Walsh	827	55	6.4	+5.5	41	1	-35[a]	26	35[a]	0.75	+0.15	0.41		5	19	5	7	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	36	6.8	+3.2	40	1	28	26	40	0.33	0.25	0.13	4.1	6	12	10	9	s.	U. S. Weather Bureau
Granville	McHenry	1,504	20	5.6	+3.9	37	2†	-28	19	32	0.26	-0.25	0.18	3.0	2	15	12	4	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33								0.32	0.40	0.24	4.0	2					J. Moffatt.
Hansboro	Towner	1,597	19	6.0	+8.3	42	3	44	24	38	0.20	-0.75	0.20	3.0	1	13	10	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	21.6[b]	+9.1	46	1†	-22[c]	19	52[c]	0.16	-0.16	0.10		3	20	1	10	nw.	U. J. Downey.
Hillsboro	Traill	901	21	10.2	+6.3	40	1	27	26	31	0.25	0.49	0.16	2.5	3	15	9	7	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	20	7.0	+5.5	38	2	-34	21	29	0.40	0.25	0.20	1.2	2	19	7	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	8.6	+2.1	42	28	23	26	50	0.62	-0.02	0.40	6.2	6	16	5	10	w.	S. Calvelage.
Lamoine	Kidder	1,936	22	8.8	+4.8	38	2†	-28	21	38	0.30	-0.31	0.10	3.0	3	18	2	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	31	2.5	+5.2	39	1	37	21	47	0.18	-0.47	0.18	2.0	1	18	9	4	sw.	R. F. Burke.
Larimore	Grand Forks	1,134	33	8.6	+6.0	40	1†	-27	26	39	0.53	-0.18	0.27	6.0	3	15	8	8	s.	Reuben Gray.
Linton	Emmons	1,711	9	12.9[a]	+2.2	42[a]	27	-29[c]	19	46[a]	0.37	0.03	0.24	4.5	5	14	5	12	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	11.0	+5.1	42	1†	29	26	51	1.24	+0.54	0.80	13.2	5	15	11	5		W. S. Adams.
McClusky	Sheridan	1,943	9	8.8		40	1	-28	21	41	0.75		0.20	7.5	7	13	9	9	nw.	Edw. Ta[illegible]y.
McKinney ‡‡	Renville	1,640	33	8.6	+5.4	40	2†	32	21	37	0.20	-0.16	0.20	2.0	1	13	12	6	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	14.8	+7.1	45	2	-32	26	48	0.39	-0.28	0.19	3.9	4	19	3	9	nw.	J. G. Carlson.
Maddock	Benson	1,604	11	9.7	+4.4	43	1	29	21	35	0.11		0.06	1.3	3	9	12	10	nw.	A. T. Felland.
Mandan	Morton	1,644	13	12.5	+4.0	44	28	-25	21	43	0.18	-0.05	0.07		6	10	1	20	sw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	12.7	+8.7	58	3	25	21	32	0.45	0.20	0.12	4.8	6	10	14	7	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	13.9	+3.6	42	1	-39	20	45	0.43	+0.13	0.20	6.3	8	9	8	11		S. P. Grane.
Mayville	Traill	975	31	9.8	+3.7	40	1†	-30	26	35	0.49	0.00	0.21	5.5	3	17	3	11	n.	N. C. Furhans.
Melville	Foster	1,590	29	10.6	+5.0	40	1†	-27	21	39	0.22	-0.16	0.10	2.5	3	9	14	8	nw.	J. P. Kidder.
Metigoshe ‡‡	Bottineau		1								0.27		0.27	4.0	1	29	0	2	nw.	J. A. Thorburn.
Minot	Ward	1,557	31	11.0	+6.0	42	3	-31	21	38	0.40	-0.05	0.30	4.0	2	13	13	5	w.	W. I. Farris.
Minto	Walsh	820	34	5.8	+4.0	42	28	33	26	35	0.29	0.20	0.18		5	16	9	6	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	13.8	+6.3	43	3	30	19	41	0.60	0.28	0.27	4.8	4	11	8	12	w.	O. H. Opland.
Napoleon	Logan	1,955	35	9.6	+3.7	40	1†	-28	21	42	0.50	+0.05	0.30	5.0	2	13	5	13	nw.	C. J. Hoof.
New England	Hettinger	2,400	36	18.4	+5.1	48	1†	-30	19	45	0.60	+0.18	0.27	5.1	5	11	8	12	w.	Walter L. Sales.
New Salem	Morton	2,163	23	14.8	+7.1	44	3	-27	21	31	0.22	-0.41	0.09	2.2	6	14	8	9	nw.	J. Christiansen.
Park River	Walsh	998	23	7.4	+5.6	40	1†	28	21	35	0.12	-0.32	0.06	3.0	2	15	8	8	sw.	C. B. Wright.
Parshall (near)	Mountrail		12																	Carl J. Knutson.
Pembina	Pembina	789	53	4.8	+7.7	40	2†	-34	21	41	0.27	0.37	0.27	3.0	1	17	8	6	n.	C. W. [illegible]
Pettibone	Kidder	1,856	18	10.3	+10.3	40	2	28	21	33	0.67	+0.16	0.30	6.8	6	9	7	15	nw.	A. L. Carson.
Power	Richland	1,020	33								0.55	-0.10	0.25	5.5	4	13	9	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	13	11.1		46	3	28	21	35	0.37	0.41	0.35	5.0	2	21	7	3	w.	[illegible]
Richardton	Stark	2,467	11	15.4	+3.8	42	2†	25	21	36	T.	-0.52	T	T.	0	16	6	9	nw.	John [illegible]
Sharon	Steele	1,516	2	8.5		39	1	-24	26	31	0.26		0.10	3.0	8	13	9	9	nw.	Ness O. Gresheim.
Stanton	Mercer	1,722	3								0.40		0.20	4.0	3	17	2	12	nw.	J. H. Giffey.
Starkweather	Ramsey			11.0		40	29	-34	21	43	0.51		0.40	5.5	2	21	0	10	nw.	F. R. Irons.
Steele	Kidder	1,857	31	7.2	0.4	40	2	-28	23	55	0.16	0.36	0.08	2.0	2	16	10	5	nw.	H. S. Wood.
Towner	McHenry	1,482	25	7.2	+4.6	39	1†	34	21	38	0.08	0.41	0.08	1.0	1	20	4	7	nw.	B. Bagley.
Trotters	Golden Valley		1								0.19		0.10	3.0	4	9	2	20		A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	11.0	+2.2	42	1	-28	21	36	1.65	+0.64	0.60	10.5	3	16	11	4	nw.	A. T. Anderson.
Valley City	Barnes	1,245	22	11.9	+7.1	60	8	-23	26	52	0.88	+0.22	0.40	8.8	5	15	10	6	nw.	F. V. Meier.
Velva	McHenry										0.50		0.22	4.9	6	12	11	8	w.	Oscar Anderson.
Wahpeton	Richland	962	33	12.8	+5.0	41	1†	-31	26	34	0.06	-0.45	0.04	0.6	6	20	0	11	nw.	C. G. Lueck.
Walhalla	Pembina	976	22																	H. W. Smith.
Westhope	Bottineau	1,508	25	2.9	+1.3	39	28	38	21	35	0.00	0.56	0.00	0.0	0	9	12	16	nw.	W. A. McGaugh.
Williston	Williams	1,878	48	10.8	+4.4	41	28	-31	21	27	0.62	+0.04	0.33	6.5	7	13	9	9	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	3.8	+3.5	38	1	-46	21	39	0.30	0.28	0.15	3.0	4	11	12	8	nw.	M. A. Ostby.
Wilton	McLean			13.0		44	1†	-26	21	30	0.21		0.15	2.5	3	16	4	11	nw.	L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	10.0	+6.2	43	1	-27	26	38	0.74	+0.03	0.23	7.9	10	12	5	14	s.	U. S. Weather Bureau.
Averages				10.1	+5.2	60	8	44	24	55	0.41	+0.13	0.80	4.3	4	14	8	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for January, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri					T.			T.							T.	.11	T.		.08													0.19
Amenia ||	Red								T.									.08	T.			.08									.32	T.	[illegible]
Amidon	Lit. Missouri								T.				T.					T.	.20		.30									.10			0.60
Arnegard	Missouri							.40					T.				T.	.30	.10											T.	.10		0.90
Ashley	Missouri																		.30		[illegible]									[illegible]			[illegible]
Beach	Lit. Missouri					T.		.01	.01				T.				T.	.07	.10		.03	T.					T.			[illegible]	T.	T.	0.26
Berthold Agency	Missouri							.40																									0.40
Bismarck ***	Missouri							T.	T.			T.	.02				T.		[illegible]		.01					T.	T.			.06	T.	T.	0.24
Bottineau||	Mouse							.12	.10	T.				T.			.01	T.	T.	T.										T.	T.	T.	0.23
Bowman	Grand																																......
Cando	Devils Lake	T.								.39		.01						T.	.02											T.		T.	0.42
Carson	Heart													.02			.10		.24										.02	.02			0.40
Cooperstown	Sheyenne							.30	.10									.10	T.	T.	T.									.10	T.	T.	0.60
Crosby	Mouse							.27	.04																						.02	.02	0.35
Devils Lake ***	Devils Lake	T.						.35	.11	T.		.01					.05		.01											.02	T.	T.	0.55
Dickinson||	Heart							.08					T.	.03			.05	.03	.15	.03	.03										.03	.03	0.19
Dogden	Mouse							.05	T.	T.		T.	T.				.05	T.	.04											.03	T.	T.	0.17
Dunn Center ||	Knife							.20																									0.20
Dunseith	Mouse								.02								.02													T.	T.		0.04
Eckman	Mouse							.15	.22																							T.	0.37
Edgeley	James								T.										.24		T.										[illegible]		0.54
Ellendale***	James					T.		T.				T.	T.	T.			T.		.08	.01	.18									.16	.02	.04	0.49
Energy	Missouri	T.						.10	T.				T.					.04												T.			0.14
Epping	Missouri				.05												.10	.05							T.	T.			.01	.03	.05		0.29
Fessenden||	James									.29									.17														0.46
Finley	Red																																......
Forman	Sheyenne							T.					T.					T.	.12	.04	.12									.32	.08		0.68
Fort Yates	Missouri												.10						.20	.10	.10									.10	.10	.10	0.80
Foxholm (near)	Mouse							.19	.14			T.	T.				.02		.03	T.										T.	.02	.01	0.41
Fryburg	Heart							.10		.10		.03					T.	.22													.06		0.51
Fullerton	James							.03	T.	T.		T.	T.	T.			T.		.20	.07	[illegible]									[illegible]		T.	1.23
Garrison	Missouri							.62	.24								.16																1.02
Grafton	Red			T.				.05	.19	.41		T.						.03	T.	.07					T.					T.	T.		0.75
Grand Forks ***	Red							.08	.13	.03							.02		T.											.05	.02		0.33
Granville	Mouse							.08	.18			T.								T.										T.			0.26
Hannah	Pembina		T.						.24													.08							T.				0.32
Hansboro	Devils Lake								.20																								0.20
Hettinger	Grand							T.									.04		.10	T.	T.									.02			0.16
Hillsboro	Red							.10	T.												.05									.10			0.25
Howard (near)	Missouri							.30							.10															T.	T.		0.40
Jamestown||	James							.05									.02		.05		.05									.40		.05	0.62
Lamoine	Missouri							.10									T.													.10	.10	T.	0.30
Langdon||	Pembina								.18																								0.18
Larimore	Red							.27	.18									.08															0.53
Linton	Missouri								T.			T.		.02				.24		.02	.02									.07	T.		0.37
Lisbon ||	Sheyenne							T.	T.		T.		T.	T.					.02	.16		.16	T.							.10	.80	T.	1.24
McClusky	Missouri							.20	.20			.10					.05		.10											.05	.05		0.75
McKinney (near)	Mouse								.20																						T.	T.	0.20
McLeod	Sheyenne							T.			.03								.19		.09										.08		0.39
Maddock	Sheyenne							.02	.06			T.					T.		.03											T.			0.11
Mandan||	Missouri									T.				.04				.01	.07	.02	T.									[illegible]	.01		0.18
Manfred	James							.07	.12	.04		T.					.10		.02										.10	T.		T.	0.45
Marmarth	Lit. Missouri					T.	.01	T.	.04				T.			.09		.20	.05	.02						.01			.01				0.43
Mayville	Red								.20													.10									.21		0.49
Melville	James							.10									T.	T.	.08												.04		0.22
Metigoshe	Mouse								.27																								0.27
Minot||	Mouse								.30										.10														0.40
Minto	Red							.01	.18	.08		.01																			.01		0.29
Mott	Cannon Ball					T.		.03							.03				.11	.27	.16									T.			0.60
Napoleon ||	Missouri													T.					.30											.20			0.50
New England	Cannon Ball					T.		.03							.03				.11	.27	.16									T.			0.60
New Salem	Heart							T.	.04	.04		T.	T.	.02			T.	T.	.09	.02	T.					T.				.01	T.	T.	0.22
Park River	Red							.06	.06																								0.12
Parshall (near)	Missouri																																......
Pembina||	Red								.27																								0.27
Pettibone	James								.10	T.		.10					.02		.05	T.	T.									.30		.10	0.67
Power	Sheyenne							.10												.10	.10									.25			0.55
Powers Lake	Missouri										.35						.02																0.37
Richardton	Heart							T.	T.				T.					T.	T.		T.									T.			T.
Sharon	Red							.07	.01	T.		.01	T.				.01	.02	.02	T.	.02				T.					.10	T.		0.26
Stanton	Missouri							.20				T.					.10		.10														0.40
Starkweather	Devils Lake							.30									.11																0.51
Steele	Missouri							T.	T.				T.						.08	T.	.08	T.						T.					0.16
Towner	Mouse							.08									T.													T.			0.08
Trotters	Lit. Missouri							.03					T.	T.	T.	T.	.03		.10	T.	T.									.03			0.19
Turtle Lake	Missouri							.60	.15								.30																1.05
Valley City	Sheyenne							*	.10			.40					T.		.08											.30			0.88
Velva								.10	.22								.07		.06											.04		.01	0.50
Wahpeton	Red							.01		.01									.01		.01	.01								.01			0.06
Walhalla	Pembina																																......
Westhope	Mouse																																0.00
Williston ***	Missouri							.33	.02			T.		.05			.06	.04	.06						T.	T.				.06	T.	T.	0.62
Willow City	Mouse							.15	.10								.03		T.	T.										.02	T.	T.	0.30
Wilton														.04			T.		.15		T.						T.			.05		T.	0.24
Moorhead, Minn ***	Red		T.					.18	.05	T.		T.					.02	.03	.08	.03	.08									.23	.02	.02	0.74

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace, or less than 0.01 inch.

Daily Temperatures for January, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	41	40	37	30	31	30	34	22	17	20	26	21	15	7	18	22	13	14	10	-5	-3	18	26	23	13	23	22	18	26	24	16	20.9
	Minimum...	15	15	27	20	16	15	13	22	5	-7	5	-3	-9	-17	-14	-7	-5	-17	-12	-16	-22	-26	-20	-12	14	-29	-22	-10	-5	9	-10	-3.7
Amidon	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum...	37	41	39	33	36	35	30	25	23	32	22	7	0	10	29	30	5	0	-4	-10	-5	10	30	16	-1	17	33	30	30	20	....	[a]20.0
	Minimum...	28	30	32	29	25	14	20	10	2	8	7	0	-13	-17	10	5	-13	-19	-22	-20	-27	-27	0	-1	-7	-4	9	20	16	1	....	[a]3.2
Ashley	Maximum...	38	40	45	42	40	40	35	34	22	34	25	14	9	5	24	30	28	0	-2	-2	-10	-2	17	20	18	14	28	39	36	20	19	22.6
	Minimum...	23	22	35	28	26	22	18	19	3	2	11	0	0	-14	-4	14	-4	-8	-18	-11	-17	-22	-13	0	-9	-21	7	12	19	9	6	4.4
Beach	Maximum...	40	41	40	37	41	35	36	28	24	35	25	13	7	10	34	35	10	-3	-3	-7	-3	14	23	24	16	26	36	38	33	22	23	23.5
	Minimum...	28	27	29	26	30	20	25	10	5	11	13	3	-6	-14	10	10	-10	-7	-20	-10	-25	-15	4	10	-4	-4	20	22	15	8	5	7.0
Berthold Agency	Maximum...	44	42	44	42	43	36	31	31	25	30	25	10	5	5	32	21	5	4	4	-5	-5	12	25	18	17	12	36	42	32	23	20	22.8
	Minimum...	10	20	27	29	21	16	16	10	2	0	10	4	-10	-14	2	0	-10	-11	-27	-18	-33	-20	6	-12	-7	-12	4	15	20	3	3	1.0
Bismarck	Maximum...	43	44	44	40	40	35	37	31	26	33	24	12	3	5	31	29	7	-3	0	-7	-5	8	25	26	1	22	34	43	32	21	19	22.6
	Minimum...	23	25	35	30	30	23	26	12	6	8	7	3	-6	-13	4	7	-8	-8	-13	-20	-26	-15	-5	-4	-14	-11	17	18	21	8	7	5.4
Bottineau §§	Maximum...	38	33	34	33	28	22	26	25	18	14	18	8	-4	-5	20	15	4	-5	-5	-12	-12	-2	12	11	-2	11	24	39	34	19	6	14.4
	Minimum...	31	32	31	15	9	3	3	17	0	-5	1	-13	-24	-24	-12	-2	-18	-23	-29	-29	-37	-26	-15	-5	-25	-21	1	13	14	1	-18	-5.0
Bowman	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carson	Maximum...	40	40	40	40	40	35	36	33	28	35	25	15	14	5	34	40	20	-4	-6	-7	-10	10	20	35	15	15	30	40	32	22	25	23.8
	Minimum...	28	26	34	28	28	20	25	19	0	9	10	1	-5	-16	-1	18	-10	-10	24	-14	-25	-20	10	2	-11	-11	14	20	20	11	8	5.3
Crosby	Maximum...	38	35	36	36	33	33	30	28	21	20	0	3	-3	0	20	8	-1	-10	16	20	-15	1	13	4	5	15	21	35	28	21	14	14.0
	Minimum...	12	12	30	24	12	18	8	9	1	0	9	-12	-15	-21	0	-1	-16	-20	-24	-23	-34	-15	-3	-18	-23	-3	8	15	8	-6	-6	-3.0
Devils Lake	Maximum...	39	36	37	32	30	27	29	27	13	21	17	1	-3	-1	23	11	-3	-8	-4	-13	-4	6	18	9	-10	13	32	38	26	19	9	15.1
	Minimum...	24	23	30	20	14	9	12	10	-2	-7	-4	-10	-15	-21	-6	-3	-18	-17	-18	22	-26	-15	-6	-11	-23	-21	13	18	14	2	-9	-2.1
Dickinson §§	Maximum...	40	40	39	38	36	35	35	29	26	36	15	10	4	15	34	36	-3	-3	-1	-5	7	15	25	24	1	24	38	40	27	19	24	22.1
	Minimum...	14	24	24	26	25	21	20	25	3	4	14	5	-5	-15	16	14	-6	-9	-24	-19	33	29	-10	3	-8	-9	-3	12	16	12	7	2.7
Donnybrook	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Dunn Center §§	Maximum...	41	44	41	39	43	36	36	31	25	32	29	11	8	4	32	32	11	8	-9	-4	-5	9	2	24	8	12	35	40	30	23	25	23.0
	Minimum...	29	24	31	25	28	18	26	14	-1	8	9	3	-9	-20	-5	8	11	12	-19	17	-32	-21	-1	9	11	-13	5	28	15	6	1	3.1
Dunseith	Maximum...	38	34	34	33	33	31	-5	15	-1	-5	-2	-2	-2	-2	-2	-6	-13	-9	-2	-1	-1	-1	22	14	6	12	28	35	34	22	7	10.1
	Minimum...	31	30	30	15	15	-14	25	-27	24	36	-17	-11	-24	-27	-23	-22	25	-27	-27	-29	-36	-22	11	8	-29	-27	3	13	12	3	-19	-11.7
Edgeley	Maximum...	43	46	41	39	40	36	35	35	22	28	26	13	8	4	29	29	29	-3	-2	2	-5	9	25	27	13	7	27	43	38	23	18	23.3
	Minimum...	20	26	32	29	27	21	18	21	5	1	11	0	0	-14	-6	10	-5	-10	-13	-11	-21	-19	12	3	-10	-22	6	11	20	5	5	3.9
Ellendale	Maximum...	45	40	43	42	37	35	37	34	23	26	28	12	11	7	28	30	13	-3	1	-7	-5	7	21	26	-1	17	28	41	35	23	20	21.9
	Minimum...	16	30	35	32	30	22	22	17	9	5	8	2	2	-11	0	13	5	-7	-7	-13	-22	-27	10	5	18	-22	17	13	18	8	9	5.1
Fessenden §§	Maximum...	41	39	43	36	37	32	31	25	23	23	16	10	4	11	30	18	-3	4	6	4	-6	10	19	17	3	20	35	40	32	12	12	19.3
	Minimum...	26	11	29	21	8	11	12	23	2	3	-4	-3	12	-22	-12	-1	10	-18	-20	-18	28	-21	-18	-6	-16	-20	-10	18	20	1	1	-1.7
Foxholm (near)	Maximum...	40	38	39	34	30	27	29	28	22	25	27	7	1	-1	26	18	11	-5	-2	-6	-5	9	19	17	2	13	35	37	35	20	10	18.7
	Minimum...	30	25	31	24	19	11	12	12	0	5	6	-3	-15	-17	-6	1	-15	-18	18	-20	-27	-14	1	-5	-22	-16	9	25	17	-4	-5	0.7
Fullerton	Maximum...	44	42	43	40	38	34	36	34	24	26	26	17	10	5	27	28	20	0	0	2	-3	3	23	27	10	10	29	39	33	21	21	22.7
	Minimum...	18	29	32	31	28	22	20	24	8	5	13	2	3	-12	0	11	7	6	-8	8	-15	25	-11	-4	-9	-22	10	12	15	10	7	5.6
Garrison	Maximum...	42	39	40	37	35	33	32	32	24	28	24	10	2	4	32	21	8	-3	2	-6	4	10	25	14	3	11	36	39	34	22	20	20.8
	Minimum...	21	23	33	25	22	13	18	13	2	4	9	2	10	-17	-4	8	-14	-12	-16	19	-27	-22	-2	-8	-13	-12	7	18	22	1	2	2.2
Grafton	Maximum...	41	40	38	36	35	29	22	25	23	20	14	9	1	-1	20	17	8	-4	1	1	4	7	20	16	1	-4	31	40	38	15	11	17.5
	Minimum...	16	22	29	21	17	7	0	-3	...	-11	5	-7	-15	-21	-15	0	-13	-23	-20	19	-26	-18	12	9	-24	-35	-1	11	14	5	-13	[a]-4.6
Grand Forks	Maximum...	40	34	38	33	25	20	32	33	19	14	16	6	3	3	20	12	1	-3	3	10	6	3	23	9	-10	12	29	39	25	12	10	15.6
	Minimum...	19	24	30	19	15	9	6	13	1	-8	2	-9	10	-19	-6	-1	-19	-19	-13	16	-20	-18	11	10	24	-28	12	13	10	5	-6	-1.9
Granville	Maximum...	32	37	37	30	30	15	28	28	12	18	12	10	-10	2	4	6	5	-5	-5	2	-12	-2	5	7	-2	14	25	28	28	22	10	13.1
	Minimum...	22	22	28	19	20	10	10	12	0	-2	4	-10	-15	-17	25	2	12	27	28	20	-14	-14	-17	-11	-22	-18	10	20	19	4	-8	-2.0
Hansboro	Maximum...	30	34	42	38	33	31	26	26	20	8	15	28	14	23	28	20	14	23	17	20	15	12	17	-12	-5	13	34	37	29	13	12	20.0
	Minimum...	3	10	14	10	12	8	5	-2	-10	-14	-20	-9	-15	11	6	18	12	8	-10	15	16	-17	-41	-44	-35	-7	11	7	9	5	-25	-7.9
Hettinger	Maximum...	46	46	45	41	40	43	41	40	46	40	34	27	36	32	37	46	28	25	30	32	21	27	30	31	25	22	35	40	41	38	31	35.4
	Minimum...	33	30	26	....	....	....	....	....	22	30	15	10	9	26	28	24	-1	4	-22	-6	-19	-17	2	-6	-6	-9	8	11	20	21	3	[e]7.9
Hillsboro	Maximum...	40	38	39	36	31	26	30	33	24	16	22	12	7	3	22	20	14	1	5	4	5	0	24	20	8	1	29	39	35	15	14	19.4
	Minimum...	18	25	32	27	18	14	10	23	6	-6	11	-5	-7	-16	-8	4	-8	-16	-11	10	-20	24	-10	-4	-19	-27	0	13	15	7	2	1.1
Howard (near)	Maximum...	37	38	37	32	33	25	30	30	25	26	21	1	-5	1	23	15	-8	-10	-20	17	-5	10	15	14	-13	16	34	35	30	13	12	15.3
	Minimum...	22	22	28	18	19	5	8	18	5	12	0	-7	-20	-23	-3	-12	-15	-21	-24	-27	-34	-15	0	-3	-20	-13	17	20	10	-7	-3	-1.4
Jamestown §§	Maximum...	39	37	38	37	35	30	27	25	8	30	13	10	1	8	16	13	-5	3	3	6	4	0	21	13	-2	8	30	42	29	20	14	17.0
	Minimum...	11	25	24	27	23	20	15	19	5	1	2	2	-3	-15	17	-5	-7	-14	-11	15	21	-22	18	-6	-12	-23	-20	11	19	13	0	0.3
Lamoine	Maximum...	36	38	38	35	37	27	31	30	18	22	12	7	8	1	26	23	18	7	-6	-5	9	1	19	17	9	11	28	38	32	21	14	18.4
	Minimum...	18	23	23	22	18	13	13	18	-2	1	6	3	-9	-20	-9	1	10	-12	-16	20	28	-21	11	-21	-12	-18	10	10	16	-1	-1	-0.8
Langdon §§	Maximum...	39	35	34	29	25	20	26	24	11	18	11	0	2	5	17	6	5	-2	-3	5	4	6	15	6	0	8	27	34	24	16	15	14.3
	Minimum...	15	13	15	15	5	0	2	5	0	-4	-3	-15	-24	-28	22	10	-18	-28	-22	-26	-37	-23	14	-6	-34	30	-20	13	12	4	-22	-9.3
Larimore §§	Maximum...	40	38	38	34	30	31	31	25	20	20	14	9	1	0	15	15	0	2	1	-7	0	14	22	11	0	12	30	40	26	20	10	17.4
	Minimum...	25	21	32	24	13	10	9	20	4	-7	8	-8	-9	-20	9	0	12	-21	-16	-18	27	-17	-5	6	-22	-27	12	15	20	6	-6	-6.1
Linton	Maximum...	41	39	40	41	34	35	40	38	23	25	25	13	9	7	30	29	25	....	15	7	2	0	25	27	7	14	42	41	34	22	21	[a]24.9
	Minimum...	10	13	29	25	20	20	21	19	3	-1	9	1	0	-18	-2	12	11	....	-29	-12	25	-27	21	-14	-12	-17	12	6	14	1	1	[a]0.9
Lisbon §§	Maximum...	42	39	34	35	35	33	34	40	32	28	26	11	11	13	25	24	10	1	5	-5	6	3	18	30	5	23	24	42	34	18	18	21.6
	Minimum...	19	22	18	16	12	20	15	24	6	0	4	0	-4	-13	12	-6	-5	10	-10	12	-16	-25	-11	-10	-16	-29	20	14	16	12	6	0.5
McKinney (near)	Maximum...	31	40	40	33	30	30	30	32	20	32	24	24	-4	0	25	21	10	-5	0	-5	5	10	20	10	0	15	40	38	31	21	10	19.3
	Minimum...	30	20	30	28	10	10	3	15	0	-5	5	-9	-15	-18	-10	-5	-18	12	-21	-24	32	-12	5	-10	-25	18	16	20	16	-5	-10	-2.0
Maddock	Maximum...	43	36	38	35	33	30	30	32	32	25	22	22	4	0	25	22	14	-5	6	-2	5	8	19	18	9	16	34	38	37	20	13	21.0
	Minimum...	21	21	30	22	15	16	8	19	-1	-7	6	-9	-16	-21	9	-3	-13	-19	-14	21	-29	16	-8	-6	-22	-19	8	16	13	3	-8	-1.6
Melville	Maximum...	40	40	40	35	37	32	30	30	21	25	22	10	8	0	20	21	18	2	0	0	-9	7	24	20	12	14	35	38	38	22	10	20.6
	Minimum...	24	23	32	25	20	14	12	20	0	-2	8	5	-8	-18	8	2	10	-15	-15	-16	-27	-18	15	-3	-18	-21	4	14	14	0	0	0.6
Minot §§	Maximum...	35	41	42	41	38	38	30	32	29	23	29	28	10	1	2	29	15	-2	10	-3	-8	3	12	21	13	-2	12	28	40	37	8	20.2
	Minimum...	31	24	34	26	18	15	14	21	1	-3	11	-3	-13	-17	-5	-1	-11	16	-19	-19	-31	-13	-4	-8	18	-15	10	25	25	-1	1	1.8
Mott	Maximum...	34	37	43	41	37	35	33	30	26	21	15	18	13	10	41	38	20	-6	3	-3	-9	15	23	24	22	25	28	33	26	28	24	23.2
	Minimum...	20	22	26	25	22	25	22	11	5	8	0	-1	-4	-15	0	20	7	-10	-30	12	-25	-22	-6	0	-4	5	13	21	15	12	5	4.5
Napoleon §§	Maximum...	40	40	38	37	37	31	35	30	20	28	12	10	3	9	25	27	1	-4	-3	10	-8	4	22	23	3	22	32	38	35	12	20	19.6
	Minimum...	20	21	24	25	21	16	14	19	-4	3	0	-5	-5	-22	-9	4	-10	-16	-26	-18	-28	-25	-13	6	13	26	7	14	22	5	3	-0.5
New Salem	Maximum...	43	41	44	41	40	39	36	29	25	33	28	14	9	5	33	39	22	0	0	-3	-6	8	30	27	10	9	35	43	36	30	20	24.5
	Minimum...	26	26	26	27	29	20	26	21	0	9	9	0	-5	-17	3	10	9	-10	-15	-12	-27	-19	0	3	10	-16	16	20	20	7	4	5.0
Pembina §§	Maximum...	25	40	38	40	35	36	28	27	25	10	15	12	12	4	5	7	8	2	2	5	6	-6	18	16	8	6	18	32	25	20	18	16.9
	Minimum...	20	25	25	20	20	18	2	5	2	10	8	-12	-15	-22	-23	24	-12	-24	-24	-26	-34	33	-5	-12	30	-33	23	18	-10	-5	-10	-7.2
Steele	Maximum...	38	40	35	37	35	33	31	30	15	18	18	8	6	-8	20	25	2	-5	-5	12	-14	5	15	0	15	30	32	20	28	24	26	17.2
	Minimum...	15	20	18	15	15	12	10	15	2	-4	8	-8	-8	-22	15	2	-12	-15	-18	-20	-22	26	-28	-25	-25	-25	5	15	15	15	12	-2.7
Towner	Maximum...	39	36	39	36	28	28	30	29	25	21	20	10	5	-1	26	23	6	0	-1	4	3	6	20	15	0	11	34	38	35	25	15	19.1
	Minimum...	16	13	3	20	8	6	18	6	-1	8	3	-10	-19	-22	-12	0	-13	19	-19	29	-34	20	6	-20	25	-18	15	20	11	0	-6	-4.6
Valley City	Maximum...	43	41	34	45	31	30	30	60	40	19	21	10	7	0	24	47	21	-3	1	0	-10	-5	20	22	11	11	26	39	37	20	9	22.0
	Minimum...	17	21	33	31	29	25	14	12	-4	3	9	-3	-6	-17	13	-5	-7	-15	-12	-13	20	-20	10	-5	-16	23	3	13	15	5	-5	1.8
Wahpeton	Maximum...	41	40	41	40	35	30	30	35	28	22	32	27	14	8	20	20	23	-3	4	0	-5	2	16	25	15	0	28	40	40	22	17	22.2
	Minimum...	20	23	33	26	22	19	18	25	8	-2	9	1	-5	-14	10	13	-3	-11	-10	-9	-16	-22	-11	9	-13	31	-2	19	20	11	4	3.3
Westhope	Maximum...	38	32	34	33	29	23	28	26	22	10	10	5	9	-10	24	13	-9	1	0	5	-4	0	17	12	5	12	21	39	29	20	20	14.6
	Minimum...	12	14	2	10	10	0	0	-2	-11	-10	-7	-12	-21	-23	-10	9	-20	-21	-25	-29	-38	-22	14	-12	-29	-23	-1	12	17	-3	-9	-8.8
Williston	Maximum...	39	39	38	35	32	29	31	25	24	28	17	8	2	12	29	21	-3	-4	-2	-10	-4	10	21	13	0	23	31	41	30	18	19	19.0
	Minimum...	25	28	31	26	27	13	24	7	3	10	4	-6	-14	-15	5	-3	-12	-22	-22	-26	-31	-17	-3	-5	-4	-3	9	25	17	0	5	2.5
Moorhead, Minn	Maximum...	43	38	40	36	28	26	34	34	20	16	26	8	6	2	22	18	7	3	4	-6	-8	0	22	20	-3	11	28	41	30	14	18	18.5
	Minimum...	21	27	33	27	19	13	13	14	7	-2	8	5	-6	-15	-7	7	-13	-13	-8	-13	-20	-22	-14	-7	-22	-27	11	19	13	3	2	1.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 3-4-27—970]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVI Bismarck, N. D., February, 1927 No. 2

GENERAL SUMMARY

The month opened with mild temperature, a condition which prevailed throughout the first week, and during this period light scattered precipitation occurred, being quite general on the 5th. The second week was colder, with minimum temperatures near or below zero. The last half of the month was mild with but little precipitation during the last week. Livestock ranged freely during the greater part of the month thus saving much feed, which was scarce. Main trails were open generally but crossroads in many places were impassable except for teams.

TEMPERATURE

The mean temperature for the State was 13.3°, or 5.4° above the normal, and 9.0° lower than the mean for February, 1926. The highest mean reported was 20.7° at Amidon, Slope County; the lowest was 6.1° at Westhope, Bottineau County. The highest temperature reported was 50° at Amidon, Slope County, on the 20th; the lowest was -31° at Willow City, Bottineau County, on the 9th. The greatest monthly range of temperature was 78° at Willow City, Bottineau County; the least was 55° at Grand Forks, Grand Forks County, and at Sharon, Steele County. The greatest daily range was 57° at Lisbon, Ransom County, on the 21st.

PRECIPITATION

The average precipitation for the State was 0.36 inch, or 0.13 inch below the normal, and 0.05 inch less than the average for February, 1926. The greatest monthly amount reported was 1.51 inches at Linton, Emmons County; there was none at Pembina, Pembina County, and at Stanton, Mercer County. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Linton, Emmons County, on the 20th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 3.1 inches.

AURORAS

Auroras were observed at Linton on the 1st; at Foxholm on the 3d; at Towner on the 10th; at Epping on the 21st; at McLeod on the 22d; at Crosby, Devils Lake, Foxholm, Hansboro, McKinney, McLeod, and Parshall on the 23d; at Bottineau, Devils Lake, Foxholm, Fullerton, Hansboro, Larimore, McClusky, McKinney, McLeod, Metigoshe, Parshall, Towner and Trotters, on the 24th; at Crosby, Howard, Napoleon and Parshall on the 25th, and at Foxholm on the 26th.

BAROMETRIC PRESSURE AND WINDS

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Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.09	30.83	8	29.29	21	57	5,602	8.3	28	nw.	25
Devils Lake	30.09	30.81	8	29.22	22	44	6,692	10.0	30	n.	11
Ellendale	30.08	30.75	9	29.30	22	56	9,096	13.5	40	n.	17
Grand Forks	30.07	30.72	28	29.25	22	90	....	......	12	se.	19
Williston	30.09	30.88	8	29.26	21	48	4,359	6.5	29	w.	3
Moorhead, Minn	30.09	30.76	28	29.21	22	58	6,099	9.1	25	n.	7
Av'ges and extremes	30.08	30.88	8	29.21	22	.....	....	9.5	42	se.	19

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	158.4	288.7	55	− 3	86	70	78	38	10
Devils Lake	215.8	286.9	75	+19	88	83	88	71	22
Ellendale	171.2	290.3	59	+ 1	86	78	....	51	25
Grand Forks	.....	.....	.....	.....	79	....	75	.....	.....
Williston	189.6	297.9	66	+13	85	68	77	44	8
Moorhead, Minn	168.4	288.7	58	0	92	77	88	63	13
Averages and extremes	180.7	290.5	63	+ 7	86	75	81	38	10

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY

Year	Temperature				Precipitation			Sky			Wind Dir
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	10.0	+2.1	62	−41	0.58	+0.09	4	14	7	8	nw.
1893...	− 0.3	−8.2	52	−54	0.59	+0.10	4	12	7	9	nw.
1894...	8.0	+0.1	55	−40	0.22	−0.27	2	14	9	5	nw.
1895...	5.9	−2.0	65	−50	0.36	−0.13	4	13	7	8	nw.
1896...	14.3	+6.4	64	−29	0.44	−0.05	3	12	9	8	nw.
1897...	6.1	−1.8	52	−40	1.15	+0.66	7	12	7	9	nw.
1898...	13.3	+5.4	65	−34	0.46	−0.03	3	13	8	7	nw.
1899...	0.4	−7.5	60	−48	0.20	−0.29	3	14	8	6	nw.
1900...	1.3	−6.6	46	−48	0.47	−0.02	4	12	9	7	nw.
1901...	7.1	−0.8	60	−31	0.31	−0.18	3	15	7	6	nw.
1902...	12.1	+4.2	51	−33	0.98	+0.49	6	10	6	12	nw.
1903...	3.1	−4.8	46	−49	0.38	−0.11	3	19	4	5	nw.
1904...	− 2.2	−10.1	52	−42	0.54	+0.05	5	13	6	10	nw.
1905...	8.2	+0.3	64	−46	0.30	−0.19	2	19	4	5	nw.
1906...	9.8	+1.9	57	−38	0.13	−0.36	2	13	8	7	nw.
1907...	10.7	+2.8	58	−49	0.27	−0.22	3	15	7	6	nw.
1908...	13.8	+5.9	62	−34	1.07	+0.58	5	12	7	10	nw.
1909...	9.6	+1.7	56	−34	0.34	−0.15	4	11	7	10	nw.
1910...	3.4	−4.5	56	−50	0.50	+0.01	4	14	7	7	nw.
1911...	7.3	−0.6	55	−38	0.73	+0.24	3	15	8	5	nw.
1912...	11.8	+3.9	48	−33	0.15	−0.34	2	10	9	10	nw.
1913...	8.5	+0.6	64	−44	0.10	−0.39	2	12	9	7	nw.
1914...	1.0	−6.9	57	−47	0.34	−0.15	3	12	8	8	nw.
1915...	17.4	+9.5	50	−20	0.62	+0.13	3	9	5	14	nw
1916...	6.4	−1.5	55	−39	0.46	−0.03	4	14	8	7	nw.
1917...	− 0.7	8.6	61	−48	0.66	+0.17	5	10	8	10	nw.
1918...	10.8	+2.9	60	−41	0.19	−0.30	3	13	9	6	nw.
1919...	7.7	0.2	58	−40	0.66	+0.17	5	10	8	10	nw.
1920...	12.5	+4.6	53	−36	0.30	−0.19	3	11	9	9	nw.
1921...	19.9	+12.0	64	−33	0.39	−0.10	3	11	10	7	nw.
1922...	0.7	−7.2	45	−39	1.21	+0.72	5	13	6	9	nw.
1923...	4.1	−3.8	48	−40	0.65	+0.16	4	13	7	8	nw.
1924...	20.3	+12.4	67	−27	0.41	−0.08	3	14	6	9	nw.
1925...	16.5	+8.6	62	−39	0.31	−0.18	3	10	9	9	nw.
1926...	22.3	+14.4	58	−19	0.41	−0.08	4	9	9	10	nw.
1927...	13.3	+5.4	50	−31	0.36	−0.13	4	12	7	9	nw.

Climatological Data for February, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	...	...	...	...	...	...	...	...	0.01	...	0.01	0.1	1	...	...	...	...	H. A. Bury.
Amenia	Cass	954	31	12.2	+5.2	42	22	-22	18	41	0.54	+0.14	0.32	1.0	4	9	14	5	sw.	E. T. Carley.
Amidon	Slope	...	13	20.7	+3.3	50	20	15	17	51	T.	-0.59	T.	T.	0	14	4	10	w.	W. H. Toussaint.
Arnegard	McKenzie	...	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Chas. A. Benson.
Ashley	McIntosh	2,001	31	17.0	+9.2	40	22	-20	18	43	0.75	+0.28	0.50	1.8	3	15	3	10	nw.	H. D. Piper.
Beach	Golden Valley	2,579	21	18.6	+5.0	44	20	-17	17	30	0.13	-0.38	0.06	...	4	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	16.0	+6.6	45	20	-18	17	38	0.10	-0.45	0.10	T.	1	22	0	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	17.6	+7.3	47	20	-16	9	35	0.19	-0.31	0.08	1.9	4	9	8	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	8.0	+6.2	37	21	-25	8	34	0.12	-0.25	0.05	1.4	5	11	4	13	nw.	T. M. Street.
Bowman	Bowman	2,961	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	R. Love, Jr.
Cando	Towner	1,488	26	10.0	+7.2	41	21	23	2	47	0.30	+0.07	0.16	4.0	3	11	5	12	nw.	A. J. Swanson.
Carson	Grant	2,500	15	17.6	+3.9	45	3†	15	9	30	0.30	0.00	0.10	2.2	4	13	10	5	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	21	...	...	...	...	...	...	...	0.20	-0.11	0.15	1.5	2	7	9	12	nw.	S. Friswold.
Crosby	Divide	1,954	20	8.7	+1.6	40	21	-25	8†	38	0.75	+0.46	0.52	7.5	4	11	7	10	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	10.1	+5.6	40	21	-18	18	34	0.53	0.00	0.35	7.4	7	12	9	7	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	16.1	+4.3	46	20	-14	8†	41	0.16	-0.27	0.13	1.3	2	19	2	7	sw.	Leroy Moomaw.
Dogden‡‡	McLean	1,880	...	13.5	...	47	23	-20	18	32	0.20	...	0.16	1.8	3	12	7	9	sw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	15.8^{a}	+2.8	45^{a}	19	-20^{a}	17	51	0.16	0.40	0.16	...	1	13	5	10	w.	W. F. Moede.
Dunseith	Rolette	1,682	31	9.0	+5.6	43	21	-26	18	33	0.24	-0.18	0.10	2.9	6	7	14	7	e.	J. G. Lamont.
Eckman	Bottineau	1,500	22	9.0	+2.6	39	20	-25	8†	35	0.27	-0.08	0.25	1.0	2	5	12	11	se.	C. E. Strock.
Edgeley	LaMoure	1,468	26	16.0	+5.1	47	4	-19	18	42	0.25	-0.07	0.10	2.5	3	9	5	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	28	15.7	+5.0	43	22	-17	18	40	0.69	+0.21	0.33	4.8	10	7	8	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	15	17.3	...	45	21	-20	9	37	0.08	-0.18	0.05	0.5	2	10	10	8	nw.	H. S. Solenberger.
Epping	Williams	2,224	19	11.6	...	41	20†	-28	17	38	0.41	+0.09	0.25	4.0	4	14	13	1	sw.	A. O. Wang.
Fessenden	Wells	1,610	15	13.0	+5.1	44	22	-20	9	40	0.40	+0.07	0.40	4.0	1	12	9	7	nw.	T. D. Monsen.
Forman	Sargent	1,249	33	...	...	...	...	...	...	...	0.60	+0.07	0.35	2.5	5	13	5	10	nw.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	11.7	...	40	21	23	17	30	0.27	...	0.12	3.2	6	12	5	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9	...	...	...	...	...	...	...	0.32	...	0.10	2.5	5	16	2	10	nw.	Verne King.
Fullerton	Dickey	1,439	29	16.2	+6.9	42	22	-20	9	39	0.94	+0.13	0.48	4.6	6	8	9	11	nw.	F. O. Alin.
Garrison	McLean	1,901	32	15.6	+7.2	43	22	-18	9	34	0.22	-0.31	0.18	2.5	2	18	5	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	12.4^{a}	+7.5	40^{a}	22	-18^{a}	18	28^{c}	0.27	-0.31	0.07	8.1	7	6	8	14	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	36	12.5	+6.0	40	22	-15	18	31	0.61	+0.08	0.26	5.9	10	11	11	6	n.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	9.2	+0.8	40	22	-20	8	35	0.45	+0.07	0.20	4.0	4	10	5	13	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33	...	...	...	...	...	...	...	0.26	-0.30	0.10	2.0	3	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	19	7.8	+4.1	42	22	-24	8	57	0.30	-0.18	0.30	3.0	1	16	4	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. J. Downey.
Hillsboro	Traill	901	21	14.0^{a}	+5.5	40^{a}	22†	-18^{a}	18	34^{a}	0.50	-0.18	0.20	3.5	4	9	13	6	n.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	20	10.6	+4.6	40	21	-30	17	44	0.40	0.29	0.35	4.0	2	12	9	7	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	11.6	+3.7	40	20†	-20	9	43	0.50	-0.08	0.08	4.5	11	10	5	13	nw.	S. Calvelage.
Lamoine	Kidder	1,936	22	13.4	+5.7	38	21†	-18	9†	34	0.20	-0.19	0.10	2.0	2	12	9	7	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	31	7.0	+4.0	37	23	-23	8†	44	0.15	-0.50	0.05	1.0	3	14	10	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	11.6	+6.4	40	22	-19	18	37	1.42	+0.95	0.30	12.8	11	10	5	13	n.	Reuben Gray.
Linton	Emmons	1,711	9	17.4^{c}	...	45^{a}	20	-25^{a}	9	43^{b}	1.51	...	0.80	1.3	8	13	3	12	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	13.2	+3.6	45	21†	-21	9	57	0.32	-0.41	0.24	4.0	2	14	4	10	nw.	W. S. Adams.
McClusky	Sheridan	1,943	9	13.8	...	40	21†	-20	9	33	0.45	...	0.10	4.5	6	13	6	9	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	33	9.6	+4.5	40	21	-25	9	35	0.50	+0.19	0.30	5.0	3	4	13	11	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	16.4	+5.0	43	21	-23	17	41	0.72	+0.14	0.33	3.9	4	11	4	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	11	11.8	+2.0	41	20	-27	8	36	0.18	-0.25	0.12	...	2	8	11	9	nw.	A. T. Felland.
Mandan	Morton	1,644	13	16.5	+6.0	47	20	-15	9	40	0.14	-0.21	0.07	...	4	12	3	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	13.8	+7.0	40	21†	-20	9	33	0.45	+0.02	0.15	4.8	9	10	7	11	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	20.4	+7.3	42	21	-14	7†	35	0.19	-0.20	0.10	2.5	5	14	5	9	...	S. P. Grane.
Mayville	Traill	975	31	13.5	+5.8	41	23	-20	18	31	0.40	+0.01	0.30	4.0	2	13	3	12	nw.	N. C. Burhans.
Melville	Foster	1,590	29	13.0	+6.4	42	21	-20	9	34	0.12	-0.21	0.12	1.5	1	12	8	8	nw.	J. P. Kidder.
Metigoshe ‡‡	Bottineau	...	1	...	...	...	...	...	...	...	0.25	...	0.25	4.0	1	23	0	5	nw.	J. A. Thorburn.
Minot	Ward	1,557	31	13.1	+5.5	43	21	-18	18	32	0.20	-0.26	0.10	2.0	2	10	9	9	w.	W. I. Faris.
Minto	Walsh	820	34	10.8	+4.9	39	22	-20	18	36	0.13	-0.37	0.07	...	6	8	12	8	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	16.0	+4.2	43	21	-14	8†	36	0.32	-0.25	0.22	3.0	3	6	12	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	35	14.6	+7.8	41	22	-21	9	40	0.50	+0.10	0.20	4.0	3	10	3	15	sw.	C. J. Hoof.
New England	Hettinger	2,400	36	...	...	49	21	...	...	...	0.20	-0.34	0.20	2.0	1	18	7	3	w.	Walter L. Sales.
New Salem	Morton	2,163	23	18.2	+7.6	47	20	-14	8	30	0.11	-0.27	0.05	1.0	5	13	7	8	nw.	J. Christiansen.
Park River	Walsh	998	23	11.2	+5.5	39	22	-18	18	39	0.18	-0.26	0.10	2.0	3	10	5	13	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	12	...	...	...	...	...	...	...	0.40	...	0.10	4.0	6	16	7	5	nw.	Carl J. Knutson.
Pembina	Pembina	789	53	8.0	+6.6	38	21	-20	2†	39	0.00	-0.71	0.00	0.0	0	8	9	11	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	18	12.3	+7.7	39	21	-23	9	36	0.26	-0.10	0.15	1.2	5	8	9	11	se.	A. L. Carlson.
Power	Richland	1,020	33	...	...	...	...	...	...	...	1.00	+0.44	0.25	7.5	6	12	6	10	n.	Frank B. Power.
Powers Lake	Burke	2,205	13	12.6	...	43	21	-26	9†	28	0.26	-0.22	0.23	4.8	2	20	4	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	11	18.7^{a}	...	48^{a}	20	-14^{a}	17	30	0.13	...	0.11	0.2	2	12	8	8	sw.	John Muggli.
Sharon	Steele	1,516	2	11.2	...	38	22	-17	18	26	0.46	...	0.15	3.9	9	9	9	10	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	3	...	...	...	...	...	...	...	0.00	...	0.00	0.0	0	15	9	4	nw.	J. H. Giffey.
Starkweather	Ramsey	...	...	8.4	...	42	21†	-21	9†	31	0.21	...	0.16	2.5	3	14	2	12	nw.	F. R. Irons.
Steele	Kidder	1,857	31	12.7	+5.6	40	21†	-22	9	38	0.49	+0.04	0.25	0.5	3	10	11	7	nw.	H. S. Wood.
Towner	McHenry	1,482	25	10.8	+5.6	43	20	-24	8	37	0.35	-0.03	0.20	4.0	3	11	7	7	se.	B. Bagley.
Trotters	Golden Valley	...	1	...	...	...	...	...	...	...	0.14	...	0.07	1.5	3	7	9	12	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	13.8	+2.6	40	20	-18	8	41	0.34	-0.10	0.12	2.2	4	6	18	4	s.	A. T. Anderson.
Valley City	Barnes	1,245	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. W. Meier.
Velva	McHenry	...	...	...	...	...	...	...	...	...	0.26	...	0.15	3.3	4	10	4	14	nw.	Oscar Anderson.
Wahpeton	Richland	962	33	18.1	+8.2	43	23	-16	18	35	0.07	-0.46	0.02	0.6	5	14	0	14	nw.	C. G. Luick.
Walhalla	Pembina	966	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. W. Smith.
Westhope	Bottineau	1,508	25	6.1	+2.8	39	21	-30	17	38	T.	-0.19	T.	T.	0	15	5	8	se.	W. A. Meddaugh.
Williston	Williams	1,878	48	12.6	+4.5	43	21	-21	9	35	0.40	-0.07	0.26	3.6	5	10	9	9	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	9.2	+6.5	47	20	-31	9	46	0.32	-0.14	0.15	3.2	6	11	8	9	se.	M. A. Ostby.
Wilton	McLean	...	...	15.9	...	44	22	-14	9†	32	0.10	...	0.10	T.	1	17	0	11	s.	L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	14.0	+5.9	42	22	-18	18	36	1.19	+0.46	0.39	8.9	13	5	9	14	n.	U. S. Weather Bureau.
Averages	...	...	...	13.3	+5.4	50	20	31	9	57	0.36	-0.13	0.80	3.1	4	12	7	9	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for February, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri							T.					.01		T.							T.						T.	T.				0.01
Amenia ‖	Red						.02						.08		.08									.06				T.					0.24
Amidon	Lit. Missouri																					T.						T.	T.				T.
Arnegard	Missouri																																
Ashley	Missouri						.15													.10			.50										0.75
Beach	Lit. Missouri					.02		T.	T.			.06		T.	T.			.03										T.	.02				0.13
Berthold Agency	Missouri	T.														T.						.10						T.	T.				0.10
Bismarck ***	Missouri					.08		T.				T.	.08	.02	T.	T.	T.			T.		.01				T.	T.	T.	T.				0.19
Bottineau ‖	Mouse	T.	.02			.05	.03					T.		T.	T.	T.	.01	.01				T.				T.		T.	T.				0.12
Bowman	Grand																																
Cando	Devils Lake	T.					.13					.16		T.		T.				.01							T.						0.30
Carson	Heart					.10							.10									.08							.02				0.30
Cooperstown	Sheyenne	T.	T.			.15		T.				T.		T.	T.					T.		.05					T.	T.	T.				0.20
Crosby	Mouse					.52		.08								.10												.05					0.75
Devils Lake ***	Devils Lake	.04	T.			.34	.01	.01			T.	.02			T.	T.	T.			T.		.09				T.	T.	.02	T.				0.53
Dickinson	Heart					T.	T.		T.				.13	T.	T.	T.							.03					T.	T.				0.16
Dogden	Mouse	T.	T.			.16	T.	T.				T.				.02		T.				.02					T.	T.	T.				0.20
Dunn Center	Knife																				.16	T.											0.16
Dunseith	Mouse	.02	.01			.10	.02				T.					.02	.04									T.		T.					0.24
Eckman	Mouse					.25																.02					T.		T.				0.27
Edgeley	James						.10							.10						.05													0.25
Ellendale ***	James	T.	T.			.14		T.				T.	T.	.06	.03	T.	.04			.05	.01	.23				T.	.01	.01	.01				0.69
Energy	Missouri	T.				.05		T.				T.	T.		T.	T.	T.	T.				.03					T.	T.	T.				0.08
Epping	Missouri					.25										.07		.02	T.			.10							T.				0.44
Fessenden ‖	James						.40					T.			T.												T.		T.				0.40
Forman	Sheyenne						.10							.05	.05						.05		.35				T.	T.	T.				0.60
Fort Yates	Missouri																			.25													0.25
Foxholm (near)	Mouse	.02				.12		T.			T.	T.	T.	T.	T.	.04	.02			T.		.01					T.	T.	.06				0.27
Fryburg	Heart					.05	T.	.05					.10									.08	.04				T.	T.	T.				0.32
Fullerton	James	T.	T.			.10		T.				T.	T.	.05	.08		T.			.20		.48				T.	T.	T.	.03				0.94
Garrison	Missouri																.18										.04						0.22
Grafton	Red	.03	T.	.03			T.	T.	T.			.06		T.	T.		T.	.04		.07		T.				T.	T.	.01	.03				0.27
Grand Forks ***	Red	.02		.01		.26		T.			T.	.02			.04	.01	T.	.02		.04		.18				T.		T.	.01				0.61
Granville	Mouse					.20											.10	.10				.05							T.				0.45
Hannah	Pembina			T.								.10			.06		T.									.10			T.				0.26
Hansboro	Devils Lake		T.					T.				.30															T.						0.30
Hettinger	Grand																																
Hillsboro	Red	T.	T.				.20		T.			.05			.10	T.	T.			T.			.15			T.	T.						0.50
Howard (near)	Missouri					.35						T.	T.	.05	T.	T.	T.									T.	T.		T.				0.40
Jamestown ‖	James	.02				.05		.02				.03	.05	.08		.02	.08			.05			.05				T.	.05					0.50
Lamoine	Missouri					.10			.10			T.	T.		T.	T.						T.				T.		T.	T.				0.20
Langdon ‖	Pembina					.05						.05			.14								.05										0.15
Larimore	Red	.02	.02		.03	.30									.15		.20	.15		.30			.15				.05	.05					1.42
Linton	Missouri					.11							.02		T.				.05	.20	.80	.03	.20	.10			T.		T.				1.51
Lisbon ‖	Sheyenne	T.	T.	T.			.24								.08		T.	T.									T.	T.	T.				0.32
McClusky	Missouri	.10				.05	.10	.10												T.		T.					*	.10					0.45
McKinney (near)	Mouse		T.		.30						T.	T.	T.				.15				T.	T.					.05	T.	T.				0.50
McLeod	Sheyenne	.18				.09								.12		T.						.33				T.	T.						0.72
Maddock	Sheyenne	T.	T.	T.		.12	.06					T.				T.			T.			T.					T.	T.	T.				0.18
Mandan ‖	Missouri						.07						T.	.04	.01	T.	T.			T.			.02				T.	T.	T.				0.14
Manfred	James	.02	T.	T.		.15	.05					T.			.02	.08	T.	.02				.02					T.	.07	.02				0.45
Marmarth	Lit. Missouri				T.			T.				.05	T.				.10					.02		T.				.01	.01				0.19
Mayville	Red						.30								.10																		0.40
Melville	James	T.				.12							T.		T.					T.		T.				T.	T.	T.	T.				0.12
Metigoshe	Mouse					.25																											0.25
Minot ‖	Mouse					.10											.10																0.20
Minto	Red	.02		.01			T.	.01				.07														T.	.01	.01					0.13
Mott	Cannon Ball	T.				T.							.22			T.	T.	T.				.06					T.	T.	.04				0.32
Napoleon ‖	Missouri						.20														.20	.10											0.50
New England	Cannon Ball												.20																				0.20
New Salem	Heart					.05		T.				T.	.02		T.	T.						.02					.01	T.	.01				0.11
Park River	Red	.03	T.									.05								.10						T.							0.18
Parshall (near)	Missouri		.08			.10		.05				.05	.02				.10																0.40
Pembina ‖	Red																																0.00
Pettibone	James					.05		.02				T.	T.		.02	T.				T.		.15				.02	T.	T.					0.26
Power	Sheyenne	.20						.10				.20		.20								.25						.05					1.00
Powers Lake	Missouri					.23					.03																						0.26
Richardton	Heart					.02						T.	T.									.11					T.		T.				0.13
Sharon	Red	.03		T.		.15	.06	T.				.02		T.	.02	.02	T.			.03		.02	.11			T.	T.	T.	T.				0.46
Stanton	Missouri																																0.00
Starkweather	Devils Lake	.02				.16																						.03					0.21
Steele	Missouri					T.		T.					T.	T.	T.	T.	T.	T.		.04		.25	.20				T.	T.	T.				0.49
Towner	Mouse					.20						T.			.05			.10		T.		T.					T.		T.				0.35
Trotters	Lit. Missouri												.03		T.			.07				.04											0.14
Turtle Lake	Missouri	T.				.10										.10	.02					.12						T.	T.				0.34
Valley City	Sheyenne																																
Velva		T.				.15		T.			T.	T.				.03		.07				T.					T.		.01				0.26
Wahpeton	Red						.02					.01		.01		.01							.02										0.07
Walhalla	Pembina																																T.
Westhope	Mouse	T.				T.		T.																									T.
Williston ***	Missouri	T.	T.	T.		.26		T.				T.	.01		.07	T.	.02					.04				T.	T.	T.	T.				0.40
Willow City	Mouse	T.	T.		T.	.15		T.			T.	.05		T.	T.	.05	T.	.03		T.		T.					T.	.02	.02				0.32
Wilton								T.				T.	T.									.10					T.	T.	T.				0.10
Moorhead, Minn ***	Red	.03		.02		.39		T.	T.			.03	T.	.09	.07	T.	.01	T.		.09	T.	.32	.05			T.	.01	.02	.06				1.19

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for February, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	11	18	22	20	30	33	20	12	14	30	25	12	22	16	14	12	8	12	30	39	36	42	40	36	33	19	22	26	....	....	....	23.4
	Minimum	-8	-5	0	-1	5	0	2	-10	-21	-14	-2	-18	-8	4	-8	0	-8	-22	-8	10	22	23	28	24	20	8	7	8	....	....	....	1.0
Amidon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Arnegard	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Ashley	Maximum	22	22	33	34	34	27	27	15	10	28	28	26	15	14	17	12	11	23	28	39	39	40	39	37	34	28	19	19	....	....	....	25.7
	Minimum	0	4	16	15	11	17	11	-12	-17	0	11	-10	4	5	-4	0	-7	-20	11	20	29	31	36	33	22	14	1	9	....	....	....	8.2
Beach	Maximum	30	41	40	39	34	28	20	5	23	24	26	18	24	23	20	18	4	24	36	44	42	41	39	34	24	22	22	18	....	....	....	27.2
	Minimum	8	17	17	25	27	15	3	-14	-6	6	14	0	6	4	4	4	-17	6	9	22	27	28	26	24	14	11	12	11	....	....	....	10.1
Berthold Agency	Maximum	20	32	40	38	35	40	27	23	20	28	26	20	20	12	11	10	8	17	18	45	42	40	38	32	30	20	23	20	....	....	....	26.2
	Minimum	3	7	14	10	20	15	3	-15	-13	-9	10	2	0	0	0	-2	-18	-14	-2	15	28	30	22	13	20	12	3	12	....	....	....	5.9
Bismarck	Maximum	25	39	40	38	32	40	22	3	19	32	25	9	13	14	15	11	5	19	32	47	46	45	42	36	32	19	19	22	....	....	....	26.5
	Minimum	12	7	21	18	17	18	-2	-8	-16	3	2	-4	-13	2	2	4	-10	-10	16	24	32	32	26	24	14	14	4	13	....	....	....	8.6
Bottineau §§	Maximum	7	10	23	23	23	23	12	-2	10	23	23	4	6	10	5	9	0	6	18	33	37	33	32	26	25	17	18	20	....	....	....	16.9
	Minimum	2	-12	3	4	13	2	-2	-25	-23	-11	4	-10	-2	-10	-7	-4	-23	-24	2	10	25	19	14	9	1	10	3	8	....	....	....	-0.9
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Cando	Maximum	8	9	17	20	21	22	25	11	12	24	24	19	17	16	13	10	8	10	24	39	41	38	37	34	30	32	29	22	....	....	....	21.9
	Minimum	0	-23	2	-4	13	-10	-22	-21	-19	-1	7	-13	-11	-4	-6	-4	-16	-20	-3	8	16	25	21	14	11	9	10	-2	....	....	....	-1.8
Carson	Maximum	26	28	45	40	32	38	20	10	15	30	25	20	15	15	12	16	5	15	36	44	44	[illegible]	40	35	33	25	22	23	....	....	....	26.9
	Minimum	1	10	18	20	20	15	8	-14	-15	0	10	1	-7	-1	-4	0	-12	-14	12	22	32	30	25	25	22	10	5	10	....	....	....	8.2
Crosby	Maximum	6	33	33	35	32	17	3	-5	5	15	25	14	8	8	5	13	-13	12	20	34	40	38	38	31	25	25	15	16	....	....	....	18.9
	Minimum	-3	-3	3	12	12	-3	-17	-25	-18	5	1	-24	-8	-8	-11	-25	-14	6	-4	10	25	25	18	8	3	8	-8	-4	....	....	....	-1.5
Devils Lake	Maximum	6	21	22	23	15	25	10	-1	12	25	33	5	15	16	8	9	-2	11	24	40	40	39	35	30	24	15	18	20	....	....	....	18.9
	Minimum	10	-13	3	3	11	9	-11	-18	-18	0	-9	13	2	-3	-4	-2	-17	-18	2	19	26	28	25	18	12	6	4	4	....	....	....	1.3
Dickinson §§	Maximum	31	42	42	39	34	36	17	2	20	29	25	18	20	10	16	13	4	26	37	46	41	40	38	33	33	18	18	16	....	....	....	26.6
	Minimum	-1	1	16	20	22	17	12	-14	-14	-10	6	5	-12	-11	-2	0	14	-14	-1	13	20	30	24	24	14	10	8	8	....	....	....	5.6
Dunn Center §§	Maximum	40	39	44	35	35	...	5	16	28	25	15	12	12	10	14	7	18	34	45	41	40	39	34	30	22	18	18	16	....	....	....	[a]25.6
	Minimum	6	13	21	11	22	15	....	-18	-18	2	10	0	-3	8	-5	-6	-20	-17	11	11	28	26	22	19	19	9	4	8	....	....	....	[a] 6.0
Dunseith	Maximum	8	11	30	21	24	33	22	6	6	23	25	6	10	14	7	7	4	7	21	37	43	41	38	32	30	19	21	30	....	....	....	20.6
	Minimum	-5	-17	-2	0	10	10	-7	-23	-19	-10	-2	-18	-9	-7	-11	-8	-21	-26	-2	6	21	24	17	9	9	5	-1	1	....	....	....	-2.7
Edgeley	Maximum	22	22	37	47	25	33	24	10	15	31	24	12	15	18	13	16	9	22	27	39	40	42	41	39	35	27	22	22	....	....	....	26.0
	Minimum	6	0	11	5	9	15	7	-11	-16	5	6	-11	1	7	-5	-1	-8	19	7	27	22	32	26	23	21	12	2	2	....	....	....	5.9
Ellendale	Maximum	23	26	39	39	23	34	24	2	11	32	27	5	14	17	14	14	4	23	30	36	39	43	41	37	36	20	20	21	....	....	....	24.8
	Minimum	9	2	9	9	11	22	0	-9	-15	-1	-4	-7	4	2	-5	2	-15	17	9	17	24	34	28	28	20	11	6	8	....	....	....	6.6
Fessenden §§	Maximum	17	34	34	29	29	36	14	1	13	28	22	10	15	18	7	12	-3	17	23	41	41	44	38	34	29	18	19	22	....	....	....	22.9
	Minimum	4	4	0	12	11	10	7	-17	-20	12	8	-12	-6	-1	-2	0	-15	-19	-5	6	23	29	27	19	12	12	6	5	....	....	....	3.1
Foxholm (near)	Maximum	10	24	35	29	29	27	22	0	13	24	24	9	14	13	5	4	1	13	20	37	40	38	34	32	29	16	15	16	....	....	....	20.5
	Minimum	5	6	6	4	14	11	-1	-19	-11	5	5	-6	-2	-1	-7	-8	-23	-15	0	10	30	26	22	13	11	11	-3	5	....	....	....	2.9
Fullerton	Maximum	24	25	38	38	21	32	27	11	13	30	27	11	16	18	12	12	8	22	30	35	38	42	40	35	34	24	20	22	....	....	....	25.2
	Minimum	7	2	17	8	11	18	11	-11	-20	-1	9	-11	3	6	-4	1	-8	-17	9	17	21	33	27	26	22	14	6	8	....	....	....	7.3
Garrison	Maximum	18	28	38	38	28	40	21	5	16	28	24	14	16	12	14	11	4	21	28	41	42	43	38	34	27	18	17	19	....	....	....	24.4
	Minimum	10	5	15	9	20	14	0	-17	-18	3	5	-2	3	2	0	3	-16	-13	9	17	30	27	23	19	16	12	1	12	....	....	....	6.8
Grafton	Maximum	8	8	13	....	21	32	30	7	18	28	26	7	18	24	15	12	7	8	24	35	36	40	39	36	30	20	12	21	....	....	....	[a]21.3
	Minimum	-1	-15	-1	...	0	10	0	-13	-10	0	4	-10	-4	5	-6	-1	9	-18	0	21	23	32	28	22	16	5	9	10	....	....	....	[a] 3.6
Grand Forks	Maximum	10	20	20	25	16	28	16	3	14	27	26	4	16	24	9	13	4	9	26	34	36	40	39	30	27	17	18	20	....	....	....	20.4
	Minimum	-5	-11	3	7	9	11	-4	-12	-14	-3	3	-10	1	3	-3	4	-10	-15	2	24	24	32	18	24	17	8	10	12	....	....	....	4.6
Granville	Maximum	4	33	33	18	24	10	10	-7	8	25	10	20	5	4	5	-5	-5	8	12	37	38	40	35	25	25	20	12	18	....	....	....	16.5
	Minimum	7	-2	2	4	10	8	-7	-20	-16	-2	8	4	-3	-4	-5	-6	-19	-18	8	16	28	28	23	18	15	5	2	8	....	....	....	1.9
Hansboro	Maximum	9	11	13	28	19	28	16	7	30	25	20	25	20	21	17	5	13	40	40	36	33	42	38	32	26	22	18	17	....	....	....	23.2
	Minimum	-11	-22	-11	8	6	4	-15	-24	-20	2	-7	-22	-17	-11	-16	-23	-13	-17	-11	-1	8	13	16	6	6	0	-6	-4	....	....	....	-7.6
Hettinger	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Hillsboro	Maximum	10	20	25	31	23	30	24	6	13	28	26	7	18	25	16	12	8	11	...	36	36	40	40	36	31	23	21	25	....	....	....	[a]23.0
	Minimum	3	-9	6	1	9	11	2	-9	-17	-6	5	-11	-3	8	-2	5	-6	-18	....	22	24	23	28	24	18	7	9	13	....	....	....	[a] 5.1
Howard (near)	Maximum	10	35	26	31	30	21	11	14	7	22	7	11	11	7	10	4	-9	10	26	38	40	35	33	27	20	15	12	15	....	....	....	18.9
	Minimum	-11	4	11	19	18	7	-15	-26	-16	-22	0	-11	-18	-10	-11	-9	30	-24	-4	12	28	19	12	8	4	5	-5	-3	....	....	....	2.4
Jamestown §§	Maximum	23	0	23	31	26	34	10	-1	16	29	25	6	16	17	10	10	-1	19	32	40	39	40	40	35	31	17	19	22	....	....	....	21.7
	Minimum	-1	6	-4	4	4	6	9	-11	-20	-14	3	-15	-12	-10	-4	-2	-9	-19	-11	6	20	26	25	22	19	10	4	6	....	....	....	1.4
Lamoine	Maximum	16	28	30	36	27	33	22	6	10	25	23	9	10	14	10	9	4	16	26	34	38	38	35	32	32	22	20	20	....	....	....	22.3
	Minimum	1	-1	4	20	12	14	6	-14	-18	3	8	-11	-10	-2	-4	-1	-15	-18	8	18	27	26	22	17	16	11	-1	12	....	....	....	4.4
Langdon §§	Maximum	16	15	10	16	12	18	20	10	10	11	10	24	19	16	14	17	7	7	2	10	24	35	37	35	34	28	23	15	....	....	....	17.8
	Minimum	-5	-17	-11	4	4	5	-4	-23	-21	-10	0	-20	-11	-2	-10	-9	-19	-23	-10	2	10	24	20	11	9	3	-1	4	....	....	....	-3.9
Larimore §§	Maximum	6	22	14	18	20	20	10	4	15	25	16	19	25	22	10	10	-2	15	28	33	38	40	37	32	30	15	17	22	....	....	....	20.0
	Minimum	-4	-15	-5	0	5	10	4	-10	-12	-3	10	-12	10	5	-5	-6	-10	-19	-2	15	23	31	27	21	15	6	5	6	....	....	....	3.2
Linton	Maximum	26	24	35	40	31	38	20	10	17	30	26	11	17	15	....	20	10	27	32	45	40	44	42	37	36	26	21	20	....	....	....	[a]27.4
	Minimum	2	7	15	18	11	15	0	12	-25	-5	7	-5	3	-3	....	-2	-9	-16	15	27	30	31	22	25	20	13	3	12	....	....	....	[a] 7.3
Lisbon §§	Maximum	16	35	24	40	28	18	16	3	14	30	22	21	23	20	21	13	2	25	28	45	44	45	43	40	32	31	28	24	....	....	....	26.2
	Minimum	6	-3	-1	0	12	13	-3	-12	-21	-15	-8	-15	-6	6	6	6	-8	-15	-14	-12	12	16	21	16	12	12	10	8	....	....	....	0.2
McKinney (near)	Maximum	10	25	35	32	25	20	18	-1	10	25	25	10	13	13	5	5	0	10	20	38	40	38	32	30	28	20	15	15	....	....	....	19.9
	Minimum	1	10	5	2	10	10	-1	-21	-25	0	0	-10	-13	-5	-8	-7	-22	-20	-2	10	20	25	20	8	10	10	-8	2	....	....	....	-0.7
Maddock	Maximum	13	13	31	26	27	26	25	5	10	26	25	8	16	15	10	7	7	15	26	41	39	40	38	34	30	23	18	19	....	....	....	21.9
	Minimum	4	-11	6	2	12	14	1	-27	-20	-9	5	-14	1	0	-6	-2	-19	-21	3	11	23	26	24	15	15	10	4	-1	....	....	....	1.6
Melville	Maximum	11	11	36	30	26	30	23	4	10	26	27	8	14	17	10	8	6	17	25	38	42	40	38	35	32	25	17	20	....	....	....	22.4
	Minimum	-2	-6	10	4	5	14	0	-15	-20	2	7	-14	-10	5	7	4	-15	17	5	23	26	27	25	25	17	9	4	5	....	....	....	3.7
Minot §§	Maximum	13	13	37	38	35	23	33	13	-1	13	23	23	13	12	13	10	6	-4	23	23	43	42	40	35	32	30	18	19	....	....	....	22.1
	Minimum	8	-3	5	7	17	15	10	-16	-16	-1	13	-5	2	4	-4	-2	-17	-18	-4	7	23	28	23	17	17	14	0	9	....	....	....	4.8
Mott	Maximum	31	32	34	36	32	33	26	22	21	24	24	22	18	25	19	13	-3	17	37	40	43	38	41	36	34	25	15	16	....	....	....	26.8
	Minimum	-1	15	13	12	7	6	-4	-14	-13	-7	3	4	-2	8	-6	8	-11	-12	2	18	24	21	24	23	20	10	10	10	....	....	....	5.3
Napoleon §§	Maximum	24	35	31	38	30	32	18	-4	10	27	24	10	17	14	15	11	-4	25	34	40	40	41	38	35	33	17	28	20	....	....	....	24.2
	Minimum	0	1	20	18	10	9	4	-16	-21	-13	1	-12	-5	4	-5	0	-8	-15	12	15	31	30	27	20	20	12	0	4	....	....	....	5.1
New Salem	Maximum	25	29	41	40	33	41	30	6	19	28	26	17	20	15	15	15	9	16	25	47	45	45	41	41	36	22	21	19	....	....	....	27.8
	Minimum	2	7	12	20	19	19	7	-14	-11	17	17	-3	-7	3	-2	0	-13	12	11	23	26	30	26	22	20	11	1	10	....	....	....	8.6
Pembina §§	Maximum	15	12	18	20	16	25	20	17	18	14	12	16	15	18	16	8	17	19	30	34	38	36	32	25	18	26	22	27	....	....	....	20.9
	Minimum	-12	-20	6	-15	-10	-5	-16	-14	-13	-10	-8	-11	-9	-10	-5	-8	-20	-10	-9	18	10	18	16	15	10	-5	-4	-5	....	....	....	-4.9
Steele	Maximum	30	20	26	34	35	32	20	0	-10	10	10	25	27	12	15	15	-8	18	30	36	40	40	36	33	31	25	15	28	....	....	....	22.3
	Minimum	8	5	12	10	15	10	0	-15	-22	-12	-10	-12	-6	-12	-13	0	-19	-20	10	19	25	28	24	24	18	10	0	10	....	....	....	3.1
Towner	Maximum	12	18	30	20	18	28	20	-2	6	20	25	12	16	16	8	11	11	13	25	43	40	39	37	33	28	20	20	21	....	....	....	21.0
	Minimum	11	-4	2	2	14	10	-2	-24	-23	-6	2	-8	2	2	-8	2	-22	-22	6	6	18	20	21	10	13	15	0	6	....	....	....	0.5
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Wahpeton	Maximum	21	27	29	38	38	32	32	15	12	33	31	14	18	24	24	24	15	16	30	36	38	42	43	40	37	31	22	26	....	....	....	28.1
	Minimum	5	2	10	3	18	15	7	-7	-15	2	12	-12	5	9	-3	11	-4	-16	2	20	22	33	28	26	23	10	11	14	....	....	....	8.1
Westhope	Maximum	4	15	12	27	22	15	17	2	12	25	23	6	13	10	6	4	-8	8	19	37	39	35	32	30	22	15	16	19	....	....	....	17.0
	Minimum	-16	-15	-1	2	12	6	-10	-26	-22	-9	-7	-14	-10	-6	9	-9	-30	-22	0	5	20	21	11	5	6	-3	-8	-5	....	....	....	-4.8
Williston	Maximum	15	38	34	35	34	28	15	0	14	25	22	11	18	8	11	7	-3	17	24	42	43	36	35	32	25	17	15	18	....	....	....	22.0
	Minimum	-1	10	12	16	20	8	-14	-21	-21	-1	3	-9	-14	-4	-3	-8	-21	-5	9	10	29	27	19	17	11	12	4	6	....	....	....	3.2
Moorhead, Minn	Maximum	18	24	29	37	23	29	17	0	8	27	27	5	15	21	19	12	5	14	27	34	37	42	40	35	30	15	19	24	....	....	....	22.6
	Minimum	4	0	1	1	13	13	-4	-8	-15	-1	3	-10	5	1	-2	5	-12	-18	6	22	22	33	28	26	12	7	9	13	....	....	....	5.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 3-30-27—970]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI BISMARCK, N. D., MARCH, 1927 No. 3

GENERAL SUMMARY

Taken as a whole the weather of the month was favorable for livestock and for outdoor work. The mild temperature and absence of severe storms allowed livestock to range freely on ranges and harvested fields, thus saving much feed. As rough feed was scarce, these conditions proved a great boon to many farmers and stockmen. Practically no field work was done on farms, due to frozen ground and snow in some sections. Main highways were passable throughout the month, but were rough in some sections. Crossroads were blocked by snows in eastern portion during parts of the month.

TEMPERATURE

The mean temperature for the State was 30.4°, or 7.8° above the normal, and 4.6° higher than the mean for March, 1926. The highest mean reported was 33.6° at Fullerton, Dickey County; the lowest was 24.0° at Hansboro, Towner County. The highest temperature reported was 77° at Carson, Grant County, on the 14th; the lowest was -10° at McKinney, Renville County, on the 2d. The greatest monthly range of temperature was 71° at Carson, Grant County; the least was 41° at Granville, McHenry County. The greatest daily range was 53° at Hettinger, Adams County, on the 10th.

PRECIPITATION

The average precipitation for the State was 0.74 inch, or 0.09 inch below the normal, and 0.50 inch more than the average for March, 1926. The greatest monthly amount reported was 2.26 inches at Fullerton, Dickey County; there was none at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 0.98 inch at Moorhead, on the 25th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 6.5 inches.

AURORAS

Auroras were observed at Arnegard, Beach, Foxholm, Grand Forks, Howard, Towner and Velva on the 6th; at Crosby and Towner on the 7th; at Bottineau and Crosby on the 8th; at Arnegard, Dogden Butte, Foxholm, Howard, Williston and Willow City on the 9th; at Crosby on the 11th and 12th; at Crosby, McKinney and McLeod on the 13th; at Parshall on the 14th; at Devils Lake, Foxholm and Parshall on the 15th; at Sharon on the 16th; at Parshall on the 19th; at Beach, Howard, McKinney and Sharon on the 25th; at Foxholm and Parshall on the 26th; at Arnegard, Beach, Bismarck, Ellendale, Howard, New Salem, Parshall and Velva on the 27th; at Ellendale and Howard on the 28th, and at Grand Forks and Willow City on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Elevation of anemometer	Total movement, miles	Winds: Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.04	30.71	19	29.42	15	57	8,289	11.1	55	nw.	22
Devils Lake	30.04	30.74	1	29.38	15	41	7,636	10.3	33	n.	23
Ellendale	30.06	30.69	2	29.43	15	50	11,679	15.7	48	nw.	22
Grand Forks	30.02	30.71	11	29.44	15	90	....	......	40	se.	3
Williston	30.01	30.72	19	29.44	15	48	7,533	10.1	33	w.	22
Moorhead, Minn	30.06	30.76	2	29.46	15	58	6,767	9.1	24	n.	9
Av'ges and extremes	30.04	30.76	2	29.38	15	.....	....	11.3	48	nw.	22

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Departure from normal, per ct.	Humidity: Average per cent, 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	210.4	369.9	57	+ 1	82	54	60	24	20
Devils Lake	258.9	369.7	70	+15	86	74	79	37	20
Ellendale	222.2	370.0	60	+ 4	88	60	...	34	16
Grand Forks	.....	......	......	......	81	.....	74	....	....
Williston	231.1	369.7	63	+11	80	61	64	41	12
Moorhead, Minn	245.3	369.9	66	+10	86	66	72	45	3†
Averages and extremes	233.6	369.8	63	+ 8	84	63	70	24	20

† And other dates.

COMPARATIVE STATE DATA FOR MARCH

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P'cldy days	Cl'dy days	Wind Dir.
1892	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898	21.2	−1.4	79	−24	0.79	−0.04	5	13	8	10	nw.
1899	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905	32.5	+9.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915	22.9	+0.3	63	−23	0.22	−0.71	2	16	6	9	nw.
1916	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921	25.2	+2.6	75	−22	1.00	+0.17	6	9	12	10	nw.
1922	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.
1923	18.3	−4.3	65	−35	0.41	−0.42	4	10	10	11	nw.
1924	25.5	+2.9	58	−20	0.45	−0.28	4	10	9	12	nw.
1925	27.4	+4.8	75	−26	0.67	−0.16	4	14	9	8	nw.
1926	25.8	+3.2	83	−23	0.24	−0.59	3	13	10	8	nw.
1927	30.4	+7.8	77	−10	0.74	−0.09	5	13	8	10	nw.

Climatological Data for March, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	...	...	...	...	...	...	...	...	0.14	...	0.06	...	4	...	...	...	...	H. A. Bury.
Amenia	Cass	954	31	29.2	+ 5.6	62	15	0	2	35	0.80	+0.23	0.40	9.0	3	15	12	4	se.	E. T. Carley.
Amidon	Slope	...	13	31.9^{a}	+ 4.0	63^{a}	14	8^{a}	18†	31^{a}	0.06	0.78	0.02	0.6	5	17	6	8	w.	W. H. Toussaint.
Arnegard	McKenzie	...	12	30.7	+ 7.2	62	14	0	19	30	0.38	−0.41	0.20	3.0	5	18	3	10	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	31.8	+ 9.8	55	15	8	2	32	0.62	−0.57	0.27	4.0	3	18	5	8	nw.	H. D. Piper.
Beach	Golden Valley	2,579	21	32.1	+ 5.6	69	14	2	19	35	0.41	−0.37	0.15	...	6	16	12	3	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	31.4	+ 6.7	65	14	0	19	35	0.08	−0.76	0.08	1.0	1	17	1	13	sw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	31.9	+ 7.7	65	14	10	19	34	0.90	−0.14	0.41	9.0	6	10	11	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	28.8^{c}	+11.1	58^{c}	14†	2	19	29^{c}	0.30	−0.50	0.11	...	6	9	9	13	nw.	T. M. Street.
Bowman	Bowman	2,961	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	R. Love, Jr.
Cando	Towner	1,488	26	29.8	+ 9.3	56	14	3	2	29	0.39	−0.24	0.17	...	4	9	13	9	w.	A. J. Swanson.
Carson	Grant	2,500	15	30.8	+ 6.3	77	14	5	10	42	0.50	−0.16	0.40	6.4	5	16	7	8	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	21	...	...	...	...	...	...	...	1.00	+0.47	0.60	10.0	3	16	10	5	nw.	S. Friswold.
Crosby	Divide	1,954	20	28.1	+ 6.1	55	14	1	1	27	0.42	−0.16	0.15	4.6	8	14	7	10	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	29.0	+10.5	60	15	5	1	27	0.86	−0.15	0.32	7.4	10	11	9	11	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	30.6	+ 6.2	65	14	4	19	37	0.37	−0.47	0.25	3.5	5	19	1	11	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	...	30.0	...	59	14	2	20	35	0.70	...	0.24	4.5	5	13	8	10	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	30.8	+ 6.7	66	14	0	19	37	0.22	−0.89	0.22	3.0	1	14	2	15	w.	W. F. Moesie.
Dunseith	Rolette	1,682	31	27.2	+ 8.4	56	14	2	19	34	0.87	+0.10	0.50	8.8	4	11	8	12	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	22	29.2	+ 7.1	59	14	3	19	33	0.86	+0.36	0.38	3.0	6	3	15	13	w.	C. E. Strock.
Edgeley	LaMoure	1,468	26	31.1	+ 4.6	65	14	2	17	35	0.41	−0.39	0.36	4.0	2	5	13	13	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	28	32.3	+ 6.7	62	15	10	2	32	0.56	−0.64	0.19	5.3	9	5	11	15	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	15	33.1	...	65	14	4	19	40	0.25	−0.42	0.15	2.0	2	11	12	8	nw.	H. S. Solenberger.
Epping	Williams	2,224	19	29.2	...	58	14	3	19	31	0.14	−0.42	0.06	T	3	17	6	8	w.	A. O. Wang.
Fessenden	Wells	1,610	15	31.0	+ 9.6	63	14	7	1†	34	1.30	+0.58	0.39	7.5	7	10	7	11	sw.	J. D. Monsen.
Forman	Sargent	1,249	33	...	...	...	...	...	...	...	1.43	+0.53	0.48	14.0	5	17	3	11	nw	O. Unger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	29.5	...	58	14	1	19	29	1.29	...	0.50	10.2	6	11	9	11	nw	E. C. Berbaum.
Fryburg	Billings	2,790	9	...	...	...	...	...	...	...	0.61	...	0.12	6.0	8	18	4	9	nw.	Verne King.
Fullerton	Dickey	1,439	29	32.6	+ 7.4	62	15	8	2	31	2.26	+1.04	0.45	20.0	7	11	9	11	nw.	F. O. Alin.
Garrison	McLean	1,901	32	32.4	+10.7	64	14	5	19	29	0.70	−0.34	0.29	...	3	19	5	7	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	30.8^{a}	+11.6	57^{a}	15	− 1^{a}	2	33	T.	− 0.69	T	T	0	13	2	16	se.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	36	30.8	+ 8.4	59	15	2	2	28	0.54	−0.17	0.16	4.3	5	10	12	9	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	26.9	+ 3.2	45	8	4	19	20	0.64	+0.07	0.28	5.5	4	11	10	10	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33	...	...	...	...	...	...	...	0.67	+0.01	0.32	8.0	3	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	19	24.0	+ 2.7	50	12†	− 8	2	35	0.50	−0.16	0.28	2.5	3	15	8	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	30.8	+ 3.2	61	14	− 3	10	53	0.65	−0.11	0.35	6.5	2	20	2	9	nw.	C. J. Downey.
Hillsboro	Traill	901	21	31.8^{a}	+ 7.1	58^{a}	15	2^{a}	2	32^{a}	1.25	+0.51	0.60	12.5	5	8	18	5	n.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	20	25.6	+ 4.8	60	14	− 6	1	33	1.54	+0.40	0.40	7.5	8	16	3	12	sw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	35	29.4	+ 6.8	64	15	5	1	39	1.25	+0.25	0.60	12.8	5	13	4	11	nw.	S. Calvetage.
Lamoine	Kidder	1,936	22	29.0	+ 6.0	54	14†	6	1†	35	1.47	+0.70	0.54	14.0	4	20	5	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	31	26.6	+ 7.6	49	13	0	1	34	0.65	0.19	0.27	7.0	5	12	12	7	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	30.1	+ 9.1	58	15	2	2	34	1.34	+0.65	0.72	13.5	6	11	6	11	s.	Reuben Gray.
Linton	Emmons	1,711	9	31.5^{c}	+ 5.3	67^{c}	14	6^{c}	19	40^{c}	0.57	+0.03	0.24	3.0	4	11	6	14	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	30.2	+ 3.6	65	16	0	2†	37	1.60	+1.04	0.48	15.0	5	14	13	4	ne.	W. S. Adams.
McClusky	Sheridan	1,943	9	29.7	...	60	14	4	19	30	0.88	...	0.30	6.0	7	15	6	10	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	33	28.0	+ 8.8	58	14	10	2	42	1.10	+0.39	0.50	7.5	5	9	8	14	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	33.5	+ 7.6	64	16	− 3	26	38	1.25	+0.62	0.73	10.8	5	19	6	6	ne.	J. G. Carlson.
Maddock	Benson	1,604	11	30.6	+ 7.1	62	15	5	2	34	0.37	−0.06	0.22	...	4	9	11	11	nw.	A. T. Felland.
Mandan	Morton	1,644	13	31.0	+ 5.8	64	14	7	10	34	1.17	+0.33	0.53	9.5	5	9	6	16	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	30.4	+ 7.3	60	14	5	19	30	0.90	+0.12	0.18	5.5	8	13	11	7	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	33.2^{e}	+ 7.2	62^{e}	14	9^{e}	18†	36^{e}	0.69	+0.24	0.30	6.0	6	13	7	11	...	S. P. Grane.
Mayville	Traill	975	31	31.5	+ 8.2	60	16	3	2†	35	1.09	+0.38	0.50	1.0	5	15	4	12	s.	N. C. Burhans.
Melville	Foster	1,590	29	30.4^{a}	+ 8.1	65^{a}	15	5^{a}	19	33^{a}	1.66	+0.98	0.56	15.0	5	10	11	10	nw.	J. P. Kidder.
Metigoshe‡‡	Bottineau	...	1	...	...	...	...	...	...	...	0.75	...	0.47	6.0	2	25	2	4	nw.	J. A. Thorburn.
Minot	Ward	1,557	31	31.1	+ 9.7	61	14	3	19	36	0.75	0.02	0.30	4.0	4	13	7	11	w.	W. I. Faris.
Minto	Walsh	820	34	30.2	+ 9.1	58	15	2	2	37	0.11	−0.71	0.09	...	3	9	12	10	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	28.6	+ 2.0	61	30	1	10	31	0.54	−0.50	0.45	4.5	3	11	11	9	w.	O. H. Opland.
Napoleon	Logan	1,955	35	30.8	+ 9.5	62	14	8	1†	34	1.35	+0.42	0.40	7.5	7	16	4	11	se.	C. J. Hoof.
New England	Hettinger	2,400	36	30.6	+ 6.2	65	14	4	19	37	0.47	−0.40	0.20	4.7	4	12	0	19	nw.	Walter L. Sales.
New Salem	Morton	2,163	23	31.8	+ 7.3	61	14	3	1†	36	0.63	0.33	0.28	6.0	6	15	10	6	nw.	J. Christiansen.
Park River	Walsh	998	23	29.8	+ 7.7	56	15	0	2	29	0.68	+0.13	0.30	6.2	3	10	12	9	se.	C. B. Wright.
Parshall (near)	Mountrail	...	12	...	...	...	...	...	...	...	0.16	−0.05	0.15	0.1	2	18	5	8	nw.	Carl J. Knutson.
Pembina	Pembina	789	53	29.4	+13.4	55	14	− 6	1	34	0.00	−0.90	0.00	9.0	0	18	7	6	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	18	29.8^{e}	+ 6.0	63^{e}	14	8	19	34^{e}	1.06	+0.52	0.57	4.8	4	11	8	12	se.	A. L. Carlson.
Power	Richland	1,020	33	...	...	...	...	...	...	...	0.21	−0.49	0.14	2.1	4	13	8	10	n.	Frank B. Power.
Powers Lake	Burke	2,205	13	30.0	...	52	11	4	2	28	1.09	+0.21	0.56	7.0	5	21	6	4	sw.	Geo. B. Gee.
Richardton	Stark	2,467	11	30.8	+ 4.5	62	14	7	19	33	0.48	−0.04	0.30	4.8	4	15	8	8	nw.	John Muggli.
Sharon	Steele	1,516	2	29.4	...	58	15	6	2†	31	0.99	...	0.42	9.6	9	8	11	12	w.	Nels O. Gretsheim.
Stanton	Mercer	1,722	3	...	...	...	...	...	...	...	0.31	...	0.25	2.0	2	17	8	6	se.	L. H. Giffey.
Starkweather	Ramsey	...	...	28.4	...	56	16	3	1†	30	0.78	...	0.30	7.8	6	16	2	13	nw.	F. R. Irons.
Steele	Kidder	1,857	31	29.0	+ 6.9	60	15	5	12	35	0.84	−0.09	0.42	...	4	16	7	8	ne.	H. S. Wood.
Towner	McHenry	1,482	25	31.1	+11.9	53	14	6	19	31	1.25	+0.35	0.35	12.5	6	17	6	8	sw.	B. Bagley.
Trotters	Golden Valley	...	1	...	...	...	...	...	...	...	0.33	...	0.16	2.0	3	12	7	12	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	29.9	+ 7.1	62	14	3	19	32	0.74	0.07	0.16	8.0	8	5	20	6	w.	A. T. Anderson.
Valley City	Barnes	1,245	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. W. Meier.
Velva	McHenry	...	...	...	...	...	...	...	...	...	0.48	...	0.19	1.8	6	14	9	8	nw.	Oscar Anderson.
Wahpeton	Richland	962	33	33.0	+ 6.8	61	16	0	26	33	1.02	+0.11	0.50	...	7	11	0	20	nw.	C. G. Luick.
Walhalla	Pembina	966	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. W. Smith.
Westhope	Bottineau	1,508	25	29.2	+ 8.3	62	15	0	2	35	0.82	+0.33	0.72	...	2	19	5	7	se.	W. A. Meddaugh.
Williston	Williams	1,878	48	30.6	+ 7.7	62	14	3	19	26	0.28	−0.40	0.13	2.4	5	13	9	9	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	30.2	+11.9	62	14	6	1†	31	0.83	+0.10	0.25	7.3	5	11	10	10	se.	M. A. Ostby.
Wilton	McLean	...	...	29.6	...	61	14	6	19	30	T	...	T.	T.	0	18	5	8	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	31.0	+ 8.3	61	15	4	27	30	1.85	+0.71	0.98	17.5	10	4	10	17	s.	U. S. Weather Bureau.*
Averages	...	...	...	30.4	+7.8	77	14	−10	2	53	0.74	−0.06	0.98	6.5	5	13	8	10	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for March, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri					T.	T.			T.						T.	T.					.01	.03	T.	.06							.04	0.14
Amenia ‖	Red												T.	[illegible]						T.			T.	.20	T.		[illegible]		T.				[illegible]
Amidon	Lit. Missouri									.01						.01						.01	.01			[illegible]			T.			T.	[illegible]
Arnegard	Missouri					[illegible]										T.	T.	T.				[illegible]	.05			.20	[illegible]						[illegible]
Ashley	Missouri																									[illegible]			[illegible]				[illegible]
Beach	Lit. Missouri					[illegible]										T.	.09		T.			[illegible]	[illegible]	T.	[illegible]							[illegible]	[illegible]
Berthold Agency	Missouri	T.															T.					T.	T.		T.	.08							[illegible]
Bismarck ***	Missouri	T.				T.				[illegible]							T.		T.			.08	.01	T.	[illegible]	.16			[illegible]				0.90
Bottineau ‖	Mouse					[illegible]	T.									T.	.01	T.	T.			T.	[illegible]	T.	[illegible]	[illegible]				[illegible]			[illegible]
Bowman	Grand																																
Cando	Devils Lake					T.		T.															.12	.03		.17				.07			[illegible]
Carson	Heart					.01				[illegible]												.02				.02			.05				[illegible]
Cooperstown	Sheyenne									.30													.60		.10								1.00
Crosby	Mouse					.10										.01		.01				.03	.02	.01	[illegible]	.09							[illegible]
Devils Lake ***	Devils Lake	T.				.04	T.	.01		.10							T.	.01	T.			T.	[illegible]	[illegible]	.07	.01		.01	.23				0.86
Dickinson	Heart	.03				T.					.03						T.	T.	T.				.01	.05		.25	T.						[illegible]
Dogden Butte	Mouse	T.				.05												T.					.16		[illegible]	.24			T.	.15			[illegible]
Dunn Center	Knife																									.22							0.22
Dunseith	Mouse																	.05					.27		.05					.50			0.87
Eckman	Mouse				.01	.01										T.							.18		[illegible]				.02	.26			0.86
Edgeley	James																									.36				.05			0.41
Ellendale ***	James	T.			T.			T.		.01		.12	.07							T.		.05	.03	.06	[illegible]	.10		T.	[illegible]				0.56
Energy	Missouri	T.				T.				T.							T.	T.	T.			.10	T.		T.	.15			T.				0.25
Epping	Missouri															T.	T.	T.	T.			T.	.06	T.	.03	.05							0.14
Fessenden	James	.08									.24							T.	T.				.15		.18	.39			.09	.17			1.30
Forman	Sheyenne												.48										.10	.16		[illegible]				.27			1.43
Fort Yates	Missouri																																
Foxholm (near)	Mouse	[illegible]				.06										T.		T.					.25	T.	.39	.50			.06	T.			1.29
Fryburg	Heart	.12	T.							.04						T.	T.	.04	T.		.04		.09	.08	.10	.10							0.61
Fullerton	James	.03								T.	.03		.45							T.			.47	.37		.65		T.	.26				2.26
Garrison	Missouri																						.22		.29				.19				0.70
Grafton	Red					T.				T.									T.				T.										T.
Grand Forks ***	Red				T.	.01				.16							T.		T.				.16			.11		T.		.10			0.54
Granville	Mouse	[illegible]																					.28		T.	.21		.04					0.64
Hannah	Pembina										T.												.32	.08					.27	T.			0.67
Hansboro	Devils Lake																						[illegible]		.12						.10		0.50
Hettinger	Grand	T.				T.				.35																					.30		0.65
Hillsboro	Red										.20	.10											.15	.20		.60							1.25
Howard (near)	Missouri					.11										.25	*	*	.40			.18	.20		.40		T.						1.54
Jamestown ‖	James									.20							T.						.20	.14		.60			.11				1.25
Lamoure	Missouri	T.				T.				.54														.19	T.	.54			.20				1.47
Langdon	Pembina					T.	.05																.05	.10	.18			T.		.27			0.65
Larimore	Red	.04								.09	.18												.72			.16				.15			1.34
Linton	Missouri	T.								.24			.10										T.	T.	T.	.05		T.	.18				0.57
Lisbon ‖	Sheyenne										T.		.32	.08										T.	T.	.48	.32			.40			1.60
McClusky	Missouri	.05								.15								T.					.05	.05	.30				.04	.24			0.88
McKinney (near)	Mouse	.08				.04										T.		T.					.50		.16	.32			T.				1.10
McLeod	Sheyenne					T.							.18										.09	.08		.73				.17			1.25
Maddock	Sheyenne	T.				T.				T.	.05							T.					.22	T.	.05					.05			0.37
Mandan ‖	Missouri					.01					.53													.01		.40				.22			1.17
Manfred	James					.05				.15								.02					.18	.02	.15	.15		T.	T.	.18			0.90
Marmarth	Lit. Missouri									.02							.12					.03	.15		.07							.30	0.69
Mayville	Red									.10													.11	.21		.50				.17			1.09
Melville	James					T.				.27								T.					.54	.09	T.	.56				.20			1.66
Metigoshe	Mouse																						.28					T.	.47				0.75
Minot ‖	Mouse																						.30			.20	.20			.05			0.75
Minto	Red					.01				T.	.09							T.	T.	T.			.01					T.	T.				0.11
Mott	Cannon Ball					T.				.45						T.	T.	T.	T.			T.	T.						.03			.06	0.54
Napoleon ‖	Missouri						T.				.30												.20	.20		.10	.10	.05		.40			1.35
New England	Cannon Ball									.12					T.	T.					T.				.20	.05		T.			.10		0.47
New Salem	Heart	T.				.01				.25							T.					T.	T.	.02		.28			.04	.03			0.63
Park River	Red										.23							T.					.30	T.						.15			0.68
Parshall (near)	Missouri																					.15			.01								0.16
Pembina ‖	Red																																0.60
Pettibone	James					T.				.15	T.							T.					.10	T.		.24		T.	T.	.57			1.06
Power	Sheyenne											T.	.04										.01	.02		.14			T.				0.21
Powers Lake	Missouri					.02											.03	.02				.46			.56								1.09
Richardton	Heart	T.								.09							T.					.01				.30			.08				0.48
Sharon	Red	T.				.01		T.		.11	.02							T.	T.				.42	.09	.01	.22		.02		.09			0.99
Stanton	Missouri					T.																	.25			.06							0.31
Starkweather	Devils Lake																					.06	.28	.02	.08		.04		.30				0.78
Steele	Missouri	T.								.16	.16												.10					T.	T.	.42			0.84
Towner	Mouse	.05																					.20	.05	.30	.35			T.	.30			1.25
Trotters	Lit. Missouri					T.											T.	T.	T.			.10	.07		.16								0.33
Turtle Lake	Missouri	.02				.10				.06	.08														.08	.16			.08	.16			0.74
Valley City	Sheyenne																																
Velva						.02																	.19	T.	.02	.10			.09	.06			0.48
Wahpeton	Red												.16					.01					.05	.03		.50	.10			.17			1.02
Walhalla	Pembina																																
Westhope	Mouse						.10																						.72				0.82
Williston ***	Missouri					.13										T.	.01	T.	T.			.01	T.	T.	.09	T.	.04						0.28
Willow City	Mouse	T.				.07										T.		T.	T.				.25	T.	.25	.10			T.	.16			0.83
Wilton						T.				T.															T.	T.							T.
Moorhead, Minn ***	Red					T.		.01	T.	.05		.12	.20			T.	.01		T.	T.			.33	.02		.98		T.	.11	.02			1.85

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning: amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for March, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	28	35	30	34	38	50	41	40	42	46	42	38	55	51	62	48	35	26	30	37	45	40	36	38	30	38	40	42	40	38	40	39.9
	Minimum	14	0	4	12	17	24	31	25	22	20	25	28	26	27	32	28	19	18	12	14	18	23	20	16	9	2	8	29	20	19	16	18.5
Amidon	Maximum	22	33	45	40	40	44	45	45	40	42	43	45	40	63	53	32	....	22	28	38	45	39	38	50	40	45	40	42	40	55	48	[a]41.4
	Minimum	20	14	17	25	29	31	27	29	29	22	27	30	32	32	32	12	....	8	8	10	26	8	15	30	17	15	22	24	27	27	28	[a]22.4
Arnegard	Maximum	33	35	40	32	40	40	41	45	36	44	45	44	47	62	43	26	22	19	20	38	48	42	33	40	30	43	44	46	43	54	42	39.7
	Minimum	14	17	20	29	20	32	28	25	25	20	25	32	30	36	24	12	11	9	0	8	20	26	15	27	15	15	28	24	25	27	25	21.7
Ashley	Maximum	19	38	37	37	39	46	46	52	51	41	40	40	49	54	55	44	37	26	25	35	43	43	43	44	40	39	43	44	44	46	46	41.5
	Minimum	14	8	15	22	27	25	38	22	29	20	24	28	23	28	32	27	18	13	11	11	11	29	26	24	19	22	14	22	34	28	25	22.2
Beach	Maximum	30	34	41	40	43	44	42	43	35	43	45	47	61	69	47	30	24	17	29	36	45	41	38	46	36	46	43	47	46	56	45	41.6
	Minimum	14	26	24	29	27	26	23	24	27	24	23	27	30	34	30	11	10	10	9	12	30	22	19	30	15	15	27	27	27	28	27	22.6
Berthold Agency	Maximum	20	34	45	35	40	48	50	50	40	42	38	50	60	65	55	38	25	22	30	40	55	42	36	40	34	44	48	40	44	50	48	42.2
	Minimum	10	22	20	30	30	32	32	22	22	24	20	20	25	33	28	22	2	12	0	5	28	22	22	22	17	14	26	22	10	21	24	20.6
Bismarck	Maximum	25	34	41	37	41	49	43	54	34	35	39	45	57	65	46	36	30	25	31	37	56	49	33	45	31	42	46	44	45	49	36	41.1
	Minimum	13	13	21	29	29	32	28	26	21	10	11	23	23	35	34	17	15	13	10	10	25	23	26	28	23	22	28	25	29	26	27	22.7
Bottineau §§	Maximum	21	29	35	34	32	36	34	42	36	42	43	46	44	58	58	39	24	20	26	37	46	43	37	26	....	....	....	....	....	....	....	[g]37.0
	Minimum	8	7	17	23	26	18	25	19	20	21	25	27	26	30	34	24	14	14	2	8	27	31	23	17	15	22	30	23	23	19	25	20.7
Bowman	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carson	Maximum	19	35	37	44	44	45	41	54	34	33	40	47	60	77	47	36	37	29	29	36	50	49	36	40	36	45	50	40	38	45	38	41.7
	Minimum	6	15	25	16	23	25	25	25	25	5	16	15	24	35	34	22	14	10	6	8	22	28	20	22	18	15	20	22	17	24	32	19.9
Crosby	Maximum	22	33	36	35	32	38	35	39	34	39	42	42	48	55	36	35	20	15	22	35	42	37	32	30	34	38	42	40	40	38	31	35.4
	Minimum	1	15	20	24	23	28	24	25	20	12	21	18	30	32	31	13	9	1	18	8	30	23	27	17	24	14	27	27	30	25	29	20.8
Devils Lake	Maximum	25	31	36	33	38	44	37	37	36	40	44	43	51	56	60	38	25	18	29	36	43	33	30	30	28	33	40	37	35	40	31	36.7
	Minimum	5	5	18	27	28	30	26	23	27	16	24	28	26	31	33	20	14	11	7	12	24	28	23	18	12	13	20	28	28	26	24	21.2
Dickinson §§	Maximum	22	36	44	35	40	43	42	46	33	41	45	42	61	65	42	26	27	22	28	38	50	44	35	48	27	47	45	45	46	54	44	40.7
	Minimum	11	12	17	18	26	30	27	27	27	21	23	21	25	37	35	22	11	10	1	6	13	29	11	21	18	11	20	21	27	24	26	20.5
Dunn Center §§	Maximum	24	36	43	37	39	45	41	48	38	44	47	48	60	66	52	31	24	21	30	34	51	43	34	44	36	45	44	43	44	54	43	41.6
	Minimum	14	8	16	28	29	30	25	33	22	18	22	19	24	32	29	14	9	9	0	4	19	28	24	21	15	8	23	19	33	22	22	20.1
Dunseith	Maximum	23	31	36	36	37	40	37	41	40	41	45	45	48	56	54	42	27	23	29	37	46	40	36	27	30	38	38	40	42	42	44	38.4
	Minimum	2	1	10	25	25	23	24	12	12	13	20	19	23	32	29	20	10	4	-2	4	21	27	20	12	10	12	21	16	23	18	19	16.0
Edgeley	Maximum	25	32	36	37	42	51	44	53	49	46	42	57	59	65	47	46	36	32	29	37	46	46	46	36	35	34	46	42	42	50	43	42.
	Minimum	13	4	10	12	15	25	29	19	29	23	22	22	27	35	29	28	2	14	8	10	14	27	27	20	8	9	15	24	30	23	24	19.
Ellendale	Maximum	25	33	38	38	41	51	44	53	38	45	41	41	57	56	62	48	35	29	24	33	45	46	35	38	31	31	47	43	46	50	37	41.3
	Minimum	18	10	18	21	26	25	28	21	30	28	27	30	27	27	34	26	22	16	13	16	18	20	23	25	11	13	20	26	32	30	27	23.5
Fessenden §§	Maximum	25	33	40	36	49	48	41	50	35	39	45	44	54	63	62	42	30	35	38	40	50	42	[illegible]	30	30	36	46	44	40	46	34	41.2
	Minimum	7	8	18	21	30	33	28	21	24	11	11	18	24	30	32	25	13	12	10	7	20	27	24	20	22	21	23	30	28	27	26	20.9
Foxholm (near)	Maximum	21	32	37	36	36	42	38	45	39	43	46	46	50	58	56	37	24	20	27	37	50	45	[illegible]	27	27	34	37	37	36	40	39	38.0
	Minimum	8	19	20	29	27	30	28	25	23	19	25	23	29	32	30	20	11	7	1	8	26	29	20	21	10	13	23	24	29	26	24	21.0
Fullerton	Maximum	25	33	38	38	40	50	50	52	40	45	41	41	56	57	62	49	25	28	27	33	46	44	36	37	33	32	45	43	43	48	37	41.4
	Minimum	17	8	18	22	28	26	26	21	31	27	26	30	29	27	36	28	21	17	13	15	19	29	29	25	26	10	16	26	32	30	27	23.7
Garrison	Maximum	26	35	41	38	40	46	40	50	37	47	49	48	57	64	55	36	30	23	32	42	54	45	34	36	30	39	42	40	40	49	37	41.4
	Minimum	8	17	20	30	29	32	29	26	24	23	24	24	28	36	33	20	14	13	5	14	26	32	[illegible]	25	17	16	25	27	29	27	26	23.3
Grafton	Maximum	23	29	36	36	39	43	44	35	37	39	42	42	50	51	57	54	42	28	31	39	43	38	34	34	34	39	...	40	40	45	41	[a]39.5
	Minimum	6	-1	14	23	25	27	24	23	28	6	22	29	26	28	37	31	17	16	11	17	26	30	29	29	23	15	....	25	30	29	29	[a]22.1
Grand Forks	Maximum	22	30	38	33	38	46	38	37	36	39	42	37	49	52	59	45	29	25	28	37	50	36	33	35	31	35	37	38	38	44	39	37.6
	Minimum	14	2	17	26	28	25	29	26	30	14	25	32	28	29	40	29	19	15	17	17	26	30	30	25	20	12	22	32	33	28	28	24.0
Granville	Maximum	10	25	30	38	34	40	39	45	36	34	35	38	35	40	32	32	26	15	15	37	38	28	25	25	25	30	30	32	28	28	28	31.4
	Minimum	5	8	20	20	30	35	25	25	25	22	25	22	27	29	28	26	15	10	4	22	28	32	24	25	15	15	27	28	26	23	24	22.4
Hansboro	Maximum	18	27	35	34	35	42	40	38	42	42	37	50	50	36	43	40	32	20	40	39	45	25	31	28	32	34	39	30	35	33	31	35.6
	Minimum	-4	-8	10	16	16	17	20	11	17	13	18	24	18	15	24	15	10	7	8	13	15	18	12	13	11	15	10	13	17	15	18	12.5
Hettinger	Maximum	27	35	38	36	42	47	46	48	33	50	42	41	56	61	38	31	36	26	32	38	44	31	41	50	34	50	51	41	52	65	56	42.6
	Minimum	11	13	21	22	25	25	26	24	17	3	5	9	24	34	29	22	18	11	9	10	20	19	20	30	17	17	19	20	26	25	28	19.0
Hillsboro	Maximum	27	31	38	36	37	47	43	39	39	43	38	....	50	53	58	57	42	29	29	36	41	37	37	41	36	41	37	41	38	44	41	[a]40.1
	Minimum	16	2	16	24	28	25	32	26	30	22	31	....	28	28	37	30	19	20	14	15	23	29	29	20	25	9	10	31	33	30	25	[a]23.6
Howard (near)	Maximum	20	32	34	30	32	37	40	40	32	40	42	40	52	60	37	30	14	16	20	30	[illegible]	[illegible]	32	32	28	35	36	46	47	42	40	34.7
	Minimum	-6	-1	15	25	21	26	18	23	17	12	17	16	27	33	30	10	4	-4	14	5	25	20	11	12	8	12	24	24	25	24	24	16.5
Jamestown §§	Maximum	25	33	38	35	40	48	40	46	35	42	40	43	53	59	64	45	33	26	24	37	47	42	31	34	30	35	42	40	41	45	33	39.7
	Minimum	5	10	9	16	27	27	29	19	20	18	17	22	24	24	29	30	15	13	9	9	8	19	27	21	23	8	15	20	29	27	24	19.1
Lamoine	Maximum	22	31	37	37	37	38	38	48	46	44	44	41	52	54	54	37	28	24	28	37	34	34	24	33	31	32	40	38	38	44	41	37.8
	Minimum	6	8	17	21	28	26	28	22	19	9	16	21	34	34	34	25	12	10	6	7	20	20	25	25	25	16	20	20	25	25	25	20.5
Langdon §§	Maximum	27	34	32	36	41	36	33	35	41	45	41	47	49	47	36	26	18	31	38	40	33	33	30	40	35	38	37	35	39	31	31	35.6
	Minimum	0	2	2	11	24	21	29	20	21	13	13	25	24	28	33	26	13	10	1	10	17	29	21	13	15	10	14	26	24	20	23	17.5
Larimore §§	Maximum	25	30	37	32	38	45	44	40	35	39	42	41	45	53	58	46	30	32	34	38	40	[illegible]	32	37	32	38	45	38	37	43	38	38.5
	Minimum	6	2	22	26	25	26	31	25	30	12	24	22	26	29	31	30	16	18	14	12	21	[illegible]	27	22	18	4	18	31	31	29	25	21.7
Linton	Maximum	21	32	38	43	43	50	....	57	47	39	42	44	58	67	58	41	33	27	30	....	....	51	28	43	40	39	41	38	47	53	48	[c]43.1
	Minimum	9	9	18	18	28	24	....	22	22	7	20	24	20	27	35	24	19	11	6	....	....	7	27	23	23	21	18	17	27	25	26	[c]19.9
Lisbon §§	Maximum	24	26	34	38	42	42	51	43	45	41	46	42	34	53	59	67	50	35	26	30	35	42	30	28	24	32	45	40	45	42	47	39.9
	Minimum	8	0	7	28	28	30	21	18	28	25	23	26	23	24	33	28	20	26	12	18	15	18	16	12	0	16	23	24	31	28	26	20.5
McKinney (near)	Maximum	21	32	38	38	35	40	37	43	35	40	46	45	50	58	50	34	22	20	37	35	50	40	32	27	25	35	35	40	38	42	34	37.2
	Minimum	5	10	20	28	28	30	25	22	25	15	22	19	26	28	30	18	14	8	10	2	25	28	20	21	10	0	20	25	26	25	25	18.8
Maddock	Maximum	24	32	37	38	37	44	41	45	43	42	43	44	51	61	62	52	39	32	30	30	47	45	30	28	28	35	40	39	38	44	43	40.7
	Minimum	8	5	15	27	29	29	28	23	27	12	21	24	23	27	31	25	12	10	9	7	22	24	21	21	18	20	21	25	27	25	23	20.6
Melville	Maximum	25	31	38	37	38	43	41	45	44	41	42	43	53	60	65	47	32	25	28	27	46	42	37	31	29	32	...	42	38	43	42	[a]40.1
	Minimum	10	10	15	25	27	23	28	34	25	14	23	21	22	36	32	25	13	11	5	6	21	26	25	18	20	12	....	16	28	25	24	[a]20.8
Minot §§	Maximum	23	35	42	38	39	44	40	43	40	43	50	50	55	61	47	37	27	23	33	40	35	43	37	32	27	40	40	40	40	47	43	39.8
	Minimum	23	14	21	30	29	22	30	24	21	18	25	20	28	30	30	24	13	9	3	4	28	32	25	21	14	8	27	25	30	26	25	22.4
Mott	Maximum	32	34	38	37	36	39	40	38	32	30	39	37	40	45	43	31	28	25	25	26	35	38	34	42	36	37	34	43	48	61	44	37.2
	Minimum	12	13	16	20	17	24	24	22	11	1	21	16	23	31	30	21	12	13	8	6	17	25	30	30	27	23	16	25	26	30	27	20.0
Napoleon §§	Maximum	26	33	40	35	40	48	43	54	34	38	40	43	54	62	53	42	32	28	35	38	47	50	31	38	28	35	47	45	44	50	34	40.9
	Minimum	8	8	10	20	28	28	29	23	29	13	12	25	23	28	34	23	13	11	10	9	18	33	27	21	23	20	22	21	25	24	25	20.7
New Salem	Maximum	21	35	39	41	44	47	45	5	35	36	45	45	58	64	65	38	31	26	29	38	53	49	35	48	39	41	45	41	45	52	40	42.7
	Minimum	3	14	3	27	27	29	27	22	24	14	14	20	26	33	34	25	10	9	10	2	23	30	23	24	20	12	26	20	27	21	22	20.8
Pembina §§	Maximum	24	30	35	36	40	42	35	34	40	40	49	42	38	55	45	41	40	42	38	42	42	40	[illegible]	42	38	36	35	42	38	38	36	39.2
	Minimum	-6	1	18	22	22	26	17	12	10	15	20	25	18	25	30	32	30	28	10	15	27	28	22	12	15	16	14	30	25	30	32	19.7
Steele	Maximum	25	30	40	41	46	45	47	47	30	32	37	40	45	50	60	55	30	25	28	31	40	46	31	30	31	35	45	42	37	38	32	38.0
	Minimum	9	10	15	24	22	20	32	24	20	20	22	7	20	30	37	20	20	10	8	6	28	20	20	20	20	24	20	20	25	20	22	20.0
Towner	Maximum	24	38	41	38	38	41	38	49	39	48	47	48	59	53	48	40	38	37	37	38	40	[illegible]	34	34	34	39	38	36	54	44	40	40.0
	Minimum	8	20	22	20	30	24	20	28	24	20	28	32	25	27	26	20	18	18	6	14	20	32	24	27	20	10	27	24	23	25	27	22.2
Valley City	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Wahpeton	Maximum	27	32	41	40	35	47	48	45	50	47	45	42	45	56	64	64	41	37	29	37	43	40	37	40	39	33	35	43	41	47	45	42.4
	Minimum	16	5	15	26	30	24	30	23	32	28	30	31	36	28	41	32	24	21	16	18	17	28	28	24	26	0	2	12	24	31	28	23.6
Westhope	Maximum	23	33	35	38	33	33	38	26	45	33	45	49	51	46	61	40	31	25	31	40	51	41	54	29	28	37	37	42	42	46	36	38.4
	Minimum	15	0	6	11	27	24	29	23	22	24	10	24	23	28	31	31	14	12	2	16	30	31	32	18	14	8	25	25	32	23	25	20.0
Williston	Maximum	25	36	41	33	39	40	41	43	57	41	47	46	55	62	40	23	20	17	28	37	46	39	34	36	30	44	42	46	42	50	41	38.8
	Minimum	12	19	23	29	26	30	25	30	25	23	28	23	30	40	23	12	11	7	[illegible]	11	30	24	18	23	15	19	27	25	27	28	29	22.4
Moorhead, Minn	Maximum	24	30	38	37	37	48	39	42	40	44	43	34	48	55	61	41	33	26	27	32	39	33	33	37	33	30	34	39	42	44	40	38.3
	Minimum	13	8	16	25	28	26	32	24	31	27	29	31	30	30	38	30	20	14	14	16	22	28	28	23	16	7	4	32	34	29	26	23.6

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, [illegible]]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI BISMARCK, N. D., APRIL, 1927 No. 4

GENERAL SUMMARY

The month opened with weather generally favorable for spring work on farms, and with the exception of some delay caused by quite general showers on the 4th, farm work made good progress during the first week. Showers were general again over the State on the 9th and 10th, greatly delaying spring seeding, especially in the eastern portion. Drying weather prevailed from the 11th to the 14th inclusive, but was followed on the 15-16th by quite general heavy rain. Farm work made excellent progress throughout the last decade, and seeding was well advanced at the close of the month. Wild and tame grasses made rapid growth and afforded much feed for livestock, which was in fair to good condition. Much highway construction was under way during the last decade.

TEMPERATURE

The mean temperature for the State was 41.4°, or 0.3° below the normal, and 1.4° lower than the mean for April, 1926. The highest mean reported was 46.4° at McLeod, Ransom County; the lowest was 36.2° at Granville, McHenry County. The highest temperature reported was 95° at Hettinger, Adams County, on the 26th; the lowest was 7° at Hansboro, Towner County, on the 7th, and at Hettinger, Adams County, on the 19th. The greatest monthly range of temperature was 88° at Hettinger, Adams County; the least was 44° at Powers Lake, Burke County. The greatest daily range was 65° at Hettinger, Adams County, on the 19th.

PRECIPITATION

The average precipitation for the State was 1.70 inches, or 0.32 inch above the normal, and 1.42 inches more than the average for April, 1926. The greatest monthly amount reported was 2.95 inches at Fullerton, Dickey County; the least was 0.41 inch at Dunseith, Rolette County. The greatest amount recorded in any 24 consecutive hours was 1.26 inches at Fullerton, Dickey County, on the 15th. The average number of days with 0.01 inch or more of precipitation was 7. The average snowfall was 2.3 inches, the greatest fall being 12.0 inches at Hettinger, Adams County.

AURORAS

Auroras were observed at Trotters and Willow City on the 2d; at Beach and Foxholm on the 5th; at Minot on the 7th; at Sharon on the 20th; at Arnegard, Bottineau, Ellendale, McClusky, Sharon, Stanton and Towner on the 23d; at Foxholm, Howard and Stanton on the 24th; at Crosby, Howard and Richardton on the 28th; at Crosby, McLeod and Sharon on the 29th, and at Bottineau, Crosby, Foxholm and Howard on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Elevation of anemometer, feet	Winds				
							Total movement, miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	29.98	30.52	21	29.37	18	57	8,560	11.9	39	ne.	26
Devils Lake	30.00	30.49	21	29.33	16	44	8,316	11.6	38	nw.	26
Ellendale	30.00	30.48	21	29.44	16	56	11,074	15.4	50	nw.	26
Grand Forks	29.99	30.43	8	29.41	16	90	......	......	42	nw.	26
Williston	29.96	30.58	21	29.42	16	48	7,880	10.9	37	se.	9
Moorhead, Minn	30.01	30.49	22	29.48	16	58	6,858	9.5	30	nw.	26
Av'ges and extremes	29.99	30.58	21	29.33	16	....	....	11.9	50	nw.	26

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Departure from normal, per ct.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	197.8	408.5	48	10	77	49	50	12	26
Devils Lake	219.8	410.5	54	1	83	66	70	29	25
Ellendale	202.8	407.2	50	8	85	60	...	19	26
Grand Forks	......	......	......	......	82	....	64	...	...
Williston	257.2	410.5	63	+5	77	49	45	19	25†
Moorhead, Minn	235.8	408.5	58	−2	82	61	66	36	18
Averages and extremes	222.7	409.0	55	−4	81	56	59	12	26

† And other dates

COMPARATIVE STATE DATA FOR APRIL

Year	Temperature				Precipitation			Sky			Wind Dir
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P'cdy days	Cl'dy days	
1892...	37.6	−4.1	75	−2	2.65	+1.27	7	10	6	14	ne.
1893...	34.3	−7.4	77	−8	1.73	+1.35	6	7	9	14	nw.
1894...	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895...	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896...	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897...	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898...	41.9	+0.2	87	−4	1.28	0.00	5	14	9	7	nw.
1899...	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900...	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901...	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902...	40.2	−1.5	87	−2	1.06	−0.32	3	12	8	10	nw.
1903...	42.5	+0.8	93	8	1.23	−0.15	5	16	6	8	nw.
1904...	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905...	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906...	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907...	31.9	−9.8	80	−6	0.57	−0.81	4	10	9	11	nw.
1908...	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909...	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910...	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911...	41.5	−0.2	90	−5	1.30	−0.08	5	15	6	9	nw.
1912...	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913...	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914...	40.9	0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915...	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916...	39.2	2.5	79	6	1.40	+0.02	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918...	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919...	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920...	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921...	41.1	0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922...	42.3	+0.6	89	−2	0.92	0.46	6	10	9	11	se.
1923...	38.7	−3.0	89	−15	1.45	+0.07	5	13	8	9	nw.
1924...	39.3	−2.4	84	6	2.55	+1.19	9	8	9	13	nw.
1925...	47.8	+6.1	85	10	1.64	+0.26	6	11	10	9	se.
1926...	42.8	+1.1	98	−4	0.28	−1.10	3	17	8	5	nw.
1927...	41.4	−0.3	95	7	1.70	+0.32	7	10	8	12	se.

Climatological Data for April, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										2.13		0.42		13					H. A. Bury.
Amenia	Cass	954	31	41.4	−0.9	78	27	17	23	50	2.39	+0.51	0.90	4.0	8	13	11	6	n.	E. T. Carley.
Amidon	Slope		13																	W. H. Toussaint.
Arnegard	McKenzie		12	42.2	+1.6	71	27	13	20	41	1.82	−0.37	0.82	0.8	10	18	5	7	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	42.2	−0.3	79	25	12	22	38	2.03	+0.06	0.41	0	6	13	6	11	nw.	H. D. Piper.
Beach	Golden Valley	2,759	21	41.8	−0.7	79	27	14	20	39	1.42	0.00	0.38		10	14	7	9	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	43.6	−0.1	78	30	16	20	43	1.00	0.16	0.60	0	4	16	0	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	43.8	+1.7	75	26	18	22	36	1.37	−0.51	0.47	0.4	8	6	12	12	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	39.4	0.0	70	28	12	20	35	1.38	+0.51	0.74		7	6	9	15	se.	T. M. Street.
Bowman	Bowman	2,961	13																	R. Love, Jr.
Cando	Towner	1,488	26	40.5	−0.1	69	19†	14	26	45	1.72	−0.83	0.54		8	3	13	14	se.	A. J. Swanson.
Carson	Grant	2,500	15	41.1	−0.9	75	25	15	22	35	1.47	−0.08	0.53	0.4	7	15	5	10	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	21								2.06	+1.01	0.67	6.0	4	10	7	13	nw.	S. Friswold.
Crosby	Divide	1,954	20	40.2	−0.4	73	24	12	21	43	1.30	+0.11	0.40		6	4	15	11	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	40.0	+1.8	69	26	15	20	30	2.18	+0.15	0.64	5.7	9	9	6	15	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	41.0	−1.9	76	27	14	1	43	2.10	+0.87	0.46		13	9	3	18	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880		41.4		72	28	13	20	40	1.62		0.68		6	10	9	11	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	40.2	−2.4	71	27	13	20	45	1.61	+0.29	0.65		7	10	4	16	nw.	V. F. Moede.
Dunseith	Rolette	1,682	31	38.8	−1.6	68	27	8	20†	39	0.41	−0.42	0.21	2.1	4	9	9	12	se.	J. G. Lamont.
Eckman	Bottineau	1,500	22	41.3	−0.3	68	25†	14	20	39	1.19	+0.14	0.46	0	5	0	16	14	se.	C. E. Strock.
Edgeley	La Moure	1,468	26	43.0	0.2	78	26	17	21	40	2.31	+0.43	0.85		6	2	9	19	se.	O. A. Thompson.
Ellendale	Dickey	1,449	28	42.9	−0.7	78	26	21	21	37	2.64	+0.81	0.78	0.4	8	5	8	17	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	15	44.4		75	28	17	19†	42	1.42	+0.28	0.38	T.	7	4	17	9	nw.	H. S. Solenberger.
Epping	Williams	2,224	19	42.1		71	30	14	19†	30	1.68	+0.53	0.52	1.0	8	16	10	4	se.	A. O. Wang.
Fessenden	Wells	1,610	15	41.0	+0.8	74	28	16	20	38	1.74	+0.20	0.48		9	7	10	13	nw.	T. D. Monsen.
Forman	Sargent	1,249	33								2.52	+0.33	0.93		5	11	4	15	se.	O. Enger.
Fort Yates	Sioux	1,670									1.17	−0.50	0.58		3					P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	41.0		69	28	12	20	36	1.84		0.77	1.5	7	5	14	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9								2.00		0.52	7.0	8	10	8	12	nw.	Verne King.
Fullerton	Dickey	1,439	29	43.5	+0.7	78	26	20	22	38	2.95	+0.95	1.26	3.5	6	7	11	12	nw.	F. O. Alin.
Garrison	McLean	1,901	32	43.1	+0.5	74	28	17	20	38	1.14	−0.06	0.54		8	12	12	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	41.2	+0.9	70^{a}	26	18^{a}	20†	42^{a}	0.82	−0.66	0.23		9	12	8	10	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	36	41.8	0.2	70	26	20	22	31	2.30	+0.37	0.76	5.0	8	12	10	8	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	36.2	−6.3	68	28	14	13	26	1.16	+0.20	0.45		7	4	13	13	se.	W. A. Christianson.
Hannah	Cavalier	1,568	33								2.13	+0.87	1.10	4.0	6					J. Moffatt.
Hansboro	Towner	1,597	19	36.4	−3.5	68	28	7	7	41	1.81	+0.52	0.90		4	14	8	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	45.0	+0.2	95	26	7	19	65	2.72	+1.56	0.65	12.0	7	16	3	11	se.	U. J. Downey.
Hillsboro	Traill	901	21	43.0	−0.6	74	26	20	22	36	2.46	+0.45	0.63	6.0	8	12	10	8	se.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	20	39.5	−0.3	72	24	8	19	40	1.18	−0.22	0.50	6.6	7	12	12	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	40.6	−1.9	72	26	17	22	36	2.40	+0.66	0.67	4.0	9	9	1	20	se.	S. Calvelage.
Lamoine	Kidder	1,936	22	42.0	−0.6	73	26	15	20	34	1.23	+0.26		T.	4	13	5	12	se.	E. V. Virgin.
Langdon	Cavalier	1,615	31	37.6	−0.5	65	17	13	20	30	1.55	+0.22	0.43		9	13	4	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	41.0	+0.6	68	17†	13	20	42	2.26	+0.64	0.55	6.0	7	10	5	15	s.	Reuben Gray.
Linton	Emmons	1,711	9	43.0	+0.8	80	26	11	22	50	1.63	+0.21	0.51	T.	7	15	2	13	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	42.9	+0.2	79	26	16	22	42	2.59	+0.70	0.65	3.0	8	14	5	11	nw.	W. S. Adams.
McClusky	Sheridan	1,943	9	41.2		77	29	16	22	57	1.34		0.55	T.	8	15	7	8	se.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	33	40.5	−0.5	72	28	10	18	39	1.26	0.31	0.50	0.2	5	1	16	13	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	46.4	+3.1	75	27†	17	21	41	2.05	−0.34	0.76		7	16	2	12	nw.	J. G. Carlson.
Maddock	Benson	1,604	11	41.0	−0.1	72	28	15	20	45	1.61	+0.19	0.60		6	4	14	12	se.	A. T. Felland.
Mandan	Morton	1,644	13	42.9	+0.8	75	26	17	20	36	1.37	−0.18	0.39	0.6	11	8	3	19	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	41.8	0.0	71	28	16	20	35	1.45	+0.18	0.44	0	6	8	11	11	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	40.6	−2.2	76	27	18	19†	40	1.43	+0.30	0.37	3.0	10	6	10	14		S. P. Grane.
Mayville	Traill	975	31	42.8	−0.4	75	26	16	22	43	2.00	+0.25	0.60	0	6	10	1	19	s.	N. C. Burhans.
Melville	Foster	1,590	29	41.2	+1.1	73	29	16	20	40	1.96	+0.85	0.44	4.0	5	7	13	10	se.	J. P. Kidder.
Metigoshe ‡‡	Bottineau		1								1.56		1.00	2.0	4	16	7	7	nw.	J. A. Thorburn.
Minot	Ward	1,557	31	42.8	+1.1	72	28	14	20	40	1.67	+0.35	0.70		8	5	11	14	w.	W. I. Faris.
Minto	Walsh	820	34	40.6	0.0	71	26	15	22	38	0.92	−0.65	0.40	0.1	7	9	12	9	s.	C. M. Evans.
Mott	Hettinger	2,424	20	39.6	−3.0	76	28	13	21	34	2.19	+0.69	0.74	6.0	6	7	10	13	se.	O. H. Opland.
Napoleon	Logan	1,955	35	41.8	+0.3	77	26	16	22	40	1.76	+0.09	0.47	0.5	9	8	5	17	nw.	C. I. Hoof.
New England	Hettinger	2,400	36			77	26				2.53	+1.51	0.50	1.0	8	2	8	20	sw.	Walter L. Sales.
New Salem	Morton	2,163	23	43.8	+1.3	85	26†	15	20	38	0.90	−0.33	0.48		5	16	6	8	se.	J. Christiansen.
Park River	Walsh	998	23	40.6	−0.9	75	26	16	20	32	0.94	−0.37	0.32	1.8	6	7	10	13	se.	C. B. Wright.
Parshall (near)	Mountrail		12								0.95	−0.31	0.30	1.5	4	16	7	7	se.	Carl J. Knutson.
Pembina	Pembina	789	53	40.0	+2.1	67	26	11	6†	33	2.35	+0.94	1.25	0	4	10	11	9	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	18																	A. L. Carlson.
Power	Richland	1,020	33								0.76	−1.07	0.30	3.0	4	10	8	12	n.	Frank B. Power.
Powers Lake	Burke	2,205	13	38.6		61	27	17	20	21	1.22	−0.34	0.46	3.0	4	14	9	7	se.	Geo. B. Gee.
Richardton	Stark	2,467	11	41.1	+0.3	72	25†	14	20†	39	1.96	+0.46	0.69	4.0	4	10	8	12	se.	John Muggli.
Sharon	Steele	1,516	2	40.6		72	26	16	22	33	1.78		0.50	2.7	11	7	10	13	s.	Neis O. Grefsheim.
Stanton	Mercer	1,722	3								1.14		0.48	T.	5	16	5	9	se.	J. H. Gilfey.
Starkweather	Ramsey			39.2		76	29	9	20	47	1.68		0.48		8	14	3	13	se.	F. R. Irons.
Steele	Kidder	1,857	31	40.0	−4.4	70	26	15	21†	32	2.32	+1.21	0.50	0.5	8	11	7	12	se.	H. S. Wood.
Towner	McHenry	1,482	25	43.8	+2.4	72	28	14	20	38	1.46	+0.36	0.75	0.5	5	10	11	9	se.	B. Bagley.
Trotters	Golden Valley		1								1.27		0.38	2.5	9	8	6	16		A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	41.4	−0.7	72	28	13	21	39	1.56	+0.36	0.57		6	3	20	7	s.	A. T. Anderson.
Valley City	Barnes	1,245	22																	E. W. Meier.
Velva	McHenry										1.51		0.70	0	8	8	10	12	e.	Oscar Anderson.
Wahpeton	Richland	962	33	45.6	+1.3	79	26	20	22	41	2.71	+0.48	0.90		7	13	0	17	se.	C. G. Luick.
Walhalla	Pembina	966	22																	H. W. Smith.
Westhope	Bottineau	1,568	25	40.8	+1.1	75	28	12	20	39	1.02	−0.04	0.40		4	18	6	6	nw.	W. A. Meddaugh.
Williston	Williams	1,878	48	42.4	+0.4	73	24	14	20	38	1.16	0.07	0.41	0.8	8	11	12	7	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	40.8	+0.6	72	29	14	20	40	1.52	+0.57	0.51	3.1	9	8	9	13	nw.	M. A. Ostby.
Wilton	McLean			40.7		71^{c}	28	15	20	32^{c}	1.35		0.45		6	11	5	14		L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	43.0	+2.4	76	26	21	22	33	2.53	+0.20	0.63	4.1	9	4	8	18	se.	U. S. Weather Bureau.
Averages				41.4	−0.3	95	26	7	7†	65	1.70	+0.32	1.26	2.3	7	10	8	12	se.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for April, 1927

Stations	Drainage Basin	Day of Month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit Missouri	.15		.06	.34					.12	.12	.08		.02	T	.35	.11				T.			[illegible]	.02				.03		.34		2.13
Amenia ||	Red		T		.05	[illegible]				.40		T.	.90				.10	.10	.10		.06							T					[illegible]
Amidon	Lit. Missouri																																
Arnegard	Missouri	.07		.08						.12	.03				.02	.41	.82	.11	.11									.05					1.82
Ashley	Missouri				.11			.44		.10	[illegible]					.42	.25																[illegible]
Beach	Lit. Missouri	.21		[illegible]	.02					.38	.01	.18			T	.33	.12		T		T.			.09							[illegible]		1.42
Berthold Agency	Missouri	T.		T.				T								[illegible]	.30	.05											.05				[illegible]
Bismarck ***	Missouri	.03			.37			[illegible]		.04	[illegible]		T.	T.	T	.45	.29					.01							T		T		[illegible]
Bottineau ||	Mouse		.01	T	.20	T.		.01	T.	T.	T.	T.	T.			T.	.34	.74	T.	.03		T				T.	T.		T.	.05			1.38
Bowman	Grand																																
Cando	Devils Lake				.36			.17			.33					.27	.54	.02								.01					.02		1.72
Carson	Heart	.01			.25						.40	.01		.02		.53	.25																1.47
Cooperstown	Sheyenne				.11			[illegible]			.67					.38																	[illegible]
Crosby	Mouse		.20	T.	T.					.03	.02						.35	.40				.30											1.30
Devils Lake ***	Devils Lake		T.		.19			.64		.03	.29					.29	.60		T.						T.		.03	T.	.04		.07		2.18
Dickinson ||	Heart	.40	.09	.07	.20					.08	.30		.04			.05	.46	.33				.02							.02		.04		2.10
Dogden Butte	Mouse		T		.08			T.		T.	.18				.01	.68	.56					T.									.11		1.62
Dunn Center ||	Knife	T.	.12	T.	.19					.08	.20					.01	.65	.36													T.		1.61
Dunseith	Mouse				.05			.21								.05												.10					0.41
Eckman	Mouse				.25			.07		.12						.29	.46																1.19
Edgeley	James				.60			.28		.13	.35					.85	.10																2.31
Ellendale***	James				.74		T.	.42	T	.15	.21		T	T.	.08	.71	.12		.21			T.							T		T.		2.64
Energy	Missouri	.10			.10	T.		T.	T.	.20	.17			T.	T.	.38	.37					T.							T.		.10		1.42
Epping	Missouri	T.		.06						.17	.14					.31	.52	.31	.12			.05											1.68
Fessenden ||	James		.03		.31	.05			.12	.02		.30				.09	.34	.48					T.										1.74
Forman	Sheyenne				.93				.56	.06	.18					.79						T.											2.52
Fort Yates	Missouri								.18	.58	.41																						1.17
Foxholm (near)	Mouse		.07		.36			.06	T.	.13	T.					.32	.77		T.	T.		T.					T.	T.	.15				1.84
Fryburg	Heart	.52		.29		T.		T.		.18	.18	T.	.10	T.	T.	.35	.26												T.		.12		2.00
Fullerton	James			T.	.92			.45	T.	.18	.06	T.			T.	1.26	.08		T.														2.95
Garrison	Missouri	.02			.12			.04	.02	.09	.06					.54	.25												T.		T.		1.14
Grafton	Red				.05			.15			.18					.11	.01								.23		.04		.03		.02		0.82
Grand Forks ***	Red				.66			.76			.18					.23	.11		T.						.03		.02		.01				2.30
Granville	Mouse			.24				.02		.10	.04	T.			T.	.45	.25	.06				T.			T.				T.		T.		1.16
Hannah	Pembina				1.10			.40								.31	T.		.10						.08				.11				2.13
Hansboro	Devils Lake				.75											.15	.90			.01													1.81
Hettinger	Grand	.65								.25	.50		.30	.40		.45	.17																2.72
Hillsboro	Red			.63				.10	.50	.20	.46					.35	.03			.19		T.											2.46
Howard (near)	Missouri	.50		T.						.03	.02					.23	.32	.02	T.			.06				T.			T.	T			1.18
Jamestown ||	James				.17	.11		.40		.01	.67	.34	T.			.37	.32	.01		T.													2.40
Lamoine	Missouri				T.			T.		*	.24					*	.99					T.											1.23
Langdon ||	Pembina				.17	.43			.20	T.		.17				T.	.15	.26		.05						.10	.02				T.		1.55
Larimore	Red					.45			.55		.06	.55					.50									.10	.05						2.26
Linton	Missouri		T.		.51			.26		.01	.33				.06	.34	.12					T.									T.		1.63
Lisbon ||	Sheyenne				.65	.05	T.		.30	T.	.30	.35				.59	.22	T.		.22													2.79
McClusky	Missouri				.22			.02		.10	.08					.55	.31	.02				T.			T.						.04		1.34
McKinney (near)	Mouse		.02		T.			T.		.25						.50			.45	.01													1.26
McLeod	Sheyenne				.76				.32	.04		.20	T.		.37	.11	T			.25											T.		2.05
Maddock	Sheyenne		T.		.36		T.	.03	T.	T	.09				T.	.32	.60					T.				T		T.	T.		.21		1.61
Mandan ||	Missouri		.04		.27				.03	.04	.20	.06				.13	.39	.18				.02									.01		1.37
Manfred	James				.43			.02	T.	.08	.14		T.			.34	.41											T.			T.		1.45
Marmarth	Lit. Missouri	T.		.19				T.	.26	.26		.18		.02	.37		.07							.05				.01		.02			1.43
Mayville	Red				.60				.20		.20	.40				.40		.20															2.00
Melville	James				.35	T.		.40		.42			T.			.34	.44											T.			T.		1.96
Metigoshe	Mouse				.32			.13									1.00		.11														1.56
Minot ||	Mouse				.15				.02		.15						.57	.70		.02									.03	.03			1.67
Minto	Red				.40			.01			.17				.20										.03		.08		.03		T.		0.92
Mott	Cannon Ball	.42			.36						.74			.20		.22	.25																2.19
Napoleon ||	Missouri		T.		.27	.05			.38		.17	.28	.02			.03	.47	.09				T.											1.76
New England	Cannon Ball	.25	.50	.25					.33	.35	.32			T.	T.	.37	.16	T.											T.		T.		2.53
New Salem	Heart							T.		.05	.14		.01	T.		.48	.22					T.											0.90
Park River	Red				.25	T.		.03	.12		.32					.18															.04		0.94
Parshall (near)	Missouri	.15		.25												.30	.25																0.95
Pembina ||	Red				T.	.80			T.	T.	T	1.25				.10										.20	T.			T.			2.35
Pettibone	James																																
Power	Sheyenne				.25			.30			.11				T.	.10																	0.76
Powers Lake	Missouri			.27													.46		.41	.08													1.22
Richardton	Heart	.40									.48		T.			.69	.39																1.96
Sharon	Red				.38			.16	.02	.08	.50	.01	T.			.49	T.		T.	.03						.01	.06		.04		T.		1.78
Stanton	Missouri				.20					.08	.10				.48		.28					T.											1.14
Starkweather	Devils Lake			.41	.12		.04	.28			.14				.04	.17	.48																1.68
Steele	Missouri	.05	T.		.30		T.	T.	.30	.20	.45	.10	T.			.50	.42	T.				T.									T.		2.32
Towner	Mouse		.05		.30			T.	.03	T.	T.	T.			T.		.75											.33					1.46
Trotters	Lit. Missouri	.12		.07	.03					.26	.07					.38	.21		.08									.05					1.27
Turtle Lake	Missouri			T.				T.	.12	.04	.17	T.				.57	.49	T.											T.		.17		1.56
Valley City	Sheyenne																																
Velva			.01		.07	T.		T.		.01	.10				.01	.60	.70		T.	T.		T.						T.			.01		1.51
Wahpeton	Red				.73			.10	.35		.05	.35				.90		.23															2.71
Walhalla	Pembina																																
Westhope	Mouse			.06				.36								.20	.40																1.02
Williston ***	Missouri	.10		.02					T.	.11	.04	T.				.32	.41		.05			T.							.11		T.		1.16
Willow City	Mouse		.06	T.	.31			.25		T	.03	T.				.23	.51	.05	T.	.04					T.					.04			1.52
Wilton		.05			.35					.05	.15					.45	.30					T.							T.		T.		1.35
Moorhead, Minn ***	Red		T.	T.	.59			.41	T.	T.	.25	T.				.40	.20	.02	.63			T.				.02	.01	T.	T.		T.		2.53

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for preceding 24 hours. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace, or less than 0.01 inch.

Daily Temperatures for April, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	47	40	51	46	51	38	38	53	43	38	45	49	48	47	56	41	64	62	71	14	37	38	17	68	60	70	78	73	61	62	..	52.2
	Minimum	28	29	32	36	28	27	25	29	33	23	33	38	33	30	30	32	39	38	34	32	21	19	17	18	27	38	41	32	43	32	..	30.6
Amidon	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Arnegard	Maximum	36	48	60	48	54	50	53	53	59	44	39	41	47	51	44	48	58	55	34	34	35	34	60	71	72	69	74	71	62	70	..	52.5
	Minimum	27	27	35	32	29	27	34	36	41	33	33	26	24	29	33	34	33	34	14	13	20	20	27	33	44	45	50	30	43	49	..	31.8
Ashley	Maximum	36	54	62	59	53	51	39	41	44	44	42	40	40	39	43	55	58	61	61	40	40	44	48	55	79	70	67	72	71	70	..	52.6
	Minimum	28	28	30	39	31	28	28	32	35	38	33	31	31	34	36	38	33	34	24	20	19	12	27	32	41	39	34	46	38	37	..	31.9
Beach	Maximum	44	54	58	51	53	49	53	55	51	40	36	34	48	42	42	38	55	50	36	35	35	55	55	69	73	70	79	68	73	66	..	52.2
	Minimum	26	26	35	33	32	27	36	37	35	28	32	26	27	30	31	30	32	32	15	14	20	22	30	36	45	47	40	44	34	42	..	31.5
Berthold Agency	Maximum	40	60	64	60	58	50	40	55	50	48	44	44	45	50	48	46	60	68	40	35	38	55	69	70	73	72	73	74	74	78	..	55.7
	Minimum	30	28	30	34	18	28	31	37	40	30	34	27	25	34	34	36	40	33	18	16	20	18	30	31	45	42	31	44	31	49	..	31.5
Bismarck	Maximum	39	57	65	52	57	47	38	50	43	45	41	41	44	47	44	49	62	68	39	37	35	50	58	65	71	75	71	74	68	71	..	53.4
	Minimum	31	29	34	40	29	29	32	35	38	36	34	31	30	38	38	39	36	36	23	19	22	18	29	34	48	47	35	48	37	48	..	34.1
Bottineau §§	Maximum	36	48	58	40	35	40	33	43	37	47	40	42	47	52	42	50	53	64	28	30	33	51	55	58	68	65	64	70	64	68	..	48.7
	Minimum	25	26	30	32	25	24	25	26	33	33	34	23	27	32	39	37	39	38	14	12	16	20	25	27	33	43	45	46	32	44	..	30.2
Bowman	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Cando	Maximum	39	36	60	52	37	37	36	42	41	38	44	42	48	52	52	54	52	67	69	34	31	50	51	64	68	69	65	69	65	65	..	51.1
	Minimum	24	23	31	33	26	24	25	31	33	26	34	27	28	34	35	39	36	38	24	11	19	19	24	32	28	37	33	42	36	43	..	29.9
Carson	Maximum	40	57	54	44	40	42	40	42	44	48	47	42	43	40	40	50	60	60	40	38	40	50	60	65	75	70	65	70	60	62	..	50.9
	Minimum	26	25	30	35	30	24	32	33	36	37	32	28	30	33	34	36	31	33	30	18	18	15	25	31	42	45	40	39	32	40	..	31.3
Crosby §§	Maximum	45	53	50	43	43	43	45	50	50	42	41	45	50	54	41	48	56	55	26	31	36	52	58	73	70	62	67	68	70	62	..	51.0
	Minimum	29	32	32	32	26	26	25	32	33	33	32	24	23	26	35	36	35	32	13	13	12	13	25	30	39	46	34	39	33	39	..	29.3
Devils Lake	Maximum	36	52	59	42	38	33	31	41	38	43	38	12	49	50	44	56	55	65	38	31	31	48	52	58	66	69	63	68	63	62	..	48.7
	Minimum	26	30	35	29	27	24	24	30	32	38	30	28	29	31	37	39	38	38	19	15	18	21	24	31	42	41	33	45	37	42	..	31.2
Dickinson §§	Maximum	35	53	61	50	53	48	46	61	56	42	37	39	42	46	38	40	60	65	37	35	37	53	59	70	72	74	76	72	69	69	..	53.3
	Minimum	14	24	20	33	30	27	33	33	35	31	29	26	24	28	35	31	30	34	18	15	17	18	29	27	36	49	37	37	32	31	..	28.8
Dunn Center §§	Maximum	37	57	60	49	47	49	44	55	47	44	35	40	42	49	38	44	59	61	32	32	36	54	58	70	72	71	74	71	71	68	..	52.2
	Minimum	25	22	24	34	25	25	27	30	36	32	31	28	23	25	34	29	31	31	15	13	15	16	26	25	43	42	32	44	26	38	..	28.2
Dunseith	Maximum	37	48	58	56	37	39	36	42	38	45	46	41	48	53	52	44	51	65	58	47	38	16	52	60	67	66	68	66	66	67	..	51.1
	Minimum	19	21	25	30	20	16	21	18	28	32	31	21	24	32	33	35	39	32	19	8	8	14	19	26	40	40	43	40	33	41	..	26.6
Edgeley	Maximum	46	57	61	54	57	52	45	43	41	41	48	41	40	45	45	64	60	71	63	41	40	47	64	66	71	78	65	75	71	73	..	55.5
	Minimum	29	28	30	40	30	26	27	34	27	38	35	31	31	23	36	37	35	36	25	20	17	18	25	26	36	38	31	39	32	34	..	30.5
Ellendale	Maximum	39	54	60	54	57	41	35	45	42	46	45	41	40	43	50	64	61	70	43	32	36	44	52	57	69	78	65	73	65	64	..	52.2
	Minimum	30	30	33	35	30	30	30	32	36	40	37	34	33	35	38	42	36	33	29	25	21	21	27	30	41	41	37	46	40	35	..	33.6
Fessenden §§	Maximum	37	55	63	45	51	43	34	45	43	45	40	42	44	49	44	56	60	68	37	35	33	51	57	60	69	70	67	74	68	66	..	51.9
	Minimum	22	29	32	39	32	25	27	30	59	34	32	25	24	33	36	36	35	34	18	16	18	18	26	29	42	43	30	37	32	42	..	30.2
Foxholm (near)	Maximum	36	53	59	54	46	40	40	52	46	48	44	44	47	51	48	50	56	64	38	31	35	50	55	64	67	63	67	69	67	66	..	51.5
	Minimum	26	30	33	33	29	26	25	32	33	35	33	22	23	33	36	37	37	36	15	12	19	23	23	28	44	40	34	42	32	46	..	30.6
Fullerton	Maximum	41	55	59	53	58	48	35	45	42	46	46	42	43	46	52	58	63	71	58	35	36	47	55	60	69	78	72	75	69	67	..	54.9
	Minimum	30	30	33	42	28	29	29	29	35	39	38	34	33	35	38	39	37	33	28	24	21	20	23	29	40	45	35	37	40	34	..	32.1
Garrison	Maximum	38	59	63	59	56	48	40	58	45	49	43	42	45	49	44	48	61	65	39	34	35	53	60	67	70	70	69	74	69	71	..	54.1
	Minimum	27	29	35	36	27	27	29	34	36	35	34	26	26	34	35	37	37	36	19	17	20	23	27	32	35	48	35	47	31	47	..	32.1
Grafton	Maximum	43	46	49	56	37	37	37	39	43	45	44	48	52	57	50	66	61	68	65	35	34	46	50	..	68	70	66	63	60	62	..	[a]51.6
	Minimum	27	29	30	31	23	20	25	30	33	35	37	29	29	35	38	40	38	40	27	18	20	18	26	..	26	41	35	38	41	36	..	[a]30.9
Grand Forks	Maximum	43	47	46	45	38	31	38	41	44	45	43	49	52	58	49	65	63	66	54	35	32	46	49	56	67	70	62	67	59	64	..	50.7
	Minimum	28	32	33	28	26	23	27	33	34	39	35	33	31	33	40	43	40	39	26	21	23	20	23	28	42	39	36	44	42	37	..	32.8
Granville	Maximum	32	52	50	45	40	32	34	37	38	40	37	34	37	43	42	50	47	50	32	28	22	27	35	57	50	65	50	68	55	57	..	42.9
	Minimum	26	28	30	35	32	28	27	25	32	37	34	24	14	26	32	37	38	25	19	15	20	20	22	32	43	42	28	42	40	35	..	29.6
Hansboro	Maximum	35	40	52	41	40	35	29	37	40	36	39	47	56	52	46	40	48	52	44	2	28	52	56	50	58	61	60	68	66	60	..	46.9
	Minimum	15	24	28	30	10	5	7	12	18	30	32	36	41	40	36	30	34	36	12	8	15	12	15	26	30	32	36	40	46	42	..	25.9
Hettinger	Maximum	56	51	59	69	71	58	52	60	51	50	43	47	39	40	43	46	60	66	72	53	50	51	64	71	75	95	75	91	70	73	..	60.1
	Minimum	25	15	30	32	31	25	33	35	41	32	33	26	27	30	32	28	32	31	7	19	20	16	21	30	45	41	37	48	32	42	..	29.9
Hillsboro	Maximum	46	48	46	41	41	37	40	43	43	45	44	47	48	58	55	62	61	67	66	38	35	46	52	57	67	74	65	68	67	64	..	52.4
	Minimum	28	31	39	30	26	26	32	32	34	39	38	33	30	31	34	40	40	42	30	21	22	20	27	36	43	43	35	46	45	34	..	33.6
Howard (near)	Maximum	34	51	55	41	48	44	42	52	54	45	36	44	46	51	44	41	56	52	18	30	35	52	58	72	70	63	70	63	70	70	..	50.4
	Minimum	20	20	32	29	28	26	29	34	37	30	29	23	22	30	35	32	34	28	8	9	9	21	27	34	41	46	30	40	32	45	..	28.6
Jamestown §§	Maximum	39	59	57	47	58	42	31	42	42	45	40	42	42	50	47	62	62	69	42	37	35	43	56	51	69	72	61	68	67	61	..	51.4
	Minimum	25	27	30	33	28	29	26	29	31	34	32	30	29	30	34	36	36	35	25	18	18	17	20	23	33	43	32	36	37	37	..	29.9
Lamoine	Maximum	58	58	60	57	54	49	48	48	39	40	40	40	42	45	45	52	58	66	43	33	33	53	51	60	68	73	65	72	68	79	..	53.0
	Minimum	29	30	35	38	26	28	26	30	34	31	30	27	26	35	35	38	34	32	20	15	17	17	25	34	40	43	34	43	34	39	..	30.9
Langdon §§	Maximum	39	42	57	40	35	32	32	42	39	43	37	40	50	52	41	56	52	65	36	51	29	41	46	55	60	63	63	60	61	58	..	46.7
	Minimum	24	25	30	35	20	17	19	25	30	31	34	25	27	30	33	35	38	36	21	13	15	15	10	30	39	40	33	39	35	36	..	28.4
Larimore §§	Maximum	46	54	43	40	34	34	39	41	44	41	47	50	57	47	57	62	68	57	55	31	48	50	61	68	68	65	65	60	62	67	..	51.4
	Minimum	25	27	31	36	27	22	24	24	31	33	37	29	27	30	33	37	38	37	29	13	24	30	25	26	40	40	33	40	40	37	..	30.7
Linton	Maximum	39	59	67	61	58	52	45	48	46	46	43	41	39	44	42	52	62	69	67	38	37	50	56	62	73	80	69	76	69	73	..	55.5
	Minimum	29	29	31	38	24	26	31	33	36	38	29	30	32	34	36	38	31	29	17	19	15	11	26	34	36	36	34	35	31	43	..	30.4
Lisbon §§	Maximum	42	44	68	59	59	50	30	38	45	43	46	45	45	53	53	60	62	53	60	46	37	48	58	61	69	79	59	71	63	66	..	54.1
	Minimum	23	29	31	38	30	29	27	30	28	35	38	34	31	31	35	38	35	33	38	22	19	16	25	28	41	37	34	42	42	32	..	31.7
McKinney (near)	Maximum	38	55	58	50	43	40	45	50	40	47	41	43	50	54	50	55	60	40	42	32	35	52	56	52	68	65	65	72	67	68	..	51.5
	Minimum	25	30	28	33	28	26	33	33	34	34	34	23	20	30	35	40	35	10	17	11	19	20	25	30	38	45	29	45	28	46	..	29.5
Maddock	Maximum	36	54	60	56	46	43	40	40	43	44	42	42	46	50	48	55	57	67	64	34	34	50	53	59	69	69	65	72	71	65	..	52.2
	Minimum	26	29	33	32	29	24	24	30	32	35	32	27	27	33	35	39	37	32	19	15	19	17	23	29	40	40	26	40	33	41	..	29.9
Melville	Maximum	37	55	58	55	52	45	40	40	37	45	45	42	42	47	47	54	57	65	40	33	34	50	54	61	67	69	67	71	73	64	..	51.5
	Minimum	25	29	33	37	30	25	25	29	34	33	33	28	25	28	36	38	37	36	21	16	19	18	28	30	41	41	30	42	33	37	..	30.8
Minot §§	Maximum	39	60	63	55	52	42	43	52	43	51	41	45	19	52	51	52	60	65	41	34	35	53	59	66	71	61	63	72	70	70	..	53.7
	Minimum	27	32	34	36	30	28	27	34	35	37	34	25	25	29	38	38	40	38	18	14	18	19	25	30	47	42	30	44	30	51	..	31.8
Mott	Maximum	30	41	50	41	39	39	40	42	43	39	37	42	38	44	41	42	54	38	36	37	40	44	52	61	74	70	67	76	70	75	..	48.3
	Minimum	23	27	32	37	23	26	32	35	33	34	32	33	27	35	34	23	33	20	18	18	13	26	30	31	40	40	38	43	41	42	..	30.8
Napoleon §§	Maximum	37	57	65	52	58	47	35	46	40	44	42	38	38	46	43	56	62	70	42	35	36	48	57	62	70	77	68	74	70	68	..	52.7
	Minimum	26	28	28	33	29	27	28	30	34	35	30	30	29	32	34	37	33	35	24	17	19	16	27	29	42	41	32	47	30	44	..	30.9
New Salem	Maximum	40	60	65	57	52	49	43	49	46	47	43	43	42	44	44	41	65	78	40	35	44	51	58	68	71	85	72	85	70	72	..	55.3
	Minimum	27	27	32	27	27	25	30	33	37	34	32	27	26	35	33	34	33	40	20	15	19	18	23	48	46	59	35	48	33	44	..	32.2
Pembina §§	Maximum	41	45	56	45	32	29	38	38	44	44	40	48	54	57	50	61	59	68	35	42	35	50	50	55	64	67	64	58	58	60	..	49.7
	Minimum	26	35	32	33	30	11	11	18	34	33	38	28	25	25	28	40	39	45	32	27	18	20	24	28	32	34	40	39	48	40	..	30.4
Steele	Maximum	38	55	62	60	36	44	35	44	48	42	45	45	44	48	40	50	60	50	35	31	33	45	55	56	67	70	65	68	69	69	..	50.1
	Minimum	20	30	36	30	24	22	28	30	30	35	30	30	24	34	38	37	32	30	20	16	15	15	25	31	35	40	40	40	40	40	..	29.8
Towner	Maximum	46	48	58	56	48	44	42	51	48	49	48	46	49	48	48	54	55	66	45	38	45	50	61	58	69	66	65	72	69	68	..	53.5
	Minimum	35	30	38	35	30	26	25	31	37	36	28	35	35	36	36	36	38	39	22	14	28	38	36	38	40	41	40	42	31	45	..	34.0
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Wahpeton	Maximum	46	49	49	51	58	54	39	43	46	47	47	47	46	57	55	67	67	73	70	55	40	47	55	59	72	79	75	70	69	61	..	56.1
	Minimum	29	31	34	41	32	29	29	32	36	40	41	37	34	31	41	45	42	41	33	25	22	20	31	28	43	41	34	46	45	37	..	35.1
Westhope	Maximum	38	52	60	62	37	40	31	45	45	50	39	42	52	55	43	53	54	66	32	33	36	54	58	60	71	65	67	75	74	70	..	52.1
	Minimum	23	32	30	23	25	25	24	31	34	33	28	23	23	31	38	40	39	32	17	12	17	22	27	39	37	42	30	36	38	41	..	29.4
Williston	Maximum	37	58	59	46	52	48	54	54	57	42	39	42	47	51	43	43	57	53	31	32	37	53	59	73	72	65	72	68	72	64	..	52.7
	Minimum	28	31	35	32	30	28	34	36	37	34	34	26	27	35	34	35	37	23	14	14	20	24	33	38	44	41	37	42	34	45	..	32.1
Moorhead, Minn	Maximum	45	49	47	46	48	34	37	42	45	45	47	49	48	55	51	65	59	70	55	31	33	45	53	58	67	76	61	71	59	61	..	51.8
	Minimum	28	31	32	34	31	28	28	33	35	39	39	34	32	32	40	44	42	40	30	23	23	21	30	30	43	43	35	48	42	37	..	34.2

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 6-1-27—970]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI BISMARCK, N. D., MAY, 1927 No. 5

GENERAL SUMMARY

Unusually favorable weather for crops prevailed throughout the State during the month. Quite often when the Red River valley receives just the proper amount of rainfall, the central and western portions receive too little. During the present season, however, generally the largest amounts were recorded in the central portion. The average precipitation for the State was the highest of record for May in the climatological history of the Section. Due to the low average temperature, small grains stooled well and were in excellent condition at the close of the month. Pastures, ranges and meadows were also excellent, affording ample feed for livestock and insuring an excellent hay crop.

TEMPERATURE

The mean temperature for the State was 48.0°, or 4.6° below the normal, and 10.5° lower than the mean for May, 1926. The highest mean reported was 53.2° at Wahpeton, Richland County; the lowest was 43.2° at Granville, McHenry County, and at Powers Lake, Burke County. The highest temperature reported was 87° at New England, Hettinger County, on the 1st; the lowest was 13° at Westhope, Bottineau County on the 6th. The greatest monthly range of temperature was 68° at Beach, Golden Valley County; the least was 32° at Powers Lake, Burke County. The greatest daily range was 63° at New England, Hettinger County, on the 16th.

PRECIPITATION

The average precipitation for the State was 5.62 inches, or 3.07 inches above the normal, and 3.44 inches more than the average for May, 1926. The greatest monthly amount reported was 9.30 inches at Pembina, Pembina County; the least was 2.60 inches at Wahpeton, Richland County. The greatest amount recorded in any 24 consecutive hours was 3.32 inches at Richardton, Stark County, on the 8th. The average number of days with 0.01 inch or more of precipitation was 14. The average snowfall for the month was 3.2 inches, the greatest amount reported being 24.0 inches at Howard, Williams County.

AURORAS

Auroras were observed at Crosby and Dogden Butte on the 1st; at McLeod on the 2d; at Arnegard, Berthold Agency, Mandan and Williston on the 4th; at McLeod and Williston on the 5th; at Crosby on the 26th, and at Williston on the 30th

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, inches, reduced to sea level							Winds			
								Velocity in miles per hour			
	Average	Highest	Date	Lowest	Date	[illegible]	Total movement	Average	Highest	Direction	Date
Bismarck	29.88	30.41	31	29.30	5	57	9,260	13.8	46	ne.	8
Devils Lake	29.91	30.38	31	29.43	3	44	10,468	14.0	52	ne.	9
Ellendale	29.89	30.37	31	29.16	9	56	13,746	18.5	55	nw.	2
Grand Forks	29.87	30.36	31	29.44	21	90	......	......	38	ne.	9
Williston	29.91	30.42	31	29.46	1	48	9,726	13.1	44	se.	1
Moorhead, Minn	29.87	30.36	31	29.26	19	58	7,743	10.4	49	se.	8
Av'ges and extremes	29.89	30.42	31	29.16	9	.....	....	14.0	55	nw.	2

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, per ct.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	199.2	467.3	43	−15	84	61	61	23	15
Devils Lake	176.8	471.0	37	20	83	64	66	26	15
Ellendale	191.2	463.8	36	−22	87	68	....	36	15
Grand Forks	......	....	.....	......	78	...	62	.....	....
Williston	184.5	471.0	39	19	83	61	59	24	14
Moorhead, Minn	246.8	467.3	53	4	82	65	63	23	29
Averages and extremes	199.1	468.1	42	−15	82	64	64	23	15†

† And other dates.

COMPARATIVE STATE DATA FOR MAY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893...	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894...	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895...	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896...	56.9	+4.3	105	22	4.89	+2.34	13	6	14	11	nw.
1897..	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898...	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899...	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900...	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901..	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902..	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903...	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904..	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905..	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906..	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907..	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908..	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909..	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910..	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911..	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912..	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913..	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914..	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915...	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916..	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917..	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918..	51.7	−0.9	99	6	2.30	−0.25	9	10	11	16	nw.
1919...	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920..	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921..	53.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922..	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.
1923..	54.1	+1.5	100	13	1.77	−0.78	6	15	10	6	nw.
1924..	46.9	−5.7	84	15	0.79	−1.76	5	12	10	9	nw.
1925...	53.6	+1.0	111	10	1.44	−1.11	4	17	9	5	nw.
1926..	58.5	+5.9	105	10	2.18	−0.37	7	13	11	7	nw.
1927..	48.0	−4.6	87	13	5.62	+3.07	14	6	8	17	nw.

Climatological Data for May, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	...	......	......	...	...	.....	...	.....	5.88	....	1.58	.....	18	.....	.....	....	.....	H. A. Bury.
Amenia	Cass	954	31	49.8	-4.3	78	16	28	11	40	5.20	+2.36	1.35	0	18	6	17	8	ne.	E. T. Carley.
Amidon	Slope	......	13	47.4	-5.4	81	16	15	9	34	6.65	+1.28	2.50	6.0	12	5	8	18	nw.	W. H. Toussaint.
Arnegard	McKenzie	......	12	47.6	-5.5	81	16	26	9	40	5.11	+3.40	1.13	18.0	14	10	4	17	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	49.0	-3.7	80	16	23	3	36	3.94	+1.48	1.25	......	12	8	8	15	nw.	H. D. Piper.
Beach	Golden Valley	2,759	21	47.7	-2.4	83	16	15	10	36	6.16	+3.35	1.90	3.0	20	7	12	12	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	48.9	-4.8	82	16	25	5	40	5.70	+3.24	1.55	.....	11	10	3	18	e.	C. L. Hall.
Bismarck	Burleigh	1,674	52	49.0	-5.5	82	16	29	11	41	7.04	+4.51	2.81	0	14	6	10	15	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	46.2^{d}	-5.1	76^{d}	16	23	9	41^{d}	5.24	+3.20	2.02	T	11	5	6	20	e.	T. M. Street.
Bowman	Bowman	2,961	13	.....	.....	...	...	.....	...	.....	.....	......	.....	......	.....	....	.....	.....	.....	R. Love, Jr.
Cando	Towner	1,488	26	48.1	-3.4	78	16†	21	3	46	4.11	+1.71	1.94	......	11	3	12	16	n.	A. J. Swanson.
Carson	Grant	2,500	15	50.2	-2.1	85	16	26	11	45	5.69	+3.05	1.35	0.5	11	10	10	11	se.	J. W. Evens.
Cooperstown	Griggs	1,428	21	.....	......	...	...	.....	...	.....	4.81	+2.60	1.46	0	10	4	14	13	nw.	S. Friswold.
Crosby	Divide	1,954	20	45.2	-5.2	77	16	25	10†	37	3.88	+1.88	0.65	17.5	15	5	8	18	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	47.2	-5.5	77	16	31	6	30	4.60	+2.40	1.99	T.	17	3	6	22	ne.	U. S. Weather Bureau.
Dickinson	Stark	2,543	35	47.8	-4.4	83	16	24	10	41	5.67	+3.24	1.62	12.0	22	5	2	24	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	.....	47.0	......	79	16	26	10	40	8.07	....	2.42	2.5	18	3	11	17	se.	R. L. Williams.
Dunn Center	Dunn	2,191	28	46.0	-7.3	82	16	20	10	43	6.73	+4.19	2.16	8.0	15	3	6	22	e.	W. F. Moeste.
Dunseith	Rolette	1,682	31	46.6	-5.3	76	16†	26	11	46	5.54	+3.81	1.75	2.0	12	3	10	18	ne.	J. G. Lamont.
Eckman	Bottineau	1,500	22	46.8	-3.8	79	16†	25	6	44	4.13	+1.95	1.83	6.0	15	1	10	20	se.	C. E. Strock.
Edgeley	LaMoure	1,468	26	48.8	-4.7	78	16	28	5	41	7.15	+4.48	2.31	0	10	1	8	22	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	28	48.8	-6.9	75	16	29	5	36	5.89	+2.88	2.34	T	17	1	10	20	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	15	50.0	......	82	16	27	5	41	6.47	+4.27	1.87	0	14	2	15	14	se.	H. S. Solenberger.
Epping	Williams	2,224	19	46.6	......	79	16	18	10	40	6.72	+4.41	1.75	14.0	17	10	7	14	se.	A. O. Wang.
Fessenden	Wells	1,610	15	47.4	-4.1	81	16	30	11	38	6.27	+3.99	1.86	0	17	4	5	22	ne.	I. D. Monsen.
Forman	Sargent	1,249	33	.....	......	...	...	.....	...	.....	6.84	[illegible]	1.71	0	13	5	13	13	nw.	O. Enger.
Fort Yates	Sioux	1,670	....	.....	......	...	...	.....	...	.....	5.58	+3.81	2.00	.....	11	...	.....	.....	.....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	46.3	......	76	16	26	10	34	6.29	....	2.48	13.5	13	2	6	23	se.	E. C. Baerbaum.
Fryburg	Billings	2,790	9	.....	......	...	...	.....	...	.....	5.59	....	1.25	9.0	18	8	6	17	e.	Verne King.
Fullerton	Dickey	1,439	29	50.6	-2.7	83	16	29	5	41	6.92	+3.68	[illegible]	0	[illegible]	2	13	16	nw.	F. O. Alin.
Garrison	McLean	1,901	32	48.3	-4.3	81	16	29	10	43	7.16	+4.99	1.86	0	11	12	7	12	e.	Wm. H. Robinson.
Grafton	Walsh	827	35	49.6'	-3.3	78'	16	30	6	42'	5.25	+3.14	1.87	0	12	6	9	16	sw.	A. R. F. Wylie.
Grand Forks ‡‡	Grand Forks	830	36	49.3	-4.1	75	16	33	11†	32	5.05	+2.51	1.87	0	14	7	8	16	n.	U. S. Weather Bureau
Granville	McHenry	1,504	20	43.2	-8.2	65	12	27	6†	25	5.01	+3.17	1.52	0	12	2	10	19	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33	.....	......	...	...	.....	...	.....	2.82	+0.72	1.20	T	9	......	.....	......	.....	J. Moffatt.
Hansboro	Towner	1,597	19	47.0	-3.3	78	28	20	6	40	6.70	+4.62	2.00	T.	11	11	6	14	se.	C. E. Flackorby.
Hettinger	Adams	2,675	20	52.6	-0.2	86	14	27	10	51	6.15	+4.03	2.15	6.0	15	7	12	12	se.	C. J. Downey.
Hillsboro	Traill	901	21	51.0^{a}	-2.2	75^{a}	12†	31^{a}	11	34^{a}	4.57	+1.05	1.35	0	12	9	10	12	n.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	20	44.4	-5.0	77	16	21	10	35	6.99	+4.81	3.00	21.0	14	2	13	19	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	47.6	-5.9	80	16	30	11	38	7.30	+4.61	1.82	0	17	8	2	21	e.	S. Caivelage.
Lamoine	Kidder	1,936	22	.....	......	...	...	.....	...	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	E. V. Virgin.
Langdon	Cavalier	1,615	31	47.4	-3.4	78	16	29	6	40	4.08	+1.83	1.10	0	11	10	0	21	ne.	R. T. Burke.
Larimore	Grand Forks	1,134	33	47.8	-4.6	76	15	29	6	44	6.51	+4.01	2.00	0	15	5	5	21	n.	Reuben Gray.
Linton	Emmons	1,711	9	50.0^{d}	-4.1	83^{d}	16	25^{d}	11	54	6.65	+4.60	1.65	.....	11	11	8	12	e.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	49.2	3.7	76	1	28	15	47	5.42	+2.25	1.60	0	15	1	8	22	.....	W. S. Adams.
McClusky	Sheridan	1,943	9	47.4	......	77	1†	28	11	40	9.02	....	2.50	T.	21	7	10	14	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	33	47.2^{c}	4.8	75^{c}	16	30^{c}	11†	34^{c}	4.40	+2.45	....	......	11	1	9	21	ne.	N. P. Swenson.
McLeod	Ransom	1,075	15	53.1	-1.0	76	16	31	15	36	4.67	+0.89	1.62	T	16	8	9	14	nw.	J. G. Carlson.
Maddock	Benson	1,604	11	47.6	-5.6	78	17	29	6†	41	5.88	+3.85	2.05	0	14	3	12	16	nw.	A. T. Felland.
Mandan	Morton	1,644	13	48.8	-5.1	83	16	28	11	42	6.65	+4.15	1.88	.....	13	5	5	21	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	47.8	-3.8	76	16	30	6†	35	5.53	+3.20	1.95	0	7	3	14	14	n.	P. B. Anderson.
Marmarth	Slope	2,714	18	47.6^{d}	-2.4	81^{d}	16	15^{c}	9	33^{c}	4.74	+2.46	1.10	9.5	5	4	3	24	nw.	S. P. Crane.
Mayville	Traill	975	31	49.8	-4.7	77	17	29	11	40	5.28	+2.31	1.06	0		8	5	18	n.	N. C. Burhans.
Melville	Foster	1,590	29	47.3^{c}	-5.2	78^{1}	16	30	10†	38^{1}	5.97	+3.30	2.33	T.	13	4	9	18	nw.	I. P. Kidder.
Metigoshe ‡‡	Bottineau	......	1	.....	......	...	...	.....	...	.....	5.43	....	1.85	7.0	8	13	7	11	ne.	J. A. Thorburn.
Minot	Ward	1,557	31	47.0	-5.3	78	15	20	19	35	5.90	+3.93	1.50	......	12	3	13	15	w.	W. I. Faris.
Minto	Walsh	820	34	48.6^{a}	-4.8	77^{a}	16	27^{a}	6	39^{a}	4.72	+2.38	1.55	.....	9	6	12	13	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	52.8	+1.2	84	16	28	10	40	6.00	+3.64	2.35	5.0	15	5	10	16	se.	O. H. Opland
Napoleon	Logan	1,955	35	47.7	-4.7	80	16	27	5	38	7.75	+5.35	1.50	1.0	20	4	5	22	se.	C. J. Hoot.
New England	Hettinger	2,400	36	45.9^{c}	-5.7	87^{c}	1	20^{c}	8	63^{c}	2.80	+0.65	0.80	T.	9	6	[illegible]	[illegible]	nw.	Walter L. Sales.
New Salem	Morton	2,163	23	48.6	2.7	84	16	28	10	42	6.55	+3.98	1.73	......	12	8	11	12	nw.	J. Christiansen.
Park River	Walsh	998	23	.....	......	...	...	.....	...	.....	.....	....	.....	....	...	.....	.....	.....	...	C. B. Wright
Parshall (near)	Mountrail	......	12	.....	......	...	...	.....	...	.....	4.95	+3.23	1.40	6.0	10	12	8	11	nw.	Carl J. Knutson.
Pembina	Pembina	789	53	49.0	-3.5	73	16†	31	15	39	9.30	+7.08	3.20	......	13	9	7	15	e.	C. A. Shumaker.
Pettibone	Kidder	1,856	18	.....	......	...	...	.....	...	.....	.....	.....	.....	......	....	...	.....	.....	...	A. L. Carlson.
Power	Richland	1,020	33	.....	......	...	...	.....	...	.....	2.74	-0.15	1.15	0	10	7	10	14	n.	Frank B. Power.
Powers Lake	Burke	2,205	13	43.2	......	62	15†	30	10	23	7.67	+5.87	1.76	14.5	14	4	12	15	e.	Geo. B. Gee.
Richardton	Stark	2,467	11	47.2	-5.7	83	16	24	10	37	8.44	+6.61	3.32	......	12	7	7	17	se.	John Muggli.
Sharon	Steele	1,516	2	47.7	......	76	16	31	6†	33	5.12	....	1.62	T.	13	2	10	19	ne.	Nels O. Gretsheim.
Stanton	Mercer	1,722	3	.....	......	...	...	.....	...	.....	6.71	....	2.18	0	10	5	12	14	se.	L. H. Gilley
Starkweather	Ramsey	......	.....	46.6	......	77	17	29	11	41	4.72	....	1.97	0	14	8	3	20	se.	F. R. Irons.
Steele	Kidder	1,857	31	44.8	-9.0	75	16	25	5	51	7.75	+5.26	2.13	.....	12		10	16	se.	H. S. Wood.
Towner	McHenry	1,482	25	48.4	-3.9	80	16	28	11	40	6.25	+3.93	1.40	0	13	8	7	16	e.	B. Bagley.
Trotters	Golden Valley	.....	1	.....	.....	...	...	...	...	.....	5.92	......	1.75	7.0	18	4	3	24	.....	A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	47.2	5.9	76	16	29	10	37	7.41	+5.14	2.24	2.0	18	4	5	22	e.	A. T. Anderson.
Valley City	Barnes	1,245	22	.....	......	...	...	.....	...	...	.....	....	.....	.....	.....	....	...	...	.....	E. W. Meier.
Velva	McHenry	......	...	.....	......	...	...	...	...	.....	6.61	.....	1.87	3.0	19	2	9	20	e.	Oscar Anderson.
Wahpeton	Richland	962	33	53.2	-2.1	83	21	31	11	38	2.60	-0.21	0.69	0	13	15	0	16	nw.	C. G. Lueck.
Walhalla	Pembina	966	22	.....	......	...	..	.....	...	.....	.....	......	.....	.....	.....	...	.....	.....	....	H. W. Smith.
Westhope	Bottineau	1,508	25	45.2	-6.2	68	15	13	6	39	2.95	+0.91	1.18	...	11	5	12	14	ne.	W. A. [illegible]
Williston	Williams	1,878	48	47.4	-6.6	80	16	25	10	34	4.69	+2.43	1.39	11.2	20	5	8	18	e.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	47.8	-3.7	79	16	27	6†	40	4.35	+2.43	1.10	T.	14	2	9	20	e.	M. A. Ostby.
Wilton	McLean	......	.....	46.3	......	71	27	30	10	36	7.73	......	2.75	0	14	7	6	18	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	49.9	5.2	75	16	31	14	33	3.63	+0.68	1.19	T.	17	2	8	21	se.	U. S. Weather Bureau
Averages	......	......	...	48.0	-4.6	87	1	13	6	63	5.62	+3.07	3.32	3.2	14	6	8	17	ne.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for May, 1927

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
pha	Lit. Missouri		....	.10	.12	.05	.17	[illegible]	1.58	.25	....	T.	T.	...				.13	[illegible]	....	.02	.20	.73	.08	.05				.33	1.49	.19	.02	5.88
menia ‖	Red		.30	.41	T.	.12	.06	[illegible]	.70	1.35	.17	.08		T					.06	.20	.05	.18	.11	.50	.10	.03			....		.18		5.20
midon	Lit. Missouri ...			[illegible]	.10	[illegible]	.15	.50	2.50	.60				...					[illegible]		T	.70	.40	....					T.	[illegible]	.20		6.65
negard	Missouri ...	..	.03	.37	...			[illegible]	1.13	[illegible]	....			T.				T.	.55		[illegible]	.11	.70	.05	.11	T	[illegible]		T.	.56	.30		5.11
hley	Missouri		[illegible]	[illegible]	...			1.25	[illegible]	.54	.02		...	....					.32		.10	.17	....	.35	.12	...	....	....		.24		....	[illegible]
ach	Lit. Missouri	T	T.	[illegible]	.04	T	.06	[illegible]	1.50	[illegible]			T.	.01				[illegible]	.30	T	.05	[illegible]	.27	.08	.17	...	.04	.21	.44	[illegible]	[illegible]	.04	6.16
rthold Agency	Missouri	T	T.	[illegible]			...	[illegible]	1.55	1.30			...	...				.05		...	.20	.50	.05	.50	T.				T.	.70	.30	T.	7.70
smarck ***	Missouri	.26	[illegible]	.15	...		.07	1.15	[illegible]	[illegible]			T.	T.	...			T.	.01	T.	[illegible]	.83	1.22	.01				T	T	.25	.01	....	7.04
ttineau ‖	Mouse		.01	.41	T.				.61	2.02	[illegible]				T.							.07	.11	.85	[illegible]	[illegible]		.60	[illegible]		.04	.01	5.24
wman	Grand																																
ndo	Devils Lake	...	.51	[illegible]						1.94				.06								.68	.03	.31	.06	.06	T.	...		.11	.03		4.11
rson	Heart	..	[illegible]	.02				.75	1.25	[illegible]									.11			[illegible]	.50	.52	.02					.52			5.69
operstown	Sheyenne ..	[illegible]	[illegible]	.15	.05			.10	1.46	.10	....			...								1.05	...	.20	....						.40		4.81
osby	Mouse		.42	.21				T.	.46	.05	.40		....	T.					.15		[illegible]	.02	.36	.63	.06	.01				.18	.02	[illegible]	[illegible]
vils Lake ***	Devils Lake	[illegible]	[illegible]	.14	[illegible]	....		[illegible]	1.87	.48	...		.06	....							.07	.41	.04	.51	[illegible]	.01	T	.01	.04	T	.12	T.	4.60
ckinson	Heart		.11	[illegible]	.01	.05		[illegible]	.68	1.62	.20			.04	[illegible]				[illegible]	.17	.05	.81	.05	.15	.03	T.	.02	.01	...	.43	.34	.33	[illegible]
gden Butte	Mouse	T.	[illegible]	.37	..	T	...	.21	2.42	[illegible]	.15		.10	.10	.09				.06		.10	.69	.12	.54	T.		T.	.05	T.	.14	.57	.03	8.07
nn Center ‖	Knife		....	[illegible]				[illegible]	.70	[illegible]	[illegible]			[illegible]					.25	.07	.49	.51	.05	.40	...				...	.23	.80	.06	[illegible]
mseith	Mouse	...	.05	[illegible]				..	1.75	.75	.01											.01	.06	1.45	.01	[illegible]	...	.70	.05	...			5.54
kman	Mouse		.04	.34					[illegible]	.76					.04						T.	.04	[illegible]	.68						[illegible]	.12		4.13
geley	James		....	.14				[illegible]	2.31	1.78	.04								.38		.21	1.10	....							.22	.34		7.15
lendale ***	James	T.	.10	[illegible]	T.	...	.15	[illegible]	2.29	.24	T.	...	.17	T.	.04		T.	[illegible]	.18	[illegible]	.23	.23	.02	.77	T	T.		.01		.40	....	T	5.89
ergy	Missouri	.25	[illegible]	.25	...		T.	.19	[illegible]	1.35			.05	.03	T.			.14	.13		....	1.00	.04	.45	T.	T	T	T	T.		.65	....	6.47
ping	Missouri	.05	[illegible]	.26				.12	1.33	1.75			.08	T.				.05	[illegible]		.73	.08	.49	[illegible]	.11	T	.05			.95	.09	....	6.72
ssenden ‖	James	...	.38	[illegible]	.05	.04	[illegible]	....	1.86	[illegible]	.13		.01						.03		.03	.62	.04	.13	.02						.58	.05	6.27
rman	Sheyenne	[illegible]	.15	.06				.50	[illegible]	.60	.17		.20							[illegible]	.36	.33	....	.90	.80					.91			[illegible]
rt Yates	Missouri		.18					.58	2.00	[illegible]									.13			.88	.57	.18				.03	.31	....	.16	....	5.58
xholm (near)	Mouse	T.	.14	.15	T.		....	.18	1.56	[illegible]			T.	T.	T.			T			.17	.42	.13	.56	.01	T	T.	.18	T.	.12	.19	T.	6.29
yburg	Heart	T	T	.34	.02	.02	.02	.47	.91	1.25	[illegible]			.03				T.	.30	T.	T	.35	.37	.15	.08			.27	.03	.70	.18	T.	5.59
llerton	James	T	T	.15				[illegible]	1.40	.84	.18							T	.62	T.	.32	.78	T.	.68	.25	T.		T.		.25	.50	T.	6.92
rrison	Missouri	.34	.04	.12				.52	[illegible]	1.02								.08	.08		.24	.87	.14	.43						.48	.64		7.16
afton	Red		T	.73		T.			1.30	1.87	[illegible]		.06								.02	.55	.09	.38	.02	.14	.03						5.25
and Forks ***	Red	T	1.87	.05	.05				1.18	.53	.04		.06								.01	.60	.09	[illegible]	.02	.05					.14		5.05
anville	Mouse	T	.18	[illegible]	T			T.	1.52	1.49	.02		T	.10	T.		T.				T	.27	[illegible]	.49	T.		.17	.31	T.	T.	.14	T.	5.01
annah	Pembina	.05	.35					T.	*	[illegible]											T.	T.	*	.92	.05	.23		.02					2.82
ansboro	Devils Lake		[illegible]	[illegible]	T				2.00	.80												.30	1.60	.20	.10		.15	.30				.30	6.70
ettinger	Grand	T	.06	.07	.02	T.	.33	.90	[illegible]	.68									.15	.10	.05	[illegible]	.24	.01					.62	.21			6.15
illsboro	Red	....	.85	[illegible]					[illegible]	1.35	.12		.07								[illegible]	.64		.28	.05	.03					.20		4.57
oward (near)	Missouri	.20	.40			T	T	.04	[illegible]	[illegible]	....	T.	T	T.				.18	.08	T.	.21	[illegible]	[illegible]	.32	.31				T.	.56	.20	T.	6.99
mestown ‖	James		.39	[illegible]	.19		T.	.19	.91	[illegible]	.38						T.	.02	.01	.27	.13	.71	.17	.41	.07	T.			.19		.84		7.30
amoine	Missouri																																
ngdon ‖	Pembina	T	.30	[illegible]	[illegible]	T			.10	1.10	.40		T.							.27		T.	.65	.25	.07	.20					T.	....	4.08
arimore	Red		1.20	.35	.10	.05			1.00	2.00	.12			.16								.70	.50	.15	.05	.05	.03					.05	6.51
nton	Missouri		.17	.28				.58	1.55	.41	.10							T.	.57		T.	1.65	.12	.58	.22			.13	T	.21	.07		6.65
sbon ‖	Sheyenne		.10	[illegible]	[illegible]	T.		.54	.50	1.60	.17	.02								.42	.20	.18	T.	.45	.26	.05					.68		5.42
eClusky	Missouri	T	.34	.34	T			.27	2.50	1.60	.09			.13	.07		.02	[illegible]	.25		.07	.75	.73	.95	.04	.02		.17		.14	.46	.03	9.02
eKinney (near)	Mouse	T	T	.15				*	2.25	....			T.	T.	.10		T.				.15	.15	.40	.20	T.			.55	T.	.30	.15		4.40
eLeod	Sheyenne		.39	.02		.05		.18	1.02	.36	[illegible]			.04					.08	.25	[illegible]	.14	....	.65	.49					.56	.01		4.67
addock	Sheyenne	T.	.33	[illegible]	T.	.39		.05	2.05	1.57	[illegible]			T.			T.				.10	.49	.02	.24	.03	T.	T.	.08	T.	T.	.15		5.88
andan	Missouri		[illegible]	[illegible]				.70	[illegible]	[illegible]	.03								T		.09	.88	.07	.67	.03					.01	.35		6.65
anfred	James	T	.52	[illegible]		[illegible]		.12	1.95	1.16	.05				.04				.03		.11	.42	.04	.11				.07		T.	.67		5.56
armarth	Lit. Missouri	[illegible]	.11	T	T	.13	.23	.70	1.10	.03			T.				T.	T.	.17		.36	T.	.12	.13				.02	1.06	.42	.13		4.74
ayville	Red		1.06	.29					.80	.87	.21										.60	.25	.30	.90									5.28
elville	James	.60	[illegible]	.23				.23	2.33	.02				T.					T.		.18	.63	.08	.28	.27			T.		.68	.12		5.97
etigoshe	Mouse		[illegible]	[illegible]						[illegible]												.27	....	1.25	.17			.85			.02	T.	5.43
inot	Mouse	...	.15					1.30	1.50	.65		.03						.05			.45	.15	.50				.42	.05		.30	.05		5.90
into	Red		.58	[illegible]					1.27	1.55	[illegible]		T.								T.	.63	.01	.33						.13			4.72
ott	Cannon Ball	.02	.03	.06		.14	T.	.72	2.35	[illegible]									.05	.11	....	.62	.47						.19	.80			6.00
apoleon ‖	Missouri	[illegible]	.02	.27	.10			.67	1.38	1.40	.46			[illegible]		.02			.17	.41	.05	1.50	.10	.48	.15		.02				.47	.02	7.75
ew England	Cannon Ball				.10		T.	.10	.60				.20				T.		T.	.30		[illegible]	[illegible]	....	T.				T	.50	....	.10	2.80
ew Salem	Heart		.20	.23				.52	[illegible]	[illegible]	.05			T.	T.			T	T		T	.80	.07	.70	T.			.12	T.	.25	.09		6.35
ark River	Red																																
arshall (near)	Missouri	.80						.30	1.40												.50	.40	.60					.05	.05	.75	.10		4.95
embina ‖	Red		.40	1.20	.40	T.			.60	[illegible]	.70			.30	.20								.30	.50	.40	1.00	.10						9.30
ettibone	James																																
ower	Sheyenne		.22					1.15	.31	.26										.15	.08	.17	.10	.12							.18		2.74
owers Lake	Missouri	.07	.21	.28				.56	1.76	.64					.21			.54		.03	.61	.80	.31	....	1.43				.22				7.67
ichardton	Heart		...	.03	...			.38	[illegible]	2.61	.02			.02				.06			....	.63	.12	.45						.62	.18		8.44
haron	Red	T	1.62	[illegible]	.07			.03	.97	[illegible]	T.		.01	T.							.09	[illegible]	.02	.14	.01	T.					.08	T.	5.12
anton	Missouri			.28	.53			.25	[illegible]	[illegible]								T.	[illegible]			1.08	.40	.50						.40			6.71
arkweather	Devils Lake	.17	.18	[illegible]				.61	1.97	.19	....		.01							.02	.49	.17	[illegible]	.04	.13			.18			T.		4.72
eele	Missouri		[illegible]	[illegible]	T.			1.00	2.13	1.00	.20		T.	T.	T.			T.	T.			.85	.30	.40	T.	T.		.10	T.	.40	.90	T.	7.75
owner	Mouse		.15	.10	T.	.10		.10	1.40	[illegible]	.25		T							T.	T.	.37	.15	1.25	T.	T.		.50	.33		.29		6.25
rotters	Lit. Missouri		[illegible]	.17	.03		.03	.06	1.36	1.75			.06					.15	.28	T.	T	[illegible]	.41	.01	.13		.05	.04	.22	.79	T.		5.92
urtle Lake	Missouri	T	.21	.21	.01			.31	2.24	1.09	.03							T.	.26		.06	.80	.10	1.13	T.	.02	.04		.03	.31	.55	.01	7.41
alley City	Sheyenne																																
elva			.30	[illegible]		.03		.21	[illegible]	1.62	.07		.10	.10	.10				.03		.08	.50	.09	.42		T.	.07	[illegible]	T.	.06	.24		6.61
ahpeton	Red		[illegible]	.02	[illegible]			.15	.69	.05	.04			.11							.37	.06		.04	.43						.37		2.60
alhalla	Pembina																																
esthope	Mouse						.10	.10	1.18	.10					.07						T.	.18	.17	.45				.54	.04	.04			2.95
illiston ***	Missouri	.10	[illegible]	.11			T.	.55	1.27	.54		T.	.01	.01				.04	T.	.02	[illegible]	.20	.44	.09	.04		[illegible]	.03	.11	.44	.02	T.	4.69
illow City	Mouse		[illegible]	.22	.01			T.	1.10	.63			T								[illegible]	.12	.04	1.07	.06	T.	T.	.84	.02	T.	.09	.01	4.35
ilton		.26	.15	.15		.08	1.16	2.75	.25				T.	T.				T.	.01		[illegible]	.90	.23	1.06	T.	T.	.01			.73			7.73
oorhead, Minn ***	Red	.01	.91	.15	[illegible]			T.	1.19	.25	.02		.01	T.				.01	.15		.03	.19	.07	.20	.08	T				.13	.18		3.63

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	74	75	46	50	55	57	56	48	47	45	62	75	53	58	68	78	52	58	60	52	52	63	65	62	60	66	67	70	71	61	68	60.5
	Minimum	37	39	39	34	36	31	38	41	43	33	28	35	45	30	32	42	43	40	33	30	40	42	47	35	48	43	48	46	36	44	43	39.1
Amidon	Maximum	77	58	48	46	50	48	46	39	34	36	62	63	61	61	66	81	64	57	55	52	50	60	57	60	74	70	70	60	55	60	55	56.9
	Minimum	45	35	33	34	41	36	36	30	15	20	36	42	59	42	34	50	36	34	41	40	46	46	58	40	40	40	41	45	46	45	40	37.8
Arnegard	Maximum	62	53	49	48	56	58	46	45	48	53	62	65	61	61	65	81	64	57	57	50	47	44	56	53	65	67	72	65	54	54	62	57.5
	Minimum	43	33	32	32	28	35	36	32	26	27	27	41	41	37	34	41	44	39	36	44	41	43	42	37	38	42	50	49	43	43	37	37.8
Ashley	Maximum	73	72	58	48	55	55	55	48	45	49	58	70	62	59	65	80	72	50	52	55	52	52	65	65	57	65	65	65	59	60	64	59,5
	Minimum	37	41	23	31	28	36	38	44	35	31	29	46	45	37	46	45	49	35	29	42	40	44	47	42	42	34	50	43	28	45	37	38.6
Beach	Maximum	79	53	46	44	53	45	42	40	41	43	60	62	61	60	70	83	62	54	55	53	46	45	55	58	65	67	70	60	68	64	66	57,3
	Minimum	43	34	32	34	33	39	36	32	30	15	27	40	40	40	34	47	45	37	34	40	40	46	42	37	36	41	51	48	45	46	44	38.1
Berthold Agency	Maximum	70	55	48	50	55	55	57	47	35	50	68	67	64	60	70	82	65	50	58	54	48	47	62	54	65	70	73	70	68	62	63	59.4
	Minimum	40	32	31	32	35	36	38	32	31	28	28	33	35	33	30	50	43	38	38	45	42	43	43	30	41	48	56	60	46	46	33	38.4
Bismarck	Maximum	65	57	48	47	56	55	45	45	46	51	70	68	61	59	68	82	60	50	57	52	49	49	47	56	63	65	74	61	56	53	61	57.9
	Minimum	42	38	35	33	30	37	41	40	34	33	29	33	44	41	36	48	45	40	35	41	42	41	45	42	43	35	54	46	44	46	39	40.3
Bottineau §§	Maximum	56	45	48	42	49	54	50	36	37	50	65	74	54	61	66	76	53	48	57	49	48	56	61	53	56	55	58	62	60	57	..	[a]54.5
	Minimum	40	41	33	29	33	28	38	33	23	30	28	35	43	35	31	46	35	35	37	43	42	41	45	45	43	26	42	48	45	45	43	37.8
Bowman	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Cando	Maximum	63	53	46	45	49	55	54	57	43	55	65	69	71	57	61	78	78	49	57	55	48	49	64	63	54	55	60	67	61	61	60	58.2
	Minimum	38	33	21	33	35	30	26	37	34	32	51	36	38	36	42	32	37	36	32	44	46	43	44	41	45	41	47	47	52	40	44	38.0
Carson	Maximum	80	70	50	52	70	50	44	40	38	50	68	70	65	60	70	85	80	69	60	50	58	50	64	60	65	68	76	64	50	58	60	60.5
	Minimum	45	47	30	36	40	38	34	36	32	31	26	54	40	45	32	40	45	36	30	45	36	29	46	38	38	38	52	46	40	44	48	40.0
Crosby §§	Maximum	55	47	48	44	51	55	45	36	40	43	62	65	62	60	66	77	52	41	55	42	45	47	52	48	61	64	66	63	54	58	61	53.7
	Minimum	38	33	32	30	29	32	36	32	30	25	25	33	32	37	34	47	42	35	34	37	31	42	47	40	40	42	44	47	47	44	39	36.6
Devils Lake	Maximum	59	54	45	42	48	55	47	42	38	51	63	70	54	55	66	77	54	48	58	70	46	49	66	56	52	56	58	66	63	53	65	55.0
	Minimum	37	39	32	33	35	31	39	38	33	32	33	46	38	26	30	47	38	36	34	41	40	43	41	46	41	41	48	46	41	46	40	39.3
Dickinson §§	Maximum	76	61	49	46	56	50	43	43	33	43	63	64	65	61	68	83	64	55	58	[illegible]	[illegible]	47	62	56	63	67	72	63	47	57	60	57.7
	Minimum	40	41	32	31	35	36	36	38	30	24	30	32	42	40	30	42	47	26	29	46	40	29	46	37	37	42	41	52	41	41	41	38.2
Dunn Center §§	Maximum	75	57	47	49	53	51	42	39	36	46	60	64	60	59	69	82	51	52	56	[illegible]	[illegible]	47	[illegible]	54	[illegible]	67	73	64	48	51	60	56.5
	Minimum	42	38	29	28	26	31	33	35	29	20	21	34	40	26	29	39	42	35	36	19	29	[illegible]	[illegible]	26	38	[illegible]	[illegible]	48	40	30	34	35.5
Dunseith	Maximum	66	51	47	44	47	55	53	48	38	52	66	68	62	57	67	76	76	[illegible]	57	73	48	48	62	64	55	53	76	61	[illegible]	60	63	57.3
	Minimum	36	38	33	29	30	28	35	29	29	28	26	39	35	32	35	46	30	32	33	29	27	29	[illegible]	49	[illegible]	35	44	45	42	42	41	35.8
Edgeley	Maximum	74	70	53	50	56	57	53	49	46	50	62	72	64	59	66	78	75	50	54	[illegible]	[illegible]	54	69	66	62	63	62	56	59	53	60	59.6
	Minimum	33	41	33	30	28	32	39	42	36	31	29	46	45	35	36	42	44	33	33	41	[illegible]	44	[illegible]	44	42	[illegible]	38	44	35	44	37	38.0
Ellendale	Maximum	74	61	45	49	56	57	47	49	46	47	61	71	58	56	64	75	63	41	54	70	72	62	69	57	62	65	57	55	60	54	58	57.3
	Minimum	38	42	35	32	29	39	42	45	34	33	32	44	44	38	39	43	44	35	33	44	44	47	[illegible]	47	43	40	47	46	38	43	39	40.3
Fessenden §§	Maximum	68	54	46	42	53	54	45	42	37	51	68	69	55	56	67	81	[illegible]	[illegible]	[illegible]	48	47	56	65	54	58	62	65	67	60	54	64	56.5
	Minimum	35	39	33	32	34	31	36	39	37	32	30	33	43	35	34	41	41	37	35	[illegible]	41	42	43	44	44	37	45	48	45	44	37	38.3
Foxholm (near)	Maximum	56	53	46	41	49	55	50	40	33	45	69	62	59	55	69	79	66	47	[illegible]	[illegible]	[illegible]	[illegible]	58	54	59	61	62	61	58	57	60	54.6
	Minimum	33	39	31	30	33	28	38	31	31	26	30	41	38	37	35	49	46	[illegible]	[illegible]	42	[illegible]	[illegible]	[illegible]	[illegible]	44	36	39	50	45	44	42	38.0
Fullerton	Maximum	75	62	46	48	59	57	47	50	48	47	68	72	74	73	64	83	69	54	50	52	51	51	70	68	64	[illegible]	62	57	60	56	60	60.4
	Minimum	40	42	35	33	29	38	41	43	37	33	32	45	44	52	26	42	47	39	34	[illegible]	44	45	40	46	44	39	48	44	36	46	40	40.9
Garrison	Maximum	66	58	47	49	54	7	58	48	44	48	61	65	59	57	68	81	65	52	[illegible]	52	47	46	62	56	61	[illegible]	70	62	58	53	64	58.7
	Minimum	38	37	34	33	30	32	38	34	30	29	32	41	36	36	21	47	42	36	30	[illegible]	41	42	44	40	40	31	51	46	44	43	[illegible]	37.9
Grafton	Maximum	64	60	46	48	51	53	53	53	42	54	62	75	73	55	67	78	77	70	59	56	[illegible]	[illegible]	65	66	58	57	66	69	..	..	67	[b]59.6
	Minimum	37	45	33	36	35	30	28	41	36	34	32	..	38	33	34	42	35	36	39	44	42	45	50	45	47	44	46	49	..	..	40	[c]39.5
Grand Forks	Maximum	67	57	45	48	50	52	55	46	43	50	60	72	53	54	64	75	59	50	60	58	[illegible]	54	70	57	52	61	66	69	68	56	64	57.4
	Minimum	39	44	36	38	38	35	40	42	36	35	33	42	36	33	36	43	38	38	39	47	41	[illegible]	53	49	45	45	47	50	43	46	43	41.2
Granville	Maximum	48	44	40	40	50	47	47	40	37	42	53	65	45	45	50	55	55	41	52	52	47	48	51	55	56	53	57	52	56	48	54	48.9
	Minimum	32	35	32	28	30	27	40	35	32	27	28	42	40	37	33	47	42	37	32	43	[illegible]	[illegible]	37	42	40	[illegible]	40	50	47	45	40	37.4
Hansboro	Maximum	60	50	40	40	50	60	45	39	37	54	62	73	77	60	70	58	50	54	60	57	[illegible]	[illegible]	[illegible]	70	65	60	63	78	72	72	65	58.8
	Minimum	42	32	30	26	26	20	30	26	25	24	32	47	50	30	35	40	28	35	37	[illegible]	35	38	22	41	43	35	40	56	46	45	40	35.3
Hettinger	Maximum	80	76	77	50	57	52	50	46	51	47	67	65	85	86	68	85	81	71	64	[illegible]	64	72	70	79	69	83	67	73	63	60	62	66.5
	Minimum	40	40	28	33	35	39	35	35	30	27	28	47	43	35	30	42	50	56	33	[illegible]	[illegible]	[illegible]	43	38	41	44	42	56	42	40	44	38.7
Hillsboro	Maximum	73	70	48	48	51	54	55	52	45	47	61	75	66	54	65	75	73	51	61	57	45	57	61	69	52	63	66	70	..	72	66	[a]60.7
	Minimum	40	45	36	37	38	34	41	43	40	39	31	41	42	32	25	42	39	28	36	45	43	45	52	47	47	43	45	48	..	48	48	[a]41.3
Howard (near)	Maximum	47	35	44	47	53	50	46	34	37	43	63	65	60	60	67	77	60	56	54	47	[illegible]	43	52	45	62	64	68	59	56	51	60	53.0
	Minimum	30	30	28	29	34	34	30	28	28	21	28	42	33	33	40	46	[illegible]	31	30	42	30	[illegible]	40	37	34	42	45	47	45	41	35	35.7
Jamestown §§	Maximum	71	54	44	46	53	53	47	46	42	52	64	71	57	57	66	80	57	44	56	49	50	57	58	54	56	60	62	59	61	52	60	56.1
	Minimum	36	44	33	33	33	34	37	39	39	33	36	36	44	37	35	42	44	38	35	[illegible]	[illegible]	41	[illegible]	[illegible]	45	45	42	45	38	42	40	39.0
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Langdon §§	Maximum	59	58	43	41	46	51	52	42	38	56	60	72	70	64	65	78	72	67	63	59	55	[illegible]	61	[illegible]	51	[illegible]	58	60	65	60	67	57.7
	Minimum	38	42	32	31	31	29	40	38	35	31	30	35	35	30	33	41	32	31	32	[illegible]	[illegible]	40	40	47	43	40	42	45	40	46	42	37.2
Larimore §§	Maximum	55	43	45	50	60	55	43	40	50	62	74	50	60	66	76	50	50	60	[illegible]	45	[illegible]	[illegible]	[illegible]	53	60	61	70	68	52	66	68	56.9
	Minimum	37	46	33	33	35	29	36	33	38	32	30	36	40	30	40	43	35	35	34	42	[illegible]	30	[illegible]	47	46	43	45	47	38	45	40	38.8
Linton	Maximum	75	78	49	48	60	56	..	..	52	53	67	68	65	61	67	82	82	54	57	52	..	..	66	[illegible]	65	66	71	64	53	57	61	[d]62.7
	Minimum	38	43	32	28	32	36	..	..	52	30	25	46	42	36	28	29	50	35	31	14	..	..	[illegible]	[illegible]	41	[illegible]	[illegible]	43	42	41	37	[d]37.2
Lisbon §§	Maximum	76	62	50	48	54	59	52	49	47	44	61	74	59	51	66	72	62	53	58	70	63	68	70	66	62	63	57	56	71	61	62	59.7
	Minimum	35	49	36	31	34	33	40	38	43	32	29	37	43	35	28	36	42	40	37	38	42	44	42	[illegible]	45	42	46	[illegible]	36	43	42	38.6
McKinney (near)	Maximum	51	50	45	42	56	50	44	40	..	45	66	64	60	57	65	75	60	50	55	72	70	49	60	[illegible]	60	[illegible]	64	61	69	60	64	[a]55.4
	Minimum	35	34	33	32	33	40	32	32	..	35	30	20	40	53	37	50	40	35	37	40	29	59	30	30	17	[illegible]	50	[illegible]	[illegible]	45	40	[a]39.1
Maddock	Maximum	63	57	51	46	49	53	52	48	40	52	63	67	66	56	66	77	75	57	57	[illegible]	47	47	62	[illegible]	55	58	61	65	60	51	62	57.6
	Minimum	35	36	31	31	54	29	38	37	34	35	29	42	39	32	31	41	37	36	30	41	[illegible]	42	45	42	45	49	48	46	37	44	37	37.5
Melville	Maximum	..	68	52	44	52	52	51	46	42	51	63	..	68	75	65	78	72	48	76	72	47	[illegible]	66	[illegible]	70	67	62	65	..	..	65	[d]57.2
	Minimum	..	37	32	31	35	30	37	28	33	30	30	..	42	35	35	40	40	[illegible]	33	41	39	41	36	42	35	38	47	42	..	..	38	[d]37.4
Minot §§	Maximum	54	48	44	54	58	44	41	32	45	63	65	63	53	63	78	54	50	55	51	48	48	63	73	[illegible]	63	60	63	60	58	60	64	55.5
	Minimum	41	32	32	35	28	40	36	31	27	28	42	41	38	32	50	41	36	25	30	41	43	41	42	46	[illegible]	[illegible]	[illegible]	[illegible]	44	39	40	38.4
Mott	Maximum	67	58	48	57	63	63	62	51	40	68	71	72	65	66	68	84	71	66	67	60	65	68	66	[illegible]	68	74	[illegible]	65	67	72	67	65.0
	Minimum	41	40	30	38	44	42	43	38	30	28	41	44	40	35	39	48	42	37	42	40	42	41	38	41	[illegible]	[illegible]	52	40	42	40	40	40.5
Napoleon §§	Maximum	74	60	47	46	58	57	47	46	40	52	65	69	60	56	65	80	57	43	56	50	48	56	[illegible]	55	62	63	70	60	54	72	60	57.2
	Minimum	36	45	32	30	27	35	37	40	39	31	29	44	45	36	32	42	46	37	36	38	38	43	[illegible]	42	41	[illegible]	45	43	38	42	37	38.2
New Salem	Maximum	75	65	45	47	57	54	52	44	40	49	70	69	69	67	68	84	76	50	[illegible]	[illegible]	48	46	63	61	[illegible]	70	74	63	58	53	62	59.6
	Minimum	35	40	32	30	36	37	37	39	30	28	29	43	43	37	35	42	39	37	32	42	40	42	41	[illegible]	29	[illegible]	45	41	40	42	35	37.7
Pembina §§	Maximum	66	55	45	49	50	50	52	45	42	55	64	72	57	54	65	73	58	70	70	75	50	[illegible]	[illegible]	[illegible]	56	[illegible]	[illegible]	65	70	70	72	59.5
	Minimum	32	34	35	31	35	34	35	38	40	35	34	33	39	33	31	42	38	35	35	26	31	41	41	40	40	45	42	47	43	52	40	38.5
Steele	Maximum	71	54	44	41	51	52	44	40	49	51	60	64	50	54	60	75	50	46	48	45	45	50	65	60	55	54	48	60	50	54	55	53.6
	Minimum	40	34	31	30	25	30	35	35	33	30	32	38	36	34	30	45	45	35	37	25	23	40	46	40	30	31	40	40	30	44	34	36.0
Towner	Maximum	65	58	48	45	52	48	50	45	40	55	68	68	65	56	58	80	72	59	[illegible]	48	47	38	61	60	58	56	63	61	60	54	54	57.1
	Minimum	37	38	37	31	37	38	40	35	35	30	28	36	35	40	40	48	49	40	39	41	45	44	43	45	41	44	50	44	42	45	46	39.8
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Wahpeton	Maximum	74	72	53	50	56	61	56	51	54	53	61	74	72	59	68	75	75	59	59	56	53	74	71	71	[illegible]	61	61	67	60	60	62	61.5
	Minimum	43	46	38	38	33	33	43	45	46	34	31	43	44	32	33	41	49	42	40	45	35	49	45	45	48	45	49	40	36	49	42	41.9
Westhope	Maximum	58	56	49	48	52	52	42	36	37	38	63	67	60	65	68	56	43	56	59	52	47	[illegible]	62	59	50	50	63	62	60	60	65	54.4
	Minimum	34	32	32	30	20	13	30	30	21	29	27	39	40	39	32	34	34	35	37	39	4	43	45	42	40	32	50	50	45	43	48	36.0
Williston	Maximum	61	49	48	47	54	53	43	36	41	48	65	68	63	61	69	80	55	54	57	50	46	46	54	73	63	65	71	62	52	54	62	57.3
	Minimum	40	34	35	33	32	39	33	31	29	25	24	43	42	38	35	50	41	39	39	44	42	44	42	38	41	45	49	50	44	40	38	39.0
Moorhead, Minn	Maximum	73	65	45	49	51	54	52	50	51	44	60	71	53	54	65	75	61	49	56	50	60	61	69	56	57	63	63	65	67	55	66	58.4
	Minimum	43	43	37	37	38	35	42	45	36	34	35	42	37	31	36	42	41	40	40	45	45	48	51	43	44	44	48	45	41	45	44	41.4

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[W. B. O., Minneapolis, 6-29-27—450]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI BISMARCK, N. D., JUNE, 1927 No. 6

GENERAL SUMMARY

Taken as a whole the weather throughout North Dakota during June was favorable for crops and for all kinds of outdoor activities. There was more than the usual sunshine, but a deficiency in both temperature and precipitation. The rainfall, however, was ample for all crop needs, and was fairly well distributed both geographically and throughout the month. There were several hail storms of a damaging nature, and a severe wind storm at the close of the month resulted in considerable loss of property and the loss of at least one life in the central portion of the State. At the close of the month prospects for small grain crops were never better. Corn, though somewhat backward, was generally of good stand and color. Pastures, meadows and ranges afforded excellent feed, and livestock was in fine condition.

TEMPERATURE

The mean temperature for the State was 61.2°, or 1.6° below the normal, and 0.5° higher than the mean for June, 1926. The highest mean reported was 65.3° at Powers Lake, Burke County; the lowest was 52.5° at Granville, McHenry County. The highest temperature reported was 99° at Pembina, Pembina County, on the 27th; the lowest was 22° at Hansboro, Towner County, on the 11th. The greatest monthly range of temperature was 73° at Pembina, Pembina County; the least was 58° at Granville, McHenry County. The greatest daily range was 49° at Pembina, Pembina County, on the 5th.

PRECIPITATION

The average precipitation for the State was 2.84 inches, or 0.66 inch below the normal, and 0.19 inch more than the average for June, 1926. The greatest monthly amount reported was 6.69 inches at Edgeley, LaMoure County; the least was 1.03 inches at Willow City, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 3.31 inches at Edgeley, LaMoure County, on the 20th. The average number of days with 0.01 inch or more of precipitation was 9.

AURORAS

Auroras were observed at Arnegard, Foxholm and McClusky on the 4th; at Velva on the 5th, and at Howard on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	[illegible]	[illegible]	Average	Highest*	Direction	Date
Bismarck	29.90	30.29	5	29.41	24	57	5,997	8.3	72	w.	30
Devils Lake	29.89	30.28	13	29.39	24	41	6,154	8.5	37	nw.	7
Ellendale	29.91	30.32	5	29.40	24	56	9,047	12.6	57	sw.	29
Grand Forks	29.89	30.25	13	29.38	24	66	......	......	42	n.	8†
Williston	29.88	30.24	13	29.36	27	48	4,772	6.6	37	nw.	24
Moorhead, Minn	29.90	30.33	5	29.37	24	58	5,701	7.9	27	w.	28
Av'ges and extremes	29.90	30.33	5	29.37	24	......	......	8.8	72	w.	30

*For any five minute period. †And other dates.

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SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Departure from normal, per ct.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	279.3	475.1	59	− 3	80	51	55	25	10
Devils Lake	329.7	478.7	69	+ 9	76	52	57	30	5†
Ellendale	325.2	470.9	69	+ 8	84	60	...	42	5†
Grand Forks	......	......	....	......	75	....	58	......	....
Williston	338.4	478.7	71	+10	79	48	49	28	7†
Moorhead, Minn	379.1	475.1	80	+17	79	53	57	29	7
Averages and extremes	330.3	475.8	70	+ 9	79	53	55	25	10

† And other dates.

COMPARATIVE STATE DATA FOR JUNE

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.
1922	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.
1923	66.1	+3.3	100	30	3.82	+0.32	8	13	12	5	se.
1924	58.6	−4.2	89	26	4.17	+0.67	11	10	12	8	nw.
1925	61.5	−1.3	98	30	6.07	+2.57	14	11	10	9	nw.
1926	60.7	−2.1	104	22	2.65	−0.85	9	13	9	8	nw.
1927	61.2	−1.6	99	22	2.84	−0.66	9	11	13	6	nw.

Climatological Data for June, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With 0.01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	......	......	......	......	......	......	......	......	2.35	......	0.60	0	13	......	......	......	......	H. A. Bury.
Amenia	Cass	954	31	62.8	−0.7	92	27	34	5†	42	3.31	−0.56	1.12	0	12	13	15	2	s.	E. T. Carley.
Amidon	Slope	......	13	62.4	+1.4	92	26	41	1†	36	2.03	−0.94	0.50	0	8	11	13	6	w.	W. H. Toussaint.
Arnegard	McKenzie	......	12	60.8	−1.2	89	26	39	1†	31	1.72	−1.57	0.63	0	8	20	9	1	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	60.4	−1.6	93	27	33	5	35	2.26	−1.23	0.41	0	13	15	7	8	nw.	H. D. Piper.
Beach	Golden Valley	2,759	21	61.4	+0.3	90	26†	40	2†	36	3.43	−0.05	0.78	0	17	12	14	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. L. Hall.
Bismarck	Burleigh	1,674	52	62.3	1.4	89	27	40	12	38	2.70	−0.84	2.00	0	12	5	17	8	s.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	64.5^{a}	+3.5	85^{a}	26	41^{a}	4	28^{a}	1.73	−1.41	0.60	0	12	13	10	7	se.	T. M. Street.
Bowman	Bowman	2,961	13	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	R. Love, Jr.
Cando	Towner	1,488	26	61.1	−0.1	91	27	36	4	42	1.75	−2.13	0.84	0	7	2	20	8	nw.	A. J. Swanson.
Carson	Grant	2,500	15	61.2	−1.8	90	26	38	5†	42	2.13	−1.74	0.80	0	5	18	10	2	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	21	......	......	......	......	......	......	......	1.97	−1.67	0.47	0	8	16	11	3	nw.	S. Friswold.
Crosby	Divide	1,954	20	61.1	+0.5	88	26	36	11	35	1.30	−2.05	0.38	0	8	11	15	4	se.	John Jensen.
Devils Lake	Ramsey	1,478	30	61.5	−1.1	92	27	36	4†	31	2.47	−1.06	1.08	0	10	10	13	7	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	61.4	+0.1	90	26	39	6	42	2.12	−0.92	0.66	0	11	13	9	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	......	60.2	......	84	26	33	4	34	1.47	......	0.35	0	13	9	16	5	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	59.4	−2.5	90	25	35	5	45	1.64	−2.66	0.42	0	10	6	5	19	n.	W. F. Moore.
Dunseith	Rolette	1,682	31	59.6^{f}	−1.2	83	26	32^{f}	4†	39^{f}	1.07	−1.89	0.30	0	7	0	22	8	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	22	60.4	−0.9	85	26	35	11	35	2.38	−0.38	1.28	0	3	0	25	5	sw.	C. E. Stroeck.
Edgeley	LaMoure	1,468	26	60.5	−2.3	91	27	32	5	39	6.69	+3.33	3.51	0	7	0	19	11	s.	O. A. Thompson.
Ellendale	Dickey	1,449	28	62.0	−4.0	93	27	38	5	29	3.64	+0.64	1.12	0	15	3	14	13	s.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	15	62.8	......	87	26†	38	5	40	2.73	−0.88	1.23	0	8	7	21	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	19	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fessenden	Wells	1,610	15	61.7	+0.7	94	27	35	5†	37	2.83	−1.22	0.90	0	9	6	17	7	nw.	I. D. Monsen.
Forman	Sargent	1,249	33	......	......	......	......	......	......	......	3.24	−0.37	1.51	0	8	13	14	3	n.	O. Enger.
Fort Yates	Sioux	1,670	......	......	......	......	......	......	......	......	3.37	−0.29	0.81	0	7	......	......	......	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	60.8	......	85	26	37	11	28	2.34	......	1.51	0	9	4	20	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9	......	......	......	......	......	......	......	2.53	......	0.67	0	9	10	13	7	nw.	Verne King.
Fullerton	Dickey	1,439	29	63.8	+1.1	94	27	37	5	35	4.47	+1.19	1.10	0	10	12	15	3	nw.	F. O. Alin.
Garrison	McLean	1,901	32	60.5	−1.7	88	27	37	4	35	3.19	−0.13	1.18	0	8	19	8	3	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	63.8	+1.3	89	27	34	12	38	4.48	+1.24	2.10	0	9	16	9	5	nw.	A. E. T. Wylie.
Grand Forks‡‡	Grand Forks	830	36	62.5	−0.4	90	27	37	5	36	3.58	+0.19	2.32	0	11	9	16	5	w.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	52.5	−1.6	72	26	34	11	20	1.89	−0.86	0.65	0	10	6	24	0	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33	......	......	......	......	......	......	......	4.98	+1.54	2.05	0	7	......	......	......	......	J. Moffatt.
Hansboro	Towner	1,597	19	57.8	−2.6	87	27	22	11	48	4.22	+1.53	1.30	0	10	10	15	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	60.8	−2.3	95	27	35	11	44	2.49	−0.75	0.71	0	12	9	9	12	nw.	C. J. Downey.
Hillsboro	Traill	901	21	64.4	0.6	92	27	36	5	37	3.81	+0.46	2.14	0	9	14	14	2	n.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	20	57.0	−2.7	84	25	36	4	34	1.38	−1.21	0.56	0	5	8	15	7	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	61.7	−1.4	93	27	35	5	41	2.84	−0.94	0.77	0	12	13	2	15	s.	S. Calvelage.
Lamoine	Kidder	1,936	22	59.3	−1.2	84	27	35	5†	39	4.01	+0.69	1.26	0	6	10	15	5	nw.	L. V. Virgin.
Langdon	Cavalier	1,615	31	59.8	+0.1	87	26	32	4	42	3.11	−0.39	1.10	0	10	20	1	9	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	62.6	+0.5	90	26	35	5†	43	4.00	+0.50	1.20	0	10	13	6	11	s.	Reuben Gray.
Linton	Emmons	1,711	9	62.1	−2.4	95	27	32	5	41	2.81	−0.07	0.52	0	11	14	5	11	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	62.7	−0.4	95	27	30	5	43	4.04	−0.25	1.08	0	9	17	7	6	......	W. S. Adams.
McClusky	Sheridan	1,943	9	60.6	......	86	27	35	4	34	2.82	......	1.08	0	10	14	15	1	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	33	62.8	+2.1	86	26†	37	11	36	1.58	−1.72	0.60	0	6	4	23	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	64.8	−0.2	92	28	35	5	40	4.31	+0.11	1.64	0	8	19	7	4	se.	J. G. Carlson.
Maddock	Benson	1,604	11	60.7	−0.7	89	27	32	4†	38	1.95	−1.25	0.77	0	6	0	18	12	nw.	A. I. Felland.
Mandan	Morton	1,644	13	60.6	−3.6	89	27	39	5†	40	2.00	−1.16	0.96	0	12	9	9	12	s.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	61.1	−0.4	89	27	37	4†	34	1.86	−1.72	0.80	0	7	12	12	6	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	60.2^{f}	−0.1	90^{c}	26	38^{f}	4†	32^{f}	2.95	−0.16	0.84	0	10	3	13	14	......	S. P. Grane.
Mayville	Traill	975	31	63.1	−1.4	92	28	32	5†	43	2.09	−1.42	1.35	0	4	17	9	4	nw.	N. C. Burhans.
Melville	Foster	1,590	29	61.5^{b}	−1.4	92^{b}	27	35	4	39	2.90	−0.61	1.10	0	6	7	16	7	nw.	J. P. Kidder.
Metigoshe‡‡	Bottineau	......	1	......	......	......	......	......	......	......	1.80	......	0.77	0	10	19	10	1	ne.	J. A. Thorburn.
Minot	Ward	1,557	31	62.8	+0.3	88	25	36	11	38	2.37	−0.89	1.00	0	10	12	17	1	w.	W. I. Faris.
Minto	Walsh	820	34	60.8	−3.1	90	27	31	4†	43	4.20	+0.93	2.53	0	9	6	21	3	s.	C. M. Evans.
Mott	Hettinger	2,424	20	61.9	−1.1	94	26	38	6†	41	1.98	−1.42	0.53	0	10	8	12	10	w.	O. H. Opland.
Napoleon	Logan	1,955	35	61.2	−1.0	95	27	34	5	42	2.45	−1.17	0.57	0	14	9	11	10	sw.	C. I. Hoef.
New England	Hettinger	2,400	36	56.2^{e}	−5.8	94^{e}	26	27^{e}	5†	51^{i}	1.40	−1.29	0.66	0	7	3	19	8	sw.	Walter L. Sales.
New Salem	Morton	2,163	23	61.8	−1.0	88	26†	38	12	39	2.21	−1.50	0.84	0	6	15	13	2	s.	J. Christiansen.
Park River	Walsh	998	23	60.8	−2.4	88	27	33	13	30	4.38	+1.05	2.81	0	5	11	10	9	se.	C. B. Wright.
Parshall (near)	Mountrail	......	12	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Carl J. Knutson.
Pembina	Pembina	789	53	60.4	−2.2	99	27	26	5	49	4.80	+1.52	2.00	0	6	18	2	10	e.	C. W. Shumaker.
Pettibone	Kidder	1,856	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. L. Carlson.
Power	Richland	1,020	33	......	......	......	......	......	......	......	3.87	−0.09	0.81	0	12	17	12	1	s.	Frank B. Power.
Powers Lake	Burke	2,205	13	65.3	......	88	28	39	7	24	4.45	+1.59	1.43	0	8	19	9	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	11	61.1	−1.5	89	26	40	5	37	2.02	−1.31	0.67	0	10	8	17	5	nw.	John Muggli.
Sharon	Steele	1,516	2	62.1	......	89	27	35	5	39	2.42	......	0.85	0	13	14	9	7	sw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	3	......	......	......	......	......	......	......	2.97	......	1.27	0	7	9	17	4	nw.	I. H. Giffey.
Starkweather	Ramsey	......	......	60.3	......	91	28	32	10†	39	2.58	......	1.47	0	11	20	4	6	se.	F. R. Irons.
Steele	Kidder	1,857	31	60.3	−2.1	92	27	35	12	37	4.57	+1.24	1.57	0	11	9	15	6	nw.	H. S. Wood.
Towner	McHenry	1,482	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	B. Bagley.
Trotters	Golden Valley	......	1	......	......	......	......	......	......	......	3.10	......	1.05	0	11	8	13	9	......	A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	60.7	−1.4	85	26	37	4	33	2.78	−0.90	1.66	0	6	5	12	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	22	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. W. Meier.
Velva	McHenry	......	......	......	......	......	......	......	......	......	1.47	......	0.50	0	9	5	20	5	nw.	Oscar Anderson.
Wahpeton	Richland	962	33	64.6	−0.2	93	27	33	5	35	5.81	+1.86	1.53	0	12	22	0	8	se.	C. G. Luick.
Walhalla	Pembina	966	22	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. W. Smith.
Westhope	Bottineau	1,508	25	61.0	0.6	88	26	33	11	40	2.38	−0.56	1.34	0	9	18	12	0	nw.	W. A. Meddaugh.
Williston	Williams	1,878	48	62.0	−0.7	89	26	42	4	30	2.74	−0.83	0.89	0	14	9	17	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	60.2	−0.8	84	18†	34	5	40	1.03	−2.15	0.44	0	8	4	26	0	se.	M. A. Ostby.
Wilton	McLean	......	......	59.4	......	87^{f}	27	40^{a}	4	28	1.08	......	0.92	0	4	18	4	8	......	L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	62.7	−1.4	92	27	36	5	34	4.28	+0.15	1.72	0	12	6	10	14	s.	U. S. Weather Bureau.
Averages	......	......	......	61.2	−1.6	99	27	22	11	49	2.84	−0.66	3.31	0	9	11	13	6	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for June, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.12	T	.08	T				.06		T	.10				.18	.40	.05	T	.17	.03	.10			[illegible]			[illegible]			[illegible]		[illegible]
Amenia ‖	Red		.10					.03	.05	.15		.10									.10	1.03	1.12		.03				.12	.20	.28		3.31
Amidon	Lit. Missouri	.15								.50		.21				.25	.20	T.		T	.24								.43		.05		2.03
Arnegard	Missouri			.03			.06			.63	.11					T.	.51	.11		.21	.06	T.			T								1.72
Ashley	Missouri	.10		.01			.41	.09		.08		.09							.36		.35	.13	.05						.09	.18	.32		2.26
Beach	Lit. Missouri	.02	.02	.01	.08	.02			.78	.61	T.	.06			T.	.70		.05		.27	.24	.03			.02			.41	.07	T.	.02		3.43
Berthold Agency	Missouri																																
Bismarck ***	Missouri	.02		T.	T.	.01	.03	.02	T.	T.	.03	T.						.01	.04	.29	T	.19			T.				.02	.01	2.03		2.70
Bottineau ‖	Mouse		.02		.03				.10	.08	.05						.08		.02	.30		.60	.07			.02					.36		1.73
Bowman	Grand																																
Cando	Devils Lake	.34		.05						T								T	.16	.12	.13	.84				.11							1.75
Carson	Heart	.80				.50												.40		.28		.15							T				2.13
Cooperstown	Sheyenne								.15											.30	.47	.43				.05			.15	.27	.15		1.97
Crosby	Mouse				.21							.02					.30	.03				.38				.11		.12			.13		1.30
Devils Lake ***	Devils Lake			T.			.02	T.		.18					T	T.	.05	.20	.01	.22	.29	.79		T	T.	.02			T.		.69		2.47
Dickinson ‖	Heart		.01		.08					.66		.03					.19	.09	.02	.09	.51								.18		.26		2.12
Dogden Butte	Mouse	.02			T.	.02	.08			.30	.15	.01						.11	.01	.24	T.	.35				.10			.02		.06		1.47
Dunn Center ‖	Knife									.42	.08						.31	.10		.17	.19		.10			.06			.03		.18		1.64
Dunseith	Mouse			.03				.03		.30					.25			.03				.28			.15								1.07
Eckman	Mouse				.09					1.01								T.		T		1.28											2.38
Edgeley	James			.15					1.60			.18									3.31	.30							.60		.55		6.69
Ellendale***	James	.01	.01	.02	T.	.09	.37	.11	T.	.10	.03	.07					T.	.03		.70		.27							.61	1.09	.13		3.64
Energy	Missouri	T.		T.	.08		.05	T.	T.	1.23	.22						.55	T.	.10	.33	T.	.17			T.					T.			2.73
Epping	Missouri																																
Fessenden ‖	James	.04						T.	T.	.90	.13	.05							.02		.55	.02	.61								.48		2.83
Forman	Sheyenne						.06			1.51		.18									.64	.30	.27					.10	.18				3.21
Fort Yates	Missouri					.65	.21											.35		.24		.30						.81		.81			3.39
Foxholm (near)	Mouse			.06			.01	T		1.51	T					.01	.02	T		.12	.05	.43			.13			T.					2.34
Fryburg	Heart	T.	T.	.06	.12					.44	T					T.	.56			.67	.07	.19						T	.35		.07		2.53
Fullerton	James	T.	T.	.10		T	.07	.54	T.	.46	T	.24					T.	T			1.10	.36							.17	.55	.88		4.47
Garrison	Missouri									1.18	.24						.06	.82	.10	.52		.14									.13		3.19
Grafton	Red	.01	.05	T.						.08						T.		T	.13		.02	2.10			.94	.05					1.10		4.48
Grand Forks ***	Red	T.		.01			T.	.01		.02						.34			.17	.37	.50	1.82			.02					.03	.29		3.58
Granville	Mouse	T.		T.	T.		.10	.14		.14	.03				T.	T.	.05	.41		.26	T.		.65		.02	.06		T.					1.89
Hannah	Pembina		.54					.02		.24								1.10				2.05			.75						.28		4.98
Hansboro	Devils Lake	.15		.10				.05		.22								.10	.40	.07		.63			1.20						1.30		4.22
Hettinger	Grand		.27	T.		.06	.45		.11		T.	.16	T.					.25	.02	T.		.10	.05						.21	.10	.71		2.49
Hillsboro	Red	.04	.10					.13		.12						.05						2.14				.07				.11	1.05		3.81
Howard (near)	Missouri		.02					T			.56					.37	.28	T.		T.	T.	T.			T.		.15		T.		T.		1.38
Jamestown ‖	James		.07	.01	T.			.02	.37	.77		.22				T.			.01		.41		.58		T.				.10	.19	.09		2.84
Lamoine	Missouri	T.					.17			1.22	.26									1.26	T.	.58								.52			4.01
Langdon ‖	Pembina		.08	.12	T				.05	.35						.04	T.	.15				.73	.43			1.10					.06		3.11
Larimore	Red		.03					.50		.07						.10			.35		.35	1.20	.70							.10	.60		4.00
Linton	Missouri					.30	.12	.28				.07						.16	.32	.19		.39							.34	.12	.52		2.81
Lisbon ‖	Sheyenne		.10				T.		T.	.61	.15	.42						T.			.45		.60						1.08	.25	.38		4.04
McClusky	Missouri	.03					.02	.10	T.	1.08	.17	.07	T.							.70	.08	.44	T.								.13		2.82
McKinney (near)	Mouse				.17		.05		T.	.60					T.		.45			.08	.23				T.			T.		T.			1.58
McLeod	Sheyenne	T.		T.					.02	1.64		.33									.65	.73	.41						.39	.14			4.31
Maddock	Sheyenne			T.	T.		.16			.27	T.				T.		T.	.30		.40		.77	.05		T.								1.95
Mandan ‖	Missouri		T.			.03	.04	.03	.01		.04	.03							.02	.09	.56		.15						.04		.96		2.00
Manfred	James	.03		T.	T.		T.			.35	.04						T.		.02	.40		.80									.22		1.86
Marmarth	Lit. Missouri	.26		.07		.21			.30		.21	T.				.33	.13				T.	.22		T.				.84		.35			2.95
Mayville	Red															.40						.30	.04								1.35		2.09
Melville	James		T.				T.	.11		.27	.18				T.				T.	1.10	T.	.66							T	T.	.58		2.90
Metigoshe	Mouse			.09			.08	.07			.12							.11	.17	.01		.77			.25						.13		1.80
Minot ‖	Mouse			.03					.08	.20	.05					.15		.50		.20	1.00				.15			.01					2.37
Minto	Red			.03												.04		.30		.20	.09	2.53			.47					.03	.51		4.20
Mott	Cannon Ball		.14		.13	.53						.01					.22	.48	.05										.27	.12	.03		1.98
Napoleon ‖	Missouri		.02		.02		.22	.12	.05	.06		.12							.57		.37	.01	.26						.25	.08	.30		2.45
New England	Cannon Ball	.10	.10	T.	T.	.10	.13			T.										T.	.01	.03			T.				.37		.66		1.40
New Salem	Heart	T.	T.	T.		T.			T.	.55	.01							.03		.84	.14			T.							.64		2.21
Park River	Red	.62																				2.81			.12	.03					.80		4.38
Parshall (near)	Missouri																																
Pembina ‖	Red	T.	.20	T.						T.										T.		2.00	.50	.10		1.10					.90		4.80
Pettibone	James																																
Power	Sheyenne	T.		.08			T.		.08	.61						T.				.39	.45	.81							.55	.38	.52		3.87
Powers Lake	Missouri			.26								.39				1.43		.76			.31				.26			.41		0.63			4.45
Richardton	Heart				.11					.20	.03	.01							.06	.67	.01	.31							.16		.46		2.02
Sharon	Red	.26	.01	.03			.05	.03	T.	.15	T.	T.			T	.04		T.	.06	.20	.11	.85			T.	.08					.55		2.42
Stanton	Missouri				T.					1.27	.36							.38		.39		.17			T.				.08	.32			2.97
Starkweather	Devils Lake	.08		.05			.02	.03							.06			.12		.17	1.47	.47		T.		.06				.05			2.58
Steele	Missouri	T.	.35	T.			.12	.04	.25	.55	.70	T.						T.		.32	.17	.35							.15	T.	1.57		4.57
Towner	Mouse																																
Trotters	Lit. Missouri		T.	.06		.05				1.05	T.					.60	.53		T.	.16		.04			.04			.03	.04	.50			3.10
Turtle Lake	Missouri						.07	T.		1.66	.16									.45		.31									.13		2.78
Valley City	Sheyenne																																
Velva				T.	.03		.01			.41	.07						T.	.13	.04	.19		.50			.06								1.47
Wahpeton	Red				.07		.04	.02		1.25		.28						.04	.89		.02	.91	.47							.29	1.53		5.81
Walhalla	Pembina																																
Westhope	Mouse	.04		.04			T.	.12								.08	.21	1.34	.02	.03		.50											2.38
Williston ***	Missouri		.19	.06	T.	T.	.01	.02	.07	.82	.19					.52	.05	.09	.10	.36	T.	T.			.23			.03		T.	T.		2.74
Willow City	Mouse			.04			T.	.17		.06					.02				T.	T.	.23	.44			.02						.05		1.03
Wilton									.08	.04										.92		.04							T.				1.08
Moorhead, Minn ***	Red	.04	.01	.18			T.	.05		.22	.04	T.				.02	T.				.20	1.56		T.	T.				.86	.22	.88		4.28

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	71	68	78	69	73	76	84	80	71	62	61	71	65	72	74	75	71	86	87	80	72	71	78	83	76	83	92	87	85	83	..	76.1
	Minimum	40	48	42	40	34	34	53	50	54	37	49	34	40	35	47	46	50	54	57	59	57	53	50	56	57	54	65	67	58	61	..	49.4
Amidon	Maximum	55	54	56	65	65	78	80	83	74	65	56	65	70	65	70	75	72	83	82	66	70	83	87	86	82	92	87	83	83	73	..	73.3
	Minimum	41	41	45	44	44	43	50	50	52	44	44	42	44	45	53	50	50	52	54	50	54	52	63	62	50	63	65	70	59	69	..	51.2
Arnegard	Maximum	57	69	61	65	71	69	83	81	67	[illegible]	64	69	73	72	70	74	75	82	70	69	68	76	83	75	82	89	82	77	82	78	..	72.7
	Minimum	39	45	45	41	39	45	53	54	47	41	41	40	45	43	48	47	48	52	50	52	51	45	57	52	52	63	56	69	61	52	..	48.8
Ashley	Maximum	67	51	64	63	63	71	74	78	75	54	55	63	64	63	65	65	66	80	84	74	65	70	76	81	76	80	93	87	83	82	..	71.1
	Minimum	38	41	42	44	33	46	52	52	53	35	42	35	41	38	46	51	50	51	59	57	59	50	52	57	54	58	65	65	59	60	..	49.7
Beach	Maximum	60	76	57	60	68	78	81	80	78	60	68	65	72	69	69	71	69	82	67	65	68	74	85	75	81	90	96	76	80	69	..	72.8
	Minimum	43	40	43	44	45	55	58	52	51	47	45	40	44	45	53	48	48	50	53	52	50	46	53	57	53	60	61	60	56	50	..	50.1
Berthold Agency	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Bismarck	Maximum	55	61	69	62	67	79	83	76	66	55	61	69	71	72	69	67	72	84	82	71	64	77	83	80	82	86	89	76	82	72	..	72.7
	Minimum	44	45	49	44	41	41	52	51	50	43	45	40	43	47	53	54	54	52	56	52	53	51	59	63	55	62	71	65	64	58	..	51.9
Bottineau §§	Maximum	..	61	69	60	71	77	81	73	67	69	61	69	71	75	76	73	74	83	79	75	70	76	74	79	80	85	84	86	80	71	..	ᵃ73.8
	Minimum	..	53	51	41	52	54	59	51	57	56	40	54	43	49	52	56	57	56	60	56	52	57	57	63	55	66	67	63	60	65	..	ᵃ55.2
Bowman	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Cando	Maximum	67	64	70	60	73	78	84	73	72	62	61	69	69	73	76	73	74	83	83	81	67	74	76	80	78	82	91	81	81	79	..	74.5
	Minimum	44	43	44	36	37	46	48	42	50	38	37	36	38	41	46	54	56	49	51	43	56	50	46	38	55	52	67	65	61	62	..	47.7
Carson	Maximum	50	60	70	67	66	62	84	78	70	64	64	68	75	75	70	70	67	88	80	60	64	75	86	83	88	90	88	78	84	78	..	73.4
	Minimum	40	42	46	41	38	39	49	56	50	42	43	58	40	40	42	50	50	46	54	46	48	44	55	62	60	60	69	60	58	57	..	48.9
Crosby §§	Maximum	64	66	57	65	70	76	80	85	67	59	62	61	67	66	65	67	71	76	61	63	64	77	82	65	82	88	84	79	84	71	..	70.9
	Minimum	43	40	45	41	43	49	51	50	56	45	36	49	44	49	55	50	53	53	51	52	52	51	53	60	59	63	65	60	55	54	..	51.3
Devils Lake	Maximum	64	64	70	57	72	78	81	74	62	57	59	68	65	72	75	72	71	82	82	76	65	71	77	79	77	82	92	78	82	77	..	72.7
	Minimum	45	48	47	36	42	47	53	43	44	39	26	39	36	43	50	53	56	52	56	56	55	51	56	58	58	59	68	66	61	60	..	50.4
Dickinson §§	Maximum	54	80	80	60	63	81	80	80	66	59	78	67	78	71	74	74	64	81	75	63	66	75	81	86	81	90	84	78	81	68	..	74.0
	Minimum	41	43	41	41	40	39	47	50	54	41	44	53	45	55	42	47	49	45	52	47	48	44	52	63	49	59	59	59	56	58	..	48.8
Dunn Center §§	Maximum	62	60	63	67	79	82	80	64	[illegible]	59	66	71	71	70	74	75	82	73	68	66	75	82	77	78	90	86	80	81	70	70	..	72.3
	Minimum	37	39	44	39	35	37	51	47	51	41	39	36	38	39	50	48	47	49	48	55	48	42	54	57	47	56	50	58	52	57	..	46.4
Dunseith	Maximum	67	58	65	58	73	73	79	73	71	63	49	67	71	69	75	73	75	81	86	75	68	71	70	78	79	83	82	80	81	80	..	72.9
	Minimum	41	35	40	32	31	43	59	40	45	32	33	34	36	38	45	51	50	..	..	..		64	54	53	52	74	63	63	51	63	..	ᵈ46.3
Edgeley	Maximum	59	61	69	61	71	82	75	70	59	58	60	68	68	71	71	68	69	70	84	71	72	67	79	82	80	81	91	86	88	77	..	72.2
	Minimum	38	45	42	43	32	50	56	50	42	41	36	42	41	39	51	50	52	41	53	53	53	49	49	58	56	54	67	58	59	60	..	48.8
Ellendale	Maximum	56	59	73	58	66	72	80	76	69	62	59	65	66	68	70	64	66	80	82	76	64	72	79	83	78	80	93	83	86	80	..	72.2
	Minimum	41	48	45	43	38	53	55	55	50	43	44	39	45	43	49	51	52	51	57	62	56	51	50	62	59	53	68	68	63	61	..	51.9
Fessenden §§	Maximum	63	65	72	60	70	80	85	79	67	68	69	70	70	72	75	70	74	86	87	77	65	75	80	80	82	84	91	80	84	75	..	75.2
	Minimum	41	46	45	36	35	43	50	45	40	37	25	36	40	42	48	55	54	51	54	50	52	50	55	58	55	56	67	63	60	47	..	48.2
Foxholm (near)	Maximum	61	61	62	60	69	76	79	75	71	60	60	66	67	73	73	72	75	80	78	70	68	75	77	76	77	85	83	79	80	75	..	72.1
	Minimum	43	39	44	38	42	49	53	47	49	42	37	39	42	48	51	52	53	52	51	48	50	48	55	58	52	58	63	60	58	59	..	49.4
Fullerton	Maximum	60	66	76	73	72	76	84	77	77	63	62	69	68	71	72	74	78	83	87	75	65	74	80	83	84	87	94	83	90	78	..	76.1
	Minimum	42	46	43	43	37	52	52	52	50	43	44	38	44	41	46	50	50	55	68	58	56	53	50	63	58	55	67	67	60	62	..	51.5
Garrison	Maximum	63	61	65	62	64	78	82	72	64	59	59	69	71	71	70	70	71	80	77	69	66	77	80	78	81	85	88	78	80	72	..	72.1
	Minimum	38	44	44	37	41	43	52	48	45	43	40	39	42	42	48	52	54	52	56	59	50	47	55	58	52	51	64	61	55	56	..	48.9
Grafton	Maximum	67	66	74	60	[illegible]	77	85	76	74	62	60	70	67	70	75	77	72	82	87	82	75	71	77	78	71	86	89	89	83	82	..	78.6
	Minimum	41	48	42	37	35	51	49	45	51	39	36	34	35	38	43	49	57	56	55	55	56	53	53	52	55	54	56	66	62	64	..	48.9
Grand Forks	Maximum	67	65	74	56	73	75	83	77	68	61	[illegible]	70	62	70	73	74	70	83	87	77	64	69	75	80	73	81	90	81	84	80	..	73.3
	Minimum	44	51	44	40	37	56	52	50	49	39	40	39	38	44	50	50	57	57	56	60	58	53	50	63	58	58	69	68	64	64	..	51.7
Granville	Maximum	50	50	48	48	55	55	63	62	48	48	44	53	51	55	58	61	60	65	60	55	63	65	67	64	65	72	67	65	68	52	..	58.0
	Minimum	40	38	42	36	42	46	50	47	46	40	34	37	40	44	48	49	54	55	48	47	52	48	47	54	53	54	64	54	52	48	..	47.0
Hansboro	Maximum	75	80	77	60	80	76	76	73	68	65	60	75	75	80	75	70	70	80	84	80	75	70	75	64	70	75	87	80	80	70	..	74.2
	Minimum	40	40	40	28	32	40	40	45	42	28	22	28	30	36	38	48	48	42	45	45	45	45	45	52	50	50	48	50	50	51	..	41.4
Hettinger	Maximum	53	66	73	62	69	75	86	80	84	62	59	55	61	68	68	75	74	80	84	68	70	75	84	86	83	95	88	75	90	73	..	74.3
	Minimum	43	43	44	44	38	41	48	51	52	41	35	41	44	41	52	42	51	47	57	45	48	42	53	59	47	60	65	49	57	48	..	47.4
Hillsboro	Maximum	70	67	77	65	73	78	84	83	77	62	61	70	70	72	76	75	84	86	90	86	86	70	77	82	81	82	92	90	87	87	..	77.8
	Minimum	47	47	45	40	36	46	54	48	49	41	41	38	39	39	50	50	56	56	57	59	57	48	51	62	55	55	66	63	59	64	..	50.9
Howard (near)	Maximum	60	63	54	62	68	75	80	76	67	54	55	54	72	70	70	72	72	81	70	66	70	76	80	72	85	72	71	73	71	73	..	69.5
	Minimum	37	38	43	36	42	46	46	44	42	43	44	37	43	44	53	47	50	50	48	50	48	45	47	40	52	44	46	45	44	45	..	44.6
Jamestown §§	Maximum	63	62	72	60	[illegible]	77	83	74	70	55	61	69	68	71	74	70	70	84	87	74	62	73	80	82	79	84	93	82	85	74	..	73.6
	Minimum	44	45	42	39	35	43	52	51	53	42	43	36	43	40	44	52	53	43	56	58	55	52	51	59	55	56	64	66	60	61	..	49.8
Lamoine	Maximum	58	58	64	67	68	77	81	75	69	56	58	66	67	63	74	68	72	83	82	72	66	74	76	78	77	81	84	74	81	77	..	71.4
	Minimum	39	43	36	36	35	38	49	47	50	38	28	36	36	35	48	53	53	52	56	51	50	48	50	54	50	52	65	62	58	58	..	47.2
Langdon §§	Maximum	65	70	66	71	77	81	78	61	58	59	68	63	72	77	73	67	83	86	75	64	61	74	77	71	80	87	77	81	78	61	..	71.8
	Minimum	40	45	42	32	35	45	47	39	50	5	23	34	36	40	44	50	52	50	54	56	55	50	54	59	51	56	64	64	62	61	..	47.9
Larimore §§	Maximum	70	75	68	74	78	85	75	65	60	66	71	64	72	76	75	75	84	87	78	62	70	78	82	80	85	90	80	87	80	70	..	75.4
	Minimum	41	48	46	37	35	50	53	44	50	37	26	35	37	39	48	50	54	55	58	57	55	53	52	54	55	55	65	68	61	64	..	49.7
Linton	Maximum	60	61	72	63	69	75	83	79	76	67	61	70	74	72	73	66	77	82	84	74	66	78	87	83	82	85	95	89	90	84	..	75.8
	Minimum	41	41	42	41	32	42	42	43	43	37	45	35	37	45	44	54	52	47	58	52	59	48	54	60	53	58	65	64	66	61	..	48.4
Lisbon §§	Maximum	64	64	76	70	73	77	85	81	71	67	66	69	65	74	76	72	72	82	90	79	64	72	82	83	81	81	95	85	90	81	..	76.3
	Minimum	36	41	41	42	30	37	52	53	52	29	44	40	44	35	47	45	48	50	62	55	57	53	47	58	58	57	63	65	49	68	..	49.1
McKinney (near)	Maximum	65	65	60	64	71	77	80	75	65	60	64	70	76	75	74	74	75	84	74	70	80	80	80	80	84	86	86	82	84	74	..	74.5
	Minimum	41	40	45	40	40	50	66	45	50	40	37	39	40	45	48	54	51	54	51	51	55	60	62	58	68	[illegible]	65	65	62	59	..	51.2
Maddock	Maximum	64	62	71	62	70	79	84	75	[illegible]	63	61	69	70	70	74	73	72	82	83	75	69	72	77	82	79	86	89	84	82	80	..	74.4
	Minimum	42	43	45	32	32	44	49	44	49	38	35	34	35	36	44	54	53	49	56	48	53	48	53	56	52	54	53	60	58	61	..	47.0
Melville	Maximum	62	60	70	57	..	76	82	74	70	62	60	..	68	72	73	68	73	83	84	75	65	70	77	78	78	80	92	78	82	80	..	ᵇ73.2
	Minimum	40	46	45	35	.	37	52	50	50	40	38	..	38	40	46	50	53	51	55	52	53	49	52	57	55	56	64	63	57	61	..	ᵇ49.8
Minot §§	Maximum	65	65	64	72	80	84	80	71	65	64	71	73	74	76	76	80	84	80	73	70	80	83	78	83	88	85	83	84	75	65	..	75.7
	Minimum	38	45	37	39	48	49	49	57	44	39	26	41	48	48	53	55	51	54	48	51	47	58	[illegible]	52	57	66	62	58	62	47	..	50.0
Mott	Maximum	57	67	64	69	[illegible]	79	81	82	77	74	65	75	77	69	67	74	74	81	80	78	65	78	[illegible]	88	90	94	90	78	84	76	..	76.2
	Minimum	40	43	45	44	46	38	44	50	46	45	45	46	44	38	39	47	47	50	55	49	48	50	51	51	57	60	62	51	49	51	..	47.6
Napoleon §§	Maximum	55	63	71	60	70	77	81	76	68	62	60	60	68	72	73	65	77	83	85	75	62	75	81	81	84	84	95	78	86	70	..	73.1
	Minimum	38	42	44	41	34	47	52	52	55	38	40	35	48	29	49	50	52	51	58	54	50	48	55	60	53	58	53	64	60	60	..	49.3
New Salem	Maximum	58	62	69	62	67	80	85	80	76	68	60	69	72	69	70	69	74	79	84	86	67	78	83	82	81	88	88	77	75	73	..	74.2
	Minimum	39	40	47	41	41	41	51	50	50	41	43	38	40	47	50	50	51	51	54	54	50	48	52	62	57	57	69	50	58	56	..	49.4
Pembina §§	Maximum	73	68	74	57	75	78	80	78	72	[illegible]	56	66	60	64	77	76	71	73	85	78	78	71	73	72	72	84	90	82	85	79	..	73.9
	Minimum	40	48	43	43	26	42	45	45	43	38	38	57	33	38	40	41	42	58	45	66	58	52	54	57	52	52	62	65	65	45	..	46.9
Steele	Maximum	54	70	66	59	66	77	80	85	75	60	66	65	72	77	70	64	80	82	86	84	80	80	80	81	82	82	92	72	85	68	..	74.4
	Minimum	37	40	40	39	39	40	39	39	37	48	44	35	38	44	45	50	50	48	55	50	50	48	50	50	50	56	53	61	59	59	..	46.2
Towner	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Wahpeton	Maximum	67	66	70	75	76	75	85	82	80	63	63	67	68	70	73	74	70	83	86	86	75	72	79	87	84	81	93	92	91	91	..	77.6
	Minimum	39	49	46	43	33	49	52	47	56	40	42	36	41	38	50	50	50	57	58	62	59	55	49	64	59	55	65	72	64	65	..	51.6
Westhope	Maximum	68	67	63	63	74	78	83	76	68	68	64	72	77	79	78	74	75	87	79	73	70	76	79	78	83	88	85	82	82	74	..	75.2
	Minimum	40	39	40	26	38	42	50	46	48	40	33	39	38	39	48	53	48	49	50	49	52	42	47	58	51	53	65	59	56	60	..	46.9
Williston	Maximum	58	66	59	64	71	78	80	79	66	52	61	68	73	72	68	70	74	82	69	69	76	77	82	76	81	89	83	75	84	79	..	72.3
	Minimum	42	42	47	42	41	49	55	55	51	45	43	42	48	53	56	53	53	52	52	52	53	50	60	58	54	65	64	63	58	53	..	51.8
Moorhead, Minn	Maximum	60	65	73	57	70	73	84	79	72	60	60	70	63	68	71	72	69	83	86	78	62	70	77	83	74	81	92	86	88	84	..	73.9
	Minimum	43	50	48	42	36	45	53	52	48	41	46	38	42	43	51	50	50	56	56	61	58	55	50	63	58	55	66	67	60	62	..	51.5

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing. ᵇ 2 days, etc.

[WBO, Minneapolis, 7-29-27—[illegible]]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI   BISMARCK, N. D., JULY, 1927   No. 7

GENERAL SUMMARY

Taken as a whole, the weather during the month was the most favorable of any July for several years. The temperature was below normal and was especially favorable for small grains of all kinds. The precipitation was above the normal, and was quite well distributed, both geographically and throughout the month. Although the night temperatures were rather too cool for corn, that crop made good progress and at the close of the month was nearly of normal growth, much being in the tasseled stage. Much rye harvesting was done, especially during the last decade, and some harvesting of early sown spring wheat and barley. Reports of black stem rust in spring wheat were received but due to the advanced stage of that crop no serious damage was expected. At the close of the month pastures, ranges and meadows were excellent, and livestock generally in good condition.

TEMPERATURE

The mean temperature for the State was 65.4°, or 2.1° below the normal, and 4.9° lower than the mean for July, 1926. The highest mean reported was 68.2° at Hillsboro, Traill County, and at McLeod, Ransom County; the lowest was 61.2° at Granville, McHenry County. The highest temperature reported was 97° at Hettinger, Adams County, on the 27th; the lowest was 28° at New England, Hettinger County, on the 2d. The greatest monthly range of temperature was 67° at New England, Hettinger County; the least was 41° at Bottineau, Bottineau County. The greatest daily range was 54° at New England, Hettinger County, on the 7th.

PRECIPITATION

The average precipitation for the State was 2.85 inches, or 0.24 inch above the normal, and 0.85 inch more than the average for July, 1926. The greatest monthly amount reported was 6.99 inches at Dunn Center, Dunn County; the least was 0.70 inch at Mayville, Traill County. The greatest amount recorded in any 24 consecutive hours was 3.43 inches at Dunn Center, Dunn County, on the 23d. The average number of days with 0.01 inch or more of precipitation was 9.

AURORAS

Auroras were observed at Foxholm on the 7th; at Towner and Trotters on the 8th; at Beach, Bismarck, Ellendale, Foxholm, Howard, Sharon and Velva on the 21st; at Ashley, Crosby, Ellendale and McClusky on the 22d; at Howard on the 23d; at Beach, Bismarck, Crosby and Devils Lake on the 24th; at Crosby and McCleod on the 25th; at Foxholm on the 26th, and at Foxholm and McCleod on the 27th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.00	30.31	22	29.76	5	57	6,553	8.8	39	w.	5
Devils Lake	30.00	30.35	22	29.57	6	44	5,529	7.4	30	n.	17
Ellendale	30.02	30.36	22	29.64	5	56	7,951	10.7	51	nw.	27
Grand Forks	29.96	30.32	2	29.54	6	90	......	.....	36	se.	5
Williston	29.98	30.27	2	29.60	5	48	5,372	7.2	40	w.	5
Moorhead, Minn	29.99	30.34	2	29.61	5	58	4,967	6.7	24	nw.	6
Av'ges and extremes	29.99	30.36	22	29.54	6	.....	....	8.2	51	nw.	27

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	399.2	479.2	83	+12	84	50	50	30	10†
Devils Lake	313.8	483.1	65	− 4	87	56	62	38	29
Ellendale	366.0	475.2	77	+ 6	87	62	.....	41	26
Grand Forks	......	......	.....	.....	80	.....	64	.....	....
Williston	363.1	483.1	75	+ 5	82	51	48	27	10
Moorhead, Minn	381.6	479.2	80	+13	84	58	55	35	11
Averages and extremes	364.9	480.0	76	+ 6	84	55	56	27	10

† And other dates

COMPARATIVE STATE DATA FOR JULY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893...	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894...	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895...	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896...	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897...	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898...	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899...	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900...	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901...	70.8	+3.3	110	40	4.28	+1.67	6	18	7	6	se.
1902...	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903...	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904...	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905...	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906...	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907...	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908...	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909...	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910...	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911...	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912...	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913...	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914...	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915...	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916...	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917...	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918...	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919...	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920...	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921...	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922...	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.
1923...	71.2	+3.7	103	35	3.14	+0.53	8	16	11	4	se.
1924...	65.5	−2.0	99	32	1.95	−0.66	6	18	9	4	nw.
1925...	66.7	−0.8	106	29	1.34	−1.27	6	18	9	4	nw.
1926...	70.3	+2.8	108	18	2.00	−0.61	7	18	8	5	se.
1927...	65.4	−2.1	97	28	2.85	+0.24	9	15	10	6	nw.

Climatological Data for July, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	...	...	...	...	...	...	...	...	2.06	...	0.62	0	8	...	...	...	...	H. A. Bury.
Amenia	Cass	954	31	65.8	-2.9	94	25†	43	31	38	2.06	-0.95	0.46	0	8	15	15	1	sw.	E. T. Carney.
Amidon	Slope	...	13	66.0^{a}	-4.1	92^{a}	9	40^{a}	2	35^{a}	3.70	+1.05	1.10	0	7	13	16	1	w.	W. H. Toussaint.
Arnegard	McKenzie	...	12	66.3	-2.9	92	27	45	1	41	3.68	+2.08	0.74	0	11	21	7	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	64.3	-4.1	87	27†	40	2	30	3.49	+0.83	2.75	0	9	22	8	1	nw.	H. D. Piper.
Beach	Golden Valley	2,759	21	67.0	-0.3	90	9	42	2	37	2.49	+0.69	0.98	0	9	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	65.8	-3.1	91	26	40	2	41	4.86	+2.89	1.10	0	11	24	0	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	67.2	-2.6	90	27	42	2	31	2.29	+0.15	1.40	0	8	15	14	2	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	65.8	0.0	89	26	48	1	26	4.37	+2.09	1.71	0	11	15	6	10	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	R. Love, Jr.
Cando	Towner	1,488	26	64.5	-1.6	90	26	29	4	42	2.63	+0.10	0.99	0	8	13	10	8	nw.	A. J. Swanson.
Carson	Grant	2,500	15	66.6	-1.5	95	26	40	2	37	0.84	-1.10	0.80	0	2	23	8	0	nw.	J. W. Evens.
Cooperstown	Griggs	1,428	21	...	...	...	...	...	...	...	2.28	-0.45	0.60	0	7	14	12	5	nw.	S. Friswold.
Crosby	Divide	1,954	20	65.0	-0.9	89	25	41	2	33	2.17	-0.04	0.68	0	8	13	12	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	64.6	-3.5	90	26	38	2	30	2.25	-1.53	1.22	0	11	13	12	6	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	65.4	-2.6	90	27	39	2	38	2.93	+0.61	1.31	0	7	20	2	9	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	...	63.4	...	88	26	37	2	31	3.64	...	1.10	0	12	17	10	4	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	63.8	-4.2	89	25	33	2	40	6.99	+4.94	3.43	0	7	16	7	8	w.	V. F. Moede.
Dunseith	Rolette	1,682	31	63.4	-1.0	87	26	37	2	30	4.16	+1.82	1.05	0	12	6	13	12	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	22	63.3	-2.5	88	25†	35	2	34	2.85	+0.41	0.75	0	6	1	21	9	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	26	64.9	-3.6	89	27	42	2	34	2.04	-0.76	1.14	0	4	5	18	8	se.	O. A. Thompson.
Ellendale	Dickey	1,449	28	65.4	-5.3	87	27	44	2	28	2.16	-0.74	1.19	0	10	7	18	6	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	15	66.4	...	93	26	38	2	41	2.73	+0.55	0.80	0	12	9	20	2	ne.	H. S. Solenberger.
Epping	Williams	2,224	19	64.2	...	89	26	40	7†	45	2.74	+0.82	0.60	0	8	22	8	1	se.	A. O. Wang.
Fessenden	Wells	1,610	15	66.0	-1.1	93	26	37	2	36	...	...	...	...	...	5	18	8	sw.	T. D. Monsen.
Forman	Sargent	1,249	33	...	...	...	...	...	...	...	3.43	+0.40	1.84	0	6	15	9	7	nw.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	4.15	+1.93	3.59	0	4	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	63.8	...	89	26	38	2	30	2.55	...	0.86	0	14	9	12	10	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9	...	...	...	...	...	...	...	2.83	...	1.08	0	8	24	6	1	nw.	Verne King.
Fullerton	Dickey	1,439	29	66.8	-1.6	89	17	41	2	40	3.85	+0.58	1.75	0	9	16	12	3	nw.	F. O. Alin.
Garrison	McLean	1,901	32	61.8	-6.3	90	26	36	2	37	4.04	+1.94	2.00	0	9	14	12	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	66.3	-1.2	88	25†	43	2	36	1.05	-1.43	0.30	0	11	18	8	5	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	36	66.2	-1.2	90	26	44	2	33	1.85	-0.90	0.82	0	8	12	13	6	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	61.2	-5.9	85	25†	36	2	29	3.59	+1.52	1.01	0	9	5	19	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33	...	...	...	...	...	...	...	1.82	-0.64	0.28	0	10	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	19	63.1	-2.3	94	24†	29	2	52	3.57	+1.59	0.70	0	10	12	14	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	66.2	-3.3	97	27†	41	2	42	1.97	-0.82	0.49	0	6	23	2	6	nw.	C. J. Downey.
Hillsboro	Traill	901	21	68.2^{a}	-1.3	93	26	45	2	33	1.77	-0.88	1.00	0	5	17	11	2	nw.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	20	63.4	-2.1	86	17†	38	5	58	1.62	+0.02	1.30	0	5	9	21	1	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	65.6	-2.9	91	26	40	2	37	2.83	+0.08	0.63	0	15	11	5	15	nw.	S. Calvelage.
Lamoine	Kidder	1,936	22	63.7	-2.2	90	26	36^{a}	2	35^{a}	1.61	-0.94	0.52	0	6	16	11	4	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	31	64.0	-0.5	91	25	39	2	41	1.26	-1.30	0.43	0	5	20	4	7	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	65.5	-1.4	93	26	42	2	35	3.38	+0.39	1.30	0	12	21	2	8	n.	Reuben Gray.
Linton	Emmons	1,711	9	69.2^{d}	-1.6	92^{a}	27	39^{a}	2	43^{a}	3.25	+1.25	1.50	0	9	15	9	7	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	65.4	2.8	90	26	42	2	36	4.29	+0.76	1.08	0	9	20	4	7	...	W. S. Adams.
McClusky	Sheridan	1,943	9	63.8	...	90	21	36	2	43	2.23	...	0.82	0	12	14	15	2	nw.	Edw. Tapney.
McKinney‡‡	Renville	1,640	33	65.1	-0.9	89	26	37	2	36	1.35	+2.19	1.53	0	11	6	19	6	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	68.2	-2.0	91	26	49	2†	30	3.11	-0.32	0.68	0	9	19	7	5	nw.	J. G. Carlson.
Maddock	Benson	1,604	11	64.2	-3.6	90	25†	33	2	36	1.98	-0.66	0.48	0	9	5	19	7	nw.	A. T. Felland.
Mandan	Morton	1,644	13	66.5	-4.3	90	26	40	2	34	2.37	-0.59	1.48	0	8	11	6	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	64.5	-2.4	88	23	38	2	39	2.15	-0.15	0.60	0	11	16	9	6	sw.	P. B. Anderson.
Marmarth	Slope	2,714	18	66.8^{a}	-1.0	90	27	39^{a}	31	35^{a}	2.74	+1.08	0.94	0	10	...	...	...	...	S. P. Crane.
Mayville	Traill	975	31	67.0	2.4	93	26†	38	31	39	0.70	-2.27	0.35	0	5	20	4	7	nw.	N. C. Burhans.
Melville	Foster	1,590	29	64.8^{c}	-3.1	96^{c}	26	36	2	36^{c}	2.46	-0.28	0.56	0	9	...	...	...	nw.	J. P. Kidder.
Metigoshe‡‡	Bottineau	...	1	...	...	...	...	...	...	...	3.88	...	1.07	0	10	21	7	3	nw.	J. A. Thorburn.
Minot	Ward	1,557	31	66.2	-1.9	95	24	37	1	40	4.08	+2.23	1.20	0	13	14	14	3	e.	W. I. Faris.
Minto	Walsh	820	34	65.8	-1.3	90	25†	40	2	39	1.88	-0.88	0.61	0	8	11	12	5	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	66.8	-2.3	91	26	41	2	40	1.76	-0.61	0.43	0	8	16	9	6	nw.	O. H. Opland.
Napoleon	Logan	1,955	35	65.7	-2.6	90	27	38	2	40	2.64	+0.16	1.05	0	11	22	5	4	s.	C. J. Hood.
New England	Hettinger	2,400	36	65.0	-3.5	95	27	28	2	51	1.94	-0.07	0.44	0	6	9	19	3	nw.	Walter L. Sales.
New Salem	Morton	2,163	23	67.2	-2.1	94	26	29	2	37	1.63	-0.47	0.67	0	5	24	7	0	nw.	J. Christiansen.
Park River	Walsh	998	23	65.2^{c}	-2.6	88^{c}	25	42^{c}	3	36^{c}	1.46	-0.88	0.46	0	8	...	...	...	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Carl J. Knutson.
Pembina	Pembina	789	53	65.9	-1.8	88	26	44	2	34	2.40	+0.02	0.60	0	9	17	1	11	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. L. Carlson.
Power	Richland	1,020	33	...	...	...	...	...	...	...	2.79	-0.59	1.02	0	7	20	9	2	s.	Frank B. Power.
Powers Lake	Burke	2,205	13	56.1	...	91	27	36	2	28	5.16	+3.38	1.60	0	8	16	12	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	11	66.4	-3.6	91	26†	41	2	36	2.37	+0.36	0.78	0	8	19	11	1	nw.	John Muggli.
Sharon	Steele	1,516	2	65.2	...	88	25†	46	2	35	2.54	...	0.74	0	12	14	12	5	nw	Nels O. Gretsheim.
Stanton	Mercer	1,722	3	...	...	...	...	...	...	...	3.15	...	1.27	0	10	13	16	2	nw.	J. H. Giffey.
Starkweather	Ramsey	...	...	63.6	...	89	27	34	2	39	3.12	...	1.23	0	13	16	5	10	nw.	F. R. Irons.
Steele	Kidder	1,857	31	64.2	-5.2	88	27	36	2	40	3.81	+0.93	1.00	0	8	16	11	4	se.	H. S. Wood.
Towner	McHenry	1,482	25	66.1	-1.0	94	25	35	2	40	3.09	+0.86	0.95	0	9	19	7	5	nw.	B. Bagley.
Trotters	Golden Valley	...	1	...	...	...	...	...	...	...	3.99	...	1.23	0	8	14	9	8	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	64.1	-4.5	88	25†	34	5	36	3.58	+1.12	1.27	0	12	9	7	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. W. Meier.
Velva	McHenry	...	...	...	...	...	...	...	...	...	2.53	...	0.67	0	10	10	13	8	nw.	Oscar Anderson.
Wahpeton	Richland	962	33	67.1^{d}	-2.2	91^{d}	26	45^{d}	2	37^{d}	2.80	-1.00	0.75	0	12	25	0	6	se.	C. G. Luick.
Walhalla	Pembina	966	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. W. Smith.
Westhope	Bottineau	1,508	25	64.5	-1.6	92	25	39	2	38	4.47	+2.52	1.46	0	9	19	7	5	nw.	W. A. Meddaugh.
Williston	Williams	1,878	48	66.4	-2.5	90	7	43	2	39	1.34	-0.69	0.73	0	10	22	6	3	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	64.6	-0.8	90	26	36	2	36	3.97	+1.88	1.32	0	13	15	10	6	nw.	M. A. Ostby.
Wilton	McLean	...	...	67.3	...	90	25†	44	2	34	4.18	...	2.16	0	7	22	6	3	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	66.0	-2.1	89	26	47	2	31	1.01	-2.73	0.27	0	7	6	20	5	n.	U. S. Weather Bureau.
Averages	...	...	...	65.4	-2.1	97	27†	28	2	54	2.85	+0.24	3.43	0	9	15	10	6	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for July, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
lpha	Lit. Missouri								*	.49		T.	.10	T	.18	.32	.62				.22	T.	.12						.01				2.06
menia ‖‖	Red	.17					T.							.33			.06		.46		.02	.42			.20			.40					2.06
midon	Lit. Missouri										.17			.06		.78	.65				.30		.35						T	1.10			3.70
rnegard	Missouri	T.			.03	.37					T	.12	.74			.75	.03				.03	.72	.45							.58		.08	3.68
shley	Missouri												.26		.12	.11	2.75				.07	.03		.03	.10				.02				3.49
each	Lit. Missouri					T.					.06	T		.02		.74	.98			.35		T	.24						.04	.05	T	.01	2.49
erthold Agency	Missouri			T.		.15					.20		1.07			.72						.65	.50	.03			.18	.08			1.10	.18	4.86
ismarck ***	Missouri		T.		T.						.03		.04		.13	.38	1.40					.17					T	.07			.07		2.29
ottineau‖‖	Mouse		.19			.90	1.71	.05			.21		.09	.26					.22		.59				.04			.11					4.37
Bowman	Grand																																....
ando	Devils Lake	T.		T.	T.	.36	.62				.36		.08					.06		.03	.99			.13									2.63
arson	Heart																.80												.04				0.84
ooperstown	Sheyenne					.15	.38				.10		.60					.45						.25			.35						2.28
Crosby	Mouse	.05				.68	.16				.13		.21	.31	.04		T.				T			.59									2.17
Devils Lake ***	Devils Lake	.06		T.	.15	.18	.14				.18		.08	T.				.09		.12	1.10			.14			T.	.01			T		2.25
Dickinson‖‖	Heart				T.						.05		T		.02	.14	1.01				.06	T.		.34							1.31		2.93
Dogden Butte	Mouse					.13	.05				.80		.30	.05	T.				.02	.20	.01			.11				1.10			.84	.03	3.64
Dunn Center‖‖	Knife										.16		1.42		.10		1.24					.54		3.43							.10		6.99
Dunseith	Mouse			.30	1.05	.30	.58						.42	.26				.20		.40	.50			.05		.05		.05					4.16
Eckman	Mouse					.65					.25		.75							.59	.22			.39									2.85
Edgeley	James												.10			.50								.30							1.14		2.04
Ellendale***	James			.11	T.	T.						T.	.15		.10	.17	1.02				.07	T.		.46				.02	.01	T.	.05		2.16
Energy	Missouri	T.	T.	T.	T.	.11					.44		.35	T.	.05	.34	.19			T.	.10	.02	.04					.18			.80	.11	2.73
Epping	Missouri	.30			T.	.34					.22	.60				T				T.			.50					.15			.25	.38	2.74
Fessenden‖‖	James																																.....
Forman	Sheyenne												.96	.02			1.84		.23		.17				.21								3.43
Fort Yates	Missouri												.46			3.59														.33		.07	4.45
Foxholm (near)	Mouse	T.		.01	.01	.86	T.				.31		.44	.13	.01					.22	.05	T.	.21	.02			.03	.15		T.	.10	T.	2.55
Fryburg	Heart				T.						.06		.20	.06	T.	.11	1.08			.27			.88							.17			2.83
Fullerton	James			.03	T.	T.					T		.20		.08	.25	1.75	.23			.18				.68			T.	T.		.35		3.85
Garrison	Missouri					.25					.35		.40		.22	.25				.30			.05					.22			2.00		4.04
Grafton	Red	.01	.01	.05		.16	.10	.01			.01		.04					.25		T.	.30			.11									1.05
Grand Forks ***	Red	.16		T.		.09	.10				T.		.16					.56			.82			.01				.12					1.85
Granville	Mouse		T.		T.	.76	.17				.59		.25	T.				T.	T.	.29	T			.12		1.01	T.	.22			.18		3.59
Hannah	Pembina	.27		.08	.10	.06	.23						.28	T				.24			.15			.23	.18								1.82
Hansboro	Devils Lake	.70				.35	.20				.10		.35	.37					.05	.05	.70			.70									3.57
Hettinger	Grand															.32	.49				.22			.35					.23		.36		1.97
Hillsboro	Red	.04											.31	.08			T.				.32				T.			1.00				T.	1.75
Howard (near)	Missouri	.01								.01		T.									1.30	.18							T.	T.	T.	.12	1.62
Jamestown‖‖	James	.17	T.	.01				.02			.12		.11	.26	.08	.12	.63				.19	.21				.02		.51	.30		.08		2.83
Lamoine	Missouri				T.	T.	T.				.52		.17			.23					.06			T.				.12			.51		1.61
Langdon‖‖	Pembina					.10	.43				.25			.30												.18							1.26
Larimore	Red	.75	.05			.10	.08	.02			.15			.02					.20			1.30			.50	.10		.11					3.38
Linton	Missouri										T.	T.	.19		.12	.26	1.50			.35	.64								.17	T.	.01	.01	3.25
Lisbon ‖‖	Sheyenne	.27				T.		T.			T.		.12	.72	T.		1.08	.52	.40		T.	T.			.55			.25			.38		4.29
McClusky	Missouri					.15	.04				.40		.10	.11	.07		.08			.01	.01			.21				.23			.82		2.23
McKinney (near)	Mouse	.20		T.		1.53	.15			.12			.35	.25	.10			T.		.37	.08	.70	.50	T.									4.35
McLeod	Sheyenne	.39		T.			.11						.52		.21		.68		.30	.19					.40						.31		3.11
Maddock	Sheyenne	T.		T.	T.	.03	.37	.15			.33		.10	.18	T.					.16	.18			.48					T.		T.	T.	1.98
Mandan‖‖	Missouri										.05		.03			.17	1.48					.48						.08	.05		.03		2.37
Manfred	James			.02	T.	.06	.26				.57		.60	.11	.05					T.	.15			.01		T.		.09			.19		2.15
Marmarth	Lit. Missouri									.42	.02			.02	.19	.94	.12			.56	.17		.22					.08				T.	2.74
Mayville	Red												.20	.10							.03			.02				.35					0.70
Melville	James	.16				.17	T.				.36			.10	.26						.56							.26	.13		.46		2.46
Metigoshe	Mouse	.25				1.07	.60				.53		.52	.02				.27		.25	.30			.07									3.88
Minot‖‖	Mouse			.02	.05	.45				.15		.30	.45	.10	.02	.02		1.20		.26								.98		.08			4.08
Minto	Red	.11		.07		.21	.08						.10						.43		.61			.27									1.88
Mott	Cannon Ball					.05					.22			.03	.11	.10	.40				.43		.42										1.76
Napoleon ‖‖	Missouri	.23											.25	.02	.01	.05	1.05	.05			.33	.05		.50					.10				2.64
New England	Cannon Ball										.39					.44	.41				.40		.28						.02				1.94
New Salem	Heart				T.								.05		.09	.17	.65					.67							T.				1.63
Park River	Red	.12		.04		.20	.10					T.		.11				.35			46			.08									1.46
Parshall (near)	Missouri																																.....
Pembina ‖‖	Red	.20	.30		T.	.10	T.	.40	T.		T.			.30					.60		.30	.10	.10										2.40
Pettibone	James																																.....
Power	Sheyenne												T.	.69			1.02	.25			.08			.45			.13				.17		2.79
Powers Lake	Missouri	.43				1.60					.42		.99	.07							.67	.27								.71			5.16
Richardton	Heart										.56		.01		.26	.06	.78				.05		.58							.07			2.37
Sharon	Red						.24	.11			.07		.06	.31					.51	.01	.32			.74	.02	.02		.13			T.		2.54
Stanton	Missouri						T.				.37		.25	.15	.05	1.27	.57	T.			.15	.08	.13					T.			.13		3.15
Starkweather	Devils Lake				.14	.58	.05			.27		.02	.49	.02				.04			1.23	.01	.02	.23				.02					3.12
Steele	Missouri				T.	T.					.15		.10			.99	1.00				.47			.10					.10		.90		3.81
Towner	Mouse	T.			.02	.38	.95				.54		T.	.33	.22			.02		.38	.25						T.				T.		3.09
Trotters	Lit. Missouri						.16				.02	.98	.44			1.23	.45					.10	.61							T.	T.		3.99
Turtle Lake	Missouri	.01				.16					.36		.46	.20	.06	.21	.06			.07	.27							.45			1.27		3.58
Valley City	Sheyenne																																.....
Velva						.35					.32		.46	.12	.03			.10		.18				.16				.67			.14		2.53
Wahpeton	Red	.43		.04				.35					.25	.02	.10		.75		.11		.18				.32						.20	.05	2.80
Walhalla	Pembina																																.....
Westhope	Mouse	.23				1.04	1.46				.40		.42							.24	.58							.03			.07		4.47
Williston ***	Missouri	.07			T.	.05				.06		.34	.39	.01		.01				.25	.01		T.				T.	T.		T.	.15		1.34
Willow City	Mouse	.05		.05	.02	.92	1.32	.01			.11		.20	.08				.04		.42	.63			.12		T.	T.						3.97
Wilton										.31		T.	.15	.20		2.16		T.		.31											.95	.10	4.18
Moorhead, Minn ***	Red			T.	T.	T.	.01				T.		.21	T.	.03		.21	.07		T.	.27			T.		T.		.21			T.	T.	1.01

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum	72	68	64	73	82	71	76	83	83	88	88	82	76	84	83	74	80	75	76	66	73	83	80	83	94	94	88	74	76	72	71	78
	Minimum	56	44	47	47	54	60	56	58	54	54	50	55	54	52	55	58	46	53	50	52	57	52	55	54	59	60	63	58	44	50	43	53
Amidon	Maximum	62	70	..	78	80	77	87	87	92	82	82	75	80	80	72	70	80	80	80	81	80	75	77	83	81	85	90	75	75	76	70	[a]78.
	Minimum	48	40	..	48	50	52	52	57	62	60	52	52	50	50	52	52	55	55	58	53	53	56	53	55	55	60	60	53	51	52	51	[a]53.
Arnegard	Maximum	61	70	76	80	67	77	87	86	90	79	88	72	79	80	65	77	84	80	81	85	82	81	81	87	87	89	92	75	78	81	67	79.
	Minimum	45	51	47	53	54	54	48	53	51	55	47	47	54	52	55	56	52	55	68	53	54	55	65	57	57	54	58	49	46	50	50	53.
Ashley	Maximum	67	67	63	71	71	70	75	78	78	81	77	76	73	75	73	73	76	76	71	80	80	70	74	74	79	83	87	87	69	70	71	74.
	Minimum	49	40	51	48	63	57	49	58	52	59	49	55	56	53	56	57	46	57	58	57	58	46	56	56	56	56	64	57	44	55	54	53.
Beach	Maximum	64	67	78	75	74	78	87	85	90	78	80	75	86	82	83	85	81	82	82	82	79	83	78	83	84	84	88	73	87	80	68	80.
	Minimum	47	42	53	60	54	50	60	55	58	57	51	45	49	51	55	55	52	54	59	55	53	57	54	54	56	60	58	55	50	55	49	54.
Berthold Agency	Maximum	68	68	76	71	68	78	86	82	86	78	83	75	79	79	72	72	80	78	79	81	78	78	76	83	87	91	88	72	78	79	74	78.
	Minimum	44	40	55	53	58	57	45	56	49	62	47	57	49	50	53	62	54	58	60	56	56	56	58	50	53	57	59	53	45	52	54	53.
Bismarck	Maximum	70	67	70	73	76	76	84	82	83	79	85	79	81	79	78	73	83	77	75	83	76	76	80	83	87	90	90	73	73	78	68	78.
	Minimum	50	42	54	50	64	58	53	58	53	58	54	61	56	53	56	59	54	58	59	59	60	53	60	60	59	64	63	55	47	57	56	56.
Bottineau §§	Maximum	64	70	61	71	66	67	78	76	77	74	71	69	74	75	76	73	82	77	70	75	76	76	78	84	87	89	83	70	74	80	63	74.
	Minimum	48	49	56	51	59	57	58	57	61	64	57	60	55	54	59	57	57	54	60	57	57	56	59	65	64	66	63	50	51	54	55	57.
Bowman	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Cando	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Carson	Maximum	66	70	74	74	77	78	84	88	82	80	86	78	80	86	79	74	73	78	77	88	84	80	75	87	88	95	94	80	78	75	80	80.
	Minimum	48	40	50	40	64	65	49	55	58	60	50	56	45	49	50	56	50	54	56	55	54	54	52	53	56	60	58	55	50	48	50	52.
Crosby §§	Maximum	64	71	78	70	66	74	85	78	84	76	80	71	75	75	75	75	82	78	78	80	81	73	81	85	89	85	69	73	80	81	65	76.
	Minimum	57	41	51	53	53	57	53	54	56	56	47	59	53	53	51	50	51	53	56	55	53	52	55	55	60	59	60	46	47	52	50	53.
Devils Lake	Maximum	67	68	60	71	73	67	78	77	82	75	78	71	76	77	78	73	82	76	72	72	72	79	79	83	88	90	86	71	75	79	65	75.
	Minimum	44	38	49	47	59	56	59	59	54	59	55	56	56	55	50	55	53	49	53	55	56	51	61	55	60	63	69	51	45	59	46	53.
Dickinson §§	Maximum	68	71	79	75	76	79	86	86	89	78	86	75	80	80	69	72	80	78	79	82	80	81	78	81	84	88	90	72	77	77	70	78.
	Minimum	41	39	46	54	54	53	53	56	51	58	50	57	48	45	50	55	52	53	59	52	52	55	51	52	52	57	54	55	45	51	53	51.
Dunn Center §§	Maximum	67	71	72	72	77	85	82	87	77	85	72	77	77	68	71	80	78	79	81	72	78	79	80	84	89	87	71	71	76	66	66	76.
	Minimum	43	33	51	59	51	53	42	53	46	60	47	56	48	48	52	55	47	52	54	52	53	58	49	52	51	53	57	51	43	52	52	50.
Dunseith	Maximum	67	68	69	71	66	68	77	78	77	79	75	76	74	74	75	76	79	77	69	72	73	64	76	82	85	87	86	76	74	78	78	75.
	Minimum	45	37	47	41	56	56	51	58	54	60	50	56	52	51	53	52	51	49	57	54	55	51	56	57	60	62	62	49	38	45	38	51.
Edgeley	Maximum	69	67	62	67	76	74	79	80	79	82	83	80	77	81	80	72	77	78	76	80	76	81	76	80	87	86	89	80	71	74	75	77.
	Minimum	51	42	52	51	49	58	55	54	54	56	49	55	56	53	54	58	46	48	50	54	56	47	46	58	55	56	57	61	44	53	54	52.
Ellendale	Maximum	68	64	63	73	78	73	79	81	79	83	78	80	75	80	78	71	76	73	75	80	68	78	78	77	85	87	87	72	69	74	71	75.
	Minimum	51	44	52	49	59	57	55	55	57	58	56	57	58	55	59	53	51	57	52	59	55	50	55	56	59	59	63	51	50	58	52	55.
Fessenden §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Foxholm (near)	Maximum	66	68	68	73	66	69	79	78	80	76	75	69	74	75	72	71	79	76	71	77	75	77	78	81	86	89	82	70	73	80	68	74.
	Minimum	44	38	51	48	56	56	49	55	53	61	50	57	50	52	51	52	52	51	55	56	56	53	54	57	58	62	60	49	43	51	52	52.
Fullerton	Maximum	70	65	64	72	77	83	80	78	84	83	85	82	79	83	80	74	89	76	77	80	80	86	78	78	84	86	88	72	75	75	70	78.
	Minimum	55	44	50	48	55	64	62	56	54	58	52	56	57	54	58	58	49	58	51	58	54	60	49	56	58	64	58	56	45	55	55	55.
Garrison	Maximum	67	66	68	70	67	71	82	80	82	80	80	76	78	74	74	72	83	80	74	81	77	77	79	83	88	90	88	72	75	74	67	76.
	Minimum	47	36	42	50	47	46	39	40	50	52	39	48	49	42	44	46	43	46	48	47	47	42	42	54	55	55	56	51	42	51	54	46.
Grafton	Maximum	71	68	68	75	76	72	76	78	83	81	80	77	77	79	81	79	81	76	77	70	77	80	80	84	88	88	87	81	78	82	78	78.
	Minimum	57	43	46	50	58	60	57	57	57	60	53	52	59	52	54	58	45	50	52	54	53	53	58	55	61	58	66	55	44	54	51	54.
Grand Forks	Maximum	72	66	65	76	78	72	76	78	81	82	81	69	75	81	79	74	81	73	75	65	74	79	78	82	88	90	86	72	75	78	68	76.
	Minimum	58	44	49	53	60	62	58	62	57	60	55	55	60	54	56	60	48	52	53	57	57	54	58	59	64	61	66	57	48	54	46	56.
Granville	Maximum	57	53	60	64	63	62	70	72	67	65	67	60	62	63	65	63	65	65	64	67	65	65	64	68	85	85	73	55	65	68	55	71.
	Minimum	45	36	50	50	52	56	49	55	52	55	57	50	48	53	52	55	50	53	40	53	57	48	55	45	56	58	60	50	43	43	48	50.
Hansboro	Maximum	75	81	65	72	75	70	85	84	88	85	84	84	83	78	75	72	80	72	72	72	86	78	85	94	94	93	78	74	85	90	70	80.
	Minimum	35	29	41	51	50	40	53	53	50	47	45	47	48	47	45	46	43	42	42	44	45	50	52	50	53	53	54	40	40	50	45	46.
Hettinger	Maximum	66	67	68	71	76	83	85	88	87	82	85	76	83	85	76	72	81	84	86	86	82	84	82	84	86	92	97	77	72	78	70	80.
	Minimum	47	41	46	48	51	52	43	52	55	63	52	57	47	47	51	56	48	51	53	58	52	57	52	52	51	57	58	58	53	53	52	52.
Hillsboro	Maximum	75	70	68	..	81	76	86	80	84	84	84	81	76	84	83	78	82	76	84	71	75	82	86	84	89	93	90	86	77	80	79	[a]80.
	Minimum	58	45	47	..	59	60	56	59	57	59	54	56	59	52	56	59	49	52	51	55	55	54	56	56	62	62	65	58	48	53	57	[a]55.
Howard (near)	Maximum	72	71	73	74	68	72	74	74	76	78	76	78	82	82	84	84	86	84	80	76	78	77	80	86	88	82	82	74	80	80	71	78.
	Minimum	47	46	48	47	38	44	44	44	45	45	44	50	50	49	50	49	52	56	51	55	54	52	54	56	56	54	55	41	44	42	42	48.
Jamestown §§	Maximum	70	67	62	70	78	69	82	81	84	81	85	77	79	81	80	72	80	76	77	79	77	80	81	81	89	91	88	73	76	78	70	78.
	Minimum	50	40	46	49	51	60	56	56	54	58	48	54	51	53	54	60	46	53	50	56	56	47	57	55	57	57	63	57	46	50	55	53.
Lamoine	Maximum	67	63	61	67	73	67	83	77	81	74	83	75	76	76	77	71	81	80	73	82	72	77	81	83	88	90	87	72	75	76	68	76.
	Minimum	45	36	37	37	52	55	48	57	52	52	51	58	53	52	56	57	48	54	53	57	67	43	54	..	54	58	54	52	42	56	53	[a]51.
Langdon §§	Maximum	69	60	71	69	70	72	75	81	76	73	67	74	77	77	71	80	75	72	64	72	77	88	84	89	91	86	80	79	81	81	68	75.
	Minimum	50	39	46	49	55	55	58	46	52	60	50	56	55	50	50	53	47	46	51	55	52	50	60	65	52	60	60	49	40	49	54	52.
Larimore §§	Maximum	66	70	76	78	71	79	78	83	80	80	70	72	82	80	75	80	76	75	62	74	80	80	82	88	90	93	72	79	80	62	68	76.
	Minimum	55	42	55	47	53	59	60	60	57	60	54	50	58	53	52	56	45	50	52	51	52	50	58	56	61	60	60	53	45	52	50	53.
Linton	Maximum	70	69	70	74	79	78	87	85	85	84	85	84	84	85	82	..	..	76	86	83	..	79	..	84	88	89	92	84	77	80	78	[d]84.
	Minimum	47	39	50	54	65	57	44	44	48	45	67	57	54	48	52	..	..	56	57	50	..	47	..	54	51	54	62	51	43	54	47	[d]53.
Lisbon §§	Maximum	70	70	62	75	80	71	81	82	82	85	84	76	78	84	85	72	79	77	78	80	70	82	80	79	87	90	89	80	71	78	74	78.4
	Minimum	53	42	60	46	56	57	57	53	55	62	52	56	55	53	56	58	44	55	45	47	40	50	49	50	51	57	65	53	46	50	50	52.5
McKinney (near)	Maximum	70	71	69	72	70	70	82	80	87	80	80	72	74	75	77	74	81	80	71	78	80	72	80	82	88	89	87	70	76	78	71	77.0
	Minimum	46	37	50	50	64	58	49	57	56	56	50	50	51	50	50	50	55	54	56	60	57	56	52	55	70	60	62	50	40	47	50	53.2
Maddock	Maximum	70	67	68	72	72	66	80	80	80	79	79	77	76	75	79	74	81	81	77	77	74	77	80	83	90	90	89	81	75	75	79	77.5
	Minimum	45	33	47	46	58	55	51	56	49	60	49	55	53	51	48	55	45	45	47	55	56	44	57	52	55	55	61	49	39	55	55	51.0
Melville	Maximum	68	67	65	70	75	68	80	78	81	78	86	78	..	72	77	72	80	78	79	79	75	78	83	82	88	90	86	72	..	78	..	[c]77.2
	Minimum	48	36	48	44	58	55	55	64	51	59	53	55	..	53	50	52	50	42	50	55	52	47	58	53	58	61	60	53	..	43	..	[c]52.4
Minot §§	Maximum	72	68	74	66	72	85	83	85	72	83	70	78	79	78	77	84	81	75	85	80	77	81	80	65	94	87	74	78	83	67	70	78.8
	Minimum	37	55	54	61	58	47	54	51	62	49	58	49	52	53	55	52	54	59	59	57	54	54	57	55	61	59	50	43	55	54	45	53.6
Mott	Maximum	68	70	79	78	85	82	87	89	90	85	88	79	82	85	78	74	84	82	80	84	83	82	80	84	87	91	90	77	76	81	69	81.6
	Minimum	45	41	51	53	60	53	48	55	51	58	53	57	49	45	49	54	50	54	55	61	52	51	49	52	51	55	53	52	47	56	52	52.0
Napoleon §§	Maximum	68	68	64	74	78	76	85	83	86	83	87	82	81	85	83	72	83	78	76	84	72	81	81	80	86	89	90	75	74	78	75	79.3
	Minimum	48	38	44	48	50	56	46	55	46	62	55	54	55	50	54	56	48	51	52	53	60	47	58	53	57	59	61	56	44	44	51	52.1
New Salem	Maximum	70	69	74	75	77	78	85	83	85	82	85	80	82	86	81	82	85	84	79	85	78	79	81	85	90	94	93	78	75	79	69	80.9
	Minimum	50	39	51	50	63	55	52	54	59	52	56	58	49	49	53	57	48	49	54	55	56	52	52	58	57	58	60	65	45	55	48	53.5
Pembina §§	Maximum	65	72	61	76	75	78	78	76	72	80	79	78	75	78	76	75	78	72	65	65	76	83	82	86	87	88	86	78	75	76	74	76.5
	Minimum	58	44	46	57	56	58	56	68	56	66	63	63	64	64	54	56	50	52	52	45	51	52	56	52	63	55	65	53	52	48	45	55.3
Steele	Maximum	62	66	62	70	72	80	84	82	79	82	80	80	79	82	84	74	81	84	74	81	70	80	77	82	85	87	88	76	71	79	67	77.1
	Minimum	42	36	43	49	45	46	46	47	49	60	56	57	60	57	59	55	52	58	56	55	59	40	57	58	55	51	50	51	41	51	50	51.3
Towner	Maximum	74	72	69	72	70	70	78	84	83	84	80	78	79	74	74	75	82	81	78	78	81	83	83	86	92	94	92	80	79	81	77	79.5
	Minimum	48	35	52	49	57	54	56	57	59	59	49	54	53	55	54	56	54	52	55	53	52	53	54	50	60	60	62	48	39	46	50	52.7
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Wahpeton	Maximum	80	71	60	75	71	84	80	76	..	..	..	..	76	84	84	83	78	77	78	74	70	81	79	81	88	91	90	87	73	75	76	[d]78.6
	Minimum	59	45	51	51	52	64	59	54	..	..	..	..	58	55	59	53	51	57	52	59	55	56	59	56	59	59	53	54	61	52	54	[d]55.6
Westhope	Maximum	67	71	65	73	69	67	80	79	80	76	80	70	75	78	77	84	79	78	73	76	79	76	78	87	92	90	85	71	72	82	64	76.6
	Minimum	43	39	51	50	60	57	50	53	53	57	51	50	48	51	50	50	55	60	56	58	57	50	55	55	55	62	60	46	47	44	50	52.4
Williston	Maximum	64	70	79	70	69	77	90	81	89	78	83	70	76	77	70	75	83	79	81	83	82	76	82	86	89	86	87	72	74	81	65	78.2
	Minimum	49	43	56	55	58	55	51	54	55	58	50	55	53	53	54	55	57	55	61	56	51	61	58	56	60	58	57	53	49	49	53	54.5
Moorhead, Minn	Maximum	71	65	63	71	81	72	76	81	81	84	84	71	74	82	81	73	77	73	74	63	72	80	79	81	88	89	87	72	73	76	70	76.3
	Minimum	52	47	51	51	62	61	56	60	57	58	53	56	56	53	61	54	49	57	54	57	55	55	56	61	62	65	66	56	50	51	49	55.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[W B O, Minneapolis. 8–30–27—100

OF
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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVI   Bismarck, N. D., August, 1927   No. 8

GENERAL SUMMARY

Taken as a whole the weather during the month was favorable for all crops and for harvesting and threshing. The temperature averaged below normal and the nights were somewhat too cool for corn, especially during the first decade and from the 18th to the 24th. Frost on the 23d did some crop damage in the northern part of the State. The precipitation was above normal in all sections except in parts of the extreme western and extreme southeastern counties where it was slightly below average. August is the 4th month since April that the precipitation averaged above normal; June being the only month below normal. The precipitation was quite well distributed throughout the month but with the greatest amounts from the 15th to the 17th and from the 26th to the end of the month. This interfered somewhat with harvesting and threshing. Black stem rust damaged late spring wheat in some sections but the early planted was too far advanced when the rust appeared. Oats showed the greatest damage from rust. F. J. B.

TEMPERATURE

The mean temperature for the State was 63.4°, or 2.0° below the normal, and 2.2° lower than the mean for August, 1926. The highest mean reported was 67.6° at Wilton, McLean County; the lowest was 55.2° at Powers Lake, Burke County. The highest temperature reported was 96° at New Salem, Morton County, on the 5th; the lowest was 28° at Dunseith, Rolette County, on the 9th and 23d. The greatest monthly range of temperature was 65° at Hansboro, Towner County; the least was 46° at Dogden Butte, McLean County. The greatest daily range was 53° at New England, Hettinger County, on the 3d.

PRECIPITATION

The average precipitation for the State was 3.23 inches, or 0.95 inch above the normal, and 0.80 inch more than the average for August, 1926. The greatest monthly amount reported was 6.60 inches at Pembina, Pembina County; the least was 1.25 inches at Amidon, Slope County and at Dunn Center, Dunn County. The greatest amount recorded in any 24 consecutive hours was 3.72 inches at Grand Forks, Grand Forks County, on the 15-16th. The average number of days with 0.01 inch or more of precipitation was 8.

AURORAS

Auroras were observed at Crosby, Foxholm and Powers Lake on the 1st; at Arnegard, Crosby, Ellendale, Foxholm, Grand Forks and Velva on the 2d; at Towner on the 3d; at Crosby on the 4th; at Williston on the 8th and 9th; at Velva on the 15th and 18th; at Carson, Fessenden, Foxholm, Grand Forks and Westhope on the 19th; at Carson, Crosby, Ellendale, Fessenden, Foxholm, McClusky and Sharon on the 20th; at Foxholm and Towner on the 21st; at Bismarck, Carson, Ellendale, Foxholm, Fullerton, Grand Forks, Howard, Williston and Willow City on the 28th; at Sharon, Towner and Williston on the 29th; at Foxholm on the 30th, and at Bismarck and McClusky on the 31st.

BAROMETRIC PRESSURE AND WINDS

OCT
UNIVERSITY

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.98	30.38	23	29.74	12	57	5,524	7.4	42	sw.	26
Devils Lake	30.00	30.40	23	29.73	16	44	5,151	6.9	33	nw.	5
Ellendale	30.03	30.39	23	29.78	17	56	7,562	10.2	34	s.	26
Grand Forks	29.98	30.37	23	29.70	5	90	....	.....	36	se.	26
Williston	29.98	30.38	18	29.67	31	48	3,970	5.3	27	sw.	26
Moorhead, Minn	30.00	30.41	23	29.72	16	58	4,984	6.7	24	s.	26
Av'ges and extremes	30.00	30.41	23	29.67	31	.....	....	7.3	42	sw.	26

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-ct.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	327.2	439.4	74	+ 3	85	49	50	25	10
Devils Lake	318.9	442.0	72	+ 7	84	50	64	29	24
Ellendale	358.1	437.4	82	+17	89	53	.....	36	9
Grand Forks	......	......	.....	.....	84	.....	64	.....	....
Williston	329.0	442.0	74	+ 7	85	42	44	23	4†
Moorhead, Minn	358.3	439.4	82	+16	84	51	54	32	9
Averages and extremes	338.3	440.0	77	+10	85	49	55	23	4†

† And other dates.

COMPARATIVE STATE DATA FOR AUGUST

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	−0.2	105	25	0.82	1.46	4	17	10	4	nw.
1918...	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919...	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920...	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921...	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922...	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.
1923...	63.0	−2.4	97	28	1.90	−0.38	8	14	12	5	nw.
1924...	63.8	−1.6	102	28	1.65	−1.45	6	17	9	5	nw.
1925...	67.9	+2.5	110	29	1.07	−1.21	5	20	8	3	nw.
1926...	65.6	+0.2	105	36	2.43	+0.15	7	14	8	9	nw.
1927...	63.4	−2.0	96	28	3.23	+0.95	8	18	8	5	nw.

Climatological Data for August, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										5.03		2.58	0	7					H. A. Bury.
Amenia	Cass	954	31	63.9	−2.4	91	5	35	23	42	1.77	−0.95	0.70	0	7	22	6	3	n.	E. T. Carley.
Amidon	Slope		13	64.4^a	−3.5	90^a	29	36^a	18	40^a	1.25	−0.10	0.45	0	4	10	18	3	w.	W. H. Toussaint.
Arnegard	McKenzie		12	64.6	−2.5	92	5	34	8	41	2.06	+0.53	0.58	0	9	21	5	5	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	31																	H. D. Piper.
Beach	Golden Valley	2,759	21	65.2	+0.2	92	12	39	1	39	1.65	−0.40	0.42	0	7				nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	64.1	−3.6	89	14	36	8	42	2.36	+0.59	0.60	0	9	23	3	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	66.4	−0.9	92	5	45	19	37	3.12	+1.14	2.19	0	7	17	9	5	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	63.6	0.0	87	5	37	9	42	3.41	+1.20	1.07	0	11	18	6	7	se.	N. A. Eckberg.
Cando	Towner	1,488	26	63.4	−0.5	90	5	35	23	39	3.28	+1.07	1.09	0	7	12	17	2	n.	A. J. Swanson.
Carson	Grant	2,500	15	65.6	−2.0	94	5	40	18	43	2.00	+0.60	0.54	0	7	20	8	3	se.	J. W. Evens.
Cavalier	Pembina										4.69		1.93	0	11	15	9	7	nw.	W. W. Felson
Cooperstown	Griggs	1,428	21								2.69	+0.03	1.32	0	7	20	10	1	nw.	S. Friswold.
Crosby	Divide	1,954	20	62.6^a	−1.1	90^a	11	36^a	8	44^a	3.12	+1.02	1.82	0	9	15	12	4	se.	John Jensen.
Devils Lake	Ramsey	1,478	30	62.8	−2.3	91	5	34	23	35	2.98	+0.22	1.00	0	11	20	4	7	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	62.8	−3.5	89	25†	36	18	43	1.29	−0.66	0.49	0	8	21	3	7	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880		61.8		84	14	38	23	35	3.04		0.81	0	10	21	6	4	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	60.8^b	−5.8	87^a	5†	36^c	9†	41^d	1.25	−0.32	0.30	0	8	19	6	6	e.	W. F. Moede.
Dunseith	Rolette	1,682	31	59.0	−4.6	86	5	28	9†	44	4.35	+1.94	1.68	0	12	8	11	9	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	22	61.6	−1.7	89	5	35	8	46	4.12	+1.80	2.69	0	7	0	26	5	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	26	64.2	−2.2	89	5	37	23	42	2.03	−0.11	0.69	0	8	4	20	7	se.	O. A. Thompson.
Ellendale	Dickey	1,449	28	64.6	−4.2	89	5	41	9	39	3.40	+1.14	1.75	0	9	11	12	8	s.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	15	65.2		90	5†	37	9	45	2.60	+0.65	1.18	0	4	9	19	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	19																	A. O. Wang.
Fessenden	Wells	1,610	15	63.7	−1.3	94	5	35	23	47	3.71	+0.33	1.80	0	9	20	7	4	se.	T. D. Monsen.
Forman	Sargent	1,249	33								2.18	−0.53	0.80	0	8	20	7	4	sw.	O. Enger.
Fort Yates	Sioux	1,670									2.39	+0.42	1.84	0	3					P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	62.0		88	5	36	8	41	3.84		1.19	0	8	12	15	4	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9								2.28		0.71	0	8	24	4	3	s.	Verne King.
Fullerton	Dickey	1,439	29	64.6	−1.7	89	6	39	23	39	3.55	+1.02	1.80	0	7	21	8	2	nw.	F. O. Alin.
Garrison	McLean	1,901	32	63.4	−2.3	89	5	36	8†	43	4.02	+2.02	1.14	0	8	23	4	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	63.6	−0.9	92	5	34	23	42	4.27	+1.68	1.40	0	9	15	11	5	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	36	63.2	−1.7	62	5	37	23	43	5.97	+3.51	3.72	0	10	14	10	7	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	59.6	−4.3	90	8	35	23	35	2.96	+0.87	0.81	0	8	16	8	7	se.	W. A. Christianson.
Hannah	Cavalier	1,568	33								3.57	+1.72	1.90	0	6					J. Moffatt.
Hansboro	Towner	1,597	19	60.5	−2.3	94	28	29	23	50	4.25	+2.03	1.85	0	9	15	12	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	65.0	−2.0	93	6	39	1	45	3.65	+2.40	1.56	0	5	23	2	6	nw.	U. J. Downey.
Hillsboro	Traill	901	21	66.0	−0.9	92	5†	36	23	42	2.98	+0.04	1.23	0	7	18	8	5	nw.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	20	62.7	−0.8	90	25	31	8	41	1.30	−0.59	0.34	0	7	13	17	1	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	64.0	−2.2	93	5	35	9	49	3.08	+0.34	0.91	0	10	16	5	10	s.	S. Calvelage.
Lamoine	Kidder	1,936	22	62.1	−1.8	90	5	37	23	45	5.63	+3.65	2.02	0	6	20	6	5	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	31	62.6	+0.9	93	5	32	23	41	3.89	+1.24	1.40	0	8	22	1	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	63.6	−0.7	92	4	32	23	48	3.10	+0.50	1.00	0	9	22	1	8	s.	Reuben Gray.
Linton	Emmons	1,711	9	66.0^c	−3.0	93^c	5	34^c	1	48^c	5.06	+3.44	2.07	0	6				nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	64.2	−2.3	91	5	33	23	46	2.02	−0.24	1.45	0	6	23	1	7		W. S. Adams.
McClusky	Sheridan	1,943	9	62.5		93	5	36	8†	43	1.78		0.57	0	8	18	7	6	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	33	61.6	−1.9	85	5†	34	8	42	2.81	+1.03	1.15	0	6	5	23	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	65.6	−2.0	91	5	34	23	45	2.35	0.00	1.02	0	6	22	1	8	se.	J. G. Carlson.
Maddock	Benson	1,604	11	62.5	−3.2	91	5	32	9†	48	3.78	+1.56	1.00	0	9	9	18	4	nw.	A. T. Felland.
Mandan	Morton	1,644	13	65.4	−2.4	92	5	43	19	36	3.16	+1.94	1.05	0	7	12	9	10	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	62.9	−1.4	88	5	35	23	40	4.61	+2.15	1.02	0	8	19	7	5	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	62.8^c	−2.8	87^b	30	40^b	18	40	3.82	+2.20	1.91	0	11	12	9	10		S. P. Grane.
Mayville	Traill	975	31																	N. C. Burhans.
Melville	Foster	1,590	29	64.6^b	−1.8	92^b	5	37^b	23	45	3.57	+1.58	1.73	0	7	20	4	7	nw	J. P. Kidder.
Metigoshe‡‡	Bottineau		1								3.51		1.66	0	7	24	3	4	nw.	J. A. Thorburn.
Minot	Ward	1,557	31	63.4	−1.7	95	5	36	22	44	3.34	+1.11	0.85	0	7	23	3	5	w.	W. I. Faris.
Minto	Walsh	820	34	62.4	−2.2	93	5	32	23	45	4.11	+1.70	1.24	0	13	11	16	4	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	64.4	−1.5	92	5	36	1	43	4.22	+2.58	1.90	0	7	15	11	5	nw.	O. H. Opland.
Napoleon	Logan	1,955	35	64.5	−1.5	94	5	39	24	44	5.19	+2.80	3.52	0	10	15	12	4	s.	C. C. Hoof.
New England	Hettinger	2,400	36	64.6	−2.1	93	5	30	3	53	1.26	−0.51	0.64	0	3	16	9	6	nw.	W. L. Sales.
New Salem	Morton	2,163	23	66.0	−0.4	96	5	41	8	50	2.25	+0.58	1.60	0	5	21	7	3	nw.	J. Christiansen.
Park River	Walsh	998	23																	C. B. Wright.
Parshall (near)	Mountrail		12																	Carl J. Knutson.
Pembina	Pembina	789	53	62.8	−1.3	90	5	35	23	40	6.60	+4.47	3.00	0	3	24	2	5	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	18																	A. L. Carlson.
Power	Richland	1,020	33								2.21	−0.26	1.10	0	6	22	8	1	w.	Frank B. Power.
Powers Lake	Burke	2,205	13	55.2		80	30	30	8	46	2.32	+0.73	1.31	0	3	27	3	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	11	65.2	2.6	89	5†	39	8	42	2.06	+0.47	1.27	0	7	13	15	3	nw	John Muggli.
Sharon	Steele	1,516	2	63.7		92	5	36	23	46	3.31		1.47	0	12	20	7	4	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	3								2.32		1.28	0	6	22	4	5	se.	J. H. Giffey.
Starkweather	Ramsey			61.4		90	6	31	23	41	2.32		0.92	0	10	21	1	9	ne.	F. R. Irons.
Steele	Kidder	1,857	31	62.4	−4.4	91	5	38	19	42	4.07	+1.73	1.66	0	6	17	10	4	se.	H. S. Wood.
Towner	McHenry	1,482	25	64.1	−0.3	94	5	35	2	45	3.80	+1.71	1.85	0	5	23	4	4	nw.	B. Bagley.
Trotters	Golden Valley		1								1.84		0.63	0	7	20	4	7		A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	63.5	−3.2	86	5†	39	8†	41	5.56	+3.68	2.19	0	6	12	4	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	22																	E. W. Meier.
Velva	McHenry										6.09		2.85	0	8	11	16	4	nw.	Oscar Anderson.
Wahpeton	Richland	962	33	66.0	−0.9	90	5†	30	23	49	2.24	−0.66	1.45	0	5	25	0	6	se.	C. G. Luick.
Washburn	McLean	1,731	25								4.20	+2.87	1.76	0	8					H. W. Smith.
Westhope	Bottineau	1,508	25	62.8	−1.3	90	5	36	8	48	2.78	+1.59	1.44	0	7	26	3	2	ne.	W. A. Meddaugh
Williston	Williams	1,878	48	64.5	−1.6	88	5	38	8	38	3.54	+2.23	1.60	0	11	15	14	2	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	62.4	1.1	87	12†	36	2†	42	4.17	+2.09	0.74	0	8	20	8	3	se.	M. A. Ostby.
Wilton	McLean			67.6		91	5	50	2	35	3.29			0	8	21	3	7		L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	64.6	−1.5	88	5	39	23	38	2.02	−1.08	1.14	0	6	17	7	7	s.	U. S. Weather Bureau.
Averages				63.4	−2.0	96	5	28	9†	53	3.23	+0.95	3.72	0	8	18	8	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for August, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri						.39	T.				T.	1.40		T.	2.58					.08					T.	.47				.07	.04	5.03
Amenia ‖	Red						T.		.02				.12				.70	.06	.05				.06					.16					1.77
Amidon	Lit. Missouri							.45				T.	T.			.40											T.				.30	.10	1.25
Arnegard	Missouri							.05							.11	.39		.04				.02					.22	.58			.30	.35	2.06
Ashley	Missouri																																
Beach	Lit. Missouri						.22								.32	.35		.02			T.						T.	.09		.23	.42		1.65
Berthold Agency	Missouri										.10	.04				.48	.10					.01					.40	.23			.60	.40	2.36
Bismarck ***	Missouri						.01					T.	.03			2.03	.54	.08				T.	T.				.41	.02			T.	T.	3.12
Bottineau ‖	Mouse	.01			.20		.16									1.07	.69	.42						.02				.19	.15		.34	.16	3.41
Cando	Devils Lake								.13							1.09	.37										.97	.17		.04		.51	3.28
Carson	Heart							.48								.54	.42	.11						.11				.30			.04		2.00
Cavalier	Red			.06									.05			.60	1.93	.01			.10						.70	1.05	.01		.08	.07	4.69
Cooperstown	Sheyenne					.28						.15				.32	.05										1.32				.30	.27	2.69
Crosby	Mouse															.34	T.	.23	.04				T.	.16			1.82	.25	.16		.06	.06	3.12
Devils Lake ***	Devils Lake			.41	.01	.12		.06				T.				.50	.31	.06				T.	.03				1.00				.20	.28	2.98
Dickinson ‖	Heart						.04	.13								.37	.13	T.						.05				.04			.49	.04	1.29
Dogden Butte	Mouse					.04										.48	.81	.60				.04	.05				.12	.06			.50	.34	3.04
Dunn Center ‖	Knife							.24					.07				.14					.07	.05	.12							.30	.26	1.25
Dunseith	Mouse			.20	.05		.07					.05				1.68	.90	.23				.02					.50	.15			.25	.25	4.35
Eckman	Mouse															2.69	.42	.06									.22	.11	T.		.42	.20	4.12
Edgeley	James						.10				.21		.05		.31		.69	.31				.26						.10					2.03
Ellendale***	James					T.		.40		.59		.02		.03		1.75	.03	.25				.05					T.	.28			T.		3.40
Energy	Missouri					T.			T.							.37	1.18					T.	T.				T.	T.			.70	.35	2.60
Epping	Missouri																																
Fessenden ‖	James												.19			.90	.05	1.80	.03				.02					.38			.22	.12	3.71
Forman	Sheyenne						.02	.50	.03					.27		.04	.80					.22						.30					2.18
Fort Yates	Missouri						.47									1.84	.08																2.39
Foxholm (near)	Mouse											.01				1.02	1.19	.15				T.	T.				.56	.19			.56	.16	3.84
Fryburg	Heart					.22	T.					T.	.13		.04	.71	.08	.15								T.					.52	.43	2.28
Fullerton	James		T.					.42		.35						.07	1.80	.38				.16						.37					3.55
Garrison	Missouri															.92	.84	.24					.32				.08	.08			1.14	.40	4.02
Grafton	Red			T.		.01	T.	.07				T.				.94	1.02					.06					.51	1.40			.14	.12	4.27
Grand Forks ***	Red			T.		T.	.16	.20								1.18	2.54	.13				.20					.58	.63			.15	.20	5.97
Granville	Mouse											.05				.81	.37	.36									.57	.11			.43	.26	2.96
Hannah	Pembina			.29		.07											1.90											1.10			.13	.08	3.57
Hansboro	Devils Lake			.43												1.10	1.85					.01	.20				.10	.15			.18	.23	4.25
Hettinger	Grand							1.56					.45			1.33	.13											.18					3.65
Hillsboro	Red						.13										1.23	.12				.10					.84				.06	.50	2.98
Howard (near)	Missouri						T.				T.	.01			.02	.34							T.				.34	.31		.14	.14	T.	1.30
Jamestown ‖	James	.02						.01					.69				.47	91.	.04			.01	.24					.65				.04	3.08
Lamoine	Missouri											.33				1.03	2.02	1.38					T.				.66				.21		5.63
Langdon ‖	Pembina				.12		T										.95	.55					T.				.12	1.40	.46		.12	.17	3.89
Larimore	Red				.05		.25	.25									.50	.50	.05				.15					1.00				.35	3.10
Linton	Missouri					T.		.51				T.				1.07	2.07	.17					.08					1.16			T.		5.06
Lisbon ‖	Sheyenne							.02	T.				T.				1.45	.18	T.				.10					.17				.10	2.02
McClusky	Missouri								.06			.07	.08			.57		.52				T.	.22				.06				.20		1.78
McKinney (near)	Mouse							.10							1.15			.85				T.					.33	T.			.33	.05	2.81
McLeod	Sheyenne															.21	1.02	.07				.11					T.	.92			.02		2.35
Maddock	Sheyenne											.63	.09			.48	.15	.58				T.	T.				1.00	.04			.58	.23	3.78
Mandan ‖	Missouri			T				.01					.36			.64	1.05	.38	T.					.06				.66			T.		3.16
Manfred	James											.90	T.			.78	.98	1.02									.68	.02			.14	.09	4.61
Marmarth	Lit. Missouri						.61	T.			T.	.06	1.91	.02	.01	.53		.01			.13						.31			.21	.02		3.82
Mayville	Red																																
Melville	James						.10			.02						.80	1.73						.06				.60				.26		3.57
Metigoshe	Mouse			.10												1.66	1.10	.05									.19				.25	.16	3.51
Minot ‖	Mouse														.85	.35	.63										.71	.13		.52	.15		3.34
Minto	Red			.01		.66	.27	.27								.12	1.24	.07				.03					.35	.77	.19		.05	.08	4.11
Mott	Cannon Ball						.80			.35	.05					1.90	.50											.52			.10		4.22
Napoleon ‖	Missouri							.12								.43	3.52	.73	.03			.02		.01				.27			.05	.01	5.19
New England	Cannon Ball							T.								.52		T.				T.					.10	T.			.64		1.26
New Salem	Heart															1.60	.41	.14					T.	T.			T.	.07			.03		2.25
Park River	Red																																
Parshall (near)	Missouri																																
Pembina ‖	Red																3.00	1.50					T.					2.10					6.60
Pettibone	James																																
Power	Sheyenne							.10		.11						1.10	.32					.28						.30			T.		2.21
Powers Lake	Missouri														1.31	.11												.90					2.32
Richardton	Heart							.09								1.27	.11	.09										.11			.26	.13	2.06
Sharon	Red				.05		.22	T.				.03				.32	.25	.13				.02	.02				.36	1.47			.16	.28	3.31
Stanton	Missouri						.15									.28	1.28	.12													.32	.17	2.32
Starkweather	Devils Lake			.02		.07	.13									.04	.46	.32						.06			.92			.17	.13		2.32
Steele	Missouri						T.	.10	T.			T.	T.			1.16	1.66	.27				T.	T.					.38		.50	T.	T.	4.07
Towner	Mouse											.01				1.85	.55	.28									1.11						3.80
Trotters	Lit. Missouri						.63	.02							.19	.41		T.									T	.06		.17		.36	1.84
Turtle Lake	Missouri	T.														1.34	2.19	.34					.35								.87	.47	5.56
Valley City	Sheyenne																																
Velva	Mouse															2.85	.33	.17					.07				1.27	.45			.52	.43	6.09
Wahpeton	Red						.18	.04									.42						.15					1.45					2.24
Washburn	Missouri				.09											1.56	1.76	.42				.03	.16				.02				.16		4.20
Westhope	Mouse						.05									1.44	.37	.15									.28				.37	.12	2.78
Williston ***	Missouri			T.		T.	.03				T.	T.			1.06	.07		.04			T.	.03	.19				.60	1.01		.28	.20	.03	3.54
Willow City	Mouse						T.	.44								.74	.62	.38				T.					.67	.59			.53	.20	4.17
Wilton						.12									.44	*	*	2.10					.10				.50	.03					3.29
Moorhead, Minn ***	Red				T.		T.		T.			.05	T.			.08	1.06	T.				.06					T.	.70			.07	T.	2.02

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	70	79	85	78	91	76	83	68	81	82	88	83	87	88	85	71	62	70	76	81	71	68	70	78	84	82	78	83	86	86	81	79.1
	Minimum	37	39	47	52	50	51	55	46	39	44	48	52	54	56	61	60	52	45	42	46	49	44	35	40	48	53	56	41	53	54	61	48.7
Amidon	Maximum	70	70	75	85	87	85	75	65	85	85	84	85	87	85	68	..	65	70	60	83	70	68	70	85	88	85	75	85	90	85	80	[a]78.3
	Minimum	40	43	60	50	60	54	55	43	45	52	54	56	56	60	58	..	50	36	38	44	50	50	38	50	50	60	50	52	52	50	56	[a]50.4
Arnegard	Maximum	67	77	80	88	92	82	78	67	84	89	82	90	89	89	70	72	65	71	78	84	71	72	75	81	90	82	75	86	83	82	76	79.7
	Minimum	45	39	44	47	59	53	53	34	37	47	56	52	58	61	60	52	51	39	42	44	52	39	45	47	56	47	66	52	53	54	55	49.6
Ashley	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Beach	Maximum	69	74	81	87	88	81	76	70	84	88	89	92	88	87	76	68	59	69	78	85	79	70	74	85	90	84	83	85	88	82	74	80.1
	Minimum	39	42	45	50	55	56	53	40	45	50	54	58	60	59	51	50	52	40	41	47	51	52	42	49	58	62	50	51	52	50	51	50.2
Berthold Agency	Maximum	68	78	79	84	88	78	77	67	82	85	84	85	86	89	81	69	68	70	76	79	70	68	72	78	87	78	75	85	84	82	74	78.3
	Minimum	50	51	42	47	56	53	50	36	40	45	53	54	54	61	60	57	52	41	38	44	56	42	45	43	49	63	53	48	53	54	56	49.9
Bismarck	Maximum	70	74	81	85	92	78	78	69	83	85	85	86	86	86	75	64	60	69	76	81	75	68	69	77	85	83	74	84	83	84	77	78.1
	Minimum	49	51	51	54	60	57	58	46	46	51	61	58	60	64	63	56	56	48	45	48	56	46	49	54	55	62	58	54	55	64	60	54.7
Bottineau §§	Maximum	67	73	78	80	87	72	68	66	79	80	84	84	86	86	70	69	67	67	75	79	65	62	68	75	83	72	74	81	82	80	75	75.0
	Minimum	45	40	42	51	58	55	49	42	37	46	54	54	59	61	61	51	56	47	48	50	57	46	46	51	55	64	59	51	61	60	58	52.1
Cando	Maximum	67	74	78	77	90	87	76	81	77	79	80	84	85	82	80	66	69	70	76	70	79	75	68	76	83	83	74	82	85	78	74	77.6
	Minimum	42	41	43	47	54	62	54	42	40	45	47	50	55	51	55	59	52	45	43	46	68	40	37	45	50	60	56	51	49	47	53	49.3
Carson	Maximum	73	75	84	90	94	87	75	80	85	90	86	85	80	80	75	68	60	70	70	83	80	68	76	80	86	88	77	88	87	87	78	80.2
	Minimum	49	45	45	47	54	52	50	44	45	54	57	54	56	56	60	54	53	40	43	44	55	52	42	50	55	50	52	57	56	60	50	51.0
Crosby §§	Maximum	69	72	80	85	87	..	70	67	81	81	90	89	87	87	65	72	68	72	78	81	60	62	73	79	89	82	76	69	68	82	71	[a]76.4
	Minimum	42	39	46	48	52	50	..	36	37	42	50	54	58	60	60	53	53	39	42	43	52	38	41	48	50	58	57	45	57	58	53	[a]48.7
Devils Lake	Maximum	68	74	80	78	91	73	73	66	80	80	83	84	85	87	76	64	67	68	76	80	62	61	68	76	83	73	77	82	84	74	75	75.7
	Minimum	42	44	50	47	58	51	45	41	45	47	49	51	58	57	62	58	48	44	44	52	46	39	34	47	49	60	56	51	55	61	55	49.9
Dickinson §§	Maximum	69	72	78	83	87	78	78	67	81	84	82	87	86	86	69	67	64	69	75	82	74	69	72	80	89	81	77	84	89	81	73	77.9
	Minimum	40	42	45	46	51	51	53	41	43	45	48	50	54	58	56	54	53	36	38	39	48	51	43	44	52	54	50	44	48	52	53	47.8
Dunn Center §§	Maximum	68	72	77	80	87	74	71	65	49	83	81	86	86	86	74	70	64	67	69	80	72	72	72	78	..	87	76	83	85	80	71	[a]75.6
	Minimum	42	38	45	48	50	52	51	37	36	45	49	46	51	58	58	53	51	36	36	39	41	40	41	47	48	..	..	..	45	53	50	[c]46.0
Dunseith	Maximum	68	71	76	79	86	85	78	61	77	78	79	82	84	84	84	73	65	69	74	78	76	60	67	73	83	80	72	79	81	80	81	76.3
	Minimum	34	36	39	41	42	45	41	39	28	41	42	52	49	52	52	46	43	36	27	39	41	35	28	35	42	50	47	42	46	49	48	41.8
Edgeley	Maximum	78	80	78	80	89	79	84	75	82	83	83	82	84	85	78	68	61	71	73	78	77	66	67	73	81	79	77	82	82	81	88	78.2
	Minimum	45	51	44	50	56	55	57	48	40	55	51	53	54	54	53	56	53	41	41	47	51	45	37	43	50	58	51	49	50	53	58	50.1
Ellendale	Maximum	68	72	78	79	89	78	79	65	80	80	81	83	83	83	78	67	60	69	73	77	78	65	67	71	81	80	78	82	82	88	78	76.5
	Minimum	43	48	49	53	54	58	57	48	41	52	54	59	59	57	59	58	54	46	46	49	50	48	42	48	53	61	57	53	55	61	59	52.7
Fessenden §§	Maximum	70	77	82	82	91	82	80	70	85	87	90	85	87	89	76	60	65	70	76	81	73	65	71	79	85	79	80	85	86	83	77	79.1
	Minimum	43	38	48	48	52	49	50	56	38	45	50	52	53	55	59	60	53	52	58	46	46	42	35	40	51	53	52	49	48	62	55	48.3
Foxholm (near)	Maximum	67	71	78	82	88	74	72	65	78	80	86	85	85	87	80	61	66	66	71	76	70	61	70	75	83	75	69	80	81	78	74	75.3
	Minimum	38	39	46	49	59	50	53	36	42	45	45	47	53	54	59	55	53	41	45	49	52	42	37	49	50	49	57	51	55	57	56	48.8
Fullerton	Maximum	68	76	80	79	77	89	82	67	80	80	83	84	83	86	81	69	62	69	74	76	79	65	67	73	82	80	79	82	82	88	78	77.4
	Minimum	43	47	48	55	58	55	52	55	41	51	53	59	59	56	58	59	55	46	44	44	50	48	39	43	53	59	59	51	53	60	57	51.9
Garrison	Maximum	67	74	78	82	89	77	75	68	79	83	85	85	85	86	77	68	67	68	72	78	71	64	70	76	83	76	72	83	82	80	74	76.6
	Minimum	50	44	51	47	48	51	53	36	36	45	56	53	55	58	59	57	54	42	43	46	53	41	40	47	53	62	57	50	52	56	58	50.1
Grafton	Maximum	70	75	81	75	92	83	74	69	81	78	82	83	85	86	82	68	70	71	77	81	80	64	69	77	81	78	78	79	82	76	78	77.[illegible]
	Minimum	39	43	46	49	50	53	51	44	42	48	41	54	54	49	62	61	54	46	44	51	53	45	34	43	47	61	55	49	53	57	60	49.6
Grand Forks	Maximum	69	75	80	74	92	72	75	67	81	75	80	83	84	85	85	66	66	68	75	80	64	64	67	76	82	79	73	77	81	76	77	75.7
	Minimum	38	45	48	49	49	54	48	44	42	48	48	61	57	56	62	60	54	46	47	49	52	43	37	44	49	60	56	52	55	59	59	50.7
Granville	Maximum	55	57	59	65	70	77	82	90	85	75	67	70	75	78	78	64	60	57	60	60	68	70	62	63	70	74	60	83	70	72	57	68.8
	Minimum	38	37	36	48	57	60	58	65	50	48	52	50	60	54	62	55	55	41	42	47	48	42	35	48	50	60	55	50	52	57	54	50.5
Hansboro	Maximum	78	76	82	78	90	76	80	75	80	77	78	85	87	87	75	65	67	74	82	88	70	62	70	84	85	73	78	94	91	80	80	78.9
	Minimum	32	30	41	41	48	50	44	34	35	40	40	44	45	45	50	52	47	36	40	44	40	38	29	36	40	45	50	44	44	52	48	42.1
Hettinger	Maximum	..	73	72	81	92	91	93	76	68	85	86	82	86	86	87	75	68	62	68	75	87	78	69	72	82	89	89	78	82	88	87	[a]80.2
	Minimum	39	42	42	47	47	49	53	47	48	52	58	53	52	60	61	55	55	42	40	45	52	50	42	46	52	59	52	48	54	59	43	49.8
Hillsboro	Maximum	70	76	82	80	92	92	79	71	83	81	88	85	90	90	87	78	65	69	76	82	80	65	67	79	83	81	77	82	85	82	78	79.8
	Minimum	41	45	53	52	50	54	55	56	41	54	49	62	55	55	61	62	55	46	45	49	52	45	36	43	51	60	60	54	54	59	62	52.1
Howard (near)	Maximum	72	68	80	86	80	82	70	65	81	85	87	89	86	87	72	74	76	74	74	70	67	60	80	85	90	80	78	85	66	80	76	77.6
	Minimum	42	39	45	46	46	45	42	31	41	46	46	55	51	46	44	44	46	41	50	46	35	44	52	60	60	57	55	56	60	58	51	47.8
Jamestown §§	Maximum	70	77	82	80	93	79	81	68	84	84	88	83	84	88	79	67	59	69	75	80	69	66	70	76	83	80	77	84	83	82	78	78.0
	Minimum	46	41	49	52	53	55	55	47	35	45	50	54	55	57	60	61	54	43	42	44	49	44	37	40	46	55	61	52	52	55	55	49.9
Lamoine	Maximum	68	76	78	80	90	78	77	65	82	83	84	82	85	86	71	65	65	66	73	79	69	63	68	74	83	82	73	82	83	80	75	76.3
	Minimum	47	46	45	45	45	51	38	38	38	48	48	54	54	54	54	53	52	42	42	42	41	39	37	47	47	61	58	47	60	54	57	47.9
Langdon §§	Maximum	76	68	78	76	93	87	87	73	60	83	78	81	86	89	75	63	63	65	75	81	69	69	70	80	80	73	79	79	86	80	76	76.7
	Minimum	36	40	42	46	52	50	50	41	39	43	48	51	56	60	62	62	52	42	41	50	52	40	32	40	49	57	59	51	54	51	56	48.5
Larimore §§	Maximum	77	82	77	92	72	75	67	82	76	85	88	88	89	82	74	65	68	70	82	68	60	70	80	83	80	79	82	88	75	77	88	78.1
	Minimum	37	42	47	50	52	52	52	43	41	47	46	52	56	53	60	60	54	45	41	45	48	42	32	41	50	51	60	53	54	58	60	49.2
Linton	Maximum	76	83	..	..	93	83	84	79	88	84	..	87	88	87	84	75	62	71	76	81	80	71	79	85	..	..	81	85	85	85	85	[e]81.4
	Minimum	34	40	..	..	45	56	50	49	48	44	..	57	59	62	64	57	53	43	38	42	47	42	52	55	..	..	56	47	55	64	55	[e]50.5
Lisbon §§	Maximum	71	78	79	81	91	83	78	72	83	84	88	87	89	89	82	68	63	71	75	81	70	66	71	78	85	79	78	83	86	85	82	79.2
	Minimum	39	42	46	50	49	55	50	47	37	48	49	60	58	53	59	60	54	44	43	41	48	45	33	40	51	56	57	51	50	56	56	49.3
McClusky	Maximum	70	80	80	85	93	75	75	70	79	81	86	82	83	84	83	75	65	68	72	78	71	60	68	75	81	79	72	83	82	82	76	77.2
	Minimum	53	43	45	46	54	48	49	36	36	43	49	51	54	58	60	45	70	39	39	45	51	37	36	45	51	57	54	45	50	56	56	47.8
McKinney (near)	Maximum	70	72	77	83	85	73	69	65	82	80	82	83	85	85	70	63	67	70	75	81	64	61	70	76	82	76	75	83	85	80	78	75.7
	Minimum	38	35	45	45	60	50	50	34	45	44	40	45	50	54	45	45	55	50	51	55	52	50	35	42	50	60	45	45	45	60	50	47.4
Maddock	Maximum	68	74	81	80	91	87	76	72	86	82	86	82	85	87	83	75	67	69	75	79	79	61	69	77	84	82	74	81	82	80	80	78.3
	Minimum	42	33	41	44	55	50	49	36	32	44	45	48	52	53	61	55	52	41	38	40	48	39	32	43	48	57	56	48	51	60	54	46.7
Melville	Maximum	75	75	80	80	92	85	..	85	82	84	88	82	82	..	85	65	82	68	73	80	75	74	68	75	82	77	75	82	82	78	73	[b]78.8
	Minimum	46	42	50	44	55	55	..	40	43	47	48	50	58	..	55	53	53	42	41	48	54	56	37	55	65	58	56	50	51	60	50	[b]50.4
Minot §§	Maximum	70	71	81	86	95	79	71	68	84	81	88	88	89	90	80	62	63	72	73	83	69	64	75	67	87	63	72	86	72	87	74	77.1
	Minimum	37	47	47	60	51	54	38	39	44	50	52	55	57	52	57	54	42	41	49	52	39	36	49	51	63	58	49	50	59	57	53	49.7
Mott	Maximum	73	76	82	88	92	87	77	69	86	87	83	86	86	87	77	68	61	78	77	81	70	70	73	82	88	91	78	84	88	86	78	80.4
	Minimum	36	43	41	45	53	50	52	43	45	50	53	52	54	57	50	50	47	38	44	47	50	48	[illegible]	52	53	58	47	44	50	53	50	48.3
Napoleon §§	Maximum	70	77	82	86	94	82	80	68	87	87	88	87	90	86	75	60	57	70	75	80	72	76	71	79	85	78	75	83	87	83	76	78.8
	Minimum	45	43	44	48	50	55	53	48	46	47	55	53	55	60	63	57	53	41	40	40	55	42	40	39	49	55	57	55	52	56	60	50.4
New Salem	Maximum	72	73	81	93	96	84	79	72	87	89	93	88	89	90	79	67	63	70	77	84	77	69	73	79	85	87	76	87	85	85	78	80.9
	Minimum	42	43	58	51	61	52	52	41	51	49	51	57	53	49	60	53	52	43	49	50	56	43	43	49	52	59	53	53	51	56	51	51.1
Pembina §§	Maximum	68	76	70	73	90	71	70	69	82	75	80	88	85	88	76	68	72	72	76	75	68	62	67	78	82	72	85	75	85	89	78	76.3
	Minimum	42	42	51	45	50	54	53	42	47	48	44	72	60	58	60	62	55	42	40	46	42	43	35	37	41	52	60	54	52	53	59	49.2
Steele	Maximum	69	74	71	82	91	75	74	61	81	81	87	85	84	86	76	58	55	68	71	77	72	74	74	76	84	72	70	83	79	80	79	75.6
	Minimum	46	49	45	45	51	50	47	40	39	46	55	56	52	56	60	50	48	42	38	44	52	46	47	40	50	55	52	49	50	60	59	49.1
Towner	Maximum	75	79	81	86	94	82	77	71	83	83	88	83	88	88	79	69	69	76	78	83	79	76	76	79	79	75	80	86	86	80	80	80.3
	Minimum	39	35	40	46	58	56	52	36	38	46	52	50	56	56	50	50	52	42	41	42	52	47	48	49	48	48	50	57	50	49	50	47.9
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Wahpeton	Maximum	73	75	80	79	99	90	86	80	85	84	87	85	87	88	88	80	68	75	75	80	79	78	79	77	83	82	79	82	83	86	87	81.6
	Minimum	40	42	51	54	52	51	48	42	55	49	50	62	59	54	61	62	51	47	[illegible]	46	46	39	30	38	51	[illegible]	56	52	50	57	57	50.5
Westhope	Maximum	68	76	81	84	90	77	69	68	87	82	87	86	87	87	78	64	68	70	79	82	66	65	70	80	84	70	76	87	84	83	74	77.7
	Minimum	40	38	44	47	48	54	47	36	39	42	51	50	55	58	60	55	42	42	42	45	48	42	42	44	42	60	52	50	53	60	55	47.9
Williston	Maximum	64	74	79	86	88	79	74	66	81	86	85	88	86	86	67	72	66	71	77	81	66	66	73	79	88	82	79	84	84	82	72	77.8
	Minimum	45	38	50	49	60	50	48	38	43	52	55	56	63	61	59	55	50	41	45	46	46	42	47	52	59	55	56	56	57	58	55	51.2
Moorhead, Minn	Maximum	68	75	80	76	88	73	80	67	78	80	85	81	84	86	84	69	64	69	74	79	72	67	67	76	81	80	72	86	81	83	81	76.8
	Minimum	42	44	53	51	50	55	52	48	42	56	53	62	60	59	64	56	53	46	47	46	51	47	39	43	55	60	59	56	55	61	59	52.5

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[W B O, Minneapolis, 9-24-27—[illegible]]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVI   Bismarck, N. D., September, 1927   No. 9

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GENERAL SUMMARY

Taken as a whole the weather during the month was favorable for outdoor work, maturing of crops and for livestock. The first killing frost of the season occurred at most stations between the 20th and 27th, making the growing season this year somewhat longer than usual at most places. Temperatures during the first two weeks averaged somewhat above normal, helping considerably in maturing late flax and corn. The precipitation during September was slightly above normal in the extreme southeastern and extreme western parts of the State, but below normal in all other sections. The greatest minus departures occurred in the central and northeastern districts. By the end of the month pastures and ranges were getting rather dry, but threshing was progressing rapidly.

TEMPERATURE

The mean temperature for the State was 56.8°, or 0.4° above the normal, and 4.5° higher than the mean for September, 1926. The highest mean reported was 64.0° at Cando, Towner County; the lowest was 48.6° at Powers Lake, Burke County. The highest temperature reported was 101° at Carson, Grant County, on the 4th; the lowest was 10° at Hansboro, Towner County, on the 26th. The greatest monthly range of temperature was 84° at Minot, Ward County; the least was 59° at Cando, Towner County. The greatest daily range was 57° at Eckman, Bottineau County, on the 21st, and at Lisbon, Ransom County, on the 18th.

PRECIPITATION

The average precipitation for the State was 0.93 inch, or 0.71 inch below the normal, and 1.49 inches less than the average for September, 1926. The greatest monthly amount reported was 4.46 inches at Fryburg, Billings County; there was none at Melville, Foster County. The greatest amount recorded in any 24 consecutive hours was 2.88 inches at McLeod, Ransom County, on the 9th. The average snowfall was a trace. The average number of days with 0.01 inch or more of precipitation was 3.

AURORAS

Auroras were observed at Willow City on the 1st; at Crosby, Foxholm and Velva on the 3d; at Crosby and Foxholm on the 4th; at Crosby, Towner and Williston on the 5th; at Velva on the 6th; at Williston on the 7th; at Foxholm on the 14th; at McKinney on the 15th; at Grand Forks and Willow City on the 18th; at Arnegard on the 20th; at McClusky on the 22d; at Ellendale, Foxholm, Grand Forks, McKinney, Velva and Williston on the 25th; at Towner and Williston on the 26th; at Foxholm on the 27th; at Foxholm and Williston on the 28th; and at McKinney on the 29th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.93	30.57	26	29.26	14	57	6,910	9.6	37	nw.	18
Devils Lake	29.93	30.58	26	29.26	14	41	6,471	9.0	32	w.	17
Ellendale	29.97	30.50	26	29.35	13	56	8,868	12.3	43	nw.	19
Grand Forks	29.91	30.53	26	29.32	14	90	....	......	33	se.	4
Williston	29.91	30.49	26	29.22	14	48	5,658	7.9	39	w.	14
Moorhead, Minn	29.93	30.54	26	29.39	14	58	5,188	7.2	27	nw.	17
Av'ges and extremes	29.93	30.58	26	29.22	14	.....	....	9.2	43	nw.	19

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	287.4	376.6	76	+14	80	49	50	29	23
Devils Lake	241.0	377.2	64	+ 6	82	49	56	22	12
Ellendale	275.3	376.0	73	+11	86	52	....	32	23
Grand Forks	....	....	....	....	83	....	64	.....	....
Williston	261.0	377.2	69	+11	82	50	50	20	25
Moorhead, Minn	269.2	376.6	71	+ 9	85	50	59	32	12
Averages and extremes	....	....	71	+10	83	50	56	20	25

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896...	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900...	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902...	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907...	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909...	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919...	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920...	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921...	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.
1922...	59.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw.
1923...	60.1	+3.7	99	15	2.39	+0.75	6	14	8	8	nw.
1924...	55.0	−1.4	98	20	2.31	+0.67	7	15	7	8	nw.
1925...	58.1	+1.7	103	20	2.74	+1.10	8	12	8	10	nw.
1926...	52.3	−4.1	95	9	2.42	+0.78	9	11	9	10	nw.
1927...	56.8	+0.4	101	10	0.93	−0.71	3	16	9	5	nw.

Climatological Data for September, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										1.86		0.74	0	5					H. A. Bury.
Amenia	Cass	954	31	58.9	+1.6	93	13	16	27	46	0.72	−1.25	0.32	0	4	14	15	1	nw.	E. T. Carley.
Amidon	Slope		13	58.8[c]	+1.7	96[b]	4	23	20	48[d]	1.75	+0.06	1.05	T.	4	10	11	9	w.	W. H. Toussaint.
Arnegard	McKenzie		12	56.5	−0.3	90	4	27	20	41	1.34	−0.26	0.85	T.	3	21	7	2	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	55.3	−2.0	91	13	19	27	35	1.24	+0.22	0.87	0	3	19	7	4	nw.	H. D. Piper.
Beach	Golden Valley	2,759	21	57.9	+1.6	89	3†	24	20	39	1.87	+0.60	0.75	T.	7				nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	57.1	+0.1	92	4†	16	26	49	0.41	−1.03	0.12	0	5	20	6	4	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	58.6	+0.5	92	13	25	27	38	0.47	−0.72	0.42	T.	3	19	7	4	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	56.6	+1.1	90	5	23	26	38	0.68	−0.89	0.40	0	4	15	13	2	se.	N. A. Eckberg.
Cando	Towner	1,488	26	64.0[i]	+8.4	91[i]	13	32[i]	19	40[i]	0.28	−1.15	0.28	0	1	7	15	8	n.	A. J. Swanson.
Carson	Grant	2,500	15	60.5	+4.1	101	4	22	27	47	0.25	−1.48	0.20	0.2	2	22	7	1	nw.	J. W. Evens.
Cavalier	Pembina																			W. W. Felson
Cooperstown	Griggs	1,428	21								0.17	−1.49	0.15	0	2	22	6	2	nw.	S. Friswold.
Crosby	Divide	1,954	20	54.1	+0.4	85	4†	21	26	44	1.91	+0.52	0.82	0	5	6	23	1	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	56.4	+0.8	92	13	15	26	35	0.13	−1.26	0.11	T.	2	15	10	5	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	55.8	−0.7	90	4	23	27	46	1.45	+0.38	0.80	0	6	12	7	11	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880		55.0		89	13	13	26	35	0.17		0.17	0	1	17	8	5	se.	R. L. Williams.
Dunn Center	Dunn	2,191	28	54.4	−2.7	91	4	22	27	45	0.63	−0.49	0.26	0	4	14	5	11	se.	W. F. Moene.
Dunseith	Rolette	1,682	31																	J. G. Lamont.
Eckman	Bottineau	1,500	22	55.8	+0.3	93	11	12	25	57	0.17	−0.96	0.09	0	3	11	15	4	se.	C. E. Strock.
Edgeley	LaMoure	1,468	26	58.4	+0.9	92	11	19	27	42	1.52	−0.14	1.27	0	2	3	19	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	28	58.4	0.0	92	11	25	27	40	2.03	+0.68	0.99	0	5	11	11	8	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	15	57.3		94	13	16	26	42	0.45	−1.09	0.45	T.	1	7	22	1	nw.	H. S. Solenberger.
Epping	Williams	2,224	19																	A. O. Wang.
Fessenden	Wells	1,610	15	57.0	+1.9	94	13	15	26	45	0.42	1.30	0.40	0	2	19	6	5	se.	T. D. Monsen.
Forman	Sargent	1,249	33								2.64	+0.82	1.03	0	5	18	11	1	nw.	O. Enger.
Fort Yates	Sioux	1,670																		P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	54.8		87	4	17	26	35	0.23		0.19	T.	4	11	10	9	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	9								4.46		3.83	T.	6	20	3	7	nw.	Verne King.
Fullerton	Dickey	1,439	29	58.4	+1.7	91	11	24	27	40	1.99	−0.08	1.08	T.	5	19	9	2	nw.	F. O. Alin.
Garrison	McLean	1,901	32	56.4	−0.4	89	13	20	26	42	0.12	−1.24	0.12	0	1	23	5	2	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	58.5	+2.6	91	13	20	27	38	0.58	−1.24	0.42	0	2	12	11	7	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	36	58.2	+2.0	93	13	22	26	36	0.24	−1.62	0.15	T	3	8	12	10	se.	U. S. Weather Bureau
Granville	McHenry	1,504	20	51.6	−2.8	92	13	20	25	35	0.41	−0.84	0.24	0	2	9	13	8	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33								0.61	−1.53	0.25	0	4					J. Moffatt.
Hansboro	Towner	1,597	19	53.8	−0.3	90	8†	19	26	50	0.81	−1.09	0.50	0	4	20	8	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	56.1	−1.6	90	4	25	20†	49	1.10	−0.20	0.38	T.	7	12	13	5	se.	U. J. Downey.
Hillsboro	Traill	901	21	60.0[a]	+1.0	94[a]	13	22	26	40[a]	0.24	−2.25	0.18	0	2	16	11	3	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	20	54.2	+0.4	86	7†	20	26	44	2.38	+1.01	1.56	T.	3	12	11	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	56.7	0.0	94	11†	19	27	41	0.62	−0.91	0.38	0	4	10	4	16	nw.	S. Calvelage.
Lamoine	Kidder	1,936	22	55.0	−1.6	92	13	18	26†	46	0.84	−0.44	0.84	0	1	17	10	3	se.	E. V. Virgin.
Langdon	Cavalier	1,615	31	55.6	+2.1	90	13	17	26	41	1.01	−0.98	0.58	0	4	20	0	10	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	57.1	+1.9	94	13	18	26†	40	0.05	−1.84	0.05	0	1	17	2	11	s.	Reuben Gray.
Linton	Emmons	1,711	9	60.4[c]	+1.4	94[c]	13	16[c]	26	48[c]	0.53	−1.33	0.38	0	2	21	5	4	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	58.8	+1.1	96	13	23	28	57	1.28	−0.87	0.68	0	4	19	3	8		W. S. Adams.
McClusky	Sheridan	1,943	9	54.2		89	13	15	26	46	0.34		0.34	0	1	19	10	1	se.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	33	53.1	−1.0	86	4	11	26	45	1.60	+0.07	0.90	0	4	6	13	11	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	60.2	+3.3	93	13	25	26	41	3.57	+1.03	2.88	0	3	16	3	11	se.	J. G. Carlson.
Maddock	Benson	1,604	11	55.7	−0.5	91	13	11	26	44	0.25	−2.01	0.25	0	1	12	13	5	nw.	A. T. Felland.
Mandan	Morton	1,644	13	57.6	−0.5	93	13	21	27	45	0.49	−0.97	0.45	0	2	13	5	12	se.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	24	55.9	0.0	89	13	17	26	31	0.93	−0.42	0.93	0	1	18	8	4	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	60.2[f]	+4.6	88[f]	5	26[f]	22	54[f]	1.46	+0.23	0.75	0	7	14	8	8	nw.	S. P. Grane.
Mayville	Traill	975	31	58.8	+1.4	93	11†	17	25	44	0.02	−2.26	0.02	0	1	18	7	5	nw.	N. C. Burhans.
Melville	Foster	1,590	29	57.8[a]	+1.4	92[a]	13	16[a]	26	43[a]	0.00	−1.38	0.00	0	0	20	8	2	w.	J. P. Kidder.
Metigoshe ‡‡	Bottineau		1								0.39		0.29	0	2	24	4	2	sw.	J. A. Therbarn.
Minot	Ward	1,557	31	56.4	−0.3	95	13	11	25	36	0.12	−1.46	0.12	0	1	21	8	1	w.	W. I. Faris.
Minto	Walsh	820	34	57.8	+1.4	93	13	21	27	42	0.56	−1.44	0.30	0	2	13	11	6	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	58.2	+1.9	91	4†	22	20	46	0.62	−0.95	0.38	0	2	15	10	5	nw.	O. H. Opland.
Napoleon	Logan	1,955	35	57.3	+0.4	93	13	19	27	40	0.86	−0.38	0.65	T.	3	19	8	3	se.	C. J. Hoof.
New England	Hettinger	2,400	36	51.2[a]	−1.6	93[a]	4	22[a]	28†	43	1.36	+0.24	0.56	T.	6	12	10	8	se.	W. L. Sales.
New Salem	Morton	2,163	23	57.4	+0.2	92	13	21	25	43	0.17	−1.18	0.16	T.	2	20	9	1	se.	J. Christiansen.
Park River	Walsh	998	23																	C. B. Wright.
Parshall (near)	Mountrail		12																	Carl J. Knutson.
Pembina	Pembina	789	53	56.9	+3.1	92	13	22	28	44	0.70	−0.99	0.50	0	2	23	3	4	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	18																	A. L. Carlson.
Power	Richland	1,020	33								1.72	−0.34	1.18	0.5	3	11	16	3	s.	Frank B. Power.
Powers Lake	Burke	2,205	13	48.6		80	5	19	27	36	1.21	+0.12	0.65	T.	4	25	2	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	11	57.4	+0.6	91	3	21	25	39	0.65	−0.83	0.52	0	3	18	7	5	se.	John Muggli.
Sharon	Steele	1,516	2	57.3		92	13	21	26	41	0.05		0.03	T.	2	15	11	4	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	3								0.24		0.24	0	1	18	10	2	se.	I. H. Giffey.
Starkweather	Ramsey			53.3		93	14	11	26	47	0.17		0.06	T.	4	13	9	8	nw.	F. R. Irons.
Steele	Kidder	1,857	31																	H. S. Wood.
Towner	McHenry	1,482	25	57.3	+1.5	91	13	13	26	41	0.92	−0.73	0.92	T.	1	22	6	2	w.	B. Bagley.
Trotters	Golden Valley		1								1.63		0.68	0	5	13	9	8		A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	56.3	−0.7	88	13	19	26	49	0.26	−1.18	0.18	T.	3	10	5	15	se.	A. T. Anderson.
Valley City	Barnes	1,245	22																	E. W. Meier.
Velva	McHenry										0.13		0.13	T.	1	13	7	10	se.	Oscar Anderson.
Wahpeton	Richland	962	33	59.7	+1.1	94	13	25	26	42	4.07	+1.85	1.77	0	6	22	0	8	se.	C. G. Luick.
Washburn	McLean	1,731	25																	H. W. Smith.
Westhope	Bottineau	1,508	25	55.2	+0.4	90	4†	14	26	50	0.05	−1.14	0.05	0	1	25	4	1	nw.	W. A. Medlaugh.
Williston	Williams	1,878	48	55.9	−0.7	86	6	25	25	35	1.48	+0.57	0.83	T.	11	13	13	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	55.3	+1.0	90	13	15	26	45	0.61	−0.94	0.48	T.	3	14	8	8	nw.	M. A. Ostby.
Wilton	McLean			58.4		90	13	25	24	49	0.25		0.25	0	1	20	3	7		L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	59.2	+1.0	94	13	25	26	38	1.74	−0.56	1.10	0	9	12	10	8	s.	U. S. Weather Bureau.
Averages				56.8	+0.4	101	4	10	26	57	0.93	−0.71	2.88	T.	3	16	9	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for September, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri							.50		.09					.50															.74	.03		1.86
Amenia ‖	Red					T.			T.	.26			.04													.32					.10		0.72
Amidon	Lit. Missouri										.10	.10														T				1.05	.50		1.75
Arnegard	Missouri									.45	T.	.01			.85					T.						T.					T		1.34
Ashley	Missouri									.87																.28					.09		1.24
Beach	Lit. Missouri								.16	.10		.02	T.	.03	.22					T.						T				.75	.24		1.87
Berthold Agency	Missouri								.10		T.	.07		.02	.10					.12													0.41
Bismarck ***	Missouri					T.			T.		T.	T.		.08	.34		T.			T.					.05	T.							0.47
Bottineau ‖	Mouse												.12	.10	.40				.06														0.68
Cando	Devils Lake				T.		T.								.28									T.				T.					0.28
Carson	Heart																				T.					.20					.05		0.25
Cavalier	Red																																......
Cooperstown	Sheyenne								.15			.02																					0.17
Crosby	Mouse											.01	.48	.38	.22	.82																	1.91
Devils Lake ***	Devils Lake											.02		T.						T.					T.					T	.11		0.13
Dickinson ‖	Heart								.80	.05		.08	.12	.09	.31																T.		1.45
Dogden Butte	Mouse													T.	.17										T.								0.17
Dunn Center ‖	Knife											.05	.26		.22						.10												0.63
Dunseith	Mouse																																......
Eckman	Mouse											.02			.06																.09		0.17
Edgeley	James									1.27																.25							1.52
Ellendale***	James								T.	.99	T.	T.													.58	.15				.30	.01		2.03
Energy	Missouri				T.	T.					T.				.45					T.					T.								0.45
Epping	Missouri																																......
Fessenden ‖	James														.40																.02		0.42
Forman	Sheyenne									1.03			.32													.86				.23	.20		2.64
Fort Yates	Missouri																																......
Foxholm (near)	Mouse							T.			.01	.01		.02	.19					T.					T.								0.23
Fryburg	Heart								3.83	.09	.18	.04			.20										T.				T.		.12		4.46
Fullerton	James									1.08		.15													.46					.18	.12		1.99
Garrison	Missouri				T.										.12					T.													0.12
Grafton	Red				.16							.42								T.									T.				0.58
Grand Forks ***	Red	T.			.15								.05							.04											T.		0.24
Granville	Mouse										T.			.24	.17					T.					T.						T.		0.41
Hannah	Pembina				.11							.25		.15															.10	T.			0.61
Hansboro	Devils Lake					.25						.05		.01																	.50		0.81
Hettinger	Grand					.03				.38		.01	.19													.22				.18	.09		1.10
Hillsboro	Red					.06			.18																								0.24
Howard (near)	Missouri									T.		T.	T.	1.56	.80					T.					T.						.02		2.38
Jamestown ‖	James	.01								.22		T	.01		T.						T					.38							0.62
Lamoine	Missouri														.84																		0.84
Langdon ‖	Pembina		.58			.06							.18									T.									.19		1.01
Larimore	Red												.05																				0.05
Linton	Missouri									.15				T.	T.											.38							0.53
Lisbon ‖	Sheyenne					T.		T.		.68		.02									T.							.30			.28		1.28
McClusky	Missouri														.34																		0.34
McKinney (near)	Mouse							.90			T.	.25		.05	.40					T.					T.						T.		1.60
McLeod	Sheyenne					T.				2.88															.08				T.		.61		3.57
Maddock	Sheyenne													T.	.25		T.			T.					T.						T.		0.25
Mandan ‖	Missouri														.45		T.									.04							0.49
Manfred	James														.93		T.														T.		0.93
Marmarth	Lit. Missouri							.18	.10		.06	.08	T.	.09											T.					.75	.20		1.46
Mayville	Red									.02																							0.02
Melville	James																																0.00
Metigoshe	Mouse													.10	.29																T.		0.39
Minot ‖	Mouse													.12																			0.12
Minto	Red					.30							.26																				0.56
Mott	Cannon Ball									.38					.24																		0.62
Napoleon ‖	Missouri									.65					.03											.18							0.86
New England	Cannon Ball					T.			T.	.56	T.	.20		T.	.20					.10						T.			.10	.20			1.36
New Salem	Heart									T.					.16		T.			T.						.01					T.		0.17
Park River	Red																																......
Parshall (near)	Missouri																																......
Pembina ‖	Red					.20							.50																		T.		0.70
Pettibone	James																																......
Power	Sheyenne									1.18																T.	.05		.49				1.72
Powers Lake	Missouri	.13											.65			.26				.17													1.21
Richardton	Heart								.52	.04		.09																					0.65
Sharon	Red					T.				T.			T.							.02					T.	T.				T.	.03		0.05
Stanton	Missouri				.24									T.																			0.24
Starkweather	Devils Lake	.05			.05										.06																.01		0.17
Steele	Missouri																																......
Towner	Mouse														.92										T.								0.92
Trotters	Lit. Missouri									.65		.08		.05	.68															T.	.17		1.63
Turtle Lake	Missouri													.03	.18					.05					T.								0.26
Valley City	Sheyenne																																......
Velva	Mouse										T.			.13											T.					T.	T.		0.13
Wahpeton	Red		.13			.59				1.77			.62													.76				.20			4.07
Washburn	Missouri																																......
Westhope	Mouse														.05																		0.05
Williston ***	Missouri				T.			.01	.09	.07	.14	.09	.13	.03	.83		T.		T.	.01					.01						.07		1.48
Willow City	Mouse											.03		T.	.48		T.	T.		T.					T.						.10		0.61
Wilton														.25	T.																		0.25
Moorhead, Minn ***	Red					.40				1.10	.01	.03								.05	T.				.02	.04			T.	.08	.01		1.74

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	90	80	81	88	83	90	78	86	76	85	93	89	98	89	76	81	74	69	55	54	61	62	74	70	61	54	56	61	55	58	..	74.2
	Minimum	47	52	41	45	62	47	49	54	65	58	61	56	57	68	46	44	41	42	30	31	40	33	28	32	29	22	16	30	36	40	..	43.6
Amidon	Maximum	75	75	92	96	80	90	85	74	72	78	74	82	85	75	75	..	65	60	55	55	65	65	76	60	45	..	..	..	60	55	..	[d]71.9
	Minimum	55	52	50	65	54	60	54	55	54	60	63	52	67	53	40	..	45	40	35	23	35	30	28	33	28	28	..	28	45	44	..	[b]45.6
Arnegard	Maximum	74	79	86	90	85	88	84	75	82	80	76	82	85	65	65	70	60	57	54	51	67	66	65	51	50	49	52	66	55	55	..	68.9
	Minimum	55	46	45	63	54	52	64	65	62	61	62	49	62	48	42	43	45	40	33	27	37	30	29	34	27	32	25	29	38	32	..	44.1
Ashley	Maximum	71	71	65	82	80	72	70	76	77	71	89	82	91	86	72	67	67	55	54	50	60	62	65	65	43	46	46	51	51	55	..	66.4
	Minimum	48	58	41	59	64	50	48	57	63	63	66	53	65	65	46	41	43	40	36	30	30	30	30	37	29	28	19	26	29	33	..	44.2
Beach	Maximum	82	72	89	89	87	89	88	68	72	76	78	81	82	69	67	73	62	68	50	56	64	67	75	56	45	50	60	71	65	53	..	70.1
	Minimum	53	52	59	60	53	56	62	54	56	62	55	47	58	49	37	44	48	44	42	24	36	28	36	36	30	32	29	35	48	45	..	45.7
Berthold Agency	Maximum	77	72	84	92	86	87	86	81	84	82	76	83	92	82	68	74	64	59	49	59	63	62	75	62	45	53	58	62	59	61	..	71.2
	Minimum	54	48	43	60	53	55	63	55	59	62	65	42	64	59	41	41	45	40	31	29	30	26	25	39	22	16	38	25	33	27	..	43.0
Bismarck	Maximum	84	77	83	89	85	85	81	83	81	81	87	86	92	73	71	78	69	57	51	52	65	60	71	56	45	50	54	58	52	61	..	70.6
	Minimum	57	54	45	66	63	60	62	63	67	61	58	51	69	56	49	48	45	43	38	31	32	32	30	35	28	30	25	29	32	33	..	46.5
Bottineau §§	Maximum	80	71	75	90	85	84	81	80	84	79	82	85	89	74	65	71	63	50	51	47	56	50	70	40	45	50	51	58	50	57	..	67.1
	Minimum	55	46	47	63	61	61	60	63	62	64	67	47	63	65	41	47	46	37	30	36	35	31	32	40	27	23	26	32	36	44	..	46.2
Cando	Maximum	82	73	76	79	85	83	81	84	84	84	86	88	91	84	67	73	69	69	72	..	..	..	..	..	..	..	..	..	61	59	..	[i]77.6
	Minimum	33	50	41	57	52	60	58	53	59	61	64	48	59	62	59	41	39	36	32	..	..	..	..	..	..	..	..	..	52	44	..	[i]50.5
Carson	Maximum	86	76	93	101	87	63	85	90	85	84	86	86	93	70	74	79	65	70	60	55	72	75	70	68	72	65	64	60	63	60	..	76.3
	Minimum	55	54	59	65	55	60	58	60	62	57	60	48	68	55	46	50	45	38	29	26	30	28	29	27	25	26	22	28	36	30	..	44.7
Crosby §§	Maximum	78	69	81	85	82	85	78	78	78	80	79	76	80	61	62	68	53	57	45	52	56	62	70	40	40	56	58	62	62	63	..	66.5
	Minimum	52	42	47	55	53	52	52	54	54	57	61	49	51	52	40	41	42	39	32	33	31	26	26	38	24	21	25	31	31	37	..	41.7
Devils Lake	Maximum	83	72	77	86	84	85	83	85	84	84	91	86	92	82	68	76	69	48	50	48	56	60	70	50	44	48	53	56	48	49	..	68.9
	Minimum	53	52	42	61	61	55	54	64	59	61	63	51	60	54	46	43	46	32	30	36	37	27	35	32	21	15	23	30	30	42	..	43.8
Dickinson §§	Maximum	80	73	88	90	84	89	86	76	77	80	73	82	84	65	66	73	67	57	52	51	65	65	73	53	45	51	57	65	48	53	..	69.0
	Minimum	52	49	43	52	54	54	59	57	59	60	64	41	44	59	41	41	47	40	40	26	27	26	27	44	24	28	23	26	38	32	..	42.7
Dunn Center §§	Maximum	76	71	86	91	82	88	86	80	80	81	73	82	86	65	65	71	61	58	48	50	61	60	71	48	42	51	57	62	55	59	..	68.4
	Minimum	51	47	41	48	53	54	56	56	46	60	64	43	47	59	41	41	42	39	38	26	29	25	26	29	27	28	22	25	27	26	..	40.5
Dunseith	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Edgeley	Maximum	89	80	80	86	85	84	81	81	76	77	92	91	85	80	79	78	78	72	52	55	62	61	70	65	47	48	49	54	51	65	..	71.8
	Minimum	47	58	41	54	64	50	55	61	65	60	63	51	69	56	54	45	46	42	32	33	31	29	32	38	29	23	19	36	26	37	..	44.9
Ellendale	Maximum	89	78	81	86	82	83	81	80	80	80	92	83	92	82	70	80	75	58	52	51	62	60	69	64	46	46	49	54	47	60	..	70.5
	Minimum	49	52	45	57	61	52	59	64	64	64	63	55	65	56	50	45	48	38	38	35	37	33	34	34	32	30	25	31	33	37	..	46.2
Fessenden §§	Maximum	79	75	79	89	88	86	83	86	84	87	90	89	94	82	75	79	76	70	53	51	52	64	73	58	58	52	58	61	50	56	..	72.6
	Minimum	50	53	41	52	56	51	56	59	62	58	52	41	57	66	42	34	44	39	31	33	36	28	30	38	23	15	17	28	26	35	..	41.5
Foxholm (near)	Maximum	76	69	76	87	80	84	82	80	79	77	77	80	86	76	63	68	60	54	48	46	55	56	68	63	41	43	55	59	55	56	..	66.6
	Minimum	53	46	44	58	57	55	59	59	60	60	62	50	57	54	41	44	48	39	30	31	30	30	36	33	19	17	25	24	24	41	..	42.9
Fullerton	Maximum	89	78	80	86	82	74	84	80	79	77	91	86	90	85	68	78	78	74	58	56	60	58	67	64	46	51	48	57	47	61	..	71.1
	Minimum	49	58	43	54	65	44	56	63	63	62	63	54	65	60	49	44	44	43	36	36	34	33	34	36	31	27	24	32	32	38	..	45.7
Garrison	Maximum	78	71	79	87	83	82	83	82	81	81	81	83	89	78	69	76	63	66	50	51	62	63	72	51	43	52	56	59	58	60	..	69.7
	Minimum	53	50	44	60	54	55	57	58	61	61	65	45	66	58	43	41	47	40	32	31	28	27	30	31	22	20	24	26	30	33	..	43.0
Grafton	Maximum	86	81	75	85	81	85	81	78	84	86	87	85	91	85	72	78	74	68	50	57	54	62	69	61	48	53	53	57	52	58	..	71.3
	Minimum	49	57	44	57	65	50	53	65	59	58	61	58	55	70	50	40	42	38	34	34	41	31	38	40	28	23	20	26	38	47	..	45.7
Grand Forks	Maximum	87	75	74	86	83	83	82	78	80	81	88	83	93	86	67	78	73	53	48	51	53	59	68	51	47	51	52	55	53	57	..	69.3
	Minimum	51	54	47	60	60	51	57	65	62	61	63	61	60	62	51	43	43	39	34	34	43	33	34	37	28	22	28	31	45	48	..	47.0
Granville	Maximum	70	75	76	75	72	70	68	70	70	68	69	70	92	84	55	55	55	60	47	48	52	49	55	55	50	50	45	48	48	47	..	61.6
	Minimum	52	42	55	57	58	53	48	58	58	61	60	48	57	52	43	42	47	40	30	34	29	29	29	35	20	20	25	28	25	35	..	42.3
Hansboro	Maximum	85	75	85	85	84	84	87	90	85	85	84	90	72	70	63	75	75	65	60	60	55	68	70	63	47	55	58	58	48	52	..	71.1
	Minimum	40	44	35	36	54	48	48	55	54	50	50	40	50	54	39	39	40	30	25	35	35	24	28	42	17	10	12	12	20	32	..	36.6
Hettinger	Maximum	88	81	88	90	83	87	83	82	76	77	78	81	84	69	70	77	65	56	51	54	70	65	73	64	41	48	54	64	47	58	..	70.1
	Minimum	39	48	48	55	54	56	61	58	60	61	65	45	49	57	46	48	42	37	42	25	27	27	26	30	28	28	26	25	26	41	..	42.7
Hillsboro	Maximum	90	88	80	86	84	90	86	79	..	86	91	88	94	92	77	82	78	62	49	52	58	62	71	66	50	51	56	56	54	54	..	[a]72.6
	Minimum	51	62	47	58	67	51	54	64	..	60	62	61	57	74	49	42	47	45	35	35	44	33	36	41	29	22	29	31	43	46	..	[a]47.4
Howard (near)	Maximum	81	76	78	82	85	87	86	86	85	84	80	80	79	69	60	67	63	58	54	50	55	63	70	51	50	50	60	62	60	52	..	68.4
	Minimum	57	46	42	41	41	50	51	52	51	51	48	41	51	50	38	43	45	42	38	26	35	28	33	33	24	20	27	28	38	27	..	39.9
Jamestown §§	Maximum	88	77	81	88	80	85	82	85	76	80	94	85	94	82	68	80	74	59	53	53	60	63	71	58	46	50	52	59	51	56	..	71.0
	Minimum	50	56	40	44	59	49	52	57	67	58	60	50	51	64	48	53	40	40	31	42	33	20	27	30	27	25	19	20	28	32	..	42.4
Lamoine	Maximum	80	73	78	86	84	83	80	81	81	79	87	85	92	87	77	75	72	56	54	48	61	60	69	78	48	49	48	57	56	57	..	70.7
	Minimum	51	53	46	43	43	42	42	42	54	55	64	47	47	47	50	41	40	38	28	32	29	28	33	32	23	18	18	28	29	33	..	39.2
Langdon §§	Maximum	80	76	78	84	83	88	83	83	81	85	82	85	90	81	73	72	71	49	47	43	50	47	71	62	55	50	55	62	55	51	..	69.1
	Minimum	51	50	41	48	60	54	55	62	57	57	63	50	51	61	43	40	42	38	30	35	35	27	30	34	20	17	23	22	32	32	..	42.0
Larimore §§	Maximum	88	75	77	87	84	89	86	80	80	87	91	85	94	86	68	71	67	51	49	51	58	60	70	47	48	52	55	60	52	55	..	70.1
	Minimum	52	56	43	47	57	54	50	56	60	60	60	58	58	60	48	42	51	42	32	32	41	30	30	40	25	18	18	25	35	42	..	44.1
Linton	Maximum	88	80	85	90	88	87	85	86	77	84	80	87	94	..	77	83	74	..	52	58	65	..	72	68	..	54	54	58	..	67	..	[e]75.7
	Minimum	59	56	41	63	61	56	61	61	63	61	64	46	71	..	46	38	38	..	35	29	24	..	24	41	..	16	18	31	..	28	..	[e]45.2
Lisbon §§	Maximum	94	81	89	91	85	89	87	83	80	91	87	90	96	86	73	85	61	87	54	55	55	62	63	73	69	60	60	56	50	61	..	74.8
	Minimum	46	58	40	53	51	48	52	60	63	62	60	56	57	64	39	39	39	30	40	34	38	38	31	27	29	26	30	23	25	28	..	42.9
McClusky	Maximum	80	72	79	87	81	83	79	81	82	80	86	83	89	81	68	74	73	55	53	47	60	59	69	51	46	50	53	58	50	58	..	68.9
	Minimum	48	49	39	42	55	37	57	58	57	55	61	44	62	60	48	37	43	35	27	27	24	23	27	34	16	15	17	27	25	36	..	39.5
McKinney (near)	Maximum	77	72	77	86	83	83	82	80	80	80	70	80	81	76	70	68	68	65	50	50	58	60	70	55	46	51	55	60	50	60	..	68.1
	Minimum	50	55	45	41	44	45	56	46	46	50	45	45	46	50	40	40	44	40	29	32	26	25	32	35	20	11	20	22	22	42	..	38.1
Maddock	Maximum	81	75	76	88	82	85	81	82	82	82	88	86	91	88	68	74	72	55	54	48	58	60	70	68	45	49	53	58	54	52	..	70.2
	Minimum	47	50	38	58	59	50	51	59	58	59	62	43	56	64	44	35	41	37	29	35	38	24	26	37	18	11	14	25	24	42	..	41.2
Melville	Maximum	80	75	78	..	87	86	82	73	86	78	90	89	92	89	82	83	75	58	53	55	61	61	71	69	48	52	55	60	54	55	..	[a]71.6
	Minimum	50	64	50	..	57	53	52	61	52	55	65	57	60	61	49	40	48	30	30	34	39	27	34	35	32	16	17	37	22	42	..	[a]44.1
Minot §§	Maximum	78	71	87	90	85	86	86	87	83	84	82	82	95	71	67	73	63	53	53	48	58	64	73	52	47	53	53	61	53	59	..	69.9
	Minimum	48	41	62	57	55	61	59	60	61	63	47	60	63	43	40	42	39	31	32	26	26	37	42	27	11	25	26	25	42	39	..	43.0
Mott	Maximum	85	76	88	91	85	88	91	84	83	84	79	85	86	76	73	79	68	63	59	52	68	68	74	68	54	58	64	57	59	56	..	73.4
	Minimum	46	50	44	60	55	55	60	52	61	58	62	48	61	51	45	46	43	41	35	22	30	26	28	26	24	32	33	26	34	38	..	43.1
Napoleon §§	Maximum	86	76	81	85	85	86	82	85	71	84	90	87	93	76	63	80	70	56	50	53	65	61	70	63	45	51	54	57	48	63	..	70.6
	Minimum	48	55	43	58	62	51	58	58	62	59	64	48	68	65	48	40	39	39	32	29	25	25	31	42	25	24	19	35	30	35	..	44.0
New Salem	Maximum	87	80	86	91	88	88	89	82	85	84	86	88	92	74	72	80	74	60	57	52	58	59	72	59	44	53	54	61	55	66	..	72.5
	Minimum	52	54	44	59	58	54	51	66	61	59	61	52	49	48	45	49	48	39	34	28	29	28	29	27	21	23	21	23	30	30	..	42.4
Pembina §§	Maximum	82	75	82	79	82	82	84	78	83	82	86	84	92	84	71	72	70	74	51	48	51	52	79	45	55	54	56	60	51	58	..	70.0
	Minimum	53	52	51	59	58	54	52	53	59	58	55	50	55	58	40	38	43	38	33	36	36	32	35	40	25	24	21	22	29	41	..	43.8
Steele	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Towner	Maximum	81	77	79	89	87	84	86	84	84	85	87	88	91	88	75	70	69	70	68	65	58	65	60	56	47	50	53	50	50	58	..	71.8
	Minimum	50	52	40	62	58	60	60	62	60	61	65	48	65	62	42	41	42	38	30	34	32	24	24	24	21	13	25	28	31	30	..	42.8
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Wahpeton	Maximum	91	90	80	85	86	83	82	81	85	80	90	90	94	91	82	82	81	73	60	54	56	60	69	67	55	52	50	55	54	57	..	73.8
	Minimum	53	57	47	41	64	52	53	52	64	62	61	60	59	69	45	44	44	39	32	30	40	32	27	40	30	25	40	32	34	39	..	45.6
Westhope	Maximum	80	71	70	90	88	85	86	73	85	85	81	87	40	73	73	65	59	52	56	52	65	62	62	52	52	52	56	60	62	53	..	69.6
	Minimum	50	47	50	40	50	50	60	62	60	58	60	44	60	50	41	42	43	37	29	30	29	28	26	29	19	14	21	27	34	38	..	40.9
Williston	Maximum	77	71	85	85	82	86	85	71	79	77	76	80	80	62	63	69	58	58	46	53	57	63	72	48	40	52	60	63	58	52	..	66.9
	Minimum	55	50	52	62	56	53	60	56	58	65	56	49	60	45	42	46	46	42	32	30	35	30	37	33	25	31	32	32	40	38	..	44.9
Moorhead, Minn	Maximum	91	78	77	85	81	83	81	80	80	79	90	81	94	86	71	79	77	55	48	51	56	58	68	60	47	50	52	52	54	56	..	70.2
	Minimum	53	57	47	58	62	57	56	65	67	62	63	64	62	60	52	51	48	35	35	35	44	35	32	36	30	25	27	39	40	45	..	48.1

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days. etc.

[WBO. Minneapolis, 9-22-27—1000]

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CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI — BISMARCK, N. D., OCTOBER, 1927 — No. 10

GENERAL SUMMARY

Mild, pleasant weather prevailed throughout the month. It was very favorable for threshing and all other outdoor work. Considerable fall plowing was done, but the ground was too dry in some sections in the southwestern part of the State where the precipitation averaged below normal. The precipitation was considerably above normal at most places in the northern part of the State. No precipitation occurred between the 18th and 26th at any of the reporting stations and a few damaging prairie fires occurred during that period in some southern and central counties. Pastures needed rain in some localities, but livestock was generally in excellent condition. F. J. B.

TEMPERATURE

The mean temperature for the State was 47.0°, or 3.2° above the normal, and 4.4° higher than the mean for October, 1926. The highest mean reported was 57.4° at Marmarth, Slope County; the lowest was 42.2° at Granville, McHenry County. The highest temperature reported was 88° at Bismarck, Burleigh County, on the 19th; the lowest was 12° at Bottineau, Bottineau County and at Dunseith, Rolette County, both on the 13th. The greatest monthly range of temperature was 70° at Linton, Emmons County; the least was 42° at Pembina, Pembina County. The greatest daily range in temperature was 57° at Marmarth, Slope County, on the 7th.

PRECIPITATION

The average precipitation for the State was 1.39 inches, or 0.39 inch above the normal, and 0.10 inch less than the average for October, 1926. The greatest monthly amount reported was 3.30 inches at Towner, McHenry County; the least was 0.16 inch at New England, Hettinger County. The greatest amount recorded in any 24 consecutive hours was 1.40 inches at Towner, McHenry County, on the 11th. The average snowfall was 1.0 inch; the greatest fall reported being 6.0 inches at Devils Lake, Towner and Willow City. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS

Auroras were observed at Linton on the 1st; at Willow City on the 2d; at Beach on the 3d, 4th and 5th; at Foxholm and Grand Forks on the 6th; at Foxholm on the 7th; at Bottineau on the 12th; at Towner on the 13th and 14; at Arnegard and McKinney on the 20th; at Carson, McKinney and Richardton on the 21st; at Arnegard, Beach, Berthold Agency, Bismarck, Bottineau, Crosby, Devils Lake, Dogden Butte, Ellendale, Fessenden, Fullerton, Grand Forks, Howard, McClusky, McKinney, Minto, Napoleon, Richardton, Sharon, Stanton, Trotters and Willow City on the 22d; at Arnegard, Beach, Bismarck, Bottineau, Ellendale, Energy, Fessenden, Fullerton, Grand Forks, Howard, McClusky, McKinney, Minto, Stanton, Towner, Trotters and Willow City on the 23d; at Bismarck, Bottineau, Carson, Ellendale, Energy, Fessenden, Howard, McKinney, Sharon, Stanton and Trotters on the 24th; at Bismarck, Howard, McKinney and Willow City on the 25th; at Linton on the 26th; and at Velva on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevat on of Anemometer	Total move-ment, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.94	30.36	15	29.37	10	57	6,637	8.9	38	nw.	14
Devils Lake	29.93	30.34	15	29.33	10	44	6,614	8.9	30	w.	10
Ellendale	29.95	30.33	15	29.36	10	56	8,993	12.1	50	nw.	10
Grand Forks	29.89	30.30	16	29.39	10	90	....	......	31	se.	24
Williston	29.94	30.36	15	29.41	10	48	4,942	6.6	40	nw.	14
Moorhead, Minn	29.93	30.34	16	29.35	10	58	5,900	7.9	34	nw.	10
Av'ges and extremes	29.93	30.36	15	29.33	10	.....	....	8.9	50	nw.	10

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	220.4	336.9	65	+ 5	81	45	52	11	21
Devils Lake	148.8	335.6	44	− 9	86	57	66	18	19
Ellendale	219.4	338.3	65	+ 3	88	51	....	22	19†
Grand Forks	....	....	......	......	88	.....	71	.....	....
Williston	188.9	335.6	56	+ 2	83	51	56	23	18
Moorhead, Minn	176.9	336.9	53	− 7	88	60	63	22	19
Averages and extremes	190.9	336.6	57	− 1	86	53	62	11	21

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P.cdy days	Cl'dy days	Wind Dir.
1892	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.
1923	44.0	+0.2	84	− 8	0.88	−0.12	4	14	7	10	nw.
1924	50.3	+6.5	86	19	2.43	+1.43	7	17	5	9	se.
1925	33.3	−10.5	66	−16	0.78	−0.22	6	8	9	14	nw.
1926	42.6	−1.2	85	1	1.49	+0.49	6	10	10	11	nw.
1927	47.0	+3.2	88	12	1.39	+0.39	5	14	8	9	nw.

Climatological Data for October, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley										0.57		0.30	0	3					H. A. Bury.
Amenia	Cass	954	31	47.8	+3.5	80	19	20	9	50	1.40	+0.11	0.38	T.	5	13	13	5	sw.	E. T. Carley.
Amidon	Slope		13																	W. H. Toussaint.
Arnegard	McKenzie		12	47.0	+4.9	81	17	25	13	42	1.14	+0.10	0.45	2.0	8	22	4	5	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	47.4	+3.7	81	21†	18	9	47	1.31	+0.25	0.65	0	5	18	4	9	nw.	H. D. Piper.
Beach	Golden Valley	2,759	21	50.4	+6.4	82	19	28	6†	42	0.76	−0.23	0.51	2.1	4					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	47.1	+2.4	85	19	20	13	50	0.67	−0.19	0.42	0	4	21	4	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	49.5	+4.6	88	19	26	8	50	0.53	−0.50	0.31	0	4	12	16	3	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	43.0	+1.4	79	19	12	13	49	2.14	+1.15	0.89	1.2	9	12	9	10	nw.	N. A. Eckberg.
Cando	Towner	1,488	26	48.4	+4.7	82	3	24	5	41	2.36	+1.64	1.20	0	5	13	7	11	n.	A. J. Swanson.
Carson	Grant	2,500	15	48.2	+4.7	86	21	20	15	48	0.32	−0.56	0.30	T.	2	20	8	3	nw.	J. W. Evens.
Cavalier	Pembina																			W. W. Felson
Cooperstown	Griggs	1,428	21								1.33	+0.46	0.75	3.0	3	16	6	9	nw.	S. Friswold.
Crosby	Divide	1,954	20	46.8	+5.3	85^{a}	21	27	4†	47^{a}	2.42	+1.67	0.90	4.0	7	10	15	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	45.8	+5.3	81	19	26	9	38	2.27	+1.04	0.88	6.0	8	11	7	13	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	47.2	+3.3	82	21	19	6	49	0.59	−0.19	0.37	0	6	16	9	6	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880		47.1		81	19	25	6†	45	1.44		0.61	1.5	7	14	8	9	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	46.6	+1.0	82	19	20	13	49	1.02	+0.39	0.65	0	5	13	8	10	nw.	W. F. Moede.
Dunseith	Rolette	1,682	31	42.8	+1.7	77	19	12	13	48	2.07	+1.32	1.15	0.8	12	6	15	10	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	22	45.5	+2.8	85	19	21	28	49	2.40	+1.55	1.28	3.0	7	0	26	15	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	26	48.8	+2.9	83	19†	19	9	49	0.92	0.00	0.33	0	4	10	7	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	28	48.3	+2.7	83	21	21	9	51	0.93	−0.11	0.43	0	7	8	9	14	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	15	48.6		85	19	20	13	50	0.67	−0.03	0.27	T.	4	11	12	8	nw.	H. S. Solenberger.
Epping	Williams	2,224	19																	A. O. Wang.
Fessenden	Wells	1,610	15	47.1	+5.1	85	19	25	9†	48	1.84	+1.06	0.74	0	5	14	9	8	nw.	T. D. Monsen.
Forman	Sargent	1,249	33								0.98	−0.36	0.56	0	4	18	8	5	s.	O. Enger.
Fort Yates	Sioux	1,670																		P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	46.4		79	19	25	8†	37	1.83		0.53	3.0	9	9	6	16	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9								0.85		0.40	T.	4	23	5	3	nw.	Verne King.
Fullerton	Dickey	1,439	29	48.4	+4.1	83	21	21	9	51	1.11	−0.18	0.37	0	5	12	9	10	nw.	F. O. Alin.
Garrison	McLean	1,901	32	48.0	+4.2	86	19	25	13	45	0.82	−0.08	0.54	T.	3	19	8	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	47.6	+4.9	82	19	27	16	39	1.91	+1.02	0.72	T.	6	12	9	10	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	36	46.4	+2.9	80	19	28	8†	40	1.64	+0.48	0.60	1.4	9	11	9	11	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	42.2	−1.9	73	21	22	11	30	1.87	+0.99	0.74	2.0	4	5	13	13	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33								1.90	+0.94	0.75	T.	4					J. Moffatt.
Hansboro	Towner	1,597	19	44.6	+3.3	78	18	23	8	38	3.02	+2.11	0.80	0	7	12	9	10	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	48.6	+2.2	83	19	20	6	47	0.42	- 0.22	0.16	T.	5	19	10	2	nw.	C. H. Plath.
Hillsboro	Traill	901	21	47.8^{b}	+1.8	81^{c}	19	25	9	46^{c}	1.33	+0.31	0.42	T.	6	11	9	11	n.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	20	45.6	+4.2	80	19	26	7†	36	1.53	+0.72	0.90	4.6	3	41	9	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	46.0	+1.2	82	19	18	9	45	2.00	+1.07	1.22	1.2	4	15	3	13	w.	S. Calvelage.
Lamoine	Kidder	1,936	22	48.2	+5.1	85	19	20	9	48	1.09	+0.51	0.68	T.	2	14	9	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	31	45.6	+5.2	81	19	22	8	43	2.11	+1.17	0.67	0	7	20	2	9	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	46.2	+2.9	82	19	22	9	40	1.85	+0.62	0.90	0	5	16	3	12	s.	Reuben Gray.
Linton	Emmons	1,711	9	47.9	+3.4	86	19†	16	8†	56	1.01	+0.10	0.54	0	3	13	5	13	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	46.3	+1.0	85	21	20	9†	56	1.27	+0.25	0.33	T.	5	16	5	10		W. S. Adams.
McClusky	Sheridan	1,943	9	46.2		85	19	18	8	48	0.77		0.44	1.7	5	14	6	11	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	33	45.5	+3.8	80	17	25	13†	50	2.75	+1.82	1.10	2.0	6	7	11	13	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	49.7	+4.2	83	20	20	9	51	1.28	+0.22	0.46	0.8	4	16	3	12	sw.	J. G. Carlson.
Maddock	Benson	1,604	11	46.0	+3.4	81	19	17	4	46	2.18	+1.39	0.94	2.8	8	6	14	11	nw.	A. T. Felland.
Mandan	Morton	1,644	13	48.6	+3.7	87	19	23	9	51	0.44	−0.27	0.18	0	3	7	4	20	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	47.1		79	19	29	9	41	2.28	+1.47	0.97	2.0	7	14	6	11	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	57.4	+13.3	87	17	22	6†	57	0.09	−0.70	0.08	T.	2	17	13	1	nw.	Wm. Lamb.
Mayville	Traill	975	31	47.8	+2.9	81	19†	23	9†	47	1.80	+0.69	0.85	0	6	16	3	12	nw.	N. C. Burhans.
Melville	Foster	1,590	29	48.4	+4.8	84	19	22	8†	45	0.18	−0.69	0.07	1.8	3	21	8	2	nw.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		1								2.34		0.89	1.0	6	16	6	9	nw.	J. A. Thorburn.
Minot	Ward	1,557	31	46.0	+3.0	84	21	23	5†	48	1.45	+0.51	0.60	0	6	14	8	9	w.	W. J. Faris.
Minto	Walsh	820	34	46.5	+3.3	84	19	20	16	45	1.40	+0.30	0.61	T.	7	8	14	9	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	48.1	+5.1	85	19	20	6	50	0.17	−0.92	0.17	0	1	18	8	5	nw.	O. H. Opland.
Napoleon	Logan	1,955	35	48.1	+6.2	84	21	15	9	47	1.16	+0.22	0.52	0	5	16	4	11	s.	C. J. Hoof.
New England	Hettinger	2,400	36	43.6	−0.1	70	21†	20	6	38	0.16	−0.49	0.10	0	2	9	12	10	nw	W. L. Sales.
New Salem	Morton	2,163	23	50.0	+5.7	84	19	20	9	54	0.51	0.44	0.22	T.	4	18	10	3	nw.	J. Christiansen.
Park River	Walsh	998	23	47.2^{a}	+2.9	81^{a}	19	26^{a}	8	48^{a}	1.30	+0.29	0.34	T.	5	16	2	13	se.	C. B. Wright.
Parshall (near)	Mountrail		12																	Carl J. Knutson.
Pembina	Pembina	789	53	43.0	+2.1	70	17	28	8†	37	3.00	+1.66	1.20	0	5	13	8	10	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	18	44.2^{c}	+3.0	73^{c}	10†	20^{c}	8†	41^{c}	1.00	+0.35	0.72	T.	2	7	11	13	nw.	A. L. Carlson.
Power	Richland	1,020	33								1.00	−0.47	0.75	1.5	3	16	7	8	n.	Frank B. Power.
Powers Lake	Burke	2,205	13	44.9		72	26	27	11	31	2.69	+1.87	1.17	2.8	6	19	9	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	11	48.9	+6.2	83	19	25	8	45	0.89	+0.18	0.39	0	4	18	11	2	nw.	John Muggli.
Sharon	Steele	1,516	2	46.2		81	19	21	9	44	1.52		0.52	3.0	8	15	4	12	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	3								0.27		0.14	0	3	14	6	11	nw.	J. H. Giffey.
Starkweather	Ramsey			44.4		81	19	22	8	46	1.78		0.56	T	8	15	4	12	nw.	F. R. Irons.
Steele	Kidder	1,857	31	44.8	+0.8	78	18	16	9	48	0.80	−0.08	0.50	1.0	4	14	8	9	nw	H. S. Wood.
Towner	McHenry	1,482	25	48.0	+5.6	82	19	25	6†	44	3.30	+2.40	1.40	6.0	5	18	10	3	nw.	B. Bagley.
Trotters	Golden Valley		1								1.06		0.54	2.0	6	16	5	10		A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	48.0	+5.3	83	19	25	8†	50	0.59	−0.17	0.47	T.	3	6	6	19	nw.	A. T. Anderson.
Valley City	Barnes	1,245	22																	I. C. Robertson.
Velva	McHenry										1.50		0.43	2.0	9	8	12	11	nw.	Oscar Anderson.
Wahpeton	Richland	962	33	48.8	+2.9	80	19	20	9	47	0.89	−0.62	0.28	0	5	16	0	15	se.	C. G. Luick.
Washburn	McLean	1,731	25																	H. W. Smith.
Westhope	Bottineau	1,508	25	45.8	+4.4	79	18	24	13	51	2.45	+0.78	0.72	1.5	3	13	10	8	nw.	W. A. Meddaugh.
Williston	Williams	1,878	48	46.9	+3.5	81	19	26	13	40	1.49	+0.72	0.45	0.8	8	11	10	10	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	45.5	+3.8	80	19	22	4	47	2.75	+2.05	1.26	6.0	7	9	13	9	nw.	M. A. Ostby.
Wilton	McLean			48.2^{c}		84^{c}	19	22^{c}	8	41^{c}	0.80		0.80	T.	1	17	1	13		L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	47.8	+3.3	81	19	23	9	44	1.37	−0.70	0.62	0.7	6	11	5	15	s.	U. S. Weather Bureau.
Averages				47.0	+3.2	88	19	12	13	57	1.39	+0.39	1.40	1.00	5	14	8	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for October, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.08		T.						T	.19																		.30			0.57
Amenia ‖‖	Red		.10	.38						T.		.35	.22																		.35		1.40
Amidon	Lit. Missouri																																
Arnegard	Missouri			.07	.08	.05	.04				T.	.22																		.45	.05	.18	1.14
Ashley	Missouri		.23								.07	.29	.07																		.65		1.31
Beach	Lit. Missouri			T.	.03	.01					T.	.21	T.																	.51	T.		0.76
Berthold Agency	Missouri	T.	.01			T.	T.	T.			.12	.12																	T.	.42			0.67
Bismarck ***	Missouri				T			T.	T.		.16	.15																T.	T.	.07	.15		0.53
Bottineau‖‖	Mouse			.04	.10	.29			.12			.89				.08														.32	.25	.05	2.14
Cando	Devils Lake					.06		.11				1.20																			.97	.02	2.36
Carson	Heart										.02	.30																					0.32
Cavalier	Red																																
Cooperstown	Sheyenne								.30		.28																				.75		1.33
Crosby	Mouse			.01	.06	.90						.45	.20																		.72	.08	2.42
Devils Lake ***	Devils Lake		T.	T.	.01	T.		.04	.47		.20	.63			T.													T.		.18	.71	.03	2.27
Dickinson‖‖	Heart	.06		.03								.05	.06																	T.	.37	.02	0.59
Dogden Butte	Mouse			T.	T.	.18		T.	.28		T.	.61	.01																T.	.24	.10	.02	1.14
Dunn Center ‖‖	Knife	.10		.07								.10	.10																		.65		1.02
Dunseith	Mouse	.03				.06		.04	.08		.01	1.15	.02		.01	.06														.28	.29	.04	2.07
Eckman	Mouse				.20	.19			.21			1.28																		.36	.11	.05	2.40
Edgeley	James		.28						.08			.23																		T.	.33		0.92
Ellendale***	James	.02	.33	T.					.03		.08	.04																		.17	.26		0.93
Energy	Missouri		T.		T.		T.	T.	T.		.10	.27																	T.	.25	.05		0.67
Epping	Missouri																																
Fessenden‖‖	James									.30		.74	.12																		.56	.12	1.84
Forman	Sheyenne		.56							.10				.16																.16			0.98
Fort Yates	Missouri																																
Foxholm (near)	Mouse	.01		.03	.19	.19	T.		.18		T.	.53				T.														.46	.15	.09	1.83
Fryburg	Heart					.05					T.	.40																		.37	.03	T.	0.85
Fullerton	James		.32		T.	T.					.29	.08	T.																	.05	.37		1.11
Garrison	Missouri								.04		.24	T.																		.54			0.82
Grafton	Red		.72					.07	.08			.60	.04																	T.	.40		1.91
Grand Forks ***	Red		.60		.07	T.		.04	.14	.07		.55	.02																	.07	.08		1.64
Granville	Mouse	T.	T.		.40	T.	T.		.25			.74																T.		.48		T.	1.87
Hannah	Pembina			.05	.73	T.			T.		T.	.37																	T.	.75	T.		1.90
Hansboro	Devils Lake	.20	.30		.50			.10				.80																		.35	.77		3.02
Hettinger	Grand	.02									.08	.10																		.16	.06		0.42
Hillsboro	Red		.42	.15				T.	.15			.25	.10																		.26		1.33
Howard (near)	Missouri	.01		T.	.90			T.			T.	.42															T.	T.	T.		.20		1.53
Jamestown‖‖	James										.46	.27																		1.22	.05		2.00
Lamoine	Missouri								T.		T.	.68																		T.	.41		1.09
Langdon‖‖	Pembina	.05		.30		.67						.26	.10			.15															.58		2.11
Larimore	Red		.35	.25							.90	.05																			.30		1.85
Linton	Missouri		T.					T.	T.	.13	.34		T																		.54		1.01
Lisbon ‖‖	Sheyenne		.22	.33						T.		.20	.21																	T.	.31		1.27
McClusky	Missouri								.17		.04	.44																	.02	.10			0.77
McKinney (near)	Mouse	.10		T.	T.	.55	T.		.20			1.10																	T.		.70	.10	2.75
McLeod	Sheyenne		.62						.08				.12																		.46		1.28
Maddock	Sheyenne			.11	T.	.04		T.	.28			.94	.01																	.08	.63	.09	2.18
Mandan‖‖	Missouri			T								.12	.14																	T.	.18		0.44
Manfred	James			.06	T.	.07		T.	.25		T.	.97																T		.29	.58	.06	2.28
Marmarth	Lit. Missouri		.01									T.	T.																	.08			0.09
Mayville	Red	.85		.14					.23			.29	.01																		.28		1.80
Melville	James								.06			.05																			.07		0.18
Metigoshe	Mouse	.03		.10		.64			.14			.89																		.54			2.34
Minot‖‖	Mouse		.05		.25						.30	.20																		.60		.05	1.45
Minto	Red		.61	.14		.04			.01			.54	.05																	.01			1.40
Mott	Cannon Ball																													.17			0.17
Napoleon ‖‖	Missouri									.06		.25	.15																		.52	.18	1.16
New England	Cannon Ball	.10	T.					T.			T.	.06																		T.			0.16
New Salem	Heart			.04	T.	T.	T.	T.			.05	.20																T.		.22			0.51
Park River	Red																																
Parshall (near)	Missouri																																
Pembina‖‖	Red			1.20				.50					.30			.50													.50				3.00
Pettibone	James				T.	T.		T.				.72																	T.	T.	.28		1.00
Power	Sheyenne		.75						.15				.10																				1.00
Powers Lake	Missouri	.33			.23				1.17									.37										.28	.31				2.69
Richardton	Heart		.27								.06	.17																		.39			0.89
Sharon	Red		.32	.05	.02	T.		T.	.27			.52	.03		T.													T.		.05	.26		1.52
Stanton	Missouri								.03			.14																		.10			0.27
Starkweather	Devils Lake	.15	.03		.14				T.	.16	.56	.09																	.49		.16		1.78
Steele	Missouri							T.	.10			.50	.10																	.10	T.		0.80
Towner	Mouse	.05			.70				.60			1.40																	T.	.55			3.30
Trotters	Lit. Missouri	.03			.01	.03						.54																		.40		.05	1.06
Turtle Lake	Missouri				T.				T.		T.	.47	T.															T.		.10		.02	0.59
Valley City	Sheyenne																																
Velva	Mouse	T.		.05	.06	.15		T.	.21		.10	.39																	T.	.43	.05	.06	1.50
Wahpeton	Red		.18	.20					.10				.13																		.28		0.89
Washburn	Missouri																																
Westhope	Mouse		.05	.05	.30	.22			.15		.15	.92			.05															.56			2.45
Williston ***	Missouri		.01	.02	.38	.01	.01		T.		T.	.43																	T.	.45		.18	1.49
Willow City	Mouse	T.		.07	.21	.28			.60		T.	1.26			T.														T.	.30		.03	2.75
Wilton									T.		T.																		T.	T.	.80		0.80
Moorhead, Minn ***	Red		.44	T.	T.	T			.16	T.	.05	.10	T.		T.															.02	.60	T.	1.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	72	61	55	54	50	58	64	52	43	62	53	54	52	76	67	70	71	76	80	75	78	66	78	70	68	64	60	60	64	55	48	63.1
	Minimum	37	36	38	31	32	29	30	29	20	30	34	36	30	29	31	25	38	36	38	40	28	26	31	31	33	34	36	34	34	38	26	32.6
Amidon	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Arnegard	Maximum	52	51	49	49	44	41	51	45	71	57	42	49	65	56	67	77	81	75	80	71	79	66	68	71	67	56	59	60	50	50	46	59.5
	Minimum	29	34	35	29	29	26	30	27	29	42	33	31	25	37	34	38	41	42	44	37	42	39	37	36	37	38	30	35	41	30	30	34.4
Ashley	Maximum	55	70	51	57	57	50	50	50	49	49	49	41	46	70	69	54	59	70	73	73	81	81	70	66	60	77	63	61	65	58	50	60.5
	Minimum	37	44	39	29	36	30	30	22	18	34	34	23	26	34	34	32	36	34	34	45	34	47	40	34	33	40	34	35	46	38	28	31.2
Beach	Maximum	61	73	57	53	52	53	57	61	72	66	44	52	65	66	68	80	81	81	82	72	81	76	72	80	62	52	57	62	47	50	45	63.9
	Minimum	40	43	36	30	34	28	33	35	30	34	32	32	28	37	28	38	44	43	46	45	49	48	42	42	35	37	35	45	40	30	28	37.0
Berthold Agency	Maximum	61	64	54	50	50	58	58	43	72	68	48	50	65	72	69	72	80	78	85	65	82	73	68	81	67	54	55	58	55	49	48	62.7
	Minimum	43	26	36	26	36	24	25	26	26	33	34	25	20	23	25	37	36	31	35	36	32	40	35	39	32	32	27	33	39	35	31	31.5
Bismarck	Maximum	61	61	51	62	46	56	59	48	70	70	43	48	56	79	59	65	75	78	88	65	84	66	73	80	69	53	51	61	58	50	49	62.5
	Minimum	38	41	38	28	37	33	30	26	27	40	37	34	27	35	32	38	41	26	38	45	42	50	40	42	37	39	34	32	47	33	32	36.4
Bottineau §§	Maximum	57	57	56	49	48	55	54	46	67	57	56	54	50	59	57	61	75	74	79	71	70	68	62	73	68	55	58	55	51	50	45	59.4
	Minimum	33	30	30	18	20	22	18	18	17	28	26	26	12	23	21	25	28	30	30	31	27	30	30	30	34	30	24	32	31	26	21	26.5
Cando	Maximum	66	70	82	71	60	55	54	47	47	70	65	47	41	60	58	72	78	79	74	70	69	72	71	73	72	55	58	57	51	52	49	63.1
	Minimum	38	40	45	29	24	36	34	30	27	34	37	37	27	31	28	31	38	40	40	32	33	39	34	32	37	36	31	39	40	42	38	34.8
Carson	Maximum	60	64	59	60	46	48	59	45	72	76	60	70	58	77	65	68	77	78	85	70	86	60	58	84	70	60	56	58	50	45	50	63.7
	Minimum	35	36	35	28	28	24	26	22	24	30	32	30	20	40	20	35	40	40	44	35	44	40	40	40	30	35	29	34	34	30	30	32.6
Crosby §§	Maximum	57	54	57	54	43	51	46	53	63	50	54	47	60	62	68	64	77	74	79	73	85	68	64	67	65	60	75	70	48	48	..	[a]59.3
	Minimum	32	34	33	27	34	31	31	27	33	33	27	30	27	31	30	32	33	45	43	45	38	40	42	38	34	40	31	34	48	31	32	34.4
Devils Lake	Maximum	61	54	52	51	45	55	57	39	44	68	42	40	49	63	57	60	71	76	81	60	73	60	67	72	60	52	58	58	54	54	43	57.3
	Minimum	36	37	36	32	37	31	28	27	26	36	36	29	28	31	31	32	38	39	45	39	35	33	40	35	35	37	29	41	40	32	32	34.3
Dickinson §§	Maximum	60	61	51	51	47	57	57	50	72	61	41	50	67	71	59	80	80	77	81	69	82	72	72	80	65	53	56	58	47	48	44	61.9
	Minimum	34	26	35	25	33	19	28	22	35	37	35	30	20	28	24	31	39	40	35	36	40	44	38	39	38	35	31	34	35	31	30	32.5
Dunn Center §§	Maximum	59	62	48	48	47	56	54	51	71	69	43	50	69	59	59	78	79	75	82	66	81	69	70	80	63	56	55	59	47	49	45	61.3
	Minimum	28	24	34	25	33	21	34	23	27	39	45	31	20	29	30	30	32	34	33	41	32	45	38	35	32	31	27	31	37	32	32	31.9
Dunseith	Maximum	54	59	54	49	49	54	53	43	55	76	58	41	50	59	57	60	74	75	77	70	70	68	62	71	68	53	59	56	51	50	43	58.7
	Minimum	33	38	29	18	20	22	17	18	17	28	27	26	12	23	21	25	28	29	31	31	27	30	51	30	34	30	23	32	31	25	21	26.8
Edgeley	Maximum	60	54	59	57	53	54	60	53	57	66	59	46	64	74	68	67	70	82	83	71	83	68	79	72	67	60	60	58	62	58	47	63.6
	Minimum	37	43	39	29	36	29	31	22	19	35	34	36	24	29	31	32	28	37	40	46	34	37	51	35	30	33	34	30	46	39	26	33.9
Ellendale	Maximum	64	54	57	66	47	51	60	48	57	64	48	46	53	72	55	62	69	78	81	65	83	68	76	74	70	65	59	58	67	58	51	62.1
	Minimum	37	40	34	31	39	35	29	25	21	35	35	34	28	32	35	31	35	36	42	40	32	39	36	37	35	35	38	36	48	31	27	31.5
Fessenden §§	Maximum	63	57	54	56	52	60	60	52	63	75	45	42	54	74	62	65	76	75	85	60	62	65	68	76	64	56	57	60	55	46	48	60.9
	Minimum	36	36	36	26	32	32	27	26	25	40	39	36	25	26	30	33	37	38	39	40	34	36	34	35	34	35	29	33	36	38	28	33.3
Foxholm (near)	Maximum	58	58	52	44	43	54	53	41	65	63	48	44	55	65	56	64	77	72	79	72	75	65	63	73	59	53	52	56	51	46	45	58.1
	Minimum	42	31	37	27	32	27	30	25	28	45	31	30	25	35	31	36	45	47	47	38	41	40	43	37	33	31	29	33	38	33	31	31.8
Fullerton	Maximum	65	53	57	60	48	52	60	50	55	65	48	45	52	70	62	59	68	77	79	63	83	66	77	72	70	65	59	58	64	60	50	61.7
	Minimum	38	45	37	32	38	38	29	24	21	33	35	37	25	30	29	40	33	38	43	42	32	45	[illegible]	33	34	35	36	38	47	41	27	35.2
Garrison	Maximum	57	54	49	51	46	52	56	42	72	72	44	47	56	70	60	65	77	79	86	67	84	70	68	80	64	53	56	59	50	50	48	60.8
	Minimum	44	31	38	26	35	33	30	27	28	38	34	30	25	30	34	36	40	34	40	39	41	43	41	44	38	35	28	36	42	36	31	35.1
Grafton	Maximum	69	60	57	56	51	52	58	49	42	58	53	42	46	56	60	59	68	71	82	74	63	61	66	67	62	60	58	60	62	60	44	58.9
	Minimum	45	44	45	34	41	34	38	29	28	31	40	40	36	31	33	27	35	47	43	46	28	36	34	29	36	34	35	36	43	30	30	36.4
Grand Forks	Maximum	68	50	58	54	46	53	60	40	41	57	49	42	44	58	59	58	67	68	80	60	66	60	69	67	64	59	58	61	55	56	43	57.1
	Minimum	41	47	42	35	37	29	36	28	28	38	39	36	31	32	36	29	36	41	40	58	31	34	33	31	35	37	34	43	44	34	28	35.6
Granville	Maximum	50	50	54	55	50	48	52	40	45	50	40	40	43	48	55	50	55	50	62	68	73	57	60	58	52	53	50	52	48	45	37	51.3
	Minimum	37	30	32	25	30	26	28	25	30	32	22	32	27	28	30	40	38	35	42	38	45	37	45	37	38	33	28	32	38	37	31	33.2
Hansboro	Maximum	65	55	50	50	50	56	57	45	48	70	50	40	45	56	50	62	70	78	72	70	67	57	64	70	65	56	56	58	55	52	41	57.4
	Minimum	40	30	25	30	32	32	25	23	25	35	30	32	32	33	25	30	35	40	40	35	45	25	35	35	30	25	25	32	32	43	27	31.7
Hettinger	Maximum	58	61	55	58	44	55	56	51	72	62	44	52	69	76	58	76	81	78	83	71	82	74	72	81	71	58	58	57	47	50	45	63.2
	Minimum	38	32	34	29	35	20	26	24	29	41	34	31	23	36	25	35	36	36	36	41	44	48	39	39	32	37	31	36	39	32	33	33.9
Hillsboro	Maximum	71	65	56	56	51	56	61	54	40	58	52	44	48	58	59	60	68	70	81	70	76	..	..	..	68	62	58	66	56	55	46	[c]59.5
	Minimum	38	48	40	34	42	30	34	30	25	37	38	37	32	31	36	26	35	39	43	46	30	..	..	33	36	37	37	40	45	44	27	[b]36.2
Howard (near)	Maximum	54	48	45	40	42	52	48	50	61	50	44	54	63	65	55	70	76	73	80	60	68	70	62	75	70	60	50	52	45	47	40	57.2
	Minimum	42	38	38	30	31	29	25	30	[illegible]	37	30	27	27	32	30	38	40	38	47	34	36	37	38	36	35	35	35	30	42	26	30	34.1
Jamestown §§	Maximum	66	54	59	54	46	55	61	48	[illegible]	[illegible]	50	41	53	67	57	62	71	79	82	62	72	63	72	73	67	59	59	58	58	48	50	60.3
	Minimum	[illegible]	[illegible]	38	28	[illegible]	[illegible]	27	23	[illegible]	25	35	36	25	26	31	30	30	34	37	39	33	36	36	32	32	34	34	33	36	45	28	31.8
Lamoine	Maximum	61	[illegible]	57	[illegible]	[illegible]	[illegible]	[illegible]	58	[illegible]	[illegible]	52	48	53	76	63	65	74	75	85	70	82	78	56	75	65	56	54	58	55	55	48	62.5
	Minimum	34	35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22	[illegible]	[illegible]	35	30	23	32	32	35	39	37	37	37	38	38	38	40	39	36	30	38	38	35	27	34.0
Langdon §§	Maximum	66	55	[illegible]	[illegible]	[illegible]	[illegible]	57	55	[illegible]	60	46	38	48	60	58	60	69	76	81	75	73	65	64	67	57	51	55	58	52	52	46	58.0
	Minimum	44	37	[illegible]	[illegible]	30	[illegible]	[illegible]	22	[illegible]	[illegible]	35	34	28	28	29	29	26	36	40	35	31	34	39	34	35	38	31	34	39	41	30	33.2
Larimore §§	Maximum	50	56	[illegible]	[illegible]	52	[illegible]	[illegible]	40	[illegible]	[illegible]	40	49	60	59	62	68	72	77	82	73	70	65	62	60	54	60	65	56	53	48	43	57.4
	Minimum	40	35	[illegible]	35	35	[illegible]	[illegible]	25	[illegible]	[illegible]	38	34	35	30	30	29	37	40	42	40	37	36	36	36	35	35	37	36	36	39	32	34.9
Linton	Maximum	61	64	64	62	64	[illegible]	[illegible]	52	[illegible]	[illegible]	43	52	55	82	62	62	75	80	86	72	86	69	78	73	79	61	59	63	66	58	48	64.9
	Minimum	31	42	22	28	22	[illegible]	[illegible]	16	16	[illegible]	37	31	25	26	30	37	39	32	30	48	39	39	32	38	29	37	29	32	46	26	24	30.9
Lisbon §§	Maximum	72	52	55	55	[illegible]	[illegible]	[illegible]	45	52	65	52	43	55	64	65	72	75	77	82	66	85	67	74	74	67	63	61	60	60	48	42	61.6
	Minimum	35	45	36	29	34	[illegible]	[illegible]	25	26	[illegible]	28	36	26	25	24	22	27	28	30	42	29	34	30	29	29	36	29	37	38	44	20	31.0
McClusky	Maximum	59	59	58	54	[illegible]	[illegible]	[illegible]	[illegible]	67	71	45	42	54	73	58	66	75	75	85	68	81	65	67	75	65	56	54	60	57	54	54	61.3
	Minimum	40	32	32	22	[illegible]	[illegible]	[illegible]	[illegible]	19	32	29	28	20	30	26	42	41	32	37	38	35	39	31	49	31	31	24	35	37	28	25	31.0
McKinney (near)	Maximum	55	60	50	45	[illegible]	[illegible]	[illegible]	[illegible]	65	60	50	50	40	55	60	70	80	72	79	75	75	70	65	72	65	62	60	56	50	47	45	59.0
	Minimum	44	29	38	27	[illegible]	[illegible]	[illegible]	[illegible]	28	34	32	32	25	28	30	34	30	30	32	32	32	34	34	30	30	35	25	38	34	40	30	32.0
Maddock	Maximum	60	59	52	52	[illegible]	[illegible]	[illegible]	[illegible]	49	71	56	41	50	70	65	60	75	75	81	78	77	75	66	75	73	60	56	60	57	50	45	61.8
	Minimum	33	32	31	17	[illegible]	[illegible]	[illegible]	25	[illegible]	[illegible]	35	35	23	30	28	18	33	34	40	38	31	38	35	32	35	35	26	35	42	35	29	31.0
Melville	Maximum	67	60	58	58	[illegible]	[illegible]	50	47	[illegible]	[illegible]	46	42	55	78	62	63	72	74	84	64	81	72	71	74	74	68	57	63	55	58	49	63.1
	Minimum	34	37	37	29	36	[illegible]	29	22	[illegible]	[illegible]	34	35	23	35	30	30	32	37	44	40	36	38	40	35	33	30	39	35	44	35	29	33.6
Minot §§	Maximum	53	63	50	77	44	[illegible]	58	43	[illegible]	[illegible]	46	48	48	46	55	60	66	80	82	67	84	70	70	78	65	60	56	56	52	48	48	60.2
	Minimum	27	42	25	29	23	[illegible]	25	26	[illegible]	33	31	23	31	29	36	48	39	37	40	37	40	39	36	35	30	27	36	39	36	29	26	33.0
Mott	Maximum	59	64	55	57	41	58	58	53	[illegible]	66	44	58	60	76	58	80	78	80	85	72	84	73	74	83	70	60	58	59	54	51	45	64.2
	Minimum	35	30	34	26	33	20	26	27	26	40	31	21	25	24	26	30	35	35	39	38	36	40	37	39	32	36	31	29	37	31	33	32.0
Napoleon §§	Maximum	62	60	58	63	45	56	58	47	60	75	57	46	55	78	62	65	67	70	82	75	84	66	75	78	71	60	61	58	64	48	49	63.1
	Minimum	36	38	39	28	35	23	30	20	15	35	38	30	25	30	30	29	38	38	35	40	38	44	41	31	37	34	29	33	34	38	30	33.1
New Salem	Maximum	63	68	65	61	56	58	59	62	74	73	55	49	59	79	65	66	78	79	84	70	81	60	75	79	55	59	55	66	51	49	49	64.6
	Minimum	37	37	38	27	32	26	31	34	20	47	33	27	25	39	30	30	37	39	48	43	47	49	41	39	36	38	36	29	41	35	30	35.5
Pembina §§	Maximum	68	50	58	58	48	48	58	45	44	45	53	40	45	52	60	65	70	65	60	58	54	56	58	54	36	34	36	42	44	42	38	51.1
	Minimum	48	45	41	38	38	36	33	28	33	31	34	33	30	38	32	28	35	45	40	35	35	32	32	36	34	32	32	30	33	31	30	34.8
Steele	Maximum	61	58	55	56	42	46	43	35	59	72	44	40	59	73	70	70	71	78	75	72	73	66	69	68	60	55	58	59	58	55	45	59.5
	Minimum	31	40	35	25	32	26	23	21	16	35	32	30	24	25	25	25	31	36	36	42	36	36	35	36	36	32	30	29	22	26	22	30.0
Towner	Maximum	61	59	60	56	53	61	56	50	60	70	51	56	51	65	60	68	76	75	82	70	76	75	60	77	65	58	60	55	55	50	45	61.8
	Minimum	38	40	38	40	42	25	36	25	28	36	35	38	28	25	29	30	36	35	38	39	36	36	38	38	30	35	30	25	39	38	30	34.1
Valley City	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Wahpeton	Maximum	68	66	58	56	56	55	63	58	52	60	60	51	47	66	65	60	68	72	80	74	78	77	75	70	70	68	64	60	61	67	50	63.7
	Minimum	39	45	36	30	35	34	31	25	20	35	31	31	30	32	36	26	35	45	36	45	31	35	31	32	32	30	35	33	45	42	26	33.8
Westhope	Maximum	57	61	47	48	62	62	55	58	67	61	64	46	45	56	54	62	77	79	78	60	73	63	65	75	72	53	58	57	47	47	46	59.8
	Minimum	40	29	26	25	31	28	29	28	29	37	35	28	24	29	28	35	29	25	34	32	34	33	38	36	38	38	27	35	42	32	30	31.8
Williston	Maximum	58	53	47	39	43	53	51	45	[illegible]	55	45	48	64	67	56	73	80	74	81	63	78	65	66	73	60	54	52	57	48	48	45	58.3
	Minimum	39	33	34	30	30	[illegible]	31	31	[illegible]	39	33	29	26	36	32	43	40	39	43	39	43	39	42	39	35	35	30	39	41	31	30	35.5
Moorhead, Minn	Maximum	68	53	55	54	47	[illegible]	60	41	[illegible]	59	49	43	47	61	54	59	67	68	81	62	76	62	73	69	69	66	60	62	60	58	48	58.9
	Minimum	40	48	40	34	35	[illegible]	35	29	[illegible]	[illegible]	37	37	33	33	37	25	38	42	42	40	32	38	34	39	42	39	39	38	50	34	29	36.7

§§ Instruments are read in the morning; the maximu [illegible] e then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

[WBO, Minneapolis, 11-22-27—1000]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI BISMARCK, N. D., NOVEMBER, 1927 No. 11

GENERAL SUMMARY

The month opened with weather favorable for farm and other outdoor work and rapid progress was made in fall plowing, corn husking and in grain marketing during the first six days. On the 7th, however, snow was general throughout the State and the ground became sufficiently frozen to stop fall plowing. Scattered snows throughout the remainder of the month greatly interfered with corn husking and at the close of the month there was much unhusked. Much road graveling throughout the main trails of the State was accomplished. Livestock was generally in good to excellent condition, but some housing and yard feeding was necessary during the last few days of the month.

TEMPERATURE

The mean temperature for the State was 20.7°, or 5.9° below the normal, and 0.8° lower than the mean for November, 1926. The highest mean reported was 31.8° at Marmarth, Slope County; the lowest was 12.4° at Dunseith, Rolette County. The highest temperature reported was 59° at Berthold Agency, McLean County, on the 3d; the lowest was −24° at Eckman, Bottineau County, and at McKinney, Renville County, on the 17th. The greatest monthly range of temperature was 79° at Eckman, Bottineau County; the least was 49° at Pembina, Pembina County. The greatest daily range in temperature was 48° at Marmarth, Slope County, on the 11th and 12th.

PRECIPITATION

The average precipitation for the State was 0.70 inch, or 0.12 inch above the normal, and 0.05 inch more than the average for November, 1926. The greatest monthly amount reported was 1.56 inches at Mandan, Morton County; the least was 0.17 inch at Hettinger, Adams County, and at Linton, Emmons County. The greatest amount recorded in any 24 consecutive hours was 0.60 inch at Larimore, Grand Forks County, on the 7th, and at Wilton, McLean County, on the 28th. The average snowfall was 7.1 inches; the greatest depth reported being 16.0 inches at Hansboro, Towner County. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Napoleon on the 26th; at Grand Forks, Minto and Sharon on the 29th; and at McLeod and Towner on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date†	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.09	30.60	12	29.42	29	57	6,418	8.9	36	nw.	10
Devils Lake	30.05	30.56	12	29.48	25	41	7,351	10.2	33	nw.	11
Ellendale	30.07	30.55	12	29.33	29	56	9,377	13.0	49	n.	29
Grand Forks	30.07	30.47	15	29.50	25	90	....	......	35	nw.	10
Williston	30.08	30.58	12	29.41	28	48	5,865	8.1	36	nw.	2
Moorhead, Minn	30.08	30.57	12	29.43	29	58	6,305	8.8	31	nw.	11
Av'ges and extremes	30.08	30.60	12	29.33	29	.....	....	9.8	49	n.	29

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	137.3	281.1	49	− 3	83	66	72	29	3
Devils Lake	87.5	278.2	31	−15	88	82	84	52	3
Ellendale	114.6	284.1	40	−12	84	67	....	28	3
Grand Forks	......	......	......	......	84	.....	76	.....	....
Williston	93.3	278.2	34	−13	80	68	74	41	3
Moorhead, Minn.	80.5	281.1	29	−19	87	65	73	40	5
Averages and extremes	102.6	280.5	37	−12	84	70	76	28	3

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891...	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892...	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893...	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894...	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895...	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896...	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897...	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898...	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899...	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900...	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901...	26.8	+0.2	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902...	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903...	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904...	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905...	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906...	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907...	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908...	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909...	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910...	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911...	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912...	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913...	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914...	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915...	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916...	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917...	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918...	28.9	+2.3	71	−18	1.04	+0.46	4	13	6	11	nw.
1919...	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920...	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921...	21.0	−5.6	69	−30	0.68	+0.10	5	7	8	15	nw.
1922...	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.
1923...	36.5	+9.9	72	− 5	0.50	−0.08	3	13	8	9	nw.
1924...	27.6	+1.0	69	−15	0.18	−0.40	2	11	9	10	nw.
1925...	28.8	+2.2	69	−17	0.25	−0.33	2	14	8	8	nw.
1926...	21.5	−5.1	68	−23	0.65	+0.07	5	6	7	17	nw.
1927...	20.7	−5.9	59	−24	0.70	+0.12	6	7	8	15	nw.

Climatological Data for November, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	...	...	...	...	...	...	...	...	0.52	...	0.19	6.0	5	...	...	...	...	H. A. Bury.
Amenia	Cass	954	31	23.5	-3.8	56	3	-13	30	41	0.59	+0.05	0.29	2.0	3	9	13	8	n.	E. T. Carley.
Amidon	Slope	...	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. H. Toussaint.
Arnegard	McKenzie	...	12	20.6	-8.2	51	2†	-8	12†	41	0.70	+0.34	0.30	7.0	6	13	4	13	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	24.1	-3.6	53	3	1	30	31	0.23	-0.31	0.07	6.5	4	10	6	14	nw.	H. D. Piper.
Beach	Golden Valley	2,759	21	24.4	-7.0	54	25	-4	16	35	0.59	+0.05	0.26	...	7	...	...	...	se.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	34	22.0	-6.8	59	3	-7	12†	44	0.22	-0.26	0.10	4.5	3	13	3	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	22.5	-6.0	53	3	-3	29	39	0.80	+0.12	0.34	10.0	9	4	9	17	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	16.8	-6.8	51	3	12	17	32	0.70	+0.16	0.18	...	12	3	10	17	nw.	N. A. Eckberg.
Cando	Towner	1,488	26	18.0	8.5	54	1	-8	7†	32	0.59	+0.08	0.29	...	5	6	8	16	ne.	A. J. Swanson.
Carson	Grant	2,500	15	22.3	-8.4	55	3	-6	12	43	0.80	+0.24	0.30	8.0	8	8	4	18	nw.	J. W. Evens.
Cavalier	Pembina	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. W. Felson
Cooperstown	Griggs	1,428	21	...	...	...	...	...	...	...	1.10	+0.56	0.40	11.0	3	4	3	23	nw.	S. Friswold.
Crosby	Divide	1,954	20	19.0	-8.8	53	3	-16	17	36	0.90	+0.19	0.20	9.0	7	6	10	14	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	17.6	-5.0	50	3	-10	17	32	0.63	-0.08	0.24	8.3	9	7	4	19	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	20.6	-8.0	53	2†	-7	30	37	1.09	+0.61	0.25	10.9	10	6	3	21	ne.	Leroy Moomaw.
Dogden Butte ‡‡	McLean	1,880	...	19.7	...	51	3	-10	17	30	0.68	...	0.35	4.6	6	6	6	18	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	20.8	-7.6	52	2†	8	17	44	0.62	0.00	0.20	4.0	6	4	4	22	e.	W. F. Moede.
Dunseith	Rolette	1,682	31	12.1	-14.1	50	3	-20	12	37	1.30	+0.87	0.32	10.8	12	3	15	12	n.	J. G. Lamont.
Eckman	Bottineau	1,500	22	18.0	-8.3	55	2	24	17	46	0.89	+0.35	0.21	7.0	5	1	13	16	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	26	23.3	-7.1	55	25	-7	30	33	0.25	-0.09	0.17	0.8	3	2	8	20	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	28	23.3	-2.8	55	3	-1	30	35	0.30	-0.48	0.11	4.2	9	3	11	16	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	15	22.6	...	53	3	-7	17	35	0.42	+0.16	0.25	5.8	6	3	13	14	nw.	H. S. Solenberger.
Epping	Williams	2,224	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. O. Wang.
Fessenden	Wells	1,610	15	20.3	-6.7	53	3	-6	17†	38	0.66	+0.02	0.26	4.8	5	7	4	19	nw.	T. D. Monsen.
Forman	Sargent	1,249	33	...	...	...	...	...	...	...	0.30	-0.26	0.10	1.8	4	9	8	13	n.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	17.6	...	50	3	-18	17	25	0.85	...	0.30	10.2	9	5	9	16	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9	...	...	...	...	...	...	...	0.92	...	0.15	9.5	7	8	1	21	e.	Verne King.
Fullerton	Dickey	1,439	29	24.0	-5.7	54	3	-3	30	32	0.66	-0.07	0.26	6.6	6	1	12	17	nw.	F. O. Alin.
Garrison	McLean	1,901	32	21.6	-5.4	53	3	3	17	32	0.32	-0.26	0.10	3.7	7	15	3	12	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	20.0	-4.0	51	3	-4	23	33	0.77	-0.09	0.17	2.7	7	7	3	20	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	36	21.0	-5.1	52	3	7	30	33	0.47	-0.23	0.19	7.5	8	4	8	18	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	18.9	-6.5	40	1†	-18	17	30	0.70	+0.09	0.30	7.0	5	4	8	18	se.	W. A. Christianson.
Hannah	Cavalier	1,568	33	...	...	...	...	...	...	...	1.00	+0.32	0.20	10.0	7	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	19	13.6	-12.3	50	3	-13	30	32	0.75	+0.29	0.30	16.0	5	10	10	10	n.	C. E. Blackorby.
Hettinger	Adams	2,675	20	27.1	-6.3	58	25	1	12	38	0.17	-0.15	0.05	2.0	5	5	10	15	nw.	C. H. Plath.
Hillsboro	Traill	901	21	23.2	-5.6	53	3	-8	30	30	0.65	-0.16	0.40	6.5	3	5	17	8	n.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	20	16.3	-11.4	51	2	-11	12	37	0.97	+0.46	0.21	9.7	8	6	9	15	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	21.0	6.6	54	3	-9	30	41	1.34	+0.61	0.45	13.5	7	7	7	16	nw.	S. Calvelage.
Lamoine	Kidder	1,936	22	20.3	-6.7	52	3	-4	30	36	0.60	+0.06	0.30	6.0	3	9	8	13	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	31	16.0	-9.7	47	3	-10	17	32	1.55	+0.85	0.50	15.5	8	8	20	2	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	20.6	-5.2	50	3	-6	16	25	1.15	+0.47	0.60	11.5	4	7	9	14	n.	Reuben Gray.
Linton	Emmons	1,711	9	24.0	-5.4	54	4	-5	30	44	0.17	-0.39	0.15	1.7	2	8	4	18	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	24.8	-5.4	56	3	-8	29	31	0.80	+0.18	0.30	8.0	3	16	8	6	...	W. S. Adams.
McClusky	Sheridan	1,943	9	18.8	...	48	25†	-8	13†	41	0.95	...	0.40	9.5	3	7	15	8	se.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	33	18.1	-6.5	50	3	-24	17	30	0.50	-0.15	0.20	5.0	4	5	10	15	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	25.3	-4.4	55	9	-11	30	44	0.44	-0.15	0.29	4.4	4	14	6	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	11	19.2	-7.8	50	3	-17	17	37	0.19	-0.49	0.06	...	6	4	10	16	nw.	A. T. Feliand.
Mandan	Morton	1,644	13	21.2	-8.7	53	3	-6	30	35	1.56	+1.01	0.40	14.8	9	7	2	21	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	20.8	-8.2	50	3	-5	17†	30	0.88	+0.14	0.30	8.8	8	6	11	13	ne.	P. B. Anderson.
Marmarth	Slope	2,714	18	31.8	-2.2	58	2†	-2	10†	48	0.45	+0.12	0.21	4.5	4	7	21	2	nw.	Wm. Lamb.
Mayville	Traill	975	31	23.6	-5.7	53	3†	-8	30	33	0.65	-0.02	0.35	6.5	3	12	3	15	nw.	N. C. Burhans.
Melville	Foster	1,590	29	20.7	-8.3	56	3	10	30	31	0.26	-0.27	0.18	2.6	3	22	5	3	nw.	J. P. Fischer.
Metigoshe ‡‡	Bottineau	...	1	...	...	...	...	...	...	...	1.23	...	0.43	11.0	5	11	4	15	nw.	J. A. Sherburn.
Minot	Ward	1,557	31	17.0	12.7	53	3	-19	15	35	0.80	+0.12	0.20	8.0	6	5	7	18	e.	W. I. Faris.
Minto	Walsh	820	34	19.2	-5.3	50	3	-5	30	38	0.50	-0.15	0.28	6.8	5	7	16	7	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	23.6	-7.6	55	25	0	12†	36	1.27	+0.81	0.41	9.5	8	2	7	21	e.	O. H. Opland.
Napoleon	Logan	1,955	35	21.4	-5.2	50	3	-10	30	33	1.05	+0.46	0.40	6.0	6	5	7	18	w.	C. J. Hoof.
New England	Hettinger	2,400	36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. L. Sales.
New Salem	Morton	2,163	23	21.5	-9.2	52	2	-7	30	35	0.81	+0.46	0.20	8.0	8	10	4	16	se.	J. Christiansen.
Park River	Walsh	998	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. B. Wright.
Parshall (near)	Mountrail	...	12	...	...	...	...	...	...	...	0.55	+0.29	0.15	7.5	9	5	9	16	...	Carl J. Knutson.
Pembina	Pembina	789	53	19.6	-3.1	40	1†	-9	30	28	0.30	-0.38	0.20	3.0	2	7	13	10	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. L. Carlson.
Power	Richland	1,020	33	...	...	...	...	...	...	...	0.85	+0.23	0.30	8.5	4	7	6	17	nw.	Frank B. Power.
Powers Lake	Burke	2,205	13	18.8	...	49	2	-8	19	33	0.45	-0.11	0.17	6.8	4	13	4	13	e.	Geo. B. Gee.
Richardton	Stark	2,467	11	21.6	-6.9	52	2†	-4	12	35	0.59	+0.08	0.30	5.9	3	9	4	17	se.	John Muggli.
Sharon	Steele	1,516	2	19.8	...	52	3	-11	30	32	0.53	...	0.24	7.0	5	4	9	17	w.	Nels O. Greisheim.
Stanton	Mercer	1,722	3	...	...	...	...	...	...	...	0.40	...	0.30	1.2	2	8	7	15	se.	J. H. Giffey.
Starkweather	Ramsey	...	...	17.6	...	47	4	-11	17	32	0.46	...	0.22	4.6	3	11	3	16	nw.	F. R. Irons.
Steele	Kidder	1,857	31	19.4	-9.0	51	25	-12	30	32	0.90	+0.31	0.25	9.0	6	12	11	7	nw.	C. D. Stiles.
Towner	McHenry	1,482	25	19.1	-5.9	50	3	-17	17	33	1.20	+0.72	0.50	12.0	4	9	7	14	nw.	B. Bagley.
Trotters	Golden Valley	...	1	...	...	...	...	...	...	...	0.35	...	0.32	2.0	2	2	4	24	...	A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	20.4	-7.8	52	3	-5	30	32	0.41	-0.08	0.26	5.5	4	4	6	20	nw.	A. T. Anderson.
Valley City	Barnes	1,245	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	I. C. Robertson.
Velva	McHenry	...	...	...	...	...	...	...	...	...	0.95	...	0.31	9.7	8	3	8	19	nw.	Oscar Anderson.
Wahpeton	Richland	962	33	24.7	-3.6	55	3	-7	30	31	0.52	-0.17	0.30	3.0	2	12	0	18	nw.	C. G. Luick.
Washburn	McLean	1,731	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. W. Smith.
Westhope	Bottineau	1,508	25	16.0	-10.8	46	3	-22	17	43	0.70	+0.12	0.23	9.5	6	8	19	3	ne.	W. A. Meddaugh.
Williston	Williams	1,878	48	20.0	-7.2	53	2	-8	17	33	1.04	+0.44	0.24	7.6	13	5	10	15	e.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	17.0	-5.1	51	3	-20	17	39	0.62	+0.11	0.20	6.1	8	8	7	15	w.	M. A. Ostby.
Wilton	McLean	...	...	19.7	...	48	25	-7	30	26	1.10	...	0.60	11.0	6	8	0	22	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	23.2	-3.9	53	3	-8	30	34	0.72	-0.26	0.34	7.0	8	3	9	18	n.	U. S. Weather Bureau.
Averages	...	...	...	20.7	-5.9	59	3	-24	17	48	0.70	+0.12	0.60	7.1	6	7	8	15	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for November, 1927

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	28	24	25	26	27	28	29	30	31	Total
lpha	Lit. Missouri							.17											.11	T.	.02	T.					.19		.03	T.			0.52
menia ||	Red							T.	.29		T.	.10						T.		T.			T.						T.	.20			0.59
midon	Lit. Missouri																																
rnegard	Missouri							.05			T.	.10			.10	.10						.05								.30			0.70
shley	Missouri														.03	.07			.07									.06					0.23
Beach	Lit. Missouri							.06	.02		.03	T.		T.	T.	.06	.08	.08	T.	T.	T.	T.	T.			T.	.26	T.		T.	T.		0.59
Berthold Agency	Missouri							.07			T.	T.				T.	.10	T.	.05	T.		T.											0.22
Bismarck ***	Missouri		T.				T.	.06		T.	.03	T.		T.	.02	.03	T.	T.	.10			.04					.34		.09	.09	T.		0.80
Bottineau ||	Mouse							.10	.04	.03	.02	.03		.05	.02	.08				.02	.18	.11							.02				0.70
Cando	Devils Lake							.13				.07		.06			.04	T.	T.			.29											0.59
Carson	Heart							.05				.02				.08	.05	.05	.20			.05					.30						0.80
Cavalier	Red																																
Cooperstown	Sheyenne				T.			.40									T.											.30	.40				1.10
Crosby	Mouse							.05		.05	.10				.20			.10			.20	.20											0.90
Devils Lake ***	Devils Lake			.01	T.	T.		.24	T.	T.	.09	T.	.10		.01		.04	T.		.06	.03	.05	T.					T.		T.	T.		0.63
Dickinson ||	Heart							.05	.20		T.	.05			T.	.02	.08	.05	.15			T.	T.				.15	.25		.09			1.09
Dogden Butte	Mouse							.35			T.	T.		T.	.06	.06	.02		T.			.11								.08			0.68
Dunn Center ||	Knife							.01	.10		.20	.01				T.	.10	T.	T.											.20			0.62
Dunseith	Mouse							.27	.10	.20		.05		.02	.05		.02	.02	.02	.03	.32	.20											1.30
Eckman	Mouse							.19	T.		T.	T.			.21	T.	T.	T.	T.	.20	.11	.18											0.89
Edgeley	James								.06							T.			.02								T.		.17	T.			0.25
Ellendale***	James				T.		.01	.11		.01	T.	T.			.08		T.	T.	.02			T.	.02				.03	T.	.01	.01	T.		0.30
Energy	Missouri	T.						.25		T.	T.	.05			.04	.01	.02		T.											.05			0.42
Epping	Missouri																																
Fessenden ||	James								.26				.08					T.	T.	.04			.03								.25		0.66
Forman	Sheyenne									.10						.02											.10			.08			0.30
Fort Yates	Missouri																																
Foxholm (near)	Mouse							.20	T.		T.	.05		.12	T.	.10	.02		.02	.02	.02	.30							T.	T.			0.85
Fryburg	Heart		T.	.05				.20		T.	.05		T.		.04	T.	.08	.05	T.	T.	T.						.45		T.		T.		0.92
Fullerton	James						T.	.12		T.					.02	T.			.03			.03					.20			.26			0.66
Garrison	Missouri							.10			.04					.02		.03	.06	.04		.03											0.32
Grafton	Red				T.	T.			.10	T.	.02			.09			.02		T.	.03	.12	.19							T.		T.		0.57
Grand Forks ***	Red			.01	T.			.19			.04			.06	.02		T.			.02		.10						.03					0.47
Granville	Mouse				T.		.10					.10		.10	T.	T.			.10	T.	T.	.30											0.70
Hannah	Pembina		T.		T.		T.	.10		.10	.20		.20		.10													.10	.20				1.00
Hansboro	Devils Lake							.10		.10										.10		.30			.15								0.75
Hettinger	Grand	T.						.04	T.			T.					.05	.01	.04	T.							.03			T.			0.17
Hillsboro	Red					T.		.20			T.						T.	T.	T.			T.						T.	.05	.40			0.65
Howard (near)	Missouri				T.	T.	T.			T.	.15	.10	T.	.21	.18	.10		.08	.07	.08		T.	T.					T.		T.			0.97
amestown ||	James				T.	.02		.45			T.	T.					.02					.08					.20	.12	.45				1.34
Lamoine	Missouri							.30			T.				T.	T.	T.					.10						T.		.20			0.60
Langdon ||	Pembina			.10					.20		.10			.50				.10		.10	.20	.25											1.55
Larimore	Red							.60											.20			.20						.15					1.15
Linton	Missouri			T.			T.	.02							T.		T.		T.								.15	T.					0.17
Lisbon ||	Sheyenne								.30																			.20		.30			0.80
McClusky	Missouri							T.			T.	.30				T.													.40		.25		0.95
McKinney (near)	Mouse					T.				T.		.10		.10	T.				T.		.10	.20											0.50
McLeod	Sheyenne			T.			T.		.29								T.	T.	.04			.05								.06			0.44
Maddock	Sheyenne				T.			.03				.01		.03			.02				.04	.06								T.			0.19
Mandan ||	Missouri								.14			T.				.04	.14	T.	.08	.03			.03				T.	.35		.35	.40		1.56
Manfred	James							.30			.02	.08		T.	.02		.10		.02	T.		.04								.30	T.		0.88
Marmarth	Lit. Missouri							.15				.01				.08							T.				.21						0.45
Mayville	Red								.35																				.10	.20			0.65
Melville	James							.03																				.05		.18			0.26
Metigoshe	Mouse							T.	T.	.10	.10			.20		.40						.43											1.23
Minot ||	Mouse						.20	.05							.10			.05		.30										.10			0.80
Minto	Red			T.				.12						.05			T.			.04		.28								.01			0.50
Mott	Cannon Ball															.11	.06	.13	.16	T.	.06	.14					.41		.20		T.		1.27
Napoleon ||	Missouri							.20								T.			.10				.20					.40	.10	.05			1.05
New England	Cannon Ball																																
New Salem	Heart							.10			T.	.03		T.	T.	.02	.02	T.		.18		.08					.18			.20			0.81
Park River	Red																																
Parshall (near)	Missouri							.05			.04		.05	.03	.02	.05		.06			.10							.15					0.55
Pembina ||	Red											.20															.10						0.30
Pettibone	James																																
Power	Sheyenne						.10		.30																		.20			.25			0.85
Powers Lake	Missouri						.05					.07		.17								.16											0.45
Richardton	Heart							.15			.14				T.												.30						0.59
Sharon	Red			T.	T.	T.		.24			.03	T.		T.	T.		T.	T.	T.	T.	T.	.05						.04	T.	.17			0.53
Stanton	Missouri							.30							T.				.10														0.40
Starkweather	Devils Lake						.12						.22								.12												0.46
Steele	Missouri							.25			.05	T.				T.	T.	T.	T.		.10		T.						.25	.15	.10		0.90
Towner	Mouse						T.				.30									.30	.10	.50									T.		1.20
Trotters	Lit. Missouri							T.			T.				T.	T.						.03						T.		.32			0.35
Turtle Lake	Missouri							.26			.06	T.				.03														.06			0.41
Valley City	Sheyenne																																
Velva	Mouse						T.	.31		T.	T.	.13		.06	T.	.03	.04		.15		T.	.22								T.	.01		0.95
Wahpeton	Red										.22																	.30					0.52
Washburn	Missouri							.23		.14			.03	.02		T.					.15	.13											0.70
Westhope	Mouse																																
Williston ***	Missouri			T			T.	.04	T.	T.	.04	T.	.07	.05	.01	.09		.10	T.	.01	.07	.17						T.	.21	.02	.16		1.04
Willow City	Mouse						T.	.15		T.	T.	.03		.05	T.	T.	.05		.02	.02	.10	.20							T.				0.62
Wilton								.10		*	*	.10							.20			.10							.60				1.10
Moorhead, Minn ***	Red				T.	T.		.34		T.	.02	.01			T.		T.	.01	.03		T.	.01					T.	.07		.23	T.		0.72

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	45	46	56	40	36	36	30	30	38	41	30	25	27	23	21	17	13	18	19	21	19	25	39	46	41	45	31	46	35	28	....	32.3
	Minimum ...	30	20	23	28	15	25	15	26	28	33	30	4	5	9	10	5	-1	5	8	13	9	7	3	18	25	20	5	14	22	-13	....	14.7
Amidon	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum...	48	51	50	51	37	31	29	28	38	35	19	16	15	12	10	14	7	17	12	20	15	24	37	40	50	44	35	42	33	14	....	29.1
	Minimum ...	23	27	30	10	15	16	19	26	25	19	4	-8	7	8	5	-8	-8	5	-5	10	7	2	11	17	20	29	26	25	4	1	....	12.1
Ashley	Maximum...	45	49	53	48	36	35	35	36	36	40	40	24	25	21	17	22	19	11	17	25	23	20	38	41	52	45	40	44	37	17	....	33.0
	Minimum ...	28	24	28	30	12	16	23	26	24	23	20	2	14	9	7	4	5	2	3	11	10	6	8	21	30	26	9	19	14	1	....	15.2
Beach	Maximum...	40	52	53	42	37	34	30	33	43	41	26	22	19	15	15	15	14	30	22	35	30	32	44	43	54	35	33	39	32	23	....	32.8
	Minimum ...	20	28	28	27	23	26	20	27	30	26	8	-2	8	10	9	-4	3	7	4	10	5	5	9	23	35	27	20	26	15	5	....	15.9
Berthold Agency	Maximum...	45	55	59	48	36	32	32	35	40	35	26	15	19	16	12	20	11	14	17	20	19	28	42	40	54	44	32	30	32	36	....	31.5
	Minimum ...	22	21	26	29	12	13	20	22	22	25	8	-7	10	11	7	2	-4	4	-7	11	10	2	-2	18	28	25	24	17	10	-1	....	12.6
Bismarck	Maximum...	44	52	53	46	31	36	30	36	39	36	28	18	23	16	15	18	11	14	17	23	21	27	38	39	49	39	30	42	36	12	....	30.6
	Minimum ...	26	24	31	19	14	17	23	26	28	28	7	1	12	10	8	8	3	8	1	14	9	6	2	24	33	18	19	21	-3	-3	....	14.5
Bottineau §§	Maximum...	41	40	51	45	24	30	27	27	31	35	34	15	20	11	10	15	9	11	12	10	10	14	25	29	43	40	28	27	29	20	....	25.4
	Minimum ...	25	17	27	22	8	19	16	21	23	28	11	-9	8	4	3	4	12	-1	-11	2	4	-1	-3	13	14	13	1	10	-3	-8	....	8.2
Cando	Maximum...	54	53	47	41	33	29	24	30	33	35	33	28	15	12	11	12	10	13	12	12	11	17	30	29	41	40	36	31	28	6	....	26.9
	Minimum ...	28	31	19	10	13	21	-8	21	14	27	12	-6	6	4	3	4	-8	-6	6	6	4	2	0	19	21	19	6	13	5	-3	....	9.0
Carson	Maximum...	50	54	55	50	50	35	33	35	37	38	35	30	28	25	30	30	20	15	12	25	15	30	32	33	37	34	32	36	35	8	....	32.6
	Minimum ...	20	18	18	24	7	18	20	18	25	33	15	-6	4	5	6	-1	0	5	1	5	5	0	10	10	20	30	25	25	2	-2	....	12.0
Crosby §§	Maximum...	41	49	53	42	35	25	30	24	28	35	12	24	28	10	12	16	14	28	27	24	28	30	32	35	45	28	36	31	16	0	....	27.5
	Minimum ...	23	23	29	27	14	12	14	24	20	26	11	-6	-6	-2	4	3	-16	-8	12	18	-1	16	12	8	15	17	16	18	-3	-4	....	10.5
Devils Lake	Maximum...	37	39	50	35	22	29	24	29	32	34	27	13	16	10	10	12	8	11	14	14	9	22	37	36	45	34	26	34	26	5	....	24.8
	Minimum ...	28	23	30	19	13	17	16	21	25	27	3	-2	4	5	4	-8	-10	-4	-3	6	3	-2	5	23	30	13	10	24	-2	-8	....	10.3
Dickinson §§	Maximum...	43	53	53	40	37	32	30	34	40	35	18	16	20	14	13	14	12	21	21	30	10	32	42	41	53	26	30	39	20	10	....	29.3
	Minimum ...	22	23	21	32	15	13	21	22	28	30	11	2	3	10	6	-5	-3	1	3	6	9	-4	5	7	18	24	14	22	16	7	....	12.0
Dunn Center §§	Maximum...	44	52	52	39	45	31	29	35	39	36	32	14	20	11	11	16	10	18	14	21	10	39	41	10	51	28	31	44	21	12	....	29.2
	Minimum ...	25	27	28	33	16	11	20	21	25	32	14	-3	-1	10	5	-1	-8	0	-2	4	8	-3	5	10	20	28	23	21	12	-5	....	12.3
Dunseith	Maximum...	41	39	50	46	28	27	23	28	30	34	33	13	16	-2	4	5	8	12	13	12	11	16	27	30	42	41	23	32	30	5	....	24.0
	Minimum ...	17	17	16	9	8	9	5	10	11	18	-1	-20	-4	8	-8	-7	-11	-15	-16	-9	-7	-12	-8	5	10	4	-5	9	-2	-10	....	0.2
Edgeley	Maximum...	45	49	46	46	33	36	32	35	36	41	40	21	26	20	19	19	15	14	19	21	20	26	38	43	55	46	25	44	38	13	....	32.0
	Minimum ...	30	24	29	29	11	18	22	25	25	33	20	2	13	8	7	7	1	5	7	12	10	8	7	18	28	24	0	18	5	7	....	14.6
Ellendale	Maximum...	43	49	55	44	28	36	35	36	37	43	34	20	27	18	18	19	13	14	19	23	18	25	35	42	48	43	29	50	34	14	....	31.6
	Minimum ...	25	25	32	22	14	20	27	24	29	33	10	5	15	12	9	9	5	7	8	15	10	7	3	14	25	21	8	15	0	-1	....	15.0
Fessenden §§	Maximum...	44	44	53	38	26	32	27	36	38	36	28	20	23	14	13	16	15	15	18	18	11	28	13	42	45	38	28	43	24	13	....	29.0
	Minimum ...	28	25	29	28	11	12	19	20	23	28	23	-2	3	8	5	6	-6	-1	3	0	8	-4	5	10	11	18	10	22	19	-6	....	11.6
Foxholm (near)	Maximum...	40	46	50	43	27	28	25	29	32	33	31	11	12	12	7	7	3	12	12	13	11	15	32	35	43	42	31	35	27	7	....	25.0
	Minimum ...	24	25	30	25	10	11	15	19	16	29	7	-7	2	4	2	0	-18	-1	-8	4	3	4	8	17	32	18	14	21	2	-2	....	10.2
Fullerton	Maximum...	42	49	54	45	28	38	34	36	38	44	42	21	26	20	18	18	14	17	18	24	22	24	35	40	48	40	27	44	38	22	....	32.2
	Minimum ...	29	24	29	29	12	28	19	24	28	32	20	5	18	12	9	9	5	7	8	15	13	10	3	13	22	25	3	14	10	-3	....	15.7
Garrison	Maximum...	45	49	53	44	30	34	33	33	40	36	25	16	16	13	19	18	8	11	17	22	17	31	34	40	49	43	32	48	34	12	....	30.2
	Minimum ...	24	23	29	27	13	14	17	21	24	25	7	-1	9	6	6	4	-3	4	-2	13	0	7	7	16	29	22	22	24	2	1	....	13.0
Grafton	Maximum...	40	42	51	47	28	30	25	32	32	37	36	18	21	15	13	14	11	14	14	16	12	18	29	34	42	41	26	38	31	8	....	27.2
	Minimum ...	30	24	28	25	21	21	19	22	24	31	17	3	11	4	6	8	-1	3	3	5	5	0	-4	14	15	24	1	23	7	-2	....	12.9
Grand Forks	Maximum...	41	44	52	40	28	29	25	33	35	39	34	19	22	18	16	14	11	18	17	18	13	21	35	40	43	40	28	40	27	10	....	28.3
	Minimum ...	25	25	29	23	21	19	21	23	27	34	11	6	5	7	9	3	-2	9	8	9	6	5	2	20	25	17	9	26	0	-7	....	13.8
Granville	Maximum...	40	38	35	40	33	36	29	30	30	33	35	20	15	15	12	8	8	14	12	15	12	10	24	36	32	35	38	40	22	0	....	24.9
	Minimum ...	30	28	31	28	11	18	21	18	23	30	5	-4	3	6	7	2	18	6	10	12	10	2	12	18	30	10	28	22	-5	-7	....	12.9
Hansboro	Maximum...	40	38	50	40	32	25	28	30	30	36	32	15	15	20	10	10	12	11	10	10	10	11	12	29	40	45	32	25	15	15	....	23.6
	Minimum ...	20	18	25	18	10	13	12	12	12	20	0	-10	-8	-5	-2	-2	-4	-12	-10	-8	-8	-12	-5	5	10	20	15	5	-5	-13	....	3.7
Hettinger	Maximum...	42	52	53	45	40	34	31	38	42	37	30	18	28	19	17	15	15	22	24	38	15	40	45	44	58	46	30	45	22	28	....	37.7
	Minimum ...	20	27	26	32	18	16	27	27	29	28	8	1	10	8	7	2	7	8	6	15	9	2	17	21	33	23	22	21	16	10	....	16.5
Hillsboro	Maximum...	46	43	53	49	28	30	30	32	36	38	38	22	21	22	19	16	13	17	16	18	21	23	36	44	42	41	29	42	33	12	....	30.4
	Minimum ...	34	24	28	27	18	17	22	22	28	33	21	6	17	9	11	6	2	10	9	12	11	6	6	18	24	27	8	25	7	-8	....	16.0
Howard (near)	Maximum...	40	51	50	40	37	30	28	30	25	29	18	11	9	7	6	10	6	15	6	15	11	11	30	38	42	36	32	35	32	3	....	24.2
	Minimum ...	19	22	28	23	14	13	13	14	13	12	2	-11	3	4	2	5	-5	0	-10	6	3	-1	10	10	22	17	16	17	-5	-5	....	8.4
Jamestown §§	Maximum...	42	46	54	40	29	32	29	36	34	38	27	20	25	20	17	15	10	16	17	20	16	28	41	44	52	30	30	43	30	11	....	29.8
	Minimum ...	30	26	26	26	11	13	19	22	26	27	24	2	1	8	6	5	-2	3	6	4	11	6	7	8	25	27	-2	2	18	-9	....	12.3
Lamoine	Maximum...	41	45	52	40	37	33	31	30	36	36	31	21	18	13	11	17	8	12	12	20	20	25	32	42	47	38	27	36	36	0	....	28.2
	Minimum ...	23	21	28	23	8	15	18	23	22	30	14	-4	12	5	4	6	-2	2	2	10	5	5	5	20	25	25	14	20	0	-4	....	12.4
Langdon §§	Maximum...	36	38	47	35	31	24	23	30	30	33	25	25	15	14	9	12	10	14	10	15	6	15	24	32	38	28	28	30	20	20	....	23.9
	Minimum ...	28	20	20	28	22	18	16	17	20	25	25	-3	-4	-3	0	0	-10	-5	-5	-5	3	-1	-5	0	15	18	-2	15	15	-9	....	8.2
Larimore §§	Maximum...	43	45	50	38	30	46	32	32	35	32	32	25	23	14	20	11	13	15	15	14	10	20	32	37	45	30	27	30	27	10	....	27.8
	Minimum ...	28	30	28	25	12	25	20	21	27	25	14	0	6	1	6	-6	0	7	2	5	3	1	14	24	30	25	10	10	10	-1	....	13.4
Linton	Maximum...	45	50	53	54	36	39	35	48	40	39	36	20	27	20	22	26	17	13	18	18	42	38	34	40	52	42	43	50	40	15	....	35.1
	Minimum ...	25	19	20	21	10	12	25	29	30	31	16	2	15	10	8	0	0	7	0	10	-2	9	8	13	21	24	20	6	3	-5	....	12.9
Lisbon §§	Maximum...	46	50	56	42	36	38	38	42	40	45	43	29	29	25	19	21	28	36	39	42	33	34	40	38	34	29	26	26	22	22	....	35.0
	Minimum ...	24	21	25	27	14	16	18	20	28	28	25	26	3	9	8	7	0	12	16	12	12	15	20	15	16	12	8	10	-8	-1	....	14.5
McClusky	Maximum...	41	44	40	38	26	28	32	36	40	37	31	16	16	17	18	19	10	13	9	20	18	25	39	38	48	38	30	48	35	23	....	29.1
	Minimum ...	18	18	20	20	5	20	19	23	19	25	3	-7	-8	-6	0	0	-6	-2	-8	6	0	0	3	17	25	24	22	14	-6	-6	....	8.4
McKinney (near)	Maximum...	40	47	50	45	30	30	25	30	30	34	30	13	15	11	10	8	6	8	15	10	10	17	32	34	43	40	33	34	30	5	....	25.7
	Minimum ...	25	24	30	30	10	10	16	22	20	25	5	-8	10	5	5	5	-24	0	-8	0	5	5	10	15	31	25	8	18	0	-4	....	10.5
Maddock	Maximum...	43	41	50	49	28	31	26	30	34	35	32	35	18	11	12	11	9	12	14	12	11	21	36	37	44	42	32	33	29	7	....	27.5
	Minimum ...	26	22	29	24	10	15	16	20	23	30	12	-2	9	4	3	3	17	1	-5	5	3	-2	2	20	29	21	8	20	3	-5	....	10.9
Melville	Maximum...	41	47	56	44	30	32	27	32	32	36	32	20	21	15	16	9	12	18	12	18	15	26	40	42	10	15	40	43	32	15	....	29.6
	Minimum ...	28	24	28	22	10	18	16	24	25	30	10	1	1	2	3	-8	-2	0	9	5	3	3	9	22	32	18	15	11	1	-10	....	11.8
Minot §§	Maximum...	45	45	53	32	25	28	25	29	34	31	16	10	8	9	14	4	11	12	17	7	22	32	40	46	26	32	30	19	9	3	....	23.8
	Minimum ...	26	36	29	11	12	12	23	12	31	-4	4	7	4	3	-19	2	-6	3	6	6	9	19	22	21	11	25	19	-2	-10	-10	....	10.1
Mott	Maximum...	44	53	54	43	46	40	35	39	41	37	33	16	26	14	13	11	15	18	15	36	32	28	44	42	55	38	31	40	35	20	....	33.1
	Minimum ...	19	24	22	28	12	12	25	26	29	33	11	0	12	9	6	0	2	6	2	14	5	0	8	19	33	19	21	23	5	0	....	14.2
Napoleon §§	Maximum...	42	48	50	40	28	36	32	35	36	41	28	22	24	18	16	22	11	15	18	11	14	26	38	40	47	29	28	12	30	12	....	29.5
	Minimum ...	23	24	25	30	9	12	19	25	22	28	20	-1	5	7	6	5	8	0	-3	10	6	5	5	10	25	27	5	18	30	10	....	13.2
New Salem	Maximum...	44	52	51	49	39	33	31	36	40	36	35	22	20	18	14	15	14	10	17	20	12	31	39	37	50	49	28	39	35	15	....	30.3
	Minimum ...	22	23	29	20	10	13	20	25	25	29	10	10	12	8	5	0	1	1	1	10	-1	-1	10	21	33	31	11	11	6	-7	....	12.7
Pembina §§	Maximum...	40	36	34	38	36	40	34	36	38	38	32	36	34	30	28	32	24	28	20	10	18	12	10	32	20	24	22	22	10	4	....	27.3
	Minimum ...	32	26	20	15	25	20	22	10	20	20	20	10	10	16	15	10	8	4	8	10	-7	5	5	4	10	4	10	5	10	-9	....	11.9
Steele	Maximum...	50	45	48	45	21	30	25	40	37	35	22	15	20	18	20	15	16	12	15	20	27	28	28	36	51	48	32	41	28	20	....	29.6
	Minimum ...	25	20	25	20	12	8	8	8	12	15	12	-4	-3	0	-2	-1	1	1	0	4	2	8	10	10	25	20	18	13	18	-12	....	9.1
Towner	Maximum...	48	44	50	45	26	32	28	28	34	36	30	28	18	13	10	16	10	10	13	14	14	25	22	36	43	40	30	28	22	10	....	27.1
	Minimum ...	22	25	28	22	9	12	10	18	26	30	25	-5	-2	10	3	3	-17	3	-10	6	5	2	3	20	28	30	18	15	0	7	....	11.1
Valley City	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Wahpeton	Maximum...	50	47	55	49	33	36	37	35	37	46	47	29	33	31	29	20	12	18	23	26	21	23	32	46	44	40	30	42	39	20	....	34.4
	Minimum ...	33	23	26	25	14	14	13	25	25	31	23	4	16	15	14	8	-3	5	11	12	10	5	2	15	30	28	-1	20	15	-7	....	15.0
Westhope	Maximum...	42	40	46	45	35	34	25	25	32	29	25	26	35	25	24	15	9	11	12	10	10	14	25	20	43	40	28	27	29	20	....	27.0
	Minimum ...	23	22	20	20	9	15	12	19	23	19	10	-8	-8	3	-10	-3	-22	-3	-11	-8	-8	-3	-3	3	4	8	8	11	10	2	....	5.0
Williston	Maximum...	43	53	52	40	38	30	27	30	36	35	18	14	14	12	10	14	7	19	12	18	13	18	36	40	47	29	35	39	25	11	....	27.2
	Minimum ...	23	26	31	19	19	18	20	23	28	18	2	-2	8	8	6	-5	8	7	-4	10	7	0	3	17	29	21	28	23	3	2	....	12.7
Moorhead, Minn	Maximum...	43	45	53	42	28	29	30	34	37	44	36	22	28	23	20	16	12	18	19	22	20	22	36	44	44	41	28	40	33	11	....	30.7
	Minimum ...	28	26	31	23	18	22	23	27	29	35	11	6	15	13	10	7	1	10	12	13	12	9	5	17	27	20	11	21	-1	-8	....	15.8

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 11-27-27—100]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVI   Bismarck, N. D., December, 1927   No. 12

GENERAL SUMMARY

The weather during December, 1927, was the coldest of record in the climatological history of North Dakota, covering a period of thirty-seven years. The precipitation averaged above the normal, the snowfall being unusually heavy in some sections. As a result of these adverse weather conditions, there was much suffering among humans and livestock, outdoor work was brought almost to a stop, and highways were blocked in many sections of the State. Light to heavy snows marked the opening of the month and continued generally throughout the first decade. Snows were frequent on the 14-16th, and again on the 28-30th.

TEMPERATURE

The mean temperature for the State was −1.8°, or 14.8° below the normal, and 11.0° lower than the mean for December, 1926. The highest mean reported was 4.5° at Amidon, Slope County; the lowest was −7.6° at Steele, Kidder County. The highest temperature reported was 43° at McKinney, Renville County, on the 5th; the lowest was −38° at Pettibone, Kidder County, on the 9th. The greatest monthly range of temperature was 74° at Dunn Center, Dunn County; the least was 46° at Pembina, Pembina County. The greatest daily range in temperature was 62° at McClusky, Sheridan County, on the 14th.

PRECIPITATION

The average precipitation for the State was 0.75 inch, or 0.21 inch above the normal, and 0.18 inch more than the average for December, 1926. The greatest monthly amount reported was 3.50 inches at Power, Richland County; there was none at Pembina, Pembina County, and at Starkweather, Ramsey County. The greatest amount recorded in any 24 consecutive hours was 1.50 inches at Power, Richland County, on the 14th. The average snowfall was 8.7 inches; the greatest fall reported was 35.0 inches at Power, Richland County. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS

Auroras were observed at Grand Forks on the 2d; at Foxholm on the 12th; at Bottineau, Crosby, Devils Lake, Foxholm, Grand Forks, and Sharon on the 13th; at Crosby and Dogden Butte on the 14th and 15th; at Crosby and Foxholm on the 16th and 17th; at Arnegard, Bottineau, Carson, Foxholm, Grand Forks, Metigoshi, Napoleon, Stanton, and Williston on the 18th; at McLeod on the 19th; and at Carson on the 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.24	30.96	31	29.36	12	57	6,541	8.8	32	nw.	5
Devils Lake	30.20	30.84	31	29.34	12	44	6,731	9.0	29	nw.	5
Ellendale	30.19	30.75	31	29.34	12	56	11,825	15.9	48	nw.	31
Grand Forks	30.09	30.66	31	29.41	28	90	....	......	35	s.	4
Williston	30.23	31.07	31	29.29	12	48	4,921	6.6	29	w.	29
Moorhead, Minn	30.20	30.71	31	29.26	28	58	7,133	9.6	29	nw.	15
Av'ges and extremes	30.19	31.07	31	29.26	28	.....	....	10.0	48	nw.	31

* For any five-minute period. †And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	146.4	265.8	55	+ 6	83	72	78	35	4
Devils Lake	157.8	262.1	60	+16	92	88	89	69	4
Ellendale	152.4	269.6	57	+ 8	84	82	....	70	8
Grand Forks	......	......	......	......	81	.....	74	.....	....
Williston	172.1	262.1	66	+16	85	67	75	36	17
Moorhead, Minn.	119.0	265.8	45	− 4	93	76	90	48	10
Averages and extremes	......	......	57	+ 8	86	77	81	35	4

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	uw.
1899	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921	16.5	+3.5	59	−33	0.41	−0.13	4	14	7	10	nw.
1922	8.5	−4.5	55	−34	0.67	+0.13	5	11	8	12	nw.
1923	22.2	+9.2	62	−36	0.32	−0.22	3	16	8	7	nw.
1924	2.9	−10.1	58	−46	0.43	−0.11	4	12	7	12	nw.
1925	16.5	+3.5	67	−38	0.28	−0.26	3	12	8	11	nw.
1926	9.2	−3.8	55	−36	0.57	+0.03	3	14	8	9	nw.
1927	−1.8	−14.8	43	−38	0.75	+0.21	5	14	7	10	nw.

Climatological Data for December, 1927

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	...	...	...	...	...	...	...	...	0.96	...	0.30	9.6	8	...	...	...	...	H. A. Bury.
Amenia	Cass	954	31	0.0	-12.7	36	4	-28	9	58	1.40	+0.89	1.20	14.0	2	16	10	5	n.	E. T. Carley.
Amidon	Slope	...	13	4.5[a]	-12.6	36[a]	4	-30[a]	8	40[a]	1.10	+0.65	0.60	11.0	5	12	6	13	nw.	W. H. Toussaint.
Arnegard	McKenzie	...	12	-1.8	-14.3	36	4†	-33	8	47	1.70	+1.25	0.50	17.0	5	21	6	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	-0.6	-14.1	34	5	-29	8	36	0.74	+0.23	0.21	13.8	6	15	4	12	nw.	H. D. Piper.
Beach	Golden Valley	2,759	21	3.0	-13.5	38	3†	-31	8	37	0.72	+0.21	0.15	7.2	10	14	3	14	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	34	-2.2	-17.9	40	4	-32	11	58	0.25	-0.15	0.15	4.0	2	22	0	9	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	52	-2.4	-17.1	37	5	-30	19	54	1.20	+0.58	0.34	20.4	8	11	9	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	35	-6.0	-12.7	35	5	-35	9†	40	0.19	-0.30	0.10	3.0	4	19	3	9	nw.	N. A. Eckberg.
Cando	Towner	1,488	26	-1.2	-8.4	34	5	-26	8	51	0.13	-0.23	0.13	1.3	1	14	5	12	n.	A. J. Swanson.
Carson	Grant	2,500	15	-4.2	-20.2	31	4	-35	8	49	0.98	+0.44	0.40	14.0	6	13	6	12	nw.	J. W. Evens.
Cavalier	Pembina	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. W. Felson
Cooperstown	Griggs	1,428	21	...	...	...	...	...	...	...	0.10	-0.47	0.10	1.0	1	8	7	16	nw.	S. Friswold.
Crosby	Divide	1,954	20	-4.3	-16.6	36	4	-31	8†	47	0.36	-0.13	0.32	4.5	2	13	10	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	30	-1.4	-9.4	35	5	-24	8	50	0.06	-0.33	0.05	1.2	2	14	9	8	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	35	-3.4	-20.7	37	4	-33	8	54	1.33	+0.91	0.30	13.3	13	15	3	13	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	...	-0.8	...	35	5	-28	8	49	0.18	...	0.18	2.0	1	13	10	8	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	28	-3.7	-24.2	39	4	-35	18	58	0.97	+0.41	0.42	17.0	5	10	12	9	w.	W. F. Moede.
Dunseith	Rolette	1,682	31	0.8[b]	-7.5	36	5†	-30[c]	2	47[d]	0.42	+0.01	0.18	4.2	3	19	6	6	n.	J. G. Lamont.
Eckman	Bottineau	1,500	22	-4.2	-13.8	33	4	-34	9†	59	0.16	-0.46	0.11	2.5	2	1	18	12	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	26	-0.7	-15.8	36	5	-26	8†	36	1.23	+0.84	0.50	12.5	4	3	10	18	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	28	-0.6	-17.4	37	5	-25	9	49	1.04	+0.71	0.32	15.0	10	9	8	14	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	15	-2.0	...	38	5	-31	8†	58	0.46	+0.11	0.30	6.0	3	13	8	10	nw.	H. S. Solenberger.
Epping	Williams	2,224	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. O. Wang.
Fessenden	Wells	1,610	15	-2.0	-14.2	36	4	-30	8	55	0.33	-0.40	0.18	3.5	3	16	9	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	33	...	...	...	...	...	...	...	1.25	+0.71	0.40	18.0	5	13	10	8	nw.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	6	-1.7	...	36	5	-26	8	49	0.45	...	0.40	6.2	3	10	10	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	9	...	...	...	...	...	...	...	1.48	...	0.35	16.0	7	21	2	8	nw.	Verne King.
Fullerton	Dickey	1,439	29	1.6	-12.1	36	5	-28	9	33	2.19	+1.35	0.56	21.9	10	10	9	12	nw.	F. O. Alin.
Garrison	McLean	1,901	32	-1.3	-14.9	36	4	-27	8†	53	0.64	+0.07	0.40	7.0	3	20	7	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	35	0.6	-7.1	36	5	-21	8†	38	0.34	-0.20	0.11	4.7	6	12	4	15	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	36	1.2	-9.4	36	5	-21	9	43	0.62	-0.01	0.22	6.3	10	10	11	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	20	-3.0	-15.4	40	4	-28	8	52	0.20	-0.35	0.10	2.0	2	17	5	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	33	...	...	...	...	...	...	...	0.20	-0.43	0.10	2.0	2	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	19	-4.4	-11.7	35	4	-35	9	49	0.20	-0.46	0.10	8.0	3	23	4	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	20	1.2	-14.6	36	4	-32	8	48	0.48	+0.14	0.14	4.6	7	16	3	12	nw.	C. H. Plath.
Hillsboro	Traill	901	21	1.2	-11.4	36	5	-23	9†	35	0.65	-0.25	0.20	6.5	5	8	14	9	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	20	-4.6	-16.4	32	4†	-32	8	42	0.56	-0.26	0.25	5.6	3	18	9	4	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	35	-2.6	-16.2	38	3	-30	9	57	1.01	+0.26	0.42	10.2	7	17	2	12	nw.	S. Calvelage.
Lamoine	Kidder	1,936	22	-4.9	-16.1	25	23	-32	8	39	0.40	-0.10	0.20	4.0	2	20	1	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	31	-2.8	-10.1	32	4	-33	9	48	0.10	-0.63	0.10	1.0	1	21	10	0	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	33	-0.5	-11.3	35	5	-23	8	35	0.30	-0.24	0.20	3.0	2	13	4	14	n.	Reuben Gray.
Linton	Emmons	1,711	9	-1.9	-15.9	37	5	-35	8	56	0.16	-0.24	0.08	1.6	5	17	2	12	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	23	-5.6	-19.7	22	14	-30	9	42	3.35	+2.94	1.20	33.5	12	6	11	14	...	W. S. Adams.
McClusky	Sheridan	1,943	9	-4.8	...	35	4†	-35	8†	62	0.42	...	0.25	4.5	2	19	7	5	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	33	-2.0	-12.7	43	5	-30	18	48	0.24	-0.19	0.24	3.0	1	10	19	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	15	1.7	-12.6	25	22†	-29	9	34	2.09	+1.64	1.03	20.9	5	17	6	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	11	-1.2	-10.8	32	5	-26	9	50	0.05	-0.27	0.05	0.5	1	10	11	10	nw.	A. T. Felland.
Mandan	Morton	1,644	13	-5.4	-18.5	36	4	-30	8†	55	0.77	+0.32	0.22	12.5	7	15	3	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	24	-0.4	-11.7	35	5	-26	8	46	0.45	-0.31	0.20	5.8	7	12	10	9	nw.	P. B. Anderson.
Marmarth	Slope	2,714	18	3.8	-13.9	36	4	-30	8	41	1.18	+0.84	0.62	11.8	9	9	4	18	nw.	Wm. Lamb.
Mayville	Traill	975	31	1.4	-11.7	36	5	-25	9	31	0.20	-0.38	0.20	2.0	1	13	4	14	n.	N. C. Burhans.
Melville	Foster	1,590	29	3.8	-8.0	30	4†	-26	30	46	0.20	-0.26	0.10	3.3	3	24	0	7	n.	J. P. Fischer.
Metigoshe ‡‡	Bottineau	...	1	...	...	...	...	...	...	...	0.59	...	0.29	3.0	3	18	9	2	nw.	J. A. Thorburn.
Minot	Ward	1,557	31	-3.1	-15.5	37	4	-29	31	32	0.25	-0.26	0.20	2.5	2	15	6	10	w.	W. I. Faris.
Minto	Walsh	820	34	-0.7	-11.6	32	20	-24	9	37	T.	-0.48	T.	T.	0	12	12	7	nw.	C. M. Evans.
Mott	Hettinger	2,424	20	-4.1	-18.2	34	4	-35	8	52	2.20	+1.62	0.98	24.5	8	14	5	12	nw.	O. H. Opland.
Napoleon	Logan	1,955	35	-3.4	-15.8	35	4	-33	8†	57	0.80	+0.32	0.30	9.0	4	10	5	16	nw.	C. J. Hoof.
New England	Hettinger	2,400	36	-1.2	-18.6	...	...	...	...	...	0.76	+0.35	...	...	...	...	...	...	...	W. L. Sales.
New Salem	Morton	2,163	23	-2.5	-17.4	34	4	-31	8	50	2.01	+1.48	0.50	20.0	8	16	3	12	nw.	J. Christiansen.
Park River	Walsh	998	23	0.2	-10.9	31	5	-23	8†	34	0.18	-0.35	0.08	1.5	3	13	5	13	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	12	...	...	...	...	...	...	...	0.40	+0.01	0.12	4.0	5	12	11	8	...	Carl J. Knutson.
Pembina	Pembina	789	53	-6.2	-12.2	20	4	-26	8	35	0.00	-0.76	0.00	0.0	0	20	11	0	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	18	-5.2	-15.6	35	5	-38	9	55	0.49	-0.19	0.30	5.0	7	8	7	16	nw.	A. L. Carlson.
Power	Richland	1,020	33	...	...	...	...	...	...	...	3.50	+2.96	1.50	35.0	6	4	6	21	nw.	Frank B. Power.
Powers Lake	Burke	2,205	13	-1.2	...	33	4	-32	31	32	0.46	-0.17	0.23	8.5	3	24	4	3	nw.	Geo. B. Gee.
Richardton	Stark	2,467	11	-1.2	-15.1	36	5	-31	8	46	0.72	+0.34	0.20	10.5	6	20	5	6	nw.	John Muggli.
Sharon	Steele	1,516	2	-0.8	...	34	5	-26	9	41	0.39	...	0.16	3.6	8	12	12	7	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	3	...	...	...	...	...	...	...	0.58	...	0.20	4.3	7	14	4	13	nw.	J. H. Giffey.
Starkweather	Ramsey	...	...	-1.2	...	34	5	-29	8	34	0.00	...	0.00	0.0	0	22	2	7	nw.	F. R. Irons.
Steele	Kidder	1,857	31	-7.6	-21.2	20	26	-35	8	36	2.05	+1.52	0.60	20.5	13	12	13	6	nw.	C. D. Stiles.
Towner	McHenry	1,482	25	-1.6	-11.6	37	4	-30	9	57	0.50	+0.06	0.50	6.0	1	20	5	6	nw.	B. Bagley.
Trotters	Golden Valley	...	1	...	...	...	...	...	...	...	1.06	...	0.40	14.0	6	17	6	8	nw.	A. J. Nellermoe.
Turtle Lake	McLean	1,899	12	-2.8	-14.1	35	5	-29	9	50	0.28	-0.28	0.16	3.5	4	1	3	27	nw.	A. T. Anderson.
Valley City	Barnes	1,245	22	0.4	-13.3	37	5	-25	9	34	0.94	+0.39	0.39	14.5	6	9	10	12	se.	I. C. Robertson.
Velva	McHenry	...	...	...	...	...	...	...	...	...	0.28	...	0.10	4.1	4	12	11	8	nw.	Oscar Anderson.
Wahpeton	Richland	962	33	1.7	-13.0	35	5†	-26	9	30	1.60	+1.15	0.40	16.0	7	18	0	13	nw.	C. G. Luick.
Washburn	McLean	1,731	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. W. Smith.
Westhope	Bottineau	1,508	25	-4.8	-18.8	26	6†	-30	15	51	0.10	-0.27	0.10	1.0	1	5	20	6	nw.	W. A. Meddaugh.
Williston	Williams	1,878	48	-2.7	-16.5	39	4	-31	8	48	0.53	-0.13	0.18	7.7	7	15	9	7	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	-4.2	-12.7	35	5	-32	8†	54	0.15	-0.39	0.10	1.5	3	15	6	10	nw.	M. A. Ostby.
Wilton	McLean	...	...	-4.0[b]	...	35[b]	4	-30[b]	31	39[b]	0.30	...	0.15	3.0	2	18	0	13	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	46	0.6	-10.9	37	5	-24	9	43	2.28	+1.54	1.42	29.2	12	19	8	13	n.	U. S. Weather Bureau.
Averages	...	...	...	-1.8	-14.8	43	5	-38	9	62	0.75	+0.21	1.50	8.7	5	14	7	10	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for December, 1927

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.07	.04	.24			.17							.30		.06												.03		.05		0.96
Amenia ||||	Red															1.20														.20			1.40
Amidon	Lit. Missouri	.20	T			T.				.10			.10		.60		.10												T.	T.			1.10
Arnegard	Missouri	.50		.20		.30	.70						T.				.20												T.		T.		1.70
Ashley	Missouri	.11		.15			.20	.02			.02				.24																		0.74
Beach	Lit. Missouri	.04	.08	T.	.12	.15	.07	.04	T.	.01	T.		T.	.08	.12		.01														T.		0.72
Berthold Agency	Missouri	.10		.15		T.								T.																			0.25
Bismarck ***	Missouri	.30	.08	.11		.34	.04			.05				.02	.23															T.			1.20
Bottineau|| ||	Mouse			.05	.02	.10																							.02				0.19
Cando	Devils Lake			T.		.13																											0.13
Carson	Heart	.10	.08			.10	.15	.15							.40																		0.98
Cavalier	Red																																......
Cooperstown	Sheyenne	T.		T.						T.					T.														.10				0.10
Crosby	Mouse	.04		.32																													0.36
Devils Lake ***	Devils Lake	T.		.05	T.					T.					T.							T.	T.			T.			.01				0.06
Dickinson|| ||	Heart	.05	.10	.10	.03		.30	.15			.02				.30	.10	.01	.07							.05					.05			1.33
Dogden Butte	Mouse	T.	T.	.18	T.		T.																						T.	T.			0.18
Dunn Center ||||	Knife	.20	.10				.42								.10		T.															.15	0.97
Dunseith	Mouse			.13		.11																							.18				0.42
Eckman	Mouse			.11																											.05		0.16
Edgeley	James				.38	T.					.25					.50														.10			1.23
Ellendale***	James	.15	.04	.28		.12	.05	.01		.02					.32							T.	.02	T.	T.	T.			.03	T.		T.	1.04
Energy	Missouri	.12	T.	.04			.30			T.				T.	T.							T.		T.									0.46
Epping	Missouri																																......
Fessenden|| ||	James	.10			.18																									.05			0.33
Forman	Sheyenne	.20		.40			.20								.30														.15				1.25
Fort Yates	Missouri																																......
Foxholm (near)	Mouse	.03	T.	.40		T.																							.02			T.	0.45
Fryburg	Heart	.20	.08			.35	.25						T.	.20	.20		.20												T.				1.48
Fullerton	James	.40	.15	.27		.25	.30	T.		T.	.04				.56		T.						.08	T.		T.				.04		.10	2.19
Garrison	Missouri					.40		.18						.06																			0.64
Grafton	Red			T.	T.	.10										.11		.04								T.		T.	.06	.02		.01	0.34
Grand Forks ***	Red	.03		.03		.08				.03					.08	.14	.02						T.			.02			.17			.02	0.62
Granville	Mouse		T.	.10	.10																												0.20
Hannah	Pembina				.10																							.10					0.20
Hansboro	Devils Lake			.05		.05																			.10								0.20
Hettinger	Grand	.02	.08	.07		.03	.14			T.					.13		T.													.01			0.48
Hillsboro	Red										.05				.10	.20													.20	.10			0.65
Howard (near)	Missouri	T.		.25		T.							.17																	.14			0.56
Jamestown|| ||	James	.05		.10		.20								.05	.42								.07						.12				1.01
Lamoine	Missouri	.20								T.				T.	.20																		0.40
Langdon|| ||	Pembina																						.10										0.10
Larimore	Red				.20												.10																0.30
Linton	Missouri	.02		T.		.02	.02			.02					.08																		0.16
Lisbon ||||	Sheyenne	.30	.10	.20			.20	.10							.30	1.20	.20			.20	.40				.10	.05				T.			3.35
McClusky	Missouri				.25		.17																										0.42
McKinney (near)	Mouse			.24									T.																T.				0.24
McLeod	Sheyenne	1.03	T.		.25		.20			T.						.53							T.							.08	T.		2.09
Maddock	Sheyenne	T.		.05						T.																			T.	T.			0.05
Mandan|| ||	Missouri		.02	.10	.02		.22	T.			.06				.17	.18		T.					T.							T.			0.77
Manfred	James	.08	T.	.20	.06	T.				.02								T.								T.			.05	.02		.02	0.45
Marmarth	Lit. Missouri	.01	.01	.20		.02	.09			.20					.62														.02	.01			1.18
Mayville	Red			T.						T.																			.20				0.20
Melville	James				.10													.05	.05														0.20
Metigoshe	Mouse			.10		.20										.29																	0.59
Minot|| ||	Mouse	.05		.20																													0.25
Minto	Red			T.		T.																											T.
Mott	Cannon Ball	.16	.21	T.		.20	.12			.10					.08		.22							.21						T.			2.20
Napoleon ||||	Missouri	.30					.10							.20	.20																		0.80
New England	Cannon Ball																																......
New Salem	Heart	.40	.10	.08		.48	.40	T.		.02				.03	.50		T.					T.	T.	T.	T.							T.	2.01
Park River	Red					.03										.07													.08				0.18
Parshall (near)	Missouri	.08	.12	.08	.10												.02					T.							T.				0.40
Pembina|| ||	Red																																0.00
Pettibone	James		.30			.02	.02			.01				.04	.08	.02								T.									0.49
Power	Sheyenne	.20		.30		.80									1.50	.50													.20				3.50
Powers Lake	Missouri	.20		.23									.03																				0.46
Richardton	Heart		.10	.02		.20	.10							.10	.20																		0.72
Sharon	Red	.04		.03		.01									.03	.10						T.	.01			T.			.16	.01			0.39
Stanton	Missouri	.06	.05	.01						.01				.10	.20																	.15	0.58
Starkweather	Devils Lake																																0.00
Steele	Missouri	.30	.10	.20	.10	.10	.10	.10	.10	.05				.10	.60	.10		.10															2.05
Towner	Mouse			.50																									T.				0.50
Trotters	Lit. Missouri	.13				.40	.33					T.	.10				.05												T.	.05			1.06
Turtle Lake	Missouri				.16	.04	.04			.04					T.														T.				0.28
Valley City	Sheyenne	.14	T.	.19		.07				T.				T.	.39							T.	.06	.18									0.94
Velva	Mouse	.08	T.	.10			T.																	T.	T.			.01				.09	0.28
Wahpeton	Red		.20	.20	.30	.20	.20								.40	.10																	1.60
Washburn	Missouri																																......
Westhope	Mouse					.10																											0.10
Williston ***	Missouri	.08	.08	.12		.16				T.			.05				.02					T.							.02				0.53
Willow City	Mouse			.10		.02				T.			T.																.03			T.	0.15
Wilton						.15							.15	T.																			0.30
Moorhead, Minn ***	Red	.06	T.	.35		.01				.02				.01	1.23	.27	.01	T.	T.			.01	T.	T.		T.		.03	.27	T.		.01	2.28

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. \|\| \|\| Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December, 1927

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	20	12	7	36	28	20	15	-12	-5	-1	8	22	18	17	9	3	4	8	12	20	23	16	18	20	20	18	16	8	6	-8	8	12.5
	Minimum...	-14	-20	-23	-22	-8	-6	-20	-23	-28	-26	-25	-7	-3	-6	-4	-14	-12	-11	-16	-8	-4	-4	-6	-4	-8	-1	-8	-10	-8	-18	-19	-12.5
Amidon	Maximum...	5	2	1	36	33	18	13	-10	-13	0	20	35	26	-1	-8	13	12	10	30	30	22	10	20	22	28	32	28	23	10	-12	....	ᵃ14.5
	Minimum...	-3	-2	-2	-4	12	-13	-22	-30	-24	-24	-8	16	-6	-9	-20	-9	-12	-10	-2	16	8	-14	0	-2	6	13	10	2	-12	-20	....	ᵃ-5.5
Arnegard	Maximum...	3	0	3	36	36	6	-10	-17	-10	-4	17	33	20	-5	-2	0	1	3	23	30	14	8	14	12	23	18	17	7	-5	-7	-18	7.9
	Minimum...	-13	-3	-12	-11	6	-12	-27	-33	-27	-22	-12	10	-9	-16	-19	-11	-18	-23	-5	10	-1	-9	-13	-10	-11	0	0	-5	-18	-22	-24	-11.6
Ashley	Maximum...	10	-3	0	20	34	8	-5	-13	-8	-5	3	28	23	5	-2	0	-3	-1	10	22	20	17	7	16	15	21	15	15	8	-8	-10	7.7
	Minimum...	-5	-15	-9	-16	7	-6	-17	-29	-25	-20	-12	-6	2	-3	-20	-19	-11	-17	-21	2	4	5	-2	6	0	0	-6	6	-9	-20	-17	-8.8
Beach	Maximum...	9	20	38	38	33	10	-4	-12	-8	-4	25	36	13	-2	-5	12	20	7	22	25	17	12	15	12	25	27	25	11	12	-12	-20	12.8
	Minimum...	-4	0	5	5	10	-10	-24	-31	-20	-20	-12	13	-4	-8	-20	-11	-11	-22	-6	8	5	-4	0	7	0	11	6	4	-23	-26	-29	-6.8
Berthold Agency	Maximum...	10	-1	3	40	39	20	21	-11	-6	3	15	25	25	0	-2	5	5	5	20	30	21	5	14	10	12	16	10	10	2	2	0	9.5
	Minimum...	-15	-13	-8	-18	10	-8	-5	-27	-30	-30	-32	4	-5	-12	-24	-18	13	-31	-17	-4	4	-9	-17	-10	-17	-5	-4	-8	-12	-28	-28	-13.9
Bismarck	Maximum...	5	2	1	36	37	6	-7	-15	-8	-3	10	27	27	1	-2	2	0	-4	5	17	21	10	13	16	6	17	10	8	1	-12	-12	6.9
	Minimum...	-12	-6	-12	-18	6	-8	-25	-28	-26	-22	-11	1	-3	-6	-22	-22	-13	-25	-30	-5	-2	-3	-7	6	-6	-3	-6	-2	-16	-18	-20	-11.7
Bottineau §§	Maximum...	-5	-8	-1	18	35	-5	-5	-20	-14	-5	0	30	24	-10	-11	3	-4	-3	10	21	20	12	3	14	10	19	10	11	-5	-10	-11	4.0
	Minimum...	-13	-20	-17	-21	-5	-20	-25	-32	-35	-35	-19	-1	-13	-21	-26	-24	-17	-26	-22	4	-5	-13	-13	0	-15	-1	-2	-1	-11	-23	-20	-16.1
Cando	Maximum...	0	-3	1	22	34	4	9	-13	-8	-2	9	25	23	1	-2	3	2	12	16	21	23	18	6	19	22	19	14	14	10	-9	-6	9.3
	Minimum...	-11	-16	-17	-13	-17	-13	-19	-26	-25	-24	-12	1	-5	-12	-17	-18	-10	-22	-12	2	3	0	-11	-3	-4	-2	-9	4	-10	-22	-20	-11.6
Carson	Maximum...	5	5	0	31	30	30	-10	-15	-10	-5	10	20	15	0	-10	0	5	-10	8	25	20	10	15	10	12	15	10	5	-1	-15	-20	5.3
	Minimum...	-6	-9	-15	-18	15	-12	-22	-35	-26	-25	-20	-2	-10	-15	-27	-22	-20	-22	-18	2	0	-10	-5	-10	-12	-5	-4	-5	-16	-25	-30	-13.8
Crosby §§	Maximum...	-4	0	10	36	10	-13	-15	-12	-8	-3	11	27	-4	-8	-1	-5	0	5	20	30	15	10	9	3	20	10	15	5	-9	-11	-20	4.0
	Minimum...	0	-12	-11	-11	6	-16	-26	-31	-31	-20	-20	-11	-9	-16	-24	-13	-18	-19	-16	7	14	-10	-10	-10	-12	9	-5	0	-16	-21	-20	-12.6
Devils Lake	Maximum...	-2	-6	0	34	35	-1	-11	-13	-9	-1	10	23	17	-3	-2	2	2	0	16	28	20	13	6	17	16	17	12	16	3	-11	-10	7.0
	Minimum...	-10	-15	-15	-16	-1	-13	-19	-24	-24	-21	-8	1	-7	-8	-16	-15	-10	-20	-12	6	6	-5	-8	3	5	-2	-6	3	-11	-19	-19	-9.7
Dickinson §§	Maximum...	5	1	6	37	23	-3	-17	-12	-9	-2	19	30	2	-2	5	10	1	-1	22	26	17	9	17	6	22	24	17	8	-10	-13	-19	7.1
	Minimum...	-4	-7	-2	-17	5	-5	-17	-33	-30	-24	-19	-11	-8	-8	-22	-24	19	-28	-29	-5	6	-13	-13	-17	-13	-10	0	-4	-11	-22	-27	-13.9
Dunn Center §§	Maximum...	2	-1	19	39	26	-4	-15	-13	-8	-4	17	30	5	-3	-1	8	3	-3	21	29	20	25	12	6	25	22	12	10	-8	-12	-17	7.8
	Minimum...	-7	-7	-3	-19	-4	-15	-22	33	-30	-26	-18	-5	-5	-8	-25	-25	-15	-35	-27	-5	3	-17	0	-14	-19	-12	-8	-11	-12	-26	-21	-15.2
Dunseith	Maximum...	0	-6	-1	26	36	11	16	32	16	10	2	36	24	13	8	8	2	7	13	22	33	6	13	16	16	18	12	10	11	11	15	14.1
	Minimum...	-12	-30	-28	-15	-11	-27	-25	-27	-26	-28	....	....	....	....	-10	-14	-24	-14	-14	-1	2	-9	-12	0	-9	1	3	4	11	-19	-16	ᵈ-12.6
Edgeley	Maximum...	14	-1	-1	13	36	8	-5	-9	-8	-4	7	18	15	18	15	-2	-1	-1	-2	32	22	20	9	17	18	20	15	18	11	-7	-8	8.9
	Minimum...	-20	-24	-17	-15	7	-6	-16	-26	-26	-21	-8	-5	-5	-5	-16	-20	-12	-17	-11	-4	6	-4	-12	5	2	-2	-9	6	-8	-21	-16	-10.3
Ellendale	Maximum...	3	0	0	31	37	3	-7	12	-6	-1	1	26	31	1	-1	0	-1	1	2	16	22	17	13	19	16	21	17	18	4	-11	-8	8.1
	Minimum...	-15	-15	-10	-18	3	-7	-18	-23	-25	-24	-16	-6	0	-1	-13	-16	-6	-13	-16	-6	2	2	2	10	-4	-3	-7	3	-13	-18	-14	-9.2
Fessenden §§	Maximum...	8	-3	0	36	15	-3	-10	-10	-7	0	8	29	6	-2	-1	5	2	4	13	36	21	14	15	21	19	19	15	12	-4	7	7	8.3
	Minimum...	-10	-20	-21	-19	-6	-8	-20	-30	-28	-26	-16	-5	-3	-8	-21	-21	-13	-19	-18	-8	8	-3	-12	-11	9	1	-7	-1	-5	-20	-20	-12.3
Foxholm (near)	Maximum...	-1	-6	0	34	36	3	-11	-13	-7	-2	10	21	25	-3	0	3	2	4	19	30	23	11	12	10	12	21	10	7	2	-10	-11	7.5
	Minimum...	-11	-16	-17	-15	1	-15	-24	-26	-25	-21	-7	8	-7	14	-19	-14	-15	-20	-8	8	10	-11	-11	0	-12	2	-3	-6	-13	-19	-18	-10.9
Fullerton	Maximum...	8	1	1	10	36	13	-4	-11	-6	-3	4	19	28	10	1	1	3	-1	4	15	22	22	11	21	17	21	12	19	10	-5	-3	11.1
	Minimum...	-12	-20	-13	-14	3	-5	14	-23	-28	-21	-23	-5	4	-3	-13	-17	-5	-14	-13	-4	2	4	2	10	5	5	-7	10	-8	-18	-14	-8.0
Garrison	Maximum...	0	2	1	36	33	7	-8	-9	-7	2	13	25	14	2	0	6	4	6	17	32	20	8	14	12	10	18	14	9	2	-9	-10	8.5
	Minimum...	-9	-8	-12	-17	7	-8	-20	-27	-27	-24	-13	6	-6	-9	20	-19	-13	-24	-14	4	8	-10	-14	-8	-14	1	0	-8	-12	-17	-16	-11.1
Grafton	Maximum...	1	-2	1	19	36	0	-10	-11	-6	2	12	17	18	-3	-3	-1	4	6	18	29	25	25	10	11	22	18	13	18	13	-4	-5	8.8
	Minimum...	-8	-16	-20	-10	-2	-13	-16	-21	-21	-21	-6	0	1	-7	-6	-12	-9	-9	-12	-1	6	0	-10	-4	8	6	-8	10	-7	-14	-12	-7.5
Grand Forks	Maximum...	0	-6	6	34	36	-2	-10	-8	-4	2	9	17	18	1	1	2	4	4	12	23	24	17	10	15	19	22	21	24	9	-5	-6	9.3
	Minimum...	-8	-14	-15	-9	-2	-11	-16	-19	-21	-19	-6	2	-1	-6	-7	10	5	-8	-11	0	4	-1	-5	2	14	0	-7	9	-10	-15	-16	-6.9
Granville	Maximum...	-5	-5	-12	40	35	22	10	-10	-15	-3	15	18	20	15	8	0	-5	0	7	18	15	5	10	5	10	0	5	0	-10	-15	-10	5.4
	Minimum...	-12	-12	-20	-12	22	10	-10	-28	-26	-22	-8	8	-12	-20	-12	-5	-23	-10	-12	-10	-4	-10	-17	-5	-14	-7	-5	-12	-18	-22	-25	-11.5
Hansboro	Maximum...	2	10	-1	35	30	0	-10	-14	-10	-7	2	26	21	10	0	0	-2	2	15	15	22	20	6	18	18	10	10	11	5	6	5	8.2
	Minimum...	-18	-28	-26	-14	-16	-20	-28	-29	-35	-30	-15	-2	-10	15	-20	-21	-17	-26	-21	-12	5	-7	-12	-5	-5	-15	-15	-16	-18	-16	-20	-17.0
Hettinger	Maximum...	12	6	8	36	35	17	-12	-4	-7	-1	17	34	30	1	-1	15	14	6	25	27	20	11	15	14	26	22	17	10	3	-10	-15	12.0
	Minimum...	1	1	-2	-11	17	-9	-20	-32	-20	-22	-14	3	-6	-6	-19	-20	-13	25	23	8	0	-10	8	-13	-8	-3	-2	1	-13	-20	-27	-9.6
Hillsboro	Maximum...	4	-4	12	8	36	4	-2	-7	-5	-3	8	15	19	10	0	2	4	7	6	19	24	24	14	13	19	23	17	27	18	-5	8	9.6
	Minimum...	-8	-16	-20	-10	1	-9	-14	-20	-23	-23	-9	-2	1	-4	4	-11	-4	-5	12	-3	3	1	-5	-8	9	2	-5	14	-5	-15	-17	-7.1
Howard (near)	Maximum...	-3	-6	5	32	32	0	-15	-24	-9	-5	16	27	13	-10	-6	5	0	1	22	21	21	10	9	0	18	20	10	8	-7	17	-20	4.8
	Minimum...	-14	-12	-9	-10	0	-16	-28	-32	-27	-23	-9	9	-16	-20	-21	-14	-20	-23	-5	0	-4	-12	-10	-13	-12	-11	-3	-7	-22	-24	-30	-14.1
Jamestown §§	Maximum...	0	2	38	27	-2	-9	-12	-7	0	10	23	9	1	-3	3	0	-2	13	26	23	13	8	18	17	21	19	20	3	-2	-6	-6	7.9
	Minimum...	-9	-22	-19	-18	-18	-7	-15	-27	-30	-26	-10	-10	-2	-6	-17	-21	-15	-18	-19	-17	1	8	-17	-17	9	2	-7	-9	-2	-21	-23	-13.1
Lamoine	Maximum...	-2	-2	-3	20	10	9	-11	-17	-11	-8	1	21	12	1	-3	-1	-2	-2	-2	21	22	19	25	16	16	17	7	7	5	-13	-12	4.5
	Minimum...	-9	-20	-15	-19	-9	-11	-20	-32	-29	-26	-15	-5	-6	-14	-26	-24	-22	-22	-25	-3	10	-8	-7	7	-3	-2	-10	-1	-18	-23	-17	-14.3
Langdon §§	Maximum...	10	5	1	32	19	12	5	5	-5	6	10	25	13	3	-5	0	1	-4	15	20	22	10	15	20	14	15	16	15	5	-6	-10	9.2
	Minimum...	-16	-24	-23	-16	-10	-16	-21	-29	-33	-30	-12	-10	2	-18	-20	-22	-20	-22	-17	-10	-1	7	-15	-14	3	-2	-8	-6	-13	-20	-20	-14.7
Larimore §§	Maximum...	0	-3	0	30	35	2	-9	-10	-7	-1	10	22	20	0	-1	0	5	1	10	30	22	10	5	10	18	23	12	20	-1	-8	-12	7.5
	Minimum...	-9	-12	-20	-5	2	-11	-16	-23	-22	-22	-8	0	-5	-9	-12	-14	-10	-12	-10	0	15	2	-8	4	2	0	-7	-4	-12	-18	-20	-8.5
Linton	Maximum...	6	3	3	29	37	15	12	20	-10	-3	9	20	18	1	-2	10	-3	-6	4	17	20	10	13	16	15	19	16	10	6	-10	-12	9.1
	Minimum...	-27	-15	-5	-27	14	-9	-21	-35	-32	-30	-13	-3	0	-2	-19	-28	-11	-25	-10	-10	-10	-3	-7	10	-13	-10	-7	3	-11	-23	-20	-12.9
Lisbon §§	Maximum...	12	16	4	16	16	3	0	-12	-8	10	12	3	20	22	10	8	6	12	10	-10	0	-2	4	10	6	2	6	-2	-6	2	11	5.8
	Minimum...	-6	-26	-19	-12	-6	-6	-15	-18	-30	-27	-12	-8	-14	-8	-4	-20	-16	-18	-12	-18	-20	-22	-18	-16	-16	-20	-20	-24	-26	-24	-28	-17.1
McClusky	Maximum...	20	11	-7	35	35	10	-17	-13	-15	-15	5	23	17	10	0	-5	0	-3	7	23	17	14	7	7	5	15	4	17	8	-4	-12	6.4
	Minimum...	-20	-20	-16	-27	3	-17	-27	-35	-35	-30	-21	0	-11	-14	-20	-21	-12	-26	-26	-5	0	-17	-17	-14	-10	-1	-2	-5	-12	-22	-17	-16.0
McKinney (near)	Maximum...	-1	-5	0	4	43	5	-10	-19	-9	0	11	23	25	-5	0	5	0	7	23	32	26	24	20	5	10	10	10	10	0	-10	-11	7.2
	Minimum...	-9	-12	-15	-15	-5	-15	-24	-24	-23	-20	-5	10	-8	-17	-25	-19	-16	-30	-12	20	20	-12	5	-8	-15	0	-10	-10	-12	20	-19	-11.1
Maddock	Maximum...	0	4	-1	30	32	7	-6	-11	-8	-2	4	25	23	7	-4	5	1	3	15	29	26	19	10	19	18	17	15	17	11	-1	-7	9.5
	Minimum...	-12	-16	-20	-20	4	-11	-21	-25	-26	-25	-11	-2	-4	-11	-23	-18	-16	-23	-23	4	7	-4	-17	-2	2	2	-8	-2	10	22	-19	-12.0
Melville	Maximum...	18	15	14	30	30	16	16	15	15	18	18	16	15	15	10	6	1	0	10	30	30	19	20	26	18	28	30	30	25	12	16	18.1
	Minimum...	-18	-21	-20	-16	-14	-10	-17	-19	-23	-19	-12	-8	-7	-8	-19	-14	-12	-16	-15	-11	10	0	-2	7	-1	5	4	3	-2	26	-24	-10.5
Minot §§	Maximum...	5	-8	-4	37	7	-8	-10	-10	-8	3	15	23	1	-4	3	6	5	8	18	35	15	12	10	12	10	20	12	7	-8	11	-11	5.8
	Minimum...	-11	-13	-22	-11	-6	-20	-25	-26	-21	-11	-8	-4	-11	-24	-19	-13	-27	-14	6	12	-11	-11	1	-17	2	-7	-9	-10	-18	-15	-29	-12.1
Mott	Maximum...	16	1	5	34	32	12	-14	-15	-10	-3	15	-2	22	-2	-4	3	2	-12	20	21	15	10	14	12	14	20	15	8	-2	-13	-18	6.3
	Minimum...	-2	-4	-9	-18	-12	-14	-21	-35	-25	-25	-18	-15	-5	-5	-25	-23	-25	-27	-17	1	-3	-18	0	-14	-13	-3	-4	-8	-13	-23	-28	-14.5
Napoleon §§	Maximum...	0	0	-1	35	22	6	-4	-15	-9	15	24	4	-1	-2	-13	-4	-5	-7	12	21	22	10	13	20	18	16	17	10	-4	-14	-11	6.0
	Minimum...	-7	-20	-12	-22	10	-5	-16	-33	-33	-25	-3	-3	-8	-9	-31	-30	-25	-25	-24	0	-3	5	-5	-2	0	-3	-5	-3	-6	-28	-26	-12.8
New Salem	Maximum...	12	0	0	34	14	15	-8	-9	10	-3	8	20	18	2	-1	3	-3	-6	15	28	20	15	11	15	10	15	11	10	5	-5	-11	7.9
	Minimum...	-12	-15	-9	-16	-9	-11	-21	-31	-28	-25	-14	0	-6	-9	-23	-20	-16	-24	-24	-9	10	-7	-10	10	-14	10	-8	-10	-11	-23	-24	-12.9
Pembina §§	Maximum...	-4	-6	-4	20	2	-10	0	-5	4	10	15	10	12	-8	-12	-10	-6	-6	-5	0	6	5	10	4	3	2	6	7	8	8	-10	1.5
	Minimum...	-15	-25	-25	-15	-6	-18	-25	-26	-15	-10	-5	-4	-8	-15	-12	-15	-16	-10	-15	-10	-11	-5	-10	-15	-11	-14	-12	-11	-14	-16	-25	-14.0
Steele	Maximum...	-6	-6	-8	15	15	-6	-10	-12	-10	-6	0	10	7	0	6	-8	-8	6	-14	15	15	0	15	10	15	20	10	6	0	-15	-12	0.4
	Minimum...	-15	-19	-14	-21	10	-15	-32	-35	-30	-31	-30	-6	-7	-11	-24	-26	-17	-28	-29	-14	-7	2	-7	-3	0	-4	-5	-7	-10	-25	-20	-15.6
Towner	Maximum...	7	-3	0	37	35	20	-9	-15	-7	0	6	20	15	6	-5	-6	-1	-3	20	28	24	20	17	15	20	15	13	9	8	-9	-10	8.6
	Minimum...	-3	-17	-15	-20	20	-15	-22	-28	-30	-25	-10	-4	-11	-14	-25	15	-12	20	-8	-8	-5	-10	-20	-3	-5	2	3	-3	-9	-13	16	-11.8
Valley City	Maximum...	14	-2	2	11	37	3	1	-12	-8	-5	6	17	23	9	3	2	2	0	8	20	24	14	23	18	19	19	27	22	12	-7	-7	9.5
	Minimum...	-5	-19	-18	-14	3	-6	-12	-24	-25	-21	-11	-2	0	-3	-10	-14	-4	-14	-20	-2	3	-4	-7	4	12	2	-5	-7	-5	-16	-22	-8.6
Wahpeton	Maximum...	14	-2	7	9	35	20	0	-7	-7	-2	7	25	24	12	7	1	3	1	5	17	19	20	11	20	21	21	21	35	21	-3	-9	11.2
	Minimum...	-7	-24	-22	-21	5	-4	-15	-23	-26	-25	-10	-5	1	-3	-3	-14	-4	-7	-12	-6	-2	-2	3	-3	12	6	-6	20	-5	-21	-20	-7.5
Westhope	Maximum...	-5	-8	-1	8	18	26	25	18	15	0	10	0	12	12	0	0	-2	-6	14	26	6	6	6	10	15	6	7	6	6	-4	0	7.3
	Minimum...	-14	-22	-24	-2	-20	-22	-26	-28	-29	-26	-22	-10	-10	-20	-30	-22	-19	-23	-22	-2	-10	-18	-17	-11	-2	-8	-3	-10	-12	-20	-16	-16.8
Williston	Maximum...	2	1	4	39	32	3	-13	-16	-6	2	15	29	2	-2	-5	7	4	0	21	26	18	6	11	4	17	12	17	10	-5	-13	-16	6.6
	Minimum...	-11	-4	-8	-9	3	-15	-28	-31	-23	-20	-12	1	-10	-17	-19	-9	-18	-24	-8	7	1	-11	-12	-12	-12	1	-3	-5	-18	-21	-26	-12.0
Moorhead, Minn	Maximum...	-2	-4	8	27	37	1	-9	-11	-4	-1	7	20	19	2	1	2	3	4	5	14	21	17	9	18	20	20	25	32	12	-8	-7	9.0
	Minimum...	-14	-17	-18	-16	0	-10	-15	-20	-24	-22	-8	2	-1	-2	-8	-12	-4	-7	-11	-8	4	2	-4	-5	9	3	-5	12	-11	-16	-18	-7.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

51.05
NMT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVI BISMARCK, N. D., ANNUAL, 1927 No. 13

GENERAL SUMMARY

Taken from a crop standpoint, the weather during 1927 was one of the best in the history of the State. The year opened with the temperature above the normal, and this condition continued during January, February and March. From April to August, inclusive, the temperature averaged below normal. September and October were warmer than normal, while during November and December the temperature averaged decidedly below the normal, especially during the latter month, which was the coldest December of record. The precipitation for the year was, with but one exception, the highest of record. Precipitation above the normal occurred during April and May, the principal spring months, and during July and August in summer and October, November and December. While several quite severe hailstorms were reported, the number of destructive storms was considerably below the average. A large amount of Federal Aid highway construction was accomplished in all parts of the State.

The mean annual temperature for the State was 38.0°, or 0.8° below the normal, and 2.7° lower than the mean for 1926. The highest mean annual temperature reported was 41.7° at McLeod, Ransom County; the lowest was 33.7° at Granville, McHenry County. The highest temperature reported was 101° at Carson, Grant County, on September 4th; the lowest was -44° at Hansboro, Towner County, on January 24th.

The average annual precipitation for the State was 21.52 inches, or 3.58 inches above the normal, and 5.82 inches greater than the average for 1926. The greatest annual precipitation reported was 32.12 inches at Fullerton, Dickey County; the least was 13.87 inches at New England, Hettinger County. The greatest monthly amount reported was 9.30 inches at Pembina, Pembina County, in May; stations reporting none were Westhope in January; Pembina and Stanton in February; Pembina in March; Melville in September; and Pembina and Starkweather in December. The precipitation averaged below the normal in January, February, March, June and September, and above the normal during the remaining months. The average snowfall for the State was 36.2 inches. The average number of days with 0.01 inch or more of precipitation was 79. There were 150 clear days, 102 partly cloudy days and 113 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—The first half of the month was mild and pleasant, with but one short storm period; the latter half was more stormy. General storm periods occurred on the 7-8th, 16-20th, and 29-31st. The snow covering was ample for winter rye and as a rule the weather was favorable for livestock.

FEBRUARY.—Generally favorable weather prevailed throughout the State during the month, the temperature during the latter half being mild and pleasant. Livestock ranged freely on ranges and harvested fields, thus saving much feed, of which there was a great scarcity.

MARCH.—Taken as a whole the weather was favorable for outdoor work and for livestock. As rough feed was scarce a great benefit accrued to livestock by the ranging of livestock on meadows, ranges and harvested fields. Practically no field work was done due to frozen ground.

APRIL.—The month opened with weather favorable for spring work on farms, and this condition prevailed throughout the month with the exception of storm periods on the 4th, 9-10th, and 15-17th. Farm work made excellent progress during the last decade and seeding was well advanced at the close of the month. Wild and tame grasses made rapid growth and afforded much feed for livestock, which was in fair to good condition.

MAY.—Unusually favorable weather for crops prevailed throughout the State during the month. Quite often when the Red River valley receives just the proper amount, the central and western portions of the State receive too little; during the present season, however, the largest amounts were generally recorded in the central portion. The average for the State was the highest of record for May in the climatological history of the section. Due to low average temperatures small grains stooled well and were in excellent condition at the close of the month. Pastures, ranges and meadows were excellent, affording ample feed for livestock and insuring an abundant hay crop.

JUNE.—Favorable weather generally prevailed, although the precipitation was below the normal. There was an abundance of sunshine, but the temperature was slightly deficient. The rainfall was ample for all crop needs and was fairly well distributed geographically and throughout the month. Several severe hail and windstorms occured causing considerable damage. At the close of the month the prospects for small grain crops were never better. Corn though somewhat backward was generally of good stand and color.

JULY.—Taken as a whole the weather of the month was the most favorable of any July for several years. The temperature was below the normal and was especially favorable for small grains of all kinds. The precipitation was above the normal and was quite well distributed. Although the night temperatures were somewhat too cool for corn, that crop made good progress and at the close of the month was of nearly normal growth, much being in the tasseled stage. Much rye harvesting was done, especially during the last decade, and some harvesting of early sown spring wheat and barley. Reports of black stem rust in spring wheat were received but due to the advanced stage of that crop the loss was not serious.

[Continued on page 53]

Climatological Data for the Year 1927

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number rainy days	Sky			Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall		Number clear days	Number partly cloudy days	Number cloudy days	
Alpha	Golden Valley	......	2	......	......	......	......	......	2	21.70	5.88	May	0.01	Feb.	19.7	87	......	......	......	......
Amenia	Cass	954	32	38.7	98	Sept. 13	−29	Jan. 26	32	20.66	5.20	May	0.48	Jan.	41.0	77	168	147	50	n.
Amidon	Slope	......	14	......	96	Sept. 4	−30	Dec. 8	14	20.86	6.65	May	T.	Feb.	39.5	61	133	103	129	w.
Arnegard	McKenzie	......	13	38.4	92	July 27†	−33	Dec. 8	13	20.95	5.11	May	0.38	Mar.	59.8	87	218	66	81	se.
Ashley	McIntosh	2,001	32	39.1	93	June 27	−29	Dec. 8	32	20.86	3.94	May	0.23	Nov.	34.1	76	179	74	112	nw.
Beach	Golden Valley	2,579	22	40.4	92	Aug. 12	−31	Dec. 8	22	19.89	6.16	May	0.13	Feb.	......	107	......	......	......	nw.
Berthold Agency	McLean	2,082	35	39.0	92	Sept. 4†	−33	Jan. 21	35	17.75	5.70	May	0.08	Mar.	13.5	59	221	21	123	nw.
Bismarck	Burleigh	1,674	53	40.0	92	Aug. 5†	−30	Dec. 19	53	20.85	7.04	May	0.19	Feb.	44.6	87	125	129	111	nw.
Bottineau	Bottineau	1,638	36	36.0	90	Sept. 5	−37	Jan. 21	36	20.49	5.24	May	0.12	Feb.	......	98	140	93	132	nw.
Cando	Towner	1,488	27	38.2	91	June 27†	−34	Jan. 21	27	17.96	4.11	May	0.13	Dec.	......	63	109	130	126	n.
Carson	Grant	2,500	16	39.5	101	Sept. 4	−35	Dec. 8	16	15.68	5.69	May	0.30	Feb.	36.5	64	188	95	82	nw.
Cavalier	Pembina	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Cooperstown	Griggs	1,428	......	......	......	......	......	......	22	18.31	4.81	May	0.10	Dec.	38.5	54	152	103	110	nw.
Crosby	Divide	1,954	21	36.1	90	Aug. 11	−34	Jan. 21	21	18.88	3.88	May	0.35	Jan.	52.1	83	120	141	104	nw.
Devils Lake	Ramsey	1,478	31	36.7	92	June 27†	−26	Jan. 21	31	19.51	4.60	May	0.60	Dec.	39.0	102	138	99	128	se.
Dickinson	Stark	2,543	36	38.2	90	June 26†	−33	Jan. 21†	36	19.62	5.67	May	0.16	Feb.	44.8	113	172	46	147	nw.
Dogden Butte	McLean	1,880	2	37.4	89	Sept. 13	−31	Jan. 21	2	21.38	8.07	May	0.17	Jan.	19.1	86	150	104	111	nw.
Dunn Center	Dunn	2,191	29	39.3	91	Sept. 4	−35	Dec. 18	29	22.04	6.73	May	0.16	Feb.	......	70	132	64	169	w.
Dunseith	Rolette	1,682	32	34.2	87	July 26†	−36	Jan. 10†	32	21.37	5.54	May	0.04	Jan.	32.1	92	93	146	116	nw.
Eckman	Bottineau	1,500	23	36.1	93	Sept. 11	−37	Jan. 21	23	19.79	4.13	May	0.16	Dec.	24.5	58	26	201	138	nw.
Edgeley	LaMoure	1,468	27	39.4	92	Sept. 11	−26	Dec. 8†	27	25.34	7.15	May	0.25	Feb. †	25.8	55	52	144	169	nw.
Ellendale	Dickey	1,449	29	39.6	93	June 27	−27	Jan. 22	29	23.77	5.89	May	0.30	Nov.	32.3	115	79	128	158	nw.
Energy	McLean	1,750	16	39.9	94	Sept. 13	−36	Jan. 21	16	18.42	6.47	May	0.08	Feb.	15.8	65	96	184	85	nw.
Epping	Williams	2,224	20	......	89	June 26†	......	......	20	......	6.72	May	......	......	......	......	......	......	......	......
Fessenden	Wells	1,610	16	37.9	94	June 27†	−30	Dec. 8	16	22.08	6.27	May	0.33	Dec.	24.3	80	141	106	118	nw.
Forman	Sargent	1,249	......	......	......	......	......	......	34	26.09	6.84	May	0.30	Nov.	15.3	73	162	104	99	nw.
Fort Yates	Sioux	1.670	......	......	......	......	......	......	28	21.28	5.58	May	0.20	Nov.	28.0	52	......	......	......	......
Foxholm	Ward	1,657	7	36.8	89	July 26	−27	Jan. 21	7	22.19	6.29	May	0.27	Feb.	50.6	94	98	129	138	nw.
Fryburg	Billings	2,790	......	......	......	......	......	......	10	24.38	5.59	May	0.32	Feb.	55.0	93	199	62	104	nw.
Fullerton	Dickey	1,439	30	40.4	94	June 27	−28	Dec. 9	30	32.12	6.92	May	0.66	Nov.	68.9	88	130	126	109	nw.
Garrison	McLean	1,901	33	38.4	90	July 26	−27	Jan. 21†	33	23.39	7.16	May	0.22	Feb.	......	69	213	80	72	nw.
Grafton	Walsh	827	36	38.3	92	Aug. 5	−35	Jan. 26	36	20.29	5.25	May	T.	Mar.	......	83	148	87	130	nw.
Grand Forks	Grand Forks	830	37	38.3	93	Sept. 13	−28	Jan. 26	37	23.20	5.97	Aug.	0.33	Jan.	34.5	101	120	130	115	nw.
Granville	McHenry	1,504	21	33.7	92	Sept. 13	−28	Jan. 19†	21	19.14	5.01	May	0.20	Dec.	23.5	69	104	140	121	nw.
Hannah	Cavalier	1,568	......	......	......	......	......	......	34	20.28	4.98	June	0.20	Dec.	30.0	63	......	......	......	......
Hansboro	Towner	1,597	20	34.2	94	July 24†	−44	Jan. 24	20	26.33	6.70	May	0.20	Jan. †	32.5	68	171	108	86	nw.
Hettinger	Adams	2,675	21	41.3	97	July 27†	−32	Dec. 8	21	20.56	6.15	May	0.16	Jan.	37.1	75	188	69	108	nw.
Hillsboro	Traill	901	22	40.1	94	Sept. 13	−27	Jan. 26	22	20.44	4.57	May	0.24	Sept.	37.5	69	142	144	79	n.
Howard	Williams	2,275	21	35.1	90	Aug. 25	−34	Jan. 21	21	20.25	6.99	May	0.40	Jan. †	66.2	68	138	132	95	nw.
Jamestown	Stutsman	1,390	36	37.5	94	Sept. 11†	−30	Dec. 9	36	25.79	7.30	May	0.50	Feb.	52.4	107	144	45	176	nw.
Lamoine	Kidder	1,936	23	37.0	92	Sept. 13	−32	Dec. 8	23	25.88	8.50	May	0.20	Feb.	29.0	51	177	92	96	nw.
Langdon	Cavalier	1,615	32	35.2	93	Aug. 5	−37	Jan. 21	32	19.64	4.08	May	0.10	Dec.	26.5	72	198	73	94	nw.
Larimore	Grand Forks	1,134	34	37.8	94	Sept. 13	−27	Jan. 26	34	25.89	6.51	May	0.05	Sept.	52.8	85	160	56	149	s.
Linton	Emmons	1,711	10	40.2	95	June 27	−35	Dec. 8	10	23.72	6.65	May	0.16	Dec.	12.1	76	276	58	131	se.
Lisbon	Ransom	1,091	24	38.6	96	Sept. 13	−30	Dec. 9	24	28.22	5.42	May	0.32	Feb.	72.7	83	175	80	110	......
McClusky	Sheridan	1,943	10	36.8	93	Aug. 5	−35	Dec. 8†	10	21.75	9.02	May	0.42	Dec.	33.7	90	168	113	84	nw.
McKinney	Renville	1,640	34	36.5	89	July 26	−32	Jan. 21	34	21.29	4.40	May	0.20	Jan.	24.7	63	71	176	118	nw.
McLeod	Ransom	1,075	16	41.7	93	Sept. 13	−32	Jan. 26	16	26.23	4.67	May	0.39	Jan.	44.7	75	199	57	109	nw.
Maddock	Benson	1,604	13	37.4	91	Aug. 5†	−29	Jan. 21	13	18.53	5.88	May	0.05	Dec.	......	69	79	163	123	nw.
Mandan	Morton	1,644	14	38.9	93	Sept. 13	−30	Dec. 8†	14	20.30	6.65	May	0.14	Feb.	......	87	121	56	188	nw.
Manfred	Wells	1,605	25	38.2	89	June 27†	−26	Dec. 8	25	21.97	5.56	May	0.45	Jan. †	31.7	93	141	120	104	nw.
Marmarth	Slope	2,714	19	41.6	90	June 26†	−39	Jan. 20	19	20.17	4.74	May	0.09	Oct.	43.6	97	121	113	131	nw.
Mayville	Traill	975	32	39.5	94	Aug. 6	−30	Jan. 26	32	17.66	5.28	May	0.02	Sept.	19.0	51	177	52	136	nw.
Melville	Foster	1,590	30	38.7	92	June 27†	−27	Jan. 21	30	19.50	5.97	May	0.12	Feb.	34.7	58	168	109	88	nw.
Metigoshe	Bottineau	......	2	......	......	......	......	......	2	22.00	5.43	May	0.25	Feb.	38.0	59	242	56	67	nw.
Minot	Ward	1,557	32	37.9	95	July 24†	−31	Jan. 21	32	21.33	5.90	May	0.12	Sept.	20.5	74	148	116	101	w.
Minto	Walsh	820	35	37.3	93	Aug. 5†	−33	Jan. 26	35	18.82	4.72	May	T.	Dec.	......	74	122	156	87	nw.
Mott	Hettinger	2,424	21	39.1	94	June 26	−35	Dec. 8	21	21.87	6.00	May	0.17	Oct.	55.3	73	128	113	124	nw.
Napoleon	Logan	1.955	36	38.3	95	June 27	−33	Dec. 8†	36	26.01	7.75	May	0.50	Jan. †	33.0	94	147	74	144	s.
New England	Hettinger	2,400	34	37.7	95	July 27	−35	Dec. 31	34	13.87	2.80	May	0.16	Oct.	25.8	61	107	112	146	nw.
New Salem	Morton	2,163	24	39.9	96	Aug. 5	−31	Dec. 8	24	17.80	6.35	May	0.11	Feb.	37.2	72	190	95	80	nw.
Park River	Walsh	998	24	38.4	92	Aug. 5	−28	Jan. 21	24	19.35	5.12	May	0.04	Sept.	20.3	60	142	88	130	nw.
Parshall	Mountrail	......	......	......	......	......	......	......	13	20.60	4.95	May	0.16	Mar.	28.1	77	......	......	......	......
Pembina	Pembina	789	54	36.1	99	June 27	−34	Jan. 21	54	29.72	9.30	May	0.00	Feb. †	6.0	45	184	84	97	s.
Pettibone	Kidder	1,856	19	......	95	Aug. 6	−38	Dec. 9	19	......	......	......	......	......	......	......	......	......	......	......
Power	Richland	1,020	......	......	......	......	......	......	34	21.20	3.87	June	0.21	Mar.	63.6	69	152	105	108	n.
Powers Lake	Burke	2,205	14	36.1	91	July 27	−32	Dec. 31	14	27.35	7.67	May	0.26	Feb.	52.4	63	223	81	61	w.
Richardton	Stark	2,467	12	39.4	91	July 26†	−31	Dec. 8	12	20.31	8.44	May	T.	Jan.	25.4	63	165	107	93	nw.
Sharon	Steele	1,516	1	37.6	92	Aug. 5†	−26	Dec. 9	3	19.39	5.12	May	0.05	Sept.	32.8	110	133	113	119	nw.
Stanton	Mercer	1,722	......	......	......	......	......	......	4	18.49	6.71	May	0.00	Feb.	11.5	56	168	100	97	nw.
Starkweather	Ramsey	......	......	36.1	93	Sept. 14	−34	Jan. 21	1	18.33	4.72	May	0.00	Dec.	......	82	191	38	136	nw.
Steele	Kidder	1,857	32	36.0	92	June 27	−35	Dec. 8	32	28.18	7.75	May	0.16	Jan.	41.9	80	153	124	88	nw.
Towner	McHenry	1,482	26	38.0	94	July 26†	−34	Jan. 21	26	23.13	6.25	May	0.08	Jan.	42.0	56	203	81	81	nw.
Trotters	Golden Valley	......	......	......	......	......	......	......	2	20.88	5.92	May	0.14	Feb.	34.0	82	130	77	158	......
Turtle Lake	McLean	1,899	13	37.8	88	July 25†	−29	Dec. 9	13	24.56	7.41	May	0.26	Sept.	31.7	77	81	117	167	nw.
Valley City	Barnes	1,245	23	......	......	......	−25	Dec. [illegible]	23	......	......	......	......	......	......	......	......	......	......	......
Velva	McHenry	1,511	......	......	......	......	......	......	2	22.31	6.61	May	0.13	Sept.	28.8	92	108	130	127	nw.
Wahpeton	Richland	962	34	41.3	94	Sept. 13	−31	Jan. 26	34	24.39	5.81	June	0.06	Jan.	30.2	87	213	[illegible]	152	nw.
Westhope	Bottineau	1,508	22	35.4	92	July 25	−38	Jan. 21	22	17.72	4.47	July	0.00	Jan.	18.0	49	180	115	70	nw.
Williston	Williams	1,878	49	38.1	90	July 7	−31	Jan. 21†	49	19.31	4.69	May	0.28	Mar.	40.6	119	142	126	97	se.
Willow City	Bottineau	1,471	36	36.0	90	July 26†	−40	Jan. 21	36	20.62	4.35	May	0.15	Dec.	30.2	88	125	129	111	nw.
Wilton	Bottineau	......	1	35.2	91	Aug. 5	−30	Dec. 31	1	20.42	7.73	May	T.	Mar.	16.5	53	193	37	135	......
Moorhead, Minn	Clay	935	47	39.3	94	Sept. 13	−27	Jan. 26	47	23.36	4.28	June	0.72	Nov.	75.3	119	92	109	164	s.
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......

† Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1927, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Alpha	0.19	.....	0.01	.....	0.14	.....	2.13	.....	5.88	.....	2.35	.....	2.06	.....	5.03	.....	1.86	.....	0.57	.....	0.52	.....	0.96	.....	21.70	.....
Amenia	0.48	−0.02	0.54	+0.14	0.80	+0.23	2.39	+0.51	5.20	+2.36	3.31	−0.56	2.06	−0.95	1.77	−0.95	0.72	−1.25	1.40	+0.11	0.59	+0.05	1.40	+0.89	20.66	+0.56
Amidon	0.60	+0.13	T.	−0.59	0.06	−0.78	1.68	+0.84	6.65	+4.28	2.03	−0.94	3.70	+1.05	1.25	−0.10	1.75	+0.06	0.95	−0.06	.....	.....	1.10	+0.65	20.86	+4.58
Arnegard	0.90	+0.34	0.40	−0.02	0.38	−0.41	1.82	+0.37	5.11	+3.40	1.72	−1.57	3.68	+2.08	2.06	+0.63	1.34	−0.26	1.14	+0.10	0.70	+0.34	1.70	+1.25	20.95	+6.25
Ashley	0.85	+0.36	0.75	+0.28	0.62	−0.57	2.03	+0.06	3.94	+1.48	2.26	−1.23	3.49	+0.83	.....	.....	1.24	+0.22	1.31	+0.25	0.23	−0.31	0.74	+0.23	20.86	+2.74
Beach	0.26	−0.37	0.13	−0.38	0.41	−0.37	1.42	0.00	6.16	+3.35	3.43	−0.05	2.49	+0.69	1.65	−0.40	1.87	+0.60	0.76	−0.23	0.59	+0.05	0.72	+0.21	19.89	+3.10
Berthold Agency	0.40	0.00	0.10	−0.45	0.08	−0.76	1.00	−0.16	5.70	+3.24	1.70	−2.18	4.86	+2.89	2.36	+0.59	0.41	−1.03	0.67	−0.19	0.22	−0.26	0.25	−0.15	17.75	+1.54
Bismarck	0.24	−0.30	0.19	−0.31	0.90	−0.14	1.37	−0.51	7.04	+4.54	2.70	−0.84	2.29	+0.15	3.12	+1.14	0.47	−0.72	0.53	−0.50	0.80	+0.12	1.20	+0.58	20.85	+3.21
Bottineau	0.23	−0.23	0.12	−0.25	0.30	−0.50	1.38	+0.51	5.24	+3.20	1.73	−1.41	4.37	+2.09	3.41	+1.20	0.68	−0.89	2.14	+1.15	0.70	+0.16	0.19	−0.30	20.49	+4.73
Cando	0.42	+0.02	0.30	+0.07	0.39	−0.24	1.72	−0.83	4.11	+1.71	1.75	−2.13	2.63	+0.10	3.28	+1.07	0.28	−1.15	2.36	+1.64	0.59	+0.08	0.13	−0.23	17.96	+1.77
Carson	0.46	+0.06	0.30	0.00	0.50	−0.16	1.47	−0.08	5.69	+3.05	2.13	−1.74	0.84	−1.10	2.00	+0.60	0.25	−1.48	0.32	−0.56	0.80	+0.24	0.98	+0.44	15.68	0.73
Cavalier	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.69	.....	0.94	.....	2.28	.....	.....	.....	.....	.....	.....	.....
Cooperstown	0.60	+0.10	0.20	−0.11	1.00	+0.46	2.06	+1.01	4.81	+2.60	1.97	−1.67	2.28	−0.45	2.69	+0.03	0.17	−1.49	1.33	+0.46	1.10	+0.56	0.10	−0.47	18.31	+1.03
Crosby	0.35	−0.14	0.75	+0.46	0.42	−0.16	1.30	+0.11	3.88	+1.88	1.30	−2.05	2.17	−0.04	3.12	+1.02	1.91	+0.52	2.42	+1.67	0.90	+0.19	0.36	−0.13	18.88	+3.33
Devils Lake	0.55	−0.05	0.53	0.00	0.86	−0.15	2.18	+0.15	4.60	+2.40	2.47	−1.06	2.25	−1.53	2.98	+0.22	0.13	−1.26	2.27	+1.04	0.63	−0.08	0.06	0.33	19.51	−0.65
Dickinson	0.49	+0.07	0.16	−0.27	0.37	−0.47	2.10	+0.87	5.67	+3.24	2.12	−0.92	2.93	+0.61	1.29	−0.66	1.45	+0.38	0.59	−0.19	1.09	+0.61	1.33	+0.91	19.62	+4.21
Dogden Butte	0.17	.....	0.20	.....	0.70	.....	1.62	.....	8.07	.....	1.47	.....	3.64	.....	3.04	.....	0.17	.....	1.44	.....	0.68	.....	0.18	.....	21.38	.....
Dunn Center	0.20	−0.31	0.16	−0.40	0.22	−0.89	1.61	+0.29	6.73	+4.19	1.64	−2.66	6.99	+4.94	1.25	−0.32	0.63	−0.49	1.02	+0.39	0.62	0.00	0.97	+0.41	22.04	+5.15
Dunseith	0.04	−0.43	0.24	−0.18	0.87	+0.10	0.41	−0.42	5.54	+3.81	1.07	−1.89	4.16	+1.82	4.35	+1.94	0.90	−0.67	2.07	+1.32	1.30	+0.87	0.42	+0.01	21.37	+6.31
Eckman	0.37	−0.19	0.27	−0.08	0.86	+0.36	1.19	+0.14	4.13	+1.95	2.38	−0.38	2.85	+0.41	4.12	+1.80	0.17	−0.96	2.40	+1.55	0.89	+0.35	0.16	−0.46	19.79	+4.49
Edgeley	0.54	+0.25	0.25	−0.07	0.41	−0.39	2.31	+0.43	7.15	+4.48	6.69	+3.33	2.04	−0.76	2.03	−0.11	1.52	−0.14	0.92	0.00	0.25	−0.09	1.23	+0.84	25.34	+7.77
Ellendale	0.49	+0.09	0.69	+0.21	0.56	−0.64	2.64	+0.81	5.89	+2.88	3.64	+0.64	2.16	−0.74	3.40	+1.14	2.03	+0.68	0.93	−0.11	0.30	−0.48	1.04	+0.71	23.77	+5.19
Energy	0.14	−0.15	0.08	−0.18	0.25	−0.42	1.42	+0.28	6.47	+4.27	2.73	−0.88	2.73	+0.55	2.60	+0.65	0.45	−1.09	0.67	−0.03	0.42	+0.16	0.46	+0.11	18.42	+3.27
Epping	0.29	−0.27	0.44	+0.09	0.14	−0.42	1.68	+0.53	6.72	+4.41	1.91	−1.43	2.74	+0.82	2.27	+0.12	2.89	+1.43	.....	.....	.....	.....	.....	.....	.....	.....
Fessenden	0.46	−0.14	0.40	+0.07	1.30	+0.58	1.74	+0.20	6.27	+3.99	2.83	−1.22	2.12	−0.35	3.71	+0.33	0.42	−1.30	1.84	+1.06	0.66	+0.02	0.33	−0.40	22.08	+3.84
Forman	0.68	+0.15	0.60	+0.07	1.43	+0.53	2.52	+0.33	6.84	+3.86	3.24	−0.37	3.43	+0.40	2.18	−0.53	2.64	+0.82	0.98	−0.36	0.30	−0.26	1.25	+0.71	26.09	+5.35
Fort Yates	0.80	+0.27	0.25	−0.39	0.50	−0.52	1.17	−0.50	5.58	+3.81	3.37	−0.29	4.45	+1.93	2.39	+0.42	0.55	+0.42	0.82	+0.03	0.20	−0.33	1.20	+0.77	21.28	+4.78
Foxholm (near)	0.41	.....	0.27	.....	1.29	.....	1.84	.....	6.29	.....	2.34	.....	2.55	.....	3.84	.....	0.23	.....	1.83	.....	0.85	.....	0.45	.....	22.19	.....
Fryburg	0.51	.....	0.32	.....	0.61	.....	2.00	.....	5.59	.....	2.53	.....	2.83	.....	2.28	.....	4.46	.....	0.85	.....	0.92	.....	1.48	.....	24.38	.....
Fullerton	1.23	+0.48	0.94	+0.13	2.26	+1.04	2.95	+0.95	6.92	+3.68	4.47	+1.19	3.85	+0.53	3.55	+1.02	1.99	−0.08	1.11	−0.18	0.66	−0.07	2.19	+1.35	32.12	+10.04
Garrison	1.02	+0.59	0.22	−0.31	0.70	−0.34	1.14	−0.06	7.16	+4.99	3.19	−0.13	4.04	+1.94	4.02	+2.02	0.12	−1.24	0.82	−0.08	0.32	−0.26	0.64	+0.07	23.39	+7.19
Grafton	0.75	+0.15	0.27	−0.31	T.	0.69	0.82	−0.66	5.25	+3.14	4.48	+1.24	1.05	−1.43	4.27	+1.68	0.58	−1.24	1.91	+1.02	0.57	−0.09	0.34	−0.20	20.29	+2.61
Grand Forks	0.33	−0.25	0.61	+0.08	0.54	−0.17	2.30	+0.37	5.05	+2.51	3.58	+0.19	1.85	−0.90	5.97	+3.51	0.24	−1.62	1.64	+0.48	0.47	−0.23	0.62	−0.01	23.20	+3.96
Granville	0.26	−0.25	0.45	+0.07	0.64	+0.07	1.16	+0.20	5.01	+3.17	1.89	−0.86	3.59	+1.52	2.96	+0.87	0.41	−0.84	1.87	+0.99	0.70	+0.09	0.20	0.35	19.14	+4.68
Hannah	0.32	−0.40	0.26	−0.30	0.67	+0.01	2.13	+0.87	2.82	+0.72	4.98	+1.54	1.82	−0.64	3.57	+1.72	0.61	−1.53	1.90	+0.94	1.00	+0.32	0.20	−0.43	20.28	+2.82
Hansboro	0.20	−0.75	0.30	−0.18	0.50	−0.16	1.81	+0.52	6.70	+4.62	4.22	+1.53	3.57	+1.59	4.25	+2.03	0.81	−1.09	3.02	+2.11	0.75	+0.29	0.20	−0.46	26.33	+10.05
Hettinger	0.16	−0.16	0.60	+0.32	0.65	−0.11	2.72	+1.56	6.15	+4.03	2.49	−0.75	1.97	−0.82	3.65	+2.40	1.10	−0.20	0.42	−0.22	0.17	−0.15	0.48	+0.14	20.56	+6.04
Hillsboro	0.25	−0.49	0.50	−0.18	1.25	+0.51	2.46	+0.45	4.57	+1.05	3.81	+0.46	1.77	−0.88	2.98	+0.04	0.24	−2.25	1.33	+0.31	0.65	−0.16	0.65	−0.25	20.44	−1.39
Howard (near)	0.40	−0.35	0.40	−0.29	1.54	+0.40	1.18	−0.22	6.99	+4.81	1.38	−1.21	1.62	+0.02	1.30	−0.59	2.38	+1.01	1.53	+0.72	0.97	+0.46	0.56	−0.26	20.25	+4.50
Jamestown	0.62	−0.02	0.50	−0.08	1.25	+0.25	2.40	+0.66	7.30	+4.61	2.84	−0.94	2.83	+0.08	3.08	+0.34	0.62	−0.91	2.00	+1.07	1.34	+0.61	1.01	+0.26	25.79	+5.93
Lamoine	0.30	−0.31	0.20	−0.19	1.47	+0.70	1.23	+0.26	.....	.....	4.01	+0.69	1.61	−0.94	5.63	+3.65	0.84	−0.44	1.09	+0.51	0.60	+0.06	0.40	−0.10	25.88	+10.03
Langdon	0.18	−0.47	0.15	−0.50	0.65	−0.19	1.55	+0.22	4.08	+1.83	3.11	−0.39	1.26	−1.30	3.89	+1.24	1.01	−0.98	2.11	+1.17	1.55	+0.85	0.10	−0.63	19.64	+0.85
Larimore	0.53	−0.18	1.42	+0.95	1.34	+0.65	2.26	+0.61	6.51	+4.04	4.00	+0.50	3.38	+0.39	3.10	+0.50	0.05	−1.84	1.85	+0.62	1.15	+0.47	0.30	−0.24	25.89	+6.50
Linton	0.37	−0.03	1.51	+1.03	0.57	+0.03	1.63	+0.21	6.65	+4.60	2.81	−0.07	3.25	+1.25	5.06	+3.44	0.53	−1.33	1.01	+0.10	0.17	−0.39	0.16	−0.24	23.72	+8.60
Lisbon	1.24	+0.54	0.32	−0.41	1.60	+1.04	2.59	+0.70	5.42	+2.23	4.04	−0.25	4.29	+0.76	2.02	−0.24	1.28	−0.87	1.27	+0.25	0.80	+0.18	3.35	+2.94	28.22	+6.87
McClusky	0.75	.....	0.45	.....	0.88	.....	1.34	.....	9.02	.....	2.82	.....	2.23	.....	1.78	.....	0.34	.....	0.77	.....	0.95	.....	0.42	.....	21.75	.....
McKinney	0.20	−0.16	0.50	+0.19	1.10	+0.39	1.26	−0.31	4.40	+2.45	1.58	−1.72	4.35	+2.19	2.81	+1.03	1.60	+0.07	2.75	+1.82	0.50	−0.15	0.24	−0.19	21.29	+6.23
McLeod	0.39	−0.28	0.72	+0.14	1.25	+0.62	2.05	−0.34	4.67	+0.89	4.31	+0.11	3.11	−0.32	2.35	0.00	3.57	+1.03	1.28	+0.22	0.44	−0.15	2.09	+1.64	26.23	+3.56
Maddock	0.11	−0.20	0.18	−0.25	0.37	−0.06	1.61	+0.19	5.88	+3.85	1.95	−1.25	1.98	−0.66	3.78	+1.56	0.25	−2.01	2.18	+1.39	0.19	−0.49	0.05	−0.27	18.53	+1.80
Mandan	0.18	−0.05	0.14	−0.21	1.17	+0.33	1.37	−0.18	6.65	+4.15	2.00	−1.16	2.37	−0.59	3.16	+1.94	0.49	−0.97	0.44	−0.27	1.56	+1.01	0.77	+0.32	20.30	+4.32
Manfred	0.45	−0.20	0.45	+0.02	0.90	+0.12	1.45	+0.18	5.56	+3.20	1.86	−1.72	2.15	−0.15	4.61	+2.15	0.93	−0.42	2.28	+1.47	0.88	+0.14	0.45	−0.31	21.97	+4.48
Marmarth	0.43	+0.13	0.19	−0.20	0.69	+0.24	1.43	+0.30	4.74	+2.46	2.95	−0.16	2.74	+1.08	3.82	+2.20	1.46	+0.23	0.09	−0.70	0.45	+0.12	1.18	+0.84	20.17	+6.54
Mayville	0.49	0.00	0.40	+0.01	1.09	+0.38	2.00	+0.25	5.28	+2.31	2.09	−1.42	0.70	−2.27	2.94	0.00	0.02	−2.26	1.80	+0.69	0.65	−0.02	0.20	−0.38	17.66	−2.71
Melville	0.22	−0.16	0.12	−0.21	1.66	+0.98	1.96	+0.85	5.97	+3.30	2.90	−0.61	2.46	−0.28	3.57	+1.58	0.00	−1.38	0.18	−0.69	0.26	−0.27	0.20	−0.26	19.50	+2.85
Metigoshe	0.27	.....	0.25	.....	0.75	.....	1.56	.....	5.43	.....	1.80	.....	3.88	.....	3.51	.....	0.39	.....	2.34	.....	1.23	.....	0.59	.....	22.00	.....
Minot	0.40	−0.05	0.20	−0.26	0.75	−0.02	1.67	+0.35	5.90	+3.93	2.37	−0.89	4.08	+2.23	3.34	+1.14	0.12	−1.46	1.45	+0.51	0.80	+0.12	0.25	−0.26	21.33	+5.34
Minto	0.29	−0.20	0.13	−0.37	0.11	−0.71	0.92	−0.65	4.72	+2.38	4.20	+0.90	1.88	−0.88	4.11	+1.70	0.56	−1.44	1.40	+0.30	0.50	−0.15	T.	−0.48	18.82	+0.40
Mott	0.60	−0.28	0.32	−0.25	0.54	−0.50	2.19	+0.69	6.00	+3.64	1.98	−1.42	1.76	−0.61	4.22	+2.58	0.62	−0.95	0.17	−0.92	1.27	+0.81	2.20	+1.62	21.87	+4.41
Napoleon	0.50	+0.05	0.50	+0.10	1.35	+0.42	1.76	+0.09	7.75	+5.35	2.45	−1.17	2.64	+0.16	5.19	+2.80	0.86	−0.38	1.16	+0.22	1.05	+0.46	0.80	+0.32	26.01	+8.42
New England	0.60	+0.18	0.20	−0.34	0.47	−0.40	2.53	+1.51	2.80	+0.65	1.40	−1.29	1.94	−0.07	1.26	−0.51	1.36	+0.24	0.16	−0.49	0.39	−0.10	0.76	+0.35	13.87	−0.27
New Salem	0.22	−0.41	0.11	−0.27	0.63	−0.33	0.90	−0.33	6.35	+3.98	2.21	−1.50	1.63	−0.47	2.25	+0.58	0.17	−1.18	0.51	−0.44	0.81	+0.46	2.01	+1.48	17.80	+1.57
Park River	0.12	−0.32	0.18	−0.26	0.68	+0.13	0.94	−0.37	5.12	+2.89	4.38	+1.05	1.46	−0.88	3.57	+1.34	0.04	−1.55	1.30	+0.29	1.36	+0.60	0.18	−0.35	19.33	−2.53
Parshall (near)	0.50	+0.33	0.40	+0.11	0.16	−0.05	0.95	−0.31	4.95	+3.23	2.45	−0.67	4.13	+2.56	4.73	+3.19	0.63	−0.91	0.75	0.00	0.55	+0.29	0.40	+0.01	20.60	−7.78
Pembina	0.27	−0.37	0.00	−0.71	0.00	−0.96	2.35	+0.94	9.30	+7.08	4.80	+1.52	2.40	+0.02	6.60	+4.47	0.70	−0.99	3.00	+1.66	0.30	−0.38	0.00	−0.76	29.72	+11.58
Pettibone	0.67	+0.16	0.26	−0.10	1.06	+0.52	.....	.....	.....	.....	.....	.....	.....	.....	7.42	+5.13	.....	.....	1.00	+0.35	.....	.....	0.49	−0.19	.....	.....
Power	0.55	−0.10	1.00	+0.44	0.21	−0.49	0.76	−1.07	2.74	−0.15	3.87	−0.09	2.79	−0.59	2.21	−0.26	1.72	−0.34	1.00	−0.47	0.85	+0.23	3.50	+2.96	21.20	+0.07
Powers Lake	0.37	−0.41	0.26	−0.22	1.09	+0.21	1.22	−0.34	7.67	+5.87	4.45	+1.59	5.16	+3.38	2.32	+0.73	1.21	+0.12	2.69	+1.87	0.45	−0.11	0.46	−0.17	27.35	+12.52
Richardton	T.	−0.52	0.15	−0.23	0.48	−0.04	1.96	+0.46	8.44	+6.61	2.02	−1.31	2.37	+0.36	2.06	+0.47	0.65	−0.83	0.89	+0.18	0.59	+0.08	0.72	+0.34	20.31	+5.56
Sharon	0.26	.....	0.46	.....	0.99	.....	1.78	.....	5.12	.....	2.42	.....	2.54	.....	3.31	.....	0.05	.....	1.52	.....	0.53	.....	0.39	.....	19.39	.....
Stanton	0.40	.....	0.00	.....	0.31	.....	1.14	.....	6.71	.....	2.97	.....	3.15	.....	2.32	.....	0.24	.....	0.27	.....	0.40	.....	0.58	.....	18.49	.....
Starkweather	0.51	.....	0.21	.....	0.78	.....	1.68	.....	4.72	.....	2.58	.....	3.12	.....	2.32	.....	0.17	.....	1.78	.....	0.46	.....	0.00	.....	18.33	.....
Steele	0.16	−0.36	0.49	+0.04	0.84	−0.09	2.32	+1.21	7.75	+5.26	4.57	+1.24	3.81	+0.93	4.07	+1.73	0.42	−0.82	0.80	−0.08	0.90	+0.31	2.05	+1.52	28.18	+10.89
Towner	0.08	−0.41	0.35	−0.03	1.25	+0.35	1.46	+0.36	6.25	+3.93	0.93	−2.15	3.09	+0.86	3.80	+1.71	0.92	−0.73	3.30	+2.40	1.20	+0.72	0.50	+0.09	23.13	+7.10
Trotters	0.19	.....	0.14	.....	0.33	.....	1.27	.....	5.92	.....	3.10	.....	3.99	.....	1.84	.....	1.63	.....	1.06	.....	0.35	.....	1.06	.....	20.88	.....
Turtle Lake	1.05	+0.64	0.34	−0.10	0.74	−0.07	1.56	+0.36	7.41	+5.14	2.78	−0.90	3.58	+1.12	5.56	+3.68	0.26	−1.18	0.59	−0.17	0.41	−0.08	0.28	−0.28	24.56	+8.16
Valley City	0.88	+0.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.94	+0.39	.....	.....
Velva	0.50	.....	0.26	.....	0.48	.....	1.51	.....	6.61	.....	1.47	.....	2.53	.....	6.09	.....	0.13	.....	1.50	.....	0.95	.....	0.28	.....	22.31	.....
Wahpeton	0.06	−0.45	0.07	−0.46	1.02	+0.11	2.71	+0.48	2.60	−0.21	5.81	+1.86	2.80	−1.00	2.24	−0.66	4.07	+1.85	0.89	−0.62	0.52	−0.17	1.60	+1.15	24.39	+1.88
Washburn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.20	+2.87	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Westhope	0.00	−0.56	T.	−0.19	0.82	+0.33	1.02	−0.04	2.95	+0.91	2.38	−0.56	4.47	+2.52	2.78	+1.59	0.05	−1.14	2.45	+0.78	0.70	+0.12	0.10	−0.27	17.72	−3.45
Williston	0.62	+0.04	0.40	−0.07	0.28	−0.40	1.16	−0.07	4.69	+2.43	2.74	−0.83	1.34	−0.69	3.54	+2.23	1.48	+0.57	1.49	+0.72	1.04	+0.44	0.53	−0.13	19.31	+4.24
Willow City	0.30	−0.28	0.32	−0.14	0.83	+0.10	1.52	+0.57	4.35	+2.43	1.03	−2.15	3.97	+1.88	4.17	+2.09	0.61	−0.94	2.75	+2.05	0.62	+0.11	0.15	−0.39	20.62	+5.33
Wilton	0.24	.....	0.10	.....	T.	.....	1.35	.....	7.73	.....	1.08	.....	4.18	.....	3.29	.....	0.25	.....	0.80	.....	1.10	.....	0.30	.....	20.42	.....
Moorhead, Minn.	0.74	+0.03	1.19	+0.46	1.85	+0.71	2.53	+0.20	3.63	+0.68	4.28	+0.15	1.01	−2.73	2.02	−1.08	1.74	−0.56	1.37	−0.70	0.72	−0.26	2.28	+1.54	23.36	−1.56

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1927, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	8.6	+4.1	12.2	+5.2	29.2	+5.6	41.4	-0.9	49.8	-4.3	62.8	-0.7	65.8	-2.9	63.9	-2.4	58.9	+1.6	47.8	+3.5	23.5	-3.8	0.0	-12.7	38.7	-0.6
Amidon	17.0	+2.9	20.7	+3.3	[a]31.9	+4.0	.....	.....	47.4	-5.4	62.2	+1.2	[a]66.0	-4.1	[a]64.4	-3.5	[c]58.8	+1.7	48.6	+3.2	.....	.....	[a]4.5	-12.6	.....	.....
Arnegard	[a]11.6	+0.9	14.2	+1.0	30.7	+7.2	42.2	+1.6	47.6	-5.5	60.8	-1.2	66.3	-2.9	64.6	-2.5	56.5	-0.3	47.0	+4.9	20.6	-8.2	-1.8	-14.3	38.4	-1.6
Ashley	13.5	+6.0	17.0	+9.2	31.8	+9.8	42.2	-0.3	49.0	-3.7	60.4	-1.6	64.3	-4.1	.....	.....	55.3	-2.0	47.4	+3.7	24.1	-3.6	-0.6	-14.1	39.1	-0.1
Beach	15.2	+5.9	18.6	+5.0	32.1	+5.6	41.8	-0.7	47.7	-2.4	61.4	+0.3	67.0	-0.3	65.2	+0.2	57.9	+1.6	50.4	+6.4	24.4	-7.0	3.0	-13.5	40.4	+0.1
Berthold Agency	11.9	+4.4	16.0	+6.6	31.4	+6.7	43.6	-0.1	48.9	-4.8	61.7	-0.9	65.8	-3.1	64.1	-3.6	57.1	+0.1	47.1	+2.4	22.0	-6.8	-2.2	-17.9	39.0	-1.4
Bismarck	14.0	+6.2	17.6	+7.3	31.9	+7.7	43.8	+1.7	49.0	-5.5	62.3	-1.4	67.2	-2.6	66.4	-0.9	58.6	+0.5	49.5	+4.6	22.5	-6.0	-2.4	-17.1	40.0	-0.5
Bottineau	4.7	+5.4	8.0	+6.2	[c]28.8	+11.1	39.4	0.0	[a]46.2	-5.1	[a]64.5	+3.5	65.8	0.0	63.6	0.0	56.6	+1.1	43.0	+1.4	16.8	-6.8	-6.0	-12.7	36.0	+0.4
Cando	11.0	+12.5	10.0	+7.2	29.8	+9.3	40.5	-0.1	48.1	-3.4	61.1	-0.1	64.5	-1.6	63.4	-0.5	64.0	+8.4	49.0	+5.3	18.0	-8.5	-1.2	-8.4	38.2	+1.7
Carson	14.6	+4.7	17.6	+3.9	30.8	+6.3	41.1	-0.9	50.2	-2.1	61.2	-1.8	66.6	-1.5	65.6	-2.0	60.5	+4.1	48.2	+4.7	22.3	-8.4	-4.2	-20.2	39.5	-1.1
Crosby	5.5	+3.8	8.7	+1.6	28.1	+6.1	40.2	-0.4	45.2	-5.2	61.1	+0.5	65.0	-0.9	[a]62.6	-1.1	54.1	+0.4	47.8	+6.3	19.0	-8.8	-4.3	-16.6	36.1	-1.2
Devils Lake	6.5	+6.2	10.1	+5.6	29.0	+10.5	40.0	+1.8	47.2	-5.5	61.5	-1.1	64.6	-3.5	62.8	-2.3	56.4	+0.8	45.8	+5.3	17.6	-5.0	-1.4	-9.4	36.7	+0.3
Dickinson	12.4	+2.1	16.1	+4.3	30.6	+6.2	41.0	-1.9	48.0	-4.2	61.4	+0.1	65.4	-2.6	62.8	-3.5	55.8	-0.7	47.2	+3.3	20.6	-8.0	-3.4	-20.7	38.2	-2.1
Dogden Butte	10.0	.....	13.5	.....	30.0	.....	41.4	.....	47.0	.....	60.2	.....	63.4	.....	61.8	.....	55.0	.....	47.1	.....	19.7	.....	-0.8	.....	37.4	.....
Dunn Center	13.0	-0.8	[a]15.8	+2.8	30.8	+6.7	40.2	-2.4	46.0	-7.3	59.4	-2.5	63.8	-4.2	[b]60.8	-5.8	54.4	-2.7	46.6	+1.0	20.8	-7.6	-3.7	-24.2	39.3	-3.9
Dunseith	-0.8	-2.3	9.0	+5.6	27.2	+8.4	38.8	-1.6	46.6	-5.3	[b]59.6	-1.6	63.4	-1.0	59.0	-4.6	51.3	-6.9	42.8	+1.7	12.1	-14.1	[b]0.8	-7.5	34.2	-2.1
Eckman	6.6	+6.0	9.0	+2.6	29.2	+7.1	41.3	-0.3	46.8	-3.8	60.4	-0.9	63.3	-2.5	61.6	-1.7	55.8	+0.3	45.5	+2.8	18.0	-8.3	-4.2	-13.8	36.1	-1.1
Edgeley	13.6	+5.8	16.0	+5.1	31.1	+4.6	43.0	-0.2	48.8	-4.7	60.5	-2.3	61.9	-3.6	64.2	-2.2	58.4	+0.9	48.8	+2.9	23.3	-7.1	0.7	-15.8	39.4	-1.4
Ellendale	13.5	+2.8	15.7	+5.0	32.3	+6.7	42.9	-0.7	48.8	-6.9	62.0	-4.0	65.4	-5.3	64.6	-4.2	58.4	0.0	48.3	+2.7	23.3	-2.8	-0.6	-17.4	39.6	-2.0
Energy	[a]13.2	.....	17.3	.....	33.1	.....	44.4	.....	50.0	.....	62.8	.....	66.4	.....	65.2	.....	57.3	.....	48.6	.....	22.6	.....	-2.0	.....	39.9	.....
Epping	7.7	.....	11.6	.....	29.2	.....	42.1	.....	46.6	.....	61.0	.....	64.2	.....	63.6	.....	51.9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fessenden	8.8	+5.6	13.0	+5.1	31.0	+9.6	41.0	+0.8	47.4	-4.1	61.7	+0.7	66.0	-1.1	63.7	-1.3	57.0	+1.9	47.1	+5.1	20.3	-6.7	-2.0	-14.2	37.9	+0.1
Foxholm (near)	9.7	.....	11.7	.....	29.5	.....	41.0	.....	46.3	.....	60.8	.....	63.8	.....	62.0	.....	54.8	.....	46.4	.....	17.6	.....	-1.7	.....	36.8	.....
Fullerton	14.2	+6.4	16.2	+6.9	32.6	+7.4	43.5	+0.7	50.6	-2.7	63.8	+1.1	66.8	-1.6	64.6	-1.7	58.4	+1.7	48.4	+4.1	24.0	-5.7	1.6	-12.1	40.4	+0.4
Garrison	11.5	+5.0	15.6	+7.2	32.4	+10.7	43.1	+0.5	48.3	-4.3	60.5	-1.7	61.8	-6.3	63.4	-2.3	55.4	-0.4	48.0	+4.2	21.6	-5.4	-1.3	-14.9	38.4	-0.7
Grafton	6.4	+5.5	[a]12.4	+7.5	[a]30.8	+11.6	[a]41.2	+0.9	[b]49.6	-3.3	62.1	-0.4	66.3	-1.2	63.6	-0.9	58.5	+2.6	47.6	+4.9	20.0	-4.0	0.6	-7.1	38.3	+1.4
Grand Forks	6.8	+3.2	12.5	+6.0	30.8	+8.4	41.8	-0.2	49.3	-4.1	62.5	-0.4	66.2	-1.2	63.2	-1.7	58.2	+2.0	46.4	+2.9	21.0	-5.1	1.2	-9.4	38.3	0.0
Granville	5.6	+3.9	9.2	+0.8	26.9	+3.2	36.2	-6.3	43.2	-8.2	52.5	-10.6	61.2	-5.9	59.6	-4.3	52.0	-2.4	42.2	-1.9	18.9	-6.5	-3.0	-15.4	33.7	-4.5
Hansboro	6.0	+8.3	7.8	+4.1	24.6	+3.2	36.4	-3.5	47.0	-3.3	57.8	-2.6	63.1	-2.3	60.5	-2.3	53.8	-0.3	44.6	+3.3	13.6	-12.3	-4.4	-11.7	34.2	-1.6
Hettinger	[b]21.6	+9.1	20.3	+7.1	30.8	+3.2	45.0	+0.2	52.6	-0.2	60.8	-2.3	66.2	-3.3	65.0	-2.0	56.4	-1.6	48.6	+2.2	27.1	-6.3	1.2	-14.6	41.3	-0.6
Hillsboro	10.2	+6.3	[a]14.0	+5.5	[a]31.8	+7.1	43.0	-0.6	[a]51.0	-2.2	64.4	0.0	[a]68.2	-1.3	66.0	-0.9	[a]60.0	+1.0	[b]47.8	+1.8	23.2	-5.6	1.2	-11.4	40.1	0.0
Howard (near)	7.0	+5.5	10.6	+4.6	25.6	+4.8	39.5	-0.3	44.4	-5.0	57.0	-2.7	63.4	-2.1	62.7	-0.8	54.2	+0.4	45.6	+4.2	16.3	-11.4	-4.6	-16.4	35.1	-1.6
Jamestown	8.6	+2.1	11.6	+3.7	29.4	+6.8	40.6	-1.9	47.6	-5.9	61.7	-1.4	65.6	-2.9	64.0	-2.2	56.7	0.0	46.0	+1.2	21.0	-6.6	-2.6	-16.2	37.5	-2.0
Lamoine	8.8	+4.8	13.4	+5.7	29.0	+6.0	42.0	-0.6	.....	.....	59.3	-1.2	63.7	-2.2	62.1	-1.8	55.0	-1.6	48.2	+5.1	20.3	-6.7	-4.9	-16.1	37.0	-1.0
Langdon	2.5	+5.2	7.0	+4.0	26.6	+7.6	37.6	-0.5	47.4	-3.4	59.8	+0.1	64.0	-0.5	62.6	+0.9	55.6	+2.1	45.6	+5.2	16.0	-9.7	-2.8	-10.1	35.2	+0.1
Larimore	8.6	+6.0	11.6	+6.4	30.1	+9.1	41.0	+0.6	47.8	-4.6	62.6	+0.5	65.3	-1.4	63.6	-0.7	57.1	+1.9	46.2	+2.9	20.6	-5.2	-0.5	-11.3	37.8	+0.3
Linton	[a]12.9	+2.2	[a]17.4	+3.8	[c]31.5	+5.3	43.0	+0.8	[d]50.0	-4.1	62.1	-2.4	[d]69.2	-1.6	[c]66.0	-3.0	[e]60.4	+1.4	47.9	+3.4	24.0	-5.4	-1.9	-15.9	40.2	-1.3
Lisbon	11.0	+5.1	13.2	+3.6	30.2	+3.6	42.9	+0.2	49.2	-3.7	62.7	-0.4	65.4	-2.8	64.2	-2.3	58.8	+1.1	46.3	+1.0	24.8	-5.4	-5.6	-19.7	38.6	-1.6
McClusky	8.8	.....	13.8	.....	29.7	.....	41.2	.....	47.4	.....	60.6	.....	63.8	.....	62.5	.....	54.2	.....	46.2	.....	18.8	.....	-4.8	.....	36.8	.....
McKinney	8.6	+5.4	9.6	+4.5	28.0	+8.8	40.5	-0.5	[a]47.2	-4.8	62.8	+2.1	65.1	-0.9	61.6	-1.9	53.1	-1.0	45.5	+3.8	18.1	-6.5	-2.0	-12.7	36.5	-0.3
McLeod	14.8	+7.1	16.4	+5.0	33.5	+7.6	46.4	+3.1	53.1	-1.0	64.8	-0.2	68.2	-2.0	65.6	-2.0	60.2	+3.3	49.7	+4.2	25.3	-4.4	1.7	-12.6	41.7	+0.7
Maddock	9.7	+4.4	11.8	+2.0	30.6	+7.1	41.0	-0.1	47.6	-5.6	60.7	-0.7	64.2	-3.6	62.5	-3.2	55.7	-0.5	46.4	+3.8	19.2	-7.8	-1.2	-10.8	37.4	-1.2
Mandan	12.5	+4.0	16.5	+6.0	31.0	+5.8	42.9	+0.8	48.8	-5.1	60.6	-3.6	66.5	-4.3	65.4	-2.4	57.6	-0.5	48.6	+3.7	21.2	-8.7	-5.4	-18.5	38.9	-1.9
Manfred	12.7	+8.7	13.8	+7.0	30.4	+7.3	41.8	0.0	47.8	-3.8	61.1	-0.4	64.5	-2.4	62.9	-1.4	55.9	0.0	47.1	+3.8	20.8	-8.2	-0.4	-11.7	38.2	-0.1
Marmarth	13.9	+3.6	20.4	+7.3	[e]33.2	+7.2	40.6	-2.2	[d]47.6	-2.4	[f]60.2	-0.1	[f]66.8	-1.0	[b]62.8	-2.8	[f]60.2	+4.6	57.4	+13.3	31.8	-2.2	3.8	-13.9	41.6	+1.0
Mayville	9.8	+3.7	13.5	+5.8	31.5	+8.2	42.8	-0.4	49.8	-4.7	63.1	-1.4	67.0	-2.4	64.5	-1.8	58.8	+1.4	47.8	+2.9	23.6	-5.7	1.4	-11.7	39.5	-0.5
Melville	10.6	+5.0	13.0	+6.4	[a]30.4	+8.1	41.2	+1.1	[d]47.3	-5.2	[b]61.5	-1.4	[c]64.8	-3.1	[f]64.6	-1.8	[a]57.8	+1.4	48.4	+4.8	20.7	-8.3	3.8	-8.0	38.7	-0.1
Minot	11.0	+6.0	13.4	+5.5	31.1	+9.7	42.8	+1.1	47.0	-5.3	62.8	+0.3	66.2	-1.9	63.4	-1.7	56.4	-0.3	46.6	+3.0	17.0	-12.7	-3.1	-15.5	37.9	-1.0
Minto	5.8	+4.0	10.8	+4.9	30.2	+9.1	40.6	0.0	[a]48.6	-4.8	60.8	-3.1	65.8	-1.3	62.4	-2.2	57.8	+1.4	46.5	+3.3	19.2	-5.3	-0.7	-11.6	37.3	-0.5
Mott	13.8	+6.3	16.0	+4.2	28.6	+2.0	39.6	-3.0	52.8	+1.2	61.9	-1.1	66.8	-2.3	64.4	-1.5	58.2	+1.9	48.1	+5.1	23.6	-7.6	-4.1	-18.2	39.1	-1.1
Napoleon	9.6	+3.7	14.6	+7.8	30.8	+9.5	41.8	+0.3	47.7	-4.7	61.2	-1.0	65.7	-2.6	64.5	-1.5	57.3	+0.4	48.1	+6.2	21.4	-5.2	-3.4	-15.8	38.3	-0.2
New England	18.4	+5.1	19.2	+7.1	30.6	+6.2	40.0	-3.1	[c]45.9	-5.7	[e]56.2	-5.8	65.0	-3.5	64.6	-2.1	[a]51.2	-1.6	43.6	-0.1	15.6	-14.6	-1.2	-18.6	37.7	-3.0
New Salem	14.8	+7.1	18.2	+7.6	31.8	+7.3	43.8	+1.3	48.6	-2.7	61.8	-1.0	67.2	-2.1	66.0	-0.4	57.4	+0.2	50.0	+5.7	21.5	-9.2	-2.5	-17.4	39.9	-0.3
Park River	7.4	+5.6	11.2	+5.5	29.8	+7.7	40.6	-0.9	[b]48.6	-3.6	60.8	-2.4	[c]65.2	-2.6	62.9	-2.6	57.3	+0.4	[a]47.3	+3.0	29.4	+1.4	0.2	-10.9	38.4	+0.1
Pembina	4.8	+7.7	8.0	+6.6	29.4	+13.4	40.0	+2.1	49.0	-3.5	60.4	-2.2	65.9	-1.8	62.8	-1.3	56.9	+3.1	43.6	+2.1	19.6	-3.1	-6.2	-12.2	36.1	+0.9
Pettibone	10.3	+10.3	12.3	+7.7	[e]29.8	+6.0	.....	.....	.....	.....	.....	.....	.....	.....	63.8	+1.4	.....	.....	[c]44.2	+3.0	.....	.....	-5.2	-15.6	.....	.....
Powers Lake	11.1	.....	12.6	.....	30.0	.....	38.6	.....	43.2	.....	65.3	.....	56.1	.....	55.2	.....	48.6	.....	44.9	.....	18.8	.....	-1.2	.....	36.1	.....
Richardton	15.4	+3.8	[a]18.7	+4.0	30.8	+4.5	41.1	+0.3	47.2	-5.7	61.1	-1.5	66.4	-3.6	65.2	-2.6	57.4	+0.6	48.9	+6.2	21.6	-6.9	-1.2	-15.1	39.4	-1.3
Sharon	8.5	.....	11.2	.....	29.4	.....	40.6	.....	47.7	.....	62.1	.....	65.2	.....	63.7	.....	57.3	.....	46.2	.....	19.8	.....	-0.8	.....	37.6	.....
Starkweather	11.0	.....	8.4	.....	28.4	.....	39.2	.....	46.6	.....	60.3	.....	63.6	.....	61.4	.....	53.3	.....	44.4	.....	17.6	.....	-1.2	.....	36.1	.....
Steele	7.2	-0.4	12.7	+5.6	29.0	+6.9	40.0	-4.4	44.8	-9.0	60.3	-2.1	64.2	-5.2	62.4	-4.4	54.3	-3.5	44.8	+0.8	19.4	-9.0	-7.6	-21.2	36.0	-3.8
Towner	7.2	+4.6	10.8	+5.6	31.1	+11.9	43.8	+2.4	48.4	-3.9	61.6	-1.6	66.1	-1.0	64.1	-0.3	57.3	+1.5	48.0	+5.6	19.1	-5.9	-1.6	-11.6	38.0	+0.7
Turtle Lake	11.0	+2.2	13.8	+2.6	29.9	+7.1	41.4	-0.7	47.2	-5.9	60.7	-1.4	64.1	-4.5	63.5	-3.2	56.3	-0.7	48.0	+5.3	20.4	-7.8	-2.8	-14.1	37.8	-1.8
Valley City	11.9	+7.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.6	-13.1	.....	.....
Wahpeton	12.8	+5.0	18.1	+8.2	33.0	+6.8	45.6	+1.3	53.2	-2.1	64.6	-0.2	[d]67.1	-2.2	66.0	-0.9	59.7	+1.1	48.8	+2.9	24.7	-3.6	1.7	-13.0	41.3	+0.3
Westhope	2.9	+4.3	6.1	+2.8	29.2	+8.3	40.8	+1.1	45.2	-6.2	61.0	-0.6	64.5	-1.6	62.8	-1.3	55.2	+0.4	45.8	+4.4	16.0	-10.8	-4.8	-13.8	35.4	-1.1
Williston	10.8	+4.4	12.6	+4.5	30.6	+7.7	42.4	+0.4	47.4	-6.6	62.0	-0.7	66.4	-2.5	64.5	-1.6	55.9	-0.7	46.9	+3.5	20.0	-7.2	-2.7	-16.5	38.1	-1.2
Willow City	3.8	+3.5	9.2	+6.5	30.2	+11.9	40.8	+0.6	47.8	-3.7	60.2	-0.8	64.6	-0.8	62.4	-1.1	55.3	+1.0	45.5	+3.8	17.0	-5.1	-4.2	-12.7	36.0	+0.2
Wilton	13.0	.....	15.9	.....	29.6	.....	[b]40.7	.....	46.3	.....	[b]59.4	.....	67.3	.....	67.6	.....	58.4	.....	[c]48.2	.....	19.7	.....	-[b]4.0	.....	35.2	.....
Moorhead, Minn.	10.0	+6.2	14.0	+5.9	31.0	+8.3	43.0	+2.4	49.9	-5.2	62.7	-1.4	66.0	-2.1	64.6	-1.5	59.2	+1.0	47.8	+3.3	23.2	-3.9	0.6	-10.9	39.3	+0.1

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49]

AUGUST.—The weather was favorable for harvesting, threshing and other kinds of farm and outdoor work. The temperature averaged below the normal and the nights were somewhat too cool for corn, especially during the first decade and from the 18th to the 24th. Frosts on the 23d did some damage in the northern portion of the State. The precipitation was above normal in all sections except in parts of the extreme western and extreme southeastern counties. The greatest amounts of precipitation occurred from the 15th to the 17th, and from the 26th to the end of the month. These storms interfered somewhat with harvesting and threshing. Reports of black stem rust in spring wheat were received but the damage was usually light.

SEPTEMBER.—Favorable weather generally prevailed in all parts of the State. The first killing frost of the season occurred at most stations between the 20th and 27th, making the growing season somewhat longer than the average at most stations. The temperature was above the normal during the first two weeks, helping considerably in maturing late flax and corn. The precipitation during the latter half of the month was light and at the close of the month in some sections pastures and ranges were in need of moisture.

OCTOBER.—Mild and pleasant weather prevailed throughout the month, being favorable for threshing and other outdoor work. Considerable fall plowing was done, but in some sections the ground was too dry. Scattered showers occurred from the first to the 12th, but from the 13th to the 27th there was practically no precipitation whatever. Showers were general from the 29th to the close of the month.

NOVEMBER.—The month opened with weather favorable for farm work and rapid progress was made in fall plowing, corn husking and grain marketing during the first six days. On the 7th, however, snow was general throughout the State and the ground was frozen sufficiently to stop fall plowing. Scattered snows throughout the month greatly interfered with corn husking and at the end of the month there was much unhusked. Much road construction in the form of graveling was done during the first decade.

Climatological Summary, 1927

Month	Temperature in degrees Fahrenheit				Precipitation, in inches				Sky			Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Number of rainy days	Clear	Pt. cloudy	Cloudy	
January	10.1	+5.2	60	−44	0.41	−0.13	4.3	4	14	8	9	nw.
February	13.3	+5.4	50	−31	0.36	−0.13	3.1	4	12	7	9	nw.
March	30.4	+7.8	77	−10	0.74	−0.09	6.5	5	13	8	10	nw.
April	41.4	−0.3	95	7	1.70	+0.32	2.3	7	10	8	12	se.
May	48.0	−4.6	87	13	5.62	+3.07	3.2	14	6	8	17	nw.
June	61.2	−1.6	99	22	2.84	−0.66	0	9	11	13	6	nw.
July	65.4	−2.1	97	28	2.85	+0.24	0	9	15	10	6	nw.
August	63.4	−2.0	96	28	3.23	+0.95	0	8	18	8	5	nw.
September	56.8	+0.4	101	10	0.93	−0.71	T.	3	16	9	5	nw.
October	47.0	+3.2	88	12	1.39	+0.39	1.0	5	14	8	9	nw.
November	20.7	−5.9	59	−24	0.70	+0.12	7.1	6	7	8	15	nw.
December	−1.8	−14.8	43	−38	0.75	+0.21	8.7	5	14	7	10	nw.
Annual	38.0	−0.8	101	−44	21.52	+3.58	36.2	79	150	102	113	nw.

DECEMBER.—The weather during December was the coldest of record in the climatological history of the State. The precipitation averaged above the normal, the snowfall being unusually heavy in some sections. As a result of these adverse weather conditions there was much suffering among humans and livestock, outdoor work was greatly delayed and highways in many parts of the State were blocked.

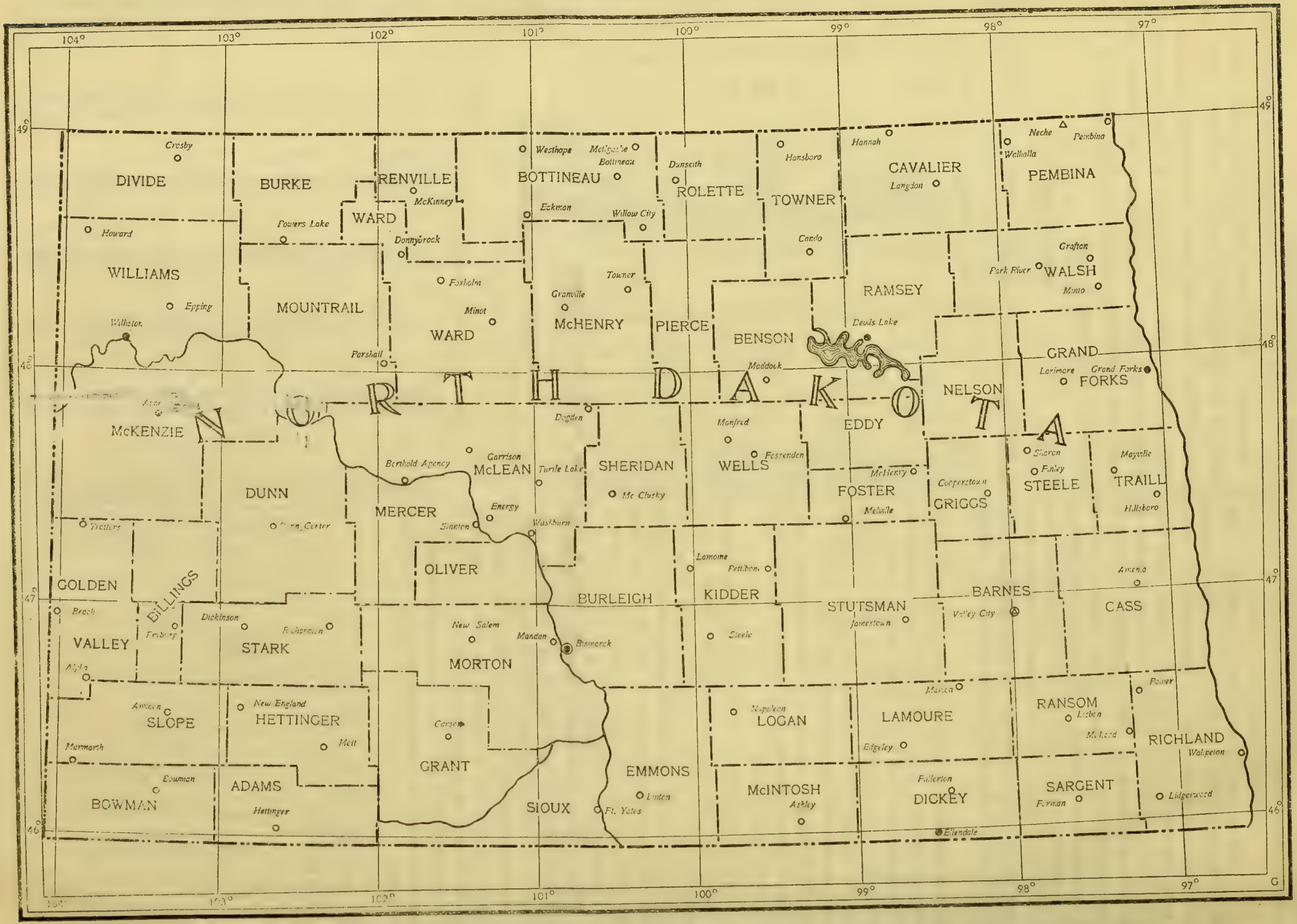
Killing Frosts

STATIONS	Last in Spring		First in Autumn		STATIONS	Last in Spring		First in Autumn	
Amenia	May	14	Sept.	19	Langdon	May	18	Sept.	22
Amidon	"	10	"	20	Larimore	"	11	"	22
Arnegard	"	11	"	20	Linton	"	16	"	21
Ashley	"	19	"	20	Lisbon	June	5	"	24
Beach	"	11	"	20	McClusky	May	11	"	19
Berthold Agency	"	24	"	20	McKinney	"	12	"	19
Bismarck	"	11	"	21	McLeod	"	15	"	19
Bottineau	"	11	"	19	Maddock	"	19	"	19
Carson	"	11	"	20	Mandan	"	11	"	21
Crosby	"	11	"	19	Manfred	"	11	"	22
Devils Lake	"	11	"	19	Marmarth	"	14	"	19
Dickinson	"	10	"	20	Mayville	"	15	"	20
Dogden Butte	"	11	"	25	Melville	"	11	"	22
Dunn Center	"	15	"	20	Minot	"	19	"	20
Dunseith	"	17	Aug.	9	Minto	June	13	"	22
Eckman	"	11	Sept.	18	Mott	May	10	"	20
Edgeley	"	11	"	22	Napoleon	"	11	"	21
Ellendale	Apr.	23	"	27	New England	July	2	"	24
Energy	May	11	"	21	New Salem	May	11	"	20
Epping	"	15	"	19	Park River	"	6	"	22
Fessenden	"	11	"	28	Pembina	June	5	"	25
Foxholm	"	11	"	25	Powers Lake	May	10	"	20
Fryburg	"	10	"	20	Richardton	"	11	"	20
Fullerton	"	5	"	27	Sharon	"	14	"	19
Garrison	"	15	"	21	Stanton	"	11	"	20
Grafton	"	6	"	22	Starkweather	"	11	"	19
Grand Forks	Apr.	24	"	25	Steele	"	15	"	18
Granville	May	11	"	19	Towner	"	11	"	22
Hansboro	July	2	Aug.	23	Turtle Lake	"	11	"	17
Hettinger	May	11	Sept.	20	Velva	"	10	"	25
Hillsboro	"	11	"	26	Wahpeton	"	11	"	20
Howard	"	19	Aug.	8	Westhope	"	11	"	19
Jamestown	"	11	Sept.	23	Williston	"	10	"	20
Lamoine	"	11	"	21	Willow City	"	11	"	19
					Moorhead, Minn.	"	14	"	23

Comparative Annual State Data

Year	Temperature				Average precipitation	Departure
	Mean	Departure	Highest	Lowest		
1892	37.8	−1.0	108	−52	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	−2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	−48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	−44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60
1921	42.0	+3.2	110	−33	19.59	+1.65
1922	39.7	+0.9	115	−46	19.75	+1.81
1923	40.7	+1.9	103	−40	17.76	−0.18
1924	38.2	−0.6	105	−46	17.55	−0.39
1925	40.6	+1.8	111	−39	16.81	−1.13
1926	40.7	+1.9	108	−36	15.70	−2.24
1927	38.0	−0.8	101	−44	21.52	+3.58

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ●Meteorological observations (regular Weather Bureau stations). ○Meteorological observations (sub-stations). △Display or distribution of forecasts.

[WBO, Minneapolis, 2-15-28—1325]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

UNIVERSITY OF ILLINOIS

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVII   Bismarck, N. D., January, 1928   No. 1

GENERAL SUMMARY

The month opened with unusually low temperature accompanied by high winds generally. No snow occurred during this period but the accumulated snow on the ground drifted badly, causing much suffering to livestock and effectively blocking many highways. Mild weather began on the 5th and continued generally to the close of the month, the mean temperature for the month being the eighth highest of record. Practically no precipitation occurred during the first eleven days. From the 12th to the 16th, inclusive, light precipitation was general. Scattered snow-flurries occurred on the 23-24th, and from the 28th to the close of the month. The precipitation, however, was greatly deficient. Livestock during the month ranged freely, saving much feed.

TEMPERATURE

The mean temperature for the State was 13.0°, or 8.1° above the normal, and 2.9° higher than the mean for January, 1927. The highest mean reported was 20.3° at Lisbon, Ransom County; the lowest was 4.4° at Langdon, Cavalier County. The highest temperature reported was 50° at Manfred, Wells County, on the 12th, and at Marmarth, Slope County, on the 11th; the lowest was −41° at Linton, Emmons County, on the 2d, and at Marmarth, Slope County, on the 1st. The greatest monthly range of temperature was 91° at Marmarth, Slope County; the least was 62° at Pembina, Pembina County. The greatest daily range in temperature was 70° at Marmarth, Slope County, on the 1st.

PRECIPITATION

The average precipitation for the State was 0.21 inch, or 0.33 inch below the normal, and 0.20 inch less than the average for January, 1927. The greatest monthly amount reported was 1.04 inches at Cando, Towner County; Lisbon, Ransom County, and Wahpeton, Richland County reported none. The average snowfall was 2.3 inches. The average number of days with 0.01 inch or more of precipitation was 3.

AURORAS

Auroras were observed at Linton on the 1st; at Bottineau on the 4th and 18th; at Arnegard and Foxholm on the 20th; at Foxholm and Velva on the 21st; at Bottineau on the 24th; at Howard on the 26th; at Carson and Williston on the 27th; and at Bottineau and Foxholm on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.14	30.95	1	29.45	13	57	5,556	7.5	38§	nw.	19
Devils Lake	30.08	30.87	1	29.40	12	44	6,942	9.3	38§	nw.	19
Ellendale	30.12	30.81	1	29.46	14	56	9,637	13.0	52§	nw.	19
Grand Forks	30.04	30.79	1	29.31	12	90	......	......	46	nw.	19
Williston	30.15	31.02	1	29.47	13	48	4,953	6.7	33§	nw.	19
Moorhead, Minn	30.09	30.85	1	29.41	12	58	5,813	7.8	36§	nw.	19
Av'ges and extremes	30.10	31.02	1	29.31	12	.....	....	8.9	52§	nw.	19

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	178.0	279.2	64	+11	81	66	77	46	21
Devils Lake	187.3	275.8	68	+17	88	83	86	70	11
Ellendale	168.8	282.9	56	+ 3	81	70	....	41	21
Grand Forks	......	......	......	......	77	.....	84	......	....
Williston	163.4	275.8	59	+ 6	82	67	72	46	3
Moorhead, Minn	145.7	279.2	52	− 1	90	72	84	53	17
Averages and extremes	168.6	278.6	60	+ 8	83	72	80	41	21

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893...	0.8	−4.1	52	−48	0.98	+0.44	7	11	11	9	nw.
1894...	0.6	−4.3	60	−47	0.39	−0.15	4	13	9	9	nw.
1895...	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896...	5.3	+0.4	58	−42	0.70	+0.16	6	9	9	13	nw.
1897...	3.6	−1.3	49	−38	0.79	+0.25	5	11	9	11	nw.
1898...	14.6	+9.7	69	−32	0.11	−0.43	2	15	8	8	nw.
1899...	5.2	+0.3	55	−41	0.25	−0.29	3	13	9	9	nw.
1900...	15.4	+10.5	70	−30	0.22	−0.32	3	15	9	7	nw.
1901...	7.7	+2.8	68	−39	0.28	−0.26	4	14	8	9	nw.
1902...	12.7	+7.8	51	−40	0.14	−0.40	2	17	7	7	nw.
1903...	9.4	+4.5	56	−37	0.66	+0.12	5	13	8	10	nw.
1904...	3.6	−1.3	50	−52	0.37	−0.17	5	15	6	10	nw.
1905...	0.9	−4.0	48	−40	0.30	−0.24	3	15	8	8	nw.
1906...	12.2	+7.3	60	−38	0.69	+0.15	4	14	6	11	nw.
1907...	−6.2	−11.1	45	−45	1.40	+0.86	8	12	8	11	nw.
1908...	17.0	+12.1	70	−44	0.18	−0.36	2	17	8	6	nw.
1909...	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910...	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911...	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912...	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913...	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914...	14.8	+9.9	62	−38	0.50	−0.04	4	12	8	11	nw.
1915...	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916...	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917...	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918...	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919...	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920...	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921...	15.9	+11.0	58	−31	0.24	−0.30	2	13	9	9	nw.
1922...	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.
1923...	10.1	+5.2	56	−35	0.53	−0.01	5	9	9	13	nw.
1924...	2.6	−2.3	61	−42	0.23	−0.31	3	14	9	8	nw.
1925...	8.6	+3.7	52	−35	0.22	−0.32	3	11	10	10	nw.
1926...	16.3	+11.4	55	−30	0.38	−0.16	4	13	8	10	nw.
1927...	10.1	+5.2	60	−44	0.41	−0.13	4	14	8	9	nw.
1928...	13.0	+8.1	50	−41	0.21	−0.33	3	14	9	8	nw.

Climatological Data for January, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								0.03		0.03		1					H. A. Bury.
Amenia	Cass	954	32	12.9	+ 8.4	45	12	−26	2	40	T.	−0.50	T.	T.	0	19	9	3	nw.	E. T. Carley.
Amidon	Slope		14																	W. H. Toussaint.
Arnegard	McKenzie		13	14.6		41	10†	36	1	31	0.10		0.05	1.0	2	22	1	8	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	15.4	+ 7.9	43	10	−29	2	35	0.24	−0.31	0.20	1.5	2	12	9	10	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	16.6	+ 7.3	46	10†	−35	1	40	0.03	−0.60	0.02	0.3	2	19	7	5	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	15.4	+ 7.9	48	9†	36^a	2	39^a	0.03	−0.37	0.03	3.0	1	13	0	18	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	15.2	+ 7.4	45	12	−34	2	38	0.23	−0.22	0.13	4.2	3	13	11	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	7.7	+ 8.4	38	5†	−30	1†	36	0.17	−0.29	0.04	2.0	7	19	7	5	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	14								0.15	−0.35	0.10	2.0	2	19	2	10	w.	
Cando	Towner	1,488	27	8.8	+10.3	40	11	−30	2	49	1.04	+0.64	0.48	13.0	5	12	7	12	nw.	A. J. Swanson.
Carson	Grant	2,500	16	13.8	+ 3.9	43	11	−35	1†	33	0.16	−0.18	0.08	2.0	3	16	9	6	nw.	J. W. Evens.
Cavalier	Pembina																			W. W. Felson
Cooperstown	Griggs	1,428	22								0.50	0.00	0.40	5.0	2	12	8	11	nw.	S. Friswold.
Crosby	Divide	1,954	21	10.8	+ 9.1	46	9	−32	1	54	0.05	−0.44	0.05	0.5	1	14	14	3	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	11.0	+10.7	41	10	−25	1	30	0.10	−0.50	0.03	1.6	6	12	12	7	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	12.6	+ 2.3	42	10	−35	1	41	0.45	+0.03	0.12	4.2	9	18	3	10	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	14.4		43	10†	−31	2	35	0.11		0.05	1.0	3	15	9	7	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	14.7	+ 0.9	46	10	39	2	47	0.20	−0.31	0.10	2.0	2	11	7	13	w.	W. F. Moede.
Dunseith	Rolette	1,682	32	11.8	+10.3	45	10	−27	1	52	0.32	−0.15	0.10	3.2	6	22	5	4	w.	J. G. Lamont.
Eckman	Bottineau	1,500	23	11.7	+11.1	44	11	−33	1	45	0.13	−0.43	0.09	1.0	2	1	17	13	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	27	15.4	+ 7.6	46	11	−28	2	38	0.30	+0.01	0.20	3.0	2	5	14	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	16.0	+ 5.3	48	10	−26	2	35	0.26	−0.14	0.12	2.2	6	9	10	12	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	16	14.6		48	10	−38	2	39	0.25	−0.04	0.15	1.0	2	17	10	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	20																	A. O. Wang.
Fessenden	Wells	1,610	16	12.3	+ 9.1	46	12	31	1	44	0.21	−0.39	0.18	2.5	2	15	10	6	sw.	T. D. Monsen.
Forman	Sargent	1,249	34								0.02	−0.51	0.02	0.2	1	15	6	10	sw.	O. Enger.
Fort Yates	Sioux	1,670									0.01	−0.52	0.01	0.1	1					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	14.0		43	10†	−30	1	43	0.26		0.09	2.8	4	10	10	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								0.13		0.05	1.5	3	13	10	8	nw.	Verne King.
Fullerton	Dickey	1,439	30	15.9	+ 8.1	46	10	−28	2	34	0.46	−0.29	0.16	3.0	4	6	11	14	nw.	F. O. Alin.
Garrison	McLean	1,901	33	15.2	+ 8.7	45	10†	−32	2	37	0.08	−0.35	0.08	1.0	1	21	6	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	12.0	+11.1	44	10	−22^c	15	38^c	0.57	0.03	0.30	4.6	5	14	12	5	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	11.8	+ 8.2	44	10†	−22	2	41	0.29	−0.29	0.15	3.6	5	13	9	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	12.0	+10.3	42	12	−30	1	37	0.12	−0.39	0.04	1.5	3	17	11	3	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34								0.53	−0 19	0.24	6.0	5					J. Moffatt.
Hansboro	Towner	1,597	20	10.0	+12.3	44	6	−30	1	46	0.10	−0.85	0.10	4.0	1	24	6	1	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	18.1	+ 5.6	46	11†	33	1	44	0.14	−0.18	0.08	1.5	4	9	15	7	nw.	C. H. Plath.
Hillsboro	Traill	901	22	12.8	+ 8.9	45	10	−22	2	37	0.13	−0.61	0.10	1.3	2	5	18	8	n.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	21	10.8	+ 9.3	40	10	-35	1	35	0.20	−0.55	0.12	2.0	2	17	8	6	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	12.6	+ 6.1	44	9	−30	2	64	0.21	−0.43	0.07	2.2	4	19	4	8	nw.	S. Calvelage.
Lamoine	Kidder	1,936	23	10.2	+ 6.2	40	10†	−34	1	44	0.56	−0.05	0.16	7.0	5	18	4	9	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	4.4	+ 7.1	40	10	−29	2	50	T.	−0.65	T.	T.	0	12	13	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	11.3	+ 8.7	43	11	−24	2	46	0.40	−0.31	0.16	5.0	3	12	8	11	w.	Reuben Gray.
Linton	Emmons	1,711	10	12.7		46	9†	−41	2	48	0.30					15	9	7	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	24	20.3	+14.4	47	12	−30	1	53	0.00	−0.70	0.00	0.0	0	18	10	3		W. S. Adams.
McClusky	Sheridan	1,943	10	10.9		40	9†	−34	2†	37	0.10		0.06	1.2	2	16	10	5	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	31	12.5	+ 9.3	42	10†	−30	1†	44	0.65	−0.31	0.05	0.5	1	13	12	6	w.	N. P. Swenson.
McLeod	Ransom	1,075	16	14.9	+ 7.2	48	6	30	2	53	0.09	−0.58	0.05	0 9	2	19	7	5	sw.	J. G. Carlson.
Maddock	Benson	1,604	12	12.9	+ 7.6	40	10†	−31	1	43	0.06	−0.25	0.03	1.0	2	8	17	6	nw.	A. T. Felland.
Mandan	Morton	1,644	14	12.8	+ 4.3	44	12	−35	2	52	0.20	−0.03	0.14	3.0	3	10	7	14	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25	13.2	+ 9.2	50	12	−28	1	40	0.27	−0.38	0.10	3.0	5	14	12	5	nw.	P. B. Anderson.
Marmarth	Slope	2,714	19	20.2	+ 9.9	50	11	−41	1	70	0.20	−0.10	0.20	2.0	1	17	3	11	nw.	Wm. Lamb.
Mayville	Traill	975	32	13.8	+ 7.7	45	10†	−24	2	39	0.15	−0.34	0.10	1.5	2	16	4	11	nw.	N. C. Burhans.
Melville	Foster	1,590	30	13.3	+ 7.7	40	7	−28	1	41	0.08	−0.30	0.08	1.0	1	23	5	3	se.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		3								0.14		0.14	2.0	1	21	6	4	sw.	J. A. Thorburn.
Minot	Ward	1,557	32	13.8	+ 8.8	49	10	30	1	38	0.10	−0.35	0.10	1.0	1	15	7	9	w.	W. I. Faris.
Minto	Walsh	820	35																	C. M. Evans.
Mott	Hettinger	2,424	21	14.5	+ 7.0	40	11	−35	1	44	0.71	−0.17	0.41	7.5	4	11	9	11	w.	O. H. Opland.
Napoleon	Logan	1,955	36	12.3	+ 6.4	42	12	−37	2	47	0.10	−0.35	0.10	1.0	1	15	5	11	w.	C. J. Hoof.
New England	Hettinger	2,400	37	14.2	+ 0.9	48	9	−29	2	51	0.66	+0.24	0.40	1.1	4	13	12	6	nw.	W. L. Sales.
New Salem	Morton	2,163	24	15.5	+ 7.8	49	11	32	2	37	0.13	−0.50	0.08	1.3	3	16	12	3	sw.	J. Christiansen.
Park River	Walsh	998	24																	C. B. Wright.
Parshall (near)	Mountrail		13																	Carl J. Knutson.
Pembina	Pembina	789	54	8.1	+11.9	40	10	−22	2	50	0.24	−0 40	0.16	3.0	2	15	11	5	sw.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	10.2	+10.2	39	9†	−34	1	36	0.22	−0.29	0.08	2.8	4	9	11	11	nw.	A. L. Carlson.
Power	Richland	1,020	34								0.10	−0.55	0.10	1.0	1	16	7	8	w.	Frank B. Power.
Powers Lake	Burke	2,205	14	14.1		46	13	−32	1	34	0.20	−0.58	0.13	4.9	2	16	10	5	sw.	Geo. B. Gee.
Richardton	Stark	2,467	12	15.0^a		48^a	9	−31^a	1†	55^a	0.24		0.16	3.0	2	19	9	3	sw.	John Muggli.
Sharon	Steele	1,516	3	10.9		42	12	−25	2	41	0.09		0.04	1.0	5	14	10	7	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	4								0.12		0.08	5.0	2	13	10	8	nw.	J. H. Giffey.
Starkweather	Ramsey		1	8.9		40	11	−30	2	46	0.51		0.33	5.1	4	22	7	2	nw.	F. R. Irons.
Steele	Kidder	1,857	32	9.8	+ 2.2	45	9	−39	2	40	0.08	−0.44	0.04	1.0	2	19	8	4	nw.	C. D. Stiles.
Towner	McHenry	1,482	26	10.4	+ 7.8	41	11†	−30	1†	42	0.05	−0.44	0.05	0.5	1	21	7	3	nw.	B. Bagley.
Trotters	Golden Valley		3								0.19		0.07	2.8	3	10	10	11		A. J. Nellermoe.
Turtle Lake	McLean	1,899	13	12.4	+ 3.6	43	9	−31	2	33	0.15	−0.26	0.10	2.0	3	4	12	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	13.0	+ 8.2	42	10	−25	2	36	0.08	−0.58	0 03	0.8	3	15	10	6	n.	I. C. Robertson.
Velva	McHenry		2	15.2		44	9†	−29	2	40	0.14		0.06	1.5	3	7	14	10	w.	Oscar Anderson.
Wahpeton	Richland	962	34	14.0	+ 6.2	42	6†	−30	2	39	0.00	−0.51	0.00	0.0	0	17	0	14	nw.	C. G. Luick.
Washburn	McLean	1,731	26																	H. W. Smith.
Westhope	Bottineau	1,508	26	11.5	+12.9	42	10	−32	1	39	0.15	−0.41	0.13	2.0	2	17	10	4	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	14.6	+ 8.2	46	9	−32	1	41	0.05	−0.49	0.03	0.8	2	13	10	8	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	11.5	+11.2	39	6†	−32	1	37	0.24	−0.34	0.10	2.4	5	13	13	5	nw.	M. A. Ostby.
Wilton	McLean		1	13.2^a		43^a	12	−27^a	1	30^a	0.20		0.15	2.0	2	20	1	10		L. Q. Perkins.
Moorhead, Minn.	Clay	935	47	12.6	+ 8.8	43	10	−25	2	41	0.22	−0.45	0.10	1.6	6	10	6	15	sw.	U. S. Weather Bureau.
Averages				13.0	+ 8.1	50	11†	−41	1†	70	0.21	−0.33	0.41	2.3	3	14	9	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D; Metigoshe, Bottineau.

Daily Precipitation for January, 1928

Stations	Drainage Basin	Day of Month																														Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri											T.			T.									.03					T.	T.			0.03
Amenia ‖‖	Red																			T.									T.				T.
Amidon	Lit. Missouri																																......
Arnegard	Missouri					T.																		T.					.05	.05		T.	0.10
Ashley	Missouri														.20															.04		T.	0.24
Beach	Lit. Missouri												T.	T.	T.										.02					.01			0.03
Berthold Agency	Missouri															T														.03			0.03
Bismarck ***	Missouri				.06										T.	.13								T.	T.		T.		T.	.04		T.	0.23
Bottineau‖‖	Mouse												T.		.04		.04								.02				.03	.01	.02	.01	0.17
Bowman	Grand												T.		T.	.10				T.				.05			T.			T.			0.15
Cando	Devils Lake										T.	T.			.24		.08												.48		.08	.16	1.04
Carson	Heart															.08								.04						.04			0.16
Cavalier	Red																																......
Cooperstown	Sheyenne														T.		.40												T.	.10	T.	T.	0.50
Crosby	Mouse																														.05		0.05
Devils Lake ***	Devils Lake													.01	.01	.03				T.			T.		.01				.02	T.	T.	.02	0.10
Dickinson‖‖	Heart			T.		T.							.03	T.	.02	T.	.12							.01	.08	T.		.01		.09	.08	.01	0.45
Dogden Butte	Mouse														T.	.02	T.								T.				.04	.05	T.	T.	0.11
Dunn Center‖‖	Knife																													.10	.10		0.20
Dunseith	Mouse											.02		.10		.10													.04		.04	.02	0.32
Eckman	Mouse															.04													.09				0.13
Edgeley	James																												.10		.20		0.30
Ellendale***	James					.03		T.						.09	.03	T.				T.				T.	.01	T.	T.	T.	.06	.04	T.	T.	0.26
Energy	Missouri														T.	.15									T.					.10		T.	0.25
Epping	Missouri																																......
Fessenden‖‖	James														T.	.03															.18		0.21
Forman	Sheyenne																												.02			T.	0.02
Fort Yates	Missouri															.01																	0.01
Foxholm (near)	Mouse												T.	T.	T	.09	.08			T.					T.		T.	T.	.06	.03		T	0.26
Fryburg	Heart														T.	T.								.04						.05		.04	0.13
Fullerton	James				T.										.16	T.				T.				T.			T.	T.	.12	.15		.03	0.46
Garrison	Missouri																													.08			0.08
Grafton	Red												.30		.20		.04			T.			T.		T.	.01				T.	T.	.02	0.57
Grand Forks ***	Red													.15		.10				T					T.	.02				T.	.01	.01	0.29
Granville	Mouse											T.		T.	.04														.04	.04	T.		0.12
Hannah	Pembina										.05			.24		.08							.08								.08		0.53
Hansboro	Devils Lake														.10																		0.10
Hettinger	Grand													T.	.01	.08								.02						.03			0.14
Hillsboro	Red														.03					T.											.10		0.13
Howard (near)	Missouri					T.											.08								T.	T.					.12		0.20
Jamestown‖‖	James													.02			.05								T.				.07	.07			0.21
Lamoine	Missouri														.08					.08								.08	.16	.16			0.56
Langdon‖‖	Pembina											T.																					T.
Larimore	Red														.16		.16														.08		0.40
Linton	Missouri																																......
Lisbon ‖‖	Sheyenne																																0.00
McClusky	Missouri															.06														.04			0.10
McKinney (near)	Mouse											T.		T.		T.									T.				.05	T.			0.05
McLeod	Sheyenne														T.					T.					T.				.04		.05		0.09
Maddock	Sheyenne													T.	T.	T.	.03								T.				.03	T.		T.	0.06
Mandan‖‖	Missouri															T.	.14								T.	T.				.01	.05	T.	0.20
Manfred	James					T.						T.		T.	T.	.02	.10			T.					T.				.08	.02	T.	.05	0.27
Marmarth	Lit. Missouri													T.	T.									.20									0.20
Mayville	Red																.10															.05	0.15
Melville	James																													.08			0.08
Metigoshe	Mouse																														.14		0.14
Minot‖‖	Mouse																												.10				0.10
Minto	Red																																......
Mott	Cannon Ball				T.									T.		.41								.16						.10	.04	T.	0.71
Napoleon ‖‖	Missouri																								T.			T.		T.	.10		0.10
New England	Cannon Ball											.40	.15		T.			.01											T.	.10			0.66
New Salem	Heart														T.	.08	.01			T.					T.					.04		T.	0.13
Park River	Red																																......
Parshall (near)	Missouri																																......
Pembina‖‖	Red																									.16						.08	0.24
Pettibone	James												T	T.	T.	.04	.02			T.							T.	T.	.08	.08	T.	T.	0.22
Power	Sheyenne																			T.										T.	.10		0.10
Powers Lake	Missouri															.07													.13				0.20
Richardton	Heart															.16														.08			0.24
Sharon	Red												T	.02	.01	T.	.04			T.			T.		T.	T.			.01	.01	T.	T.	0.09
Stanton	Missouri															.08														.04			0.12
Starkweather	Devils Lake											T.		.33		.08													.07		.03		0.51
Steele	Missouri					T.							T.	T.	T.	T.													.04	T.	T.	.04	0.08
Towner	Mouse												T.	T.	T.														.05				0.05
Trotters	Lit. Missouri												T.			.07								.07						.05			0.19
Turtle Lake	Missouri																.10												.04	.01			0.15
Valley City	Sheyenne													T.											T.				.02	.03		.03	0.08
Velva	Mouse												T.		T.	.04				T.					T.				.06	.04	T.	T.	0.14
Wahpeton	Red																																0.00
Washburn	Missouri																																......
Westhope	Mouse															T.									.02					.13			0.15
Williston ***	Missouri														T.	.02				T.			T.	T.	T.				T.	.03		T.	0.05
Willow City	Mouse													.07		T.	.10			T.					.02	T.			.03	.02	T.	T.	0.24
Wilton																.15														.05			0.20
Moorhead, Minn ***	Red											T.		T.	.10	T.	T.			T.					.01	T.	.01	T.	.01	.06	T.	.03	0.22

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	-10	-4	8	27	40	42	37	38	40	43	41	45	30	16	24	29	40	32	20	15	30	21	16	10	17	16	14	12	12	21	20	24.0
	Minimum	-23	-26	20	-10	0	25	24	11	18	32	28	28	30	-14	-8	14	12	14	9	-6	-5	2	-4	-2	-12	12	-9	-11	-12	-6	-11	1.8
Amidon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum	-20	-10	3	18	38	40	39	37	40	41	41	38	35	26	15	27	35	27	23	14	33	21	17	12	10	13	33	25	24	22	19	23.7
	Minimum	36	-32	-17	9	14	25	26	17	33	32	25	33	26	3	3	7	14	14	0	-7	3	4	-2	0	-9	-12	2	15	10	0	-1	5.6
Ashley	Maximum	-12	8	4	17	39	39	38	32	40	43	42	41	40	38	8	25	35	34	28	9	29	25	20	12	12	15	13	28	16	22	20	24.0
	Minimum	-26	-29	-16	-10	4	29	24	12	28	32	25	35	36	6	-1	7	13	17	4	-4	0	15	6	1	0	-10	3	-1	3	6	4	6.7
Beach	Maximum	-12	-16	16	36	39	37	32	35	40	46	39	46	37	33	15	24	33	30	30	15	30	21	19	15	10	16	18	22	26	27	26	25.3
	Minimum	-35	-30	20	4	29	28	20	20	33	36	26	35	31	10	8	7	10	11	6	-6	3	15	6	-3	-7	2	4	6	0	10	-2	8.0
Berthold Agency	Maximum	-12	-2	5	18	43	42	36	43	48	44	48	42	40	32	12	30	35	30	28	15	35	28	15	15	14	15	18	30	23	24	19	26.2
	Minimum	-30	-36	-27	-15	15	27	18	11	34	24	35	30	25	2	-5	2	10	6	....	-3	4	15	0	2	3	-14	-4	5	14	-4	2	ᵃ 4.6
Bismarck	Maximum	-17	-8	5	27	42	41	36	38	41	44	43	45	39	32	12	27	31	28	28	13	32	23	12	14	12	16	14	25	24	25	22	24.7
	Minimum	31	-34	-20	-11	27	31	22	11	34	34	25	33	24	1	-4	9	9	11	2	-3	-3	10	0	0	-8	-11	0	5	9	3	0	5.7
Bottineau §§	Maximum	-12	-10	2	10	38	35	31	51	37	38	38	36	35	31	10	25	30	27	28	5	20	20	8	8	6	4	4	12	10	20	14	19.0
	Minimum	-30	-30	-19	-12	2	18	21	5	18	28	12	25	23	10	-19	-10	3	1	-2	-14	-12	0	-20	-13	-17	-21	-13	-9	0	-5	-11	-3.6
Cando	Maximum	7	-5	-2	-1	35	36	30	32	38	38	40	36	35	31	28	30	29	27	29	4	21	21	22	8	8	9	6	8	9	18	15	20.3
	Minimum	-26	-30	-16	-9	-1	25	17	5	23	27	18	29	27	-15	-21	-19	4	-7	-9	-12	8	-6	-15	-10	14	-15	-13	-7	-2	-1	-5	-2.8
Carson	Maximum	15	-10	5	20	38	37	34	36	40	40	43	42	40	34	15	33	30	25	15	25	30	25	17	15	15	15	15	35	25	25	25	24.8
	Minimum	-35	-35	-22	-10	10	28	17	15	32	32	24	25	24	4	-10	5	5	10	0	-7	-3	15	0	-10	-10	15	-7	4	10	-5	-5	2.8
Crosby §§	Maximum	-17	-10	-1	30	42	36	34	42	46	40	45	40	32	5	15	22	30	19	15	10	25	14	25	12	-5	10	20	18	25	20	12	21.0
	Minimum	-32	-30	-30	19	-12	21	25	11	25	20	26	24	23	-3	-20	3	7	10	-1	-9	6	4	-8	-6	-12	-12	-5	-8	8	-4	-8	0.5
Devils Lake	Maximum	14	6	3	17	37	37	34	34	39	41	41	39	37	14	6	27	35	34	27	8	25	14	10	7	7	8	4	9	14	15	15	19.9
	Minimum	-25	-25	-14	6	17	26	18	14	29	31	25	32	14	-15	-16	6	18	11	-3	-9	-5	0	7	-6	11	-13	-8	-3	-3	-2	-4	2.1
Dickinson §§	Maximum	18	6	7	36	39	37	32	39	41	42	39	39	36	8	18	25	31	27	20	11	29	22	11	14	5	15	23	37	26	17	17	23.2
	Minimum	-35	-34	-28	-13	-2	21	18	15	21	28	24	22	23	6	2	1	8	5	10	-9	-10	5	3	-6	-7	-12	-5	5	17	-5	-3	1.9
Dunn Center §§	Maximum	-17	12	18	37	40	39	34	40	42	46	42	44	37	23	17	27	37	31	10	17	32	22	16	12	9	15	23	38	35	22	15	25.5
	Minimum	-32	-39	-22	-10	-7	29	22	15	32	32	25	27	23	3	-2	3	7	6	10	-7	-4	10	2	-2	-2	-10	-2	0	15	-2	2	3.9
Dunseith	Maximum	10	-5	1	20	37	40	36	29	44	45	40	41	35	38	5	23	39	36	38	9	23	24	10	2	7	6	7	15	12	21	17	22.1
	Minimum	-27	-25	-20	-10	3	27	23	11	23	29	21	31	25	-14	-20	0	11	12	-2	-9	12	2	-9	-6	-14	-17	-8	4	-1	2	-6	1.4
Edgeley	Maximum	8	-6	6	20	39	38	38	35	39	44	46	43	39	35	6	28	37	37	28	10	30	24	19	15	13	12	12	19	14	21	21	24.3
	Minimum	-24	-28	-15	-5	1	33	26	16	30	36	30	35	26	5	8	4	19	17	5	-4	-2	17	3	4	-1	-12	-3	-5	-2	5	-4	6.4
Ellendale	Maximum	-12	-2	5	18	42	43	38	38	42	48	45	46	36	35	14	28	41	35	27	11	32	28	14	14	16	18	9	17	14	23	22	25.3
	Minimum	-24	-26	-18	-17	12	34	25	15	36	36	31	35	27	2	-4	11	15	16	2	-2	1	13	6	6	-5	-8	-2	-2	-2	-4	-3	6.7
Fessenden §§	Maximum	-9	-2	7	29	42	40	38	38	42	43	42	46	38	3	13	29	37	43	22	13	29	19	15	14	6	15	14	21	21	16	17	23.9
	Minimum	-31	-30	-22	-14	-2	28	22	5	10	32	18	29	30	-3	-13	-5	6	10	0	-7	5	-5	-3	-4	3	-14	5	-2	1	4	-6	0.7
Foxholm (near)	Maximum	-11	-5	9	19	39	40	35	38	42	43	41	43	36	33	11	24	34	34	28	10	26	22	11	11	12	11	10	18	22	23	17	23.4
	Minimum	-30	25	-17	6	10	33	23	18	33	37	28	34	25	10	12	5	18	13	0	-8	-1	7	-10	4	-13	-12	-7	3	5	2	3	4.5
Fullerton	Maximum	-7	-2	8	14	41	42	39	34	41	46	43	45	38	36	12	27	38	33	28	10	31	26	15	14	15	13	10	19	14	22	22	24.7
	Minimum	-20	-28	-21	-15	14	35	27	14	30	38	33	35	28	12	-5	-7	18	17	7	-2	0	13	7	7	1	-8	-8	-2	-1	3	-2	7.1
Garrison	Maximum	-9	-1	9	14	40	39	38	41	44	45	40	45	37	34	9	31	40	33	28	15	35	21	18	14	12	15	19	26	21	25	20	25.7
	Minimum	-27	-32	-18	-10	9	30	18	14	32	32	27	33	24	0	-8	5	11	8	3	-4	-2	12	-1	1	-5	-10	4	3	10	-1	-1	4.7
Grafton	Maximum	-10	0	5	20	37	40	37	35	42	44	42	43	39	29	-5	24	37	32	31	9	22	21	11	9	8	11	4	5	11	15	15	21.4
	Minimum	-20	-20	14	-1	4	26	25	13	29	31	29	34	26	9	-22	8	12	7	....	....	-10	5	-11	6	...	-14	-14	-14	-16	3	8	ᶜ 2.7
Grand Forks	Maximum	-11	1	7	19	37	40	37	34	41	44	44	44	35	29	9	26	36	28	29	11	26	13	8	9	10	12	2	5	6	17	16	21.4
	Minimum	-20	22	-15	-2	7	30	23	14	32	33	29	35	28	-12	-20	8	17	6	-3	-7	-9	-1	-10	-3	-8	-15	-12	-13	-16	-1	-7	2.1
Granville	Maximum	-10	-8	-5	22	38	25	20	32	40	40	40	42	37	27	15	25	30	32	28	5	18	18	10	5	8	5	8	10	25	25	18	20.2
	Minimum	-30	-28	-18	-10	22	20	15	15	32	28	28	31	27	10	-12	5	14	22	4	-5	-4	3	-8	-5	-8	-12	-4	2	5	-6	-2	3.7
Hansboro	Maximum	0	5	10	25	35	44	40	32	40	42	40	42	35	28	9	25	40	36	25	6	25	22	10	10	0	8	8	6	10	17	18	22.4
	Minimum	-30	-28	-18	-10	15	20	18	10	20	30	20	24	22	18	23	14	17	8	5	-12	-10	0	-14	-12	-15	-20	-14	-14	-5	2	-12	-2.3
Hettinger	Maximum	-13	-5	15	33	39	39	36	38	41	45	46	46	42	36	14	26	33	30	44	27	33	26	25	21	14	18	20	40	35	25	27	28.9
	Minimum	-33	-26	-21	-11	29	30	23	16	34	35	29	35	32	7	6	7	2	18	6	-7	-1	6	0	-8	6	-15	-3	11	20	1	10	7.3
Hillsboro	Maximum	8	-1	1	20	37	40	36	34	41	45	41	44	41	32	5	27	35	33	28	12	27	12	12	11	11	15	6	9	6	19	13	22.2
	Minimum	-20	-22	-13	-7	0	29	24	15	27	31	28	33	30	4	-16	5	15	24	-2	5	-5	5	4	-2	5	-11	-9	-10	-14	2	-7	3.3
Howard (near)	Maximum	-22	-14	-7	21	36	38	26	36	36	40	34	37	35	33	25	15	19	25	25	23	9	24	19	9	10	9	15	22	25	20	10	20.4
	Minimum	-35	-34	23	-15	19	21	15	14	23	30	2	18	27	17	-8	9	4	7	6	0	-14	-6	0	14	-6	-14	-11	14	14	-7	-3	1.3
Jamestown §§	Maximum	-6	-7	35	41	40	35	37	40	44	43	43	35	29	6	26	36	37	20	10	28	22	12	12	6	17	8	18	20	19	20	22	24.1
	Minimum	-22	-30	-29	-18	-9	29	24	12	12	30	28	28	29	-10	-12	-11	11	14	14	-5	-6	4	0	-1	0	-12	-8	-6	-4	2	-10	1.1
Lamoine	Maximum	-12	-13	-4	0	34	38	35	32	36	40	39	40	35	32	9	24	30	30	16	7	28	18	15	9	7	12	15	13	13	11	8	19.3
	Minimum	-34	-33	-18	-10	-10	24	18	10	24	32	22	32	20	-3	-13	5	7	5	2	9	3	10	-6	-6	-9	-17	-7	1	1	0	-6	1.1
Langdon §§	Maximum	-12	-5	2	30	33	34	31	32	36	40	31	35	22	10	8	25	28	25	5	5	16	16	8	5	0	5	0	4	10	1	12	15.9
	Minimum	-25	-29	-28	-19	-6	18	19	4	10	25	16	18	10	12	-27	25	0	5	3	-15	12	-10	20	-20	20	-10	-20	-20	-15	-10	6	-7.1
Larimore §§	Maximum	10	-7	4	32	38	40	37	30	40	42	43	42	34	29	-7	25	35	40	25	10	38	15	14	8	7	13	5	8	15	15	15	21.6
	Minimum	-23	-24	-14	8	13	28	25	14	25	31	28	28	28	-10	-20	-1	5	16	-2	-20	-8	-2	-10	-2	-3	-17	-15	-11	-15	3	5	1.0
Linton	Maximum	-25	-8	10	16	44	40	39	38	46	46	45	44	38	35	16	31	37	28	26	13	34	25	20	14	17	12	11	25	30	24	25	25.7
	Minimum	-32	41	-30	-26	5	25	10	11	-2	28	12	30	14	3	0	9	0	10	3	-7	-13	5	5	-4	-22	-16	0	3	11	-8	7	-0.3
Lisbon §§	Maximum	2	6	10	35	36	41	42	43	40	40	44	47	40	35	36	32	34	26	32	24	21	23	26	28	25	23	26	27	24	30	28	30.4
	Minimum	-30	26	-24	-18	4	12	14	16	16	28	22	26	30	26	21	18	16	15	10	12	11	14	8	14	16	12	10	9	11	10	14	10.2
McClusky	Maximum	-10	-10	10	10	37	36	34	33	40	40	37	39	36	33	8	23	22	20	30	8	30	21	15	16	10	13	7	24	15	22	18	20.7
	Minimum	-32	-34	-34	12	4	25	18	10	26	30	22	32	21	4	-13	5	10	9	6	-10	-6	10	-5	5	-9	-15	-5	-5	1	2	-3	1.1
McKinney (near)	Maximum	-13	-14	10	23	40	40	35	40	41	42	42	41	38	34	12	25	34	30	25	16	27	20	10	10	5	10	10	20	22	22	15	23.0
	Minimum	-30	-30	-15	-15	12	12	22	20	29	36	27	30	25	-10	-12	2	12	10	1	-7	-5	-5	-10	5	-13	-14	-8	0	12	4	-4	2.0
Maddock	Maximum	-9	-3	5	16	37	39	36	35	39	40	39	40	39	34	30	25	34	34	27	27	20	23	13	11	16	12	10	13	11	19	19	23.8
	Minimum	-31	28	18	-10	2	28	20	13	28	32	26	33	27	9	-16	3	14	9	1	-9	-6	8	10	-5	11	-13	-9	3	1	2	-6	2.0
Melville	Maximum	5	0	4	21	39	38	40	38	30	35	32	34	30	24	28	27	30	36	35	19	29	22	18	12	20	18	17	17	14	18	22	24.3
	Minimum	-28	-21	-18	-1	20	18	23	15	16	16	18	19	17	-10	-13	-12	11	18	10	-5	4	3	3	-3	8	3	2	-3	-2	2	4	2.3
Minot §§	Maximum	18	11	6	25	45	43	40	38	47	49	41	37	-1	20	28	35	35	4	17	18	30	18	17	11	0	13	12	19	20	17	16	22.6
	Minimum	-30	-17	5	14	32	25	14	33	38	36	25	-1	-10	0	20	10	2	-6	-6	5	10	-8	0	-10	-11	-4	1	6	-2	0	-4	5.1
Mott	Maximum	17	-8	14	30	36	36	34	34	38	39	40	39	38	32	24	26	26	25	23	20	24	21	14	17	4	15	19	26	30	23	17	23.9
	Minimum	-35	32	-22	-14	25	28	18	11	18	28	23	28	30	14	13	5	-1	10	5	8	4	10	4	10	-13	-16	-11	10	13	0	7	5.1
Napoleon §§	Maximum	18	-10	0	34	38	38	33	33	40	41	38	42	40	14	15	27	32	30	20	10	30	23	12	13	8	15	15	28	23	18	20	22.6
	Minimum	-32	-37	-23	-12	3	31	18	10	18	33	23	25	20	5	-9	7	12	11	10	-10	-8	2	0	-3	4	-14	-7	5	-1	-2	-3	2.0
New Salem	Maximum	-12	-6	6	20	40	39	40	38	42	42	49	44	40	37	10	24	34	28	29	14	34	28	19	14	9	16	18	34	29	25	15	25.8
	Minimum	-31	32	-17	10	20	22	22	15	30	24	34	30	22	3	-3	7	12	13	3	-7	-3	12	0	5	-3	-11	-4	5	10	0	2	5.2
Pembina §§	Maximum	-5	9	25	30	28	32	28	32	30	40	34	30	15	10	30	30	28	15	10	20	8	4	10	5	6	5	6	22	20	10	10	17.6
	Minimum	-20	-22	20	-10	10	10	15	5	10	20	10	20	15	-10	-20	-20	15	15	10	-15	-10	4	-10	4	-10	-10	-10	10	4	4	2	-1.4
Steele	Maximum	-20	-15	0	2	36	36	40	40	45	44	37	35	20	0	10	20	18	27	15	9	15	20	20	15	5	15	20	20	15	15	20	18.7
	Minimum	-32	-39	-25	-24	-4	25	24	24	25	24	21	20	-2	10	-14	-5	5	5	0	-9	5	5	5	5	5	0	10	10	0	-5	-10	0.9
Towner	Maximum	-10	0	7	16	40	39	39	35	40	39	41	41	38	35	10	27	33	31	27	10	10	8	10	8	5	5	10	15	16	12	21	21.2
	Minimum	-30	-30	-20	12	6	28	-3	8	10	25	23	28	23	-5	-8	0	5	6	0	-5	-8	-15	-11	-8	10	-15	-10	-1	3	1	-9	-0.5
Valley City	Maximum	-7	-7	-2	12	37	38	35	33	37	42	37	37	37	34	4	24	34	34	38	11	26	25	18	12	12	12	13	15	11	12	19	22.0
	Minimum	-22	-25	15	-6	1	32	23	10	29	35	27	35	27	2	-11	2	18	11	3	-4	-5	10	-1	1	-3	-10	11	-3	11	3	-9	4.1
Wahpeton	Maximum	7	-12	2	11	37	42	38	35	40	42	40	41	37	35	13	28	35	32	28	10	30	29	24	18	15	15	15	14	14	20	20	23.9
	Minimum	-20	-30	-16	-10	-2	30	20	10	26	31	26	33	33	11	-10	6	16	15	0	-5	-5	13	0	-2	0	-12	-10	-7	-10	0	5	4.1
Westhope	Maximum	-7	-7	6	12	40	39	38	38	38	42	39	40	38	28	16	28	35	35	22	10	25	22	10	8	8	5	10	16	20	12	20	21.8
	Minimum	-32	30	-21	-12	12	22	15	20	28	32	32	30	28	-11	-17	-1	15	5	-2	-11	-11	3	-12	-5	12	15	-5	1	5	5	8	1.2
Williston	Maximum	19	-8	0	27	40	39	34	40	46	42	42	39	34	17	17	30	29	29	24	15	31	19	13	13	9	14	17	35	27	21	17	23.6
	Minimum	-32	-32	-22	-14	26	22	20	16	33	31	26	34	17	1	2	10	13	12	-1	-6	6	3	-3	0	-6	-4	-5	14	12	-1	1	5.6
Moorhead, Minn	Maximum	-12	-4	0	14	38	42	37	31	40	43	39	41	37	33	12	28	37	28	27	12	25	19	10	13	12	15	3	10	4	19	17	21.6
	Minimum	-20	-25	-16	-9	1	31	26	15	27	27	29	36	32	-8	-14	12	19	13	0	-4	-5	4	-1	1	6	-10	-8	-10	-11	-2	-9	3.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing. ᵇ 2 days, etc.

[WBO. Minneapolis. 2-28-28—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVII Bismarck, N. D., February, 1928 No. 2

GENERAL SUMMARY

Mild temperature and deficient precipitation characterized the weather of the month. The mean temperature (18.8°) was one of the highest of record, having been exceeded but three times in the climatological history of the State. The average precipitation (0.10 inch) was the lowest of record, and was only equaled once. Ice harvest made rapid progress during the first decade and was completed at the close of the second. While the snowfall of the month was light, winter grains came through in good condition generally. Livestock ranged freely on pastures, meadows and harvested fields, saving much feed. The main highways were in mostly good condition, but many side roads were almost impassable.

TEMPERATURE

The mean temperature for the State was 18.8°, or 10.9° above the normal, and 5.5° higher than the mean for February, 1927. The highest mean reported was 22.8° at Hettinger, Adams County; the lowest was 12.0° at Langdon, Cavalier County. The highest temperature reported was 59° at Hettinger, Adams County, on the 11th; the lowest was -19° at McLeod, Ransom County, on the 24th. The greatest monthly range of temperature was 72° at Berthold Agency, McLean County; the least was 45° at Lisbon, Ransom County. The greatest daily range in temperature was 55° at Amenia, Cass County, on the 3d, and at Berthold Agency, McLean County on the 18th.

PRECIPITATION

The average precipitation for the State was 0.10 inch, or .39 inch below the normal, and 0.26 inch less than the average for February, 1927. The greatest monthly amount reported was 0.51 inch at McLeod, Ransom County; eleven stations reported none. The average snowfall was 1.2 inches. The average number of days with 0.01 inch or more of precipitation was 2.

AURORAS

Auroras were observed at Foxholm on the 11th; at Metigoshe on the 12th; at Arnegard, Bottineau, Foxholm, Howard, Trotters and Willow City on the 13th; at Hansboro on the 14th; at Bottineau on the 16th; at Stanton on the 17th; at Carson, Foxholm, Grand Forks, Howard and Stanton on the 18th; at Foxholm on the 20th; at Bottineau on the 21st; at Trotters on the 23; at Devils Lake, Foxholm, Howard, Metigoshe and Sharon on the 24th; and at Bottineau on the 30th.

BAROMETRIC PRESSURE AND WINDS

APR 5 1928
UNIVERSITY OF ILLINOIS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.14	30.50	20	29.69	12	57	5,951	8.6	36§	nw.	19
Devils Lake	30.10	30.46	20	29.67	18	44	6,052	8.7	34§	nw.	19
Ellendale	30.11	30.46	20	29.69	12	56	9,186	13.2	51§	nw.	19
Grand Forks	30.08	30.44	20	29.70	12	90	....	......	33	s.	18
Williston	30.16	30.49	20	29.73	11	48	5,486	7.9	33§	nw.	19
Moorhead, Minn	30.11	30.51	20	29.69	19	58	5,431	7.8	35§	nw.	19
Av'ges and extremes	30.12	30.51	20	29.67	18	.....	....	9.2	51§	nw.	19

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	192.8	299.8	64	+ 6	83	66	69	42	25
Devils Lake	214.9	297.9	72	+15	88	82	84	52	26
Ellendale	200.0	301.4	66	+ 8	87	68	....	42	19
Grand Forks	......	......	.....	.....	82	.....	70	.....	....
Williston	210.9	297.9	71	+18	85	65	70	47	1
Moorhead, Minn	174.4	299.8	58	0	87	66	77	46	20†
Averages and extremes	198.6	299.4	66	+10	85	69	74	42	19

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P.cdy days	Cl'dy days	Wind Dir.
1892...	10.0	+2.1	62	−54	0.58	+0.09	4	14	7	8	nw.
1893...	- 0.3	−8.2	52	−40	0.59	+0.10	4	12	7	9	nw.
1894...	8.0	+0.1	55	−50	0.22	−0.27	2	14	9	5	nw.
1895...	5.9	−2.0	65	−29	0.36	−0.13	4	13	7	8	nw.
1896...	14.3	+6.4	64	−40	0.44	−0.05	3	12	9	8	nw.
1897...	6.1	−1.8	52	−34	1.15	+0.66	7	12	7	9	nw.
1898...	13.3	+5.4	65	−48	0.46	−0.03	3	13	8	7	nw.
1899...	0.4	−7.5	60	−48	0.20	−0.29	3	14	8	6	nw.
1900...	1.3	−6.6	46	−31	0.47	−0.02	4	12	9	7	nw.
1901...	7.1	−0.8	60	−33	0.31	−0.18	3	15	7	6	nw.
1902...	12.1	+4.2	51	−49	0.98	+0.49	6	10	6	12	nw.
1903...	3.1	−4.8	46	−42	0.38	−0.11	3	19	4	5	nw.
1904...	- 2.2	−10.1	52	−46	0.54	+0.05	5	13	6	10	nw.
1905...	8.2	+0.3	64	−38	0.30	−0.19	2	19	4	5	nw.
1906...	9.8	+1.9	57	−49	0.13	−0.36	2	13	8	7	nw.
1907...	10.7	+2.8	58	−34	0.27	−0.22	3	15	7	6	nw.
1908...	13.8	+5.9	62	−34	1.07	+0.58	5	12	7	10	nw.
1909...	9.6	+1.7	56	−50	0.34	−0.15	4	11	7	10	nw.
1910...	3.4	−4.5	56	−38	0.50	+0.01	4	14	7	7	nw.
1911...	7.3	−0.6	55	−33	0.73	+0.24	3	15	8	5	nw.
1912...	11.8	+3.9	48	−44	0.15	−0.34.	2	10	9	10	nw.
1913...	8.5	+0.6	64	−47	0.10	−0.39	2	12	9	7	nw.
1914...	1.0	−6.9	57	−20	0.34	−0.15	3	12	8	8	nw.
1915...	17.4	+9.5	50	−39	0.62	+0.13	3	9	5	14	nw
1916...	6.4	−1.5	55	−48	0.46	−0.03	4	14	8	7	nw.
1917...	- 0.7	−8.6	61	−41	0.66	+0.17	5	10	8	10	nw.
1918...	10.8	+2.9	60	−40	0.19	−0.30	3	13	9	6	nw.
1919...	7.7	−0.2	58	−36	0.66	+0.17	5	10	8	10	nw.
1920...	12.5	+4.6	53	−33	0.30	−0.19	3	11	9	9	nw.
1921...	19.9	+12.0	64	−39	0.39	−0.10	3	11	10	7	nw.
1922...	0.7	−7.2	45	−40	1.21	+0.72	5	13	6	9	nw.
1923...	4.1	−3.8	48	−27	0.65	+0.16	4	13	7	8	nw.
1924...	20.3	+12.4	67	−39	0.41	−0.08	3	14	6	9	nw.
1925...	16.5	+8.6	62	−19	0.31	−0.18	3	10	9	9	nw.
1926...	22.3	+14.4	58	−31	0.41	−0.08	4	9	9	10	nw.
1927...	13.3	+5.4	50	−41	0.36	−0.13	4	12	7	9	nw.
1928...	18.8	+10.9	59	−19	0.10	−0.39	2	14	8	7	nw.

Climatological Data for February, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								0.08		0.04	1.0	3					H. A. Bury.
Amenia	Cass	954	32	17.7	+10.7	49	3	−16	24	55	T.	−0.40	T.	T.	0	15	11	3	n.	E. T. Carley.
Amidon	Slope		14																	W. H. Toussaint.
Arnegard	McKenzie		13	19.7	+6.5	51	11	−10	22†	33	0.15	−0.27	0.10	1.5	2	20	5	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	20.9	+13.1	51	11	−10	23	37	0.10	−0.37	0.10	2.0	1	17	2	10	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	21.9	+8.3	51	11	−11	23	28	0.13	−0.38	0.06	1.5	3	19	6	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	21.2	+11.8	54	11	−18	23	55	0.11	−0.44	0.06	1.0	2	17	1	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	21.0	+10.7	52	11	−8	23	39	0.11	−0.33	0.10	2.1	2	12	11	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	15.0	+13.2	40	10	−15	1†	41	T.	−0.37	T.	T.	0	15	10	4	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	14								0.10	−0.21	0.10	1.4	1	21	1	7	nw.	
Cando	Towner	1,488	27	17.6	+14.8	40	10†	−8	2	40	T.	−0.23	T.	T.	0	14	6	9	w.	A. J. Swanson.
Carson	Grant	2,500	16	19.6	+5.9	48	11	−13	23	45	0.10	−0.20	0.08	1.2	2	15	8	6	nw.	J. W. Evens.
Cavalier	Pembina																			W. W. Felson
Cooperstown	Griggs	1,428	22								0.00	−0.31	0.00	0.0	0	12	7	10	nw.	S. Friswold.
Crosby	Divide	1,954	21	18.0	+9.9	42	7†	−10	22	39	0.05	−0.24	0.05	0.5	1	17	5	7	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	16.8	+12.3	40	10	−7	17	35	0.01	−0.55	0.01	0.1	1	10	10	9	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	17.2	+5.4	47	11	−11	23	41	0.27	−0.16	0.20	2.7	6	14	6	9	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	19.6		46	11	−10	2	38	T.		T.	T.	0	16	5	8	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	19.3	+6.3	52	11	−11	22	46	0.08	−0.48	0.08	1.0	1	13	9	7	w.	W. F. Moede.
Dunseith	Rolette	1,682	32	16.9	+13.5	42	10	−12	1	39	0.25	−0.17	0.25	10.5	1	18	3	8	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	23	18.0	+11.6	48	10	−15	1	50	0.00	−0.35	0.00	0.0	0	3	16	10	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	27	21.6	+10.7	48	3†	−7	17	33	0.05	−0.27	0.05	0.5	1	6	12	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	21.2	+10.5	48	10	−7	1	41	0.23	−0.25	0.13	1.1	6	6	11	12	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	16	21.6		50	10†	−9	23	50	0.25	−0.01	0.15	2.0	2	16	9	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	20																	A. O. Wang.
Fessenden	Wells	1,610	16	19.0	+11.1	49	11	−9	24	41	0.08	−0.25	0.05	0.5	2	14	6	9	nw.	T. D. Monsen.
Forman	Sargent	1,249	34								0.26	−0.27	0.18	3.0	3	14	11	4	nw.	O. Enger.
Fort Yates	Sioux	1,670																		P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	19.4		48	11	−8	22	40	0.04		0.02	0.5	2	11	11	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								0.09		0.05	1.0	2	13	10	6	nw.	Verne King.
Fullerton	Dickey	1,439	30	21.3	+11.9	47	10	−6	23†	34	0.15	−0.66	0.15	T	1	10	14	5	nw.	F. O. Alin.
Garrison	McLean	1,901	33	22.6	+14.2	51	10	−5	2†	41	0.00	−0.53	0.00	0.0	0	25	2	2	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	17.9	+13.0	43	12	−14	24	44	T.	−0.58	T	T.	0	16	2	11	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	37	17.8	+11.3	42	27	−13	2	40	0.03	−0.50	0.02	0.1	3	11	8	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	14.6	+6.2	42	11	−10	2	30	T.	−0.58	T.	T.	0	11	12	6	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34								0.16	−0.40	0.08	2.0	2					J. Moffatt.
Hansboro	Towner	1,597	20	17.1	+13.4	44	26	−15	2†	40	0.00	−0.48	0.00	0.0	0	18	9	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	22.8	+9.6	59	11	−12	23	42	0.08	−0.20	0.07	1.2	2	16	11	2	nw.	C. H. Plath.
Hillsboro	Traill	901	22	19.5	+11.0	45	3	−12	24	38	0.00	−0.68	0.00	0.0	0	12	12	5	n.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	21	16.4	+10 4	40	11	−17	22	33	T.	−0.69	T.	T.	0	17	7	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	17.4	+9.5	47	2	−13	24†	51	0.14	−0.44	0.10	1.8	3	15	3	11	nw.	S. Calvelage.
Lamoine	Kidder	1,936	23	15.8	+8.1	37	11†	−10	1†	33	0.24	−0.15	0.16	3.0	2	17	4	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	12.0	+9.0	37	12	−16	20†	47	0.04	−0.61	0.04	0.5	1	16	8	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	16.8	+11.6	42	11	13	24	41	0.06	−0.41	0.02	0.8	3	15	3	11	n.	Reuben Gray.
Linton	Emmons	1,711	10	19.8	+6.2	48	8	−16	1	51	T.	−0.48	T.	T.	0	18	5	6	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	24	22.2	+12.6	46	11	1	19	32	T.	−0.73	T.	0.0	0	13	7	9		L. B. Walker.
McClusky	Sheridan	1,943	10	18.8		44	13	−9	1†	46	0.00		0.00	0.0	0	18	3	8	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	31	19.4	+14.3	52	11	−8	22	42	T.	−0.31	T.	T.	0	11	14	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	19.6	+8.2	41	3	−19	21	39	0.51	−0.07	0.27	3.3	3	14	5	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	12	19.0	+9.2	42	7†	−9	21	37	T.	−0.43	T.	T.	0	9	13	7	nw.	A. T. Felland.
Mandan	Morton	1,644	14	19.0	+8.5	51	11	−10	23	43	0.07	−0.28	0.05	1.5	2	12	4	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25	19.6	+12.8	45	10	−8	24	36	0.24	−0.19	0.10	2.5	5	15	8	6	nw.	P. B. Anderson.
Marmarth	Slope	2,714	19	20.9	+7.8	42	6†	−12	23	38	0.29	−0.10	0.11	3.7	3	22	0	7	nw.	Wm. Lamb.
Mayville	Traill	975	32	19.9	+12.2	48	4	−13	24	49	T.	−0.39	T.	T.	0	18	5	6	n.	N. C. Burhans.
Melville	Foster	1,590	30	14.8	+8.2	46	10	−10	24	32	0.00	−0.33	0.00	0.0	0	24	0	5	nw.	J P. Fisener.
Metigoshe‡‡	Bottineau		3								0.00		0.00	0.0	0	23	5	1	nw.	J. A. Thorburn.
Minot	Ward	1,557	32	19.3	+11.4	56	11	−9	1	38	0.00	−0.46	0.00	0.0	0	13	11	5	w.	W. I. Faris.
Minto	Walsh	820	35																	C. M. Evans.
Mott	Hettinger	2,424	21	19.8	+8.0	44	10	−11	23	37	0.40	−0.17	0.31	4.0	2	12	11	6	nw.	O. H. Opland.
Napoleon	Logan	1,955	33	17.6	+10.8	50	11	−14	24	40	0.10	−0.30	0.05	2.0	2	12	4	13	w.	C. J. Hoof.
New England	Hettinger	2,400	37	20.8^{c}	+8.7	50^{c}	11	−11	23	39^{c}	0.10	−0.44	0.10	1.0	1	13	10	6	nw.	W. L. Sales.
New Salem	Morton	2,163	24	20.9	+10.3	50	11	−10	23	42	0.10	−0.28	0.06	0.8	3	13	10	6	nw.	J. Christiansen.
Park River	Walsh	998	24	16.5^{a}	+10.8	40^{a}	11†	−12^{a}	17	40^{a}	0.00	−0.44	0.00	0.0	0	16	5	8	nw.	C. B. Wright.
Parshall (near)	Mountrail		13								0.16	−0.13	0.16	2.0	1	17	6	6	nw.	Carl J. Knutson.
Pembina	Pembina	789	54	15.5	+14.1	40	13†	−10	2†	41	0.00	−0.71	0.00	0.0	0	14	8	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	15.6	+11.0	44	11	−15	1	39	0.04	−0.32	0.02	0.5	2	10	11	8	nw.	A. L. Carlson.
Power	Richland	1,020	34								0.37	−0.19	0.20	3.0	4	15	7	7	n.	Frank B. Power.
Powers Lake	Burke	2,205	14	19.4		46	11	−9	22	37	0.21	−0.27	0.14	5.2	2	18	5	6	w.	Geo. B. Gee.
Richardton	Stark	2,467	12	20.2	+5.5	52	11	−9	23	40	0.24	−0.13	0.16	3.0	2	15	9	5	nw.	John Muggli.
Sharon	Steele	1,516	3	17.9		43	3†	−13	20	42	0.03		0.01	0.5	3	11	9	9	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	4								T.		T.	T.	0	10	8	11	nw.	J. H. Giffey.
Starkweather	Ramsey		1	16.7		41	11	−14	2	38	T.		T.	T.	0	18	5	6	nw	F. R. Irons.
Steele	Kidder	1,857	32	17.6	+10.5	45	10†	−4	22†	34	0.08	−0.37	0.04	1.0	2	16	7	6	nw.	C. D. Stiles.
Towner	McHenry	1,482	26	19.0	+13.8	47	11	−10	1†	39	T.	−0.38	T	T.	0	16	9	4	nw.	B. Bagley.
Trotters	Golden Valley		3								0.09		0.09	4.0	1	6	11	12		A. J. Nellermoe.
Turtle Lake	McLean	1,899	13	19.6	+8.4	47	11	−9	2	41	0.16	−0.28	0.16	2.0	1	13	4	12	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	20.0	+10.4	45	3†	−11	24	35	0.08	−0.27	0.06	1.0	2	16	10	3	n.	I. C. Robertson.
Velva	McHenry		2	20.3		50	11	−10	2	39	0.01		0.01	0.1	1	13	9	7	w.	Oscar Anderson.
Wahpeton	Richland	962	34	21.0	+11.1	42	10†	−13	24	35	0.22	−0.31	0.10	1.0	3	18	0	11	nw.	C. G. Luick.
Washburn	McLean	1,731	26																	H. W. Smith.
Westhope	Bottineau	1,508	26																	W. A. Meddaugh.
Williston	Williams	1,878	49	20.2	+11.9	50	11	−8	22	34	0.22	−0.21	0.16	2.2	3	15	9	5	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	16.0	+13.3	41	10†	−16	1	39	0.02	−0.44	0.02	0.2	1	11	14	4	nw.	M. A. Ostby.
Wilton	McLean		1	18.8		46	10	−10	22	31	0.12		0.08	1.5	2	18	5	6		L. Q. Perkins.
Moorhead, Minn.	Clay	935	47	18.9	+10.8	42	10	−11	24	36	0.44	−0.27	0.26	1.9	6	5	11	13	n.	U. S. Weather Bureau.
Averages				18.8	+10.9	59	11	−19	24	55	0.10	−0.39	0.27	1.2	2	14	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for February, 1928

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri												T.		.02		.04							.02									0.08
Amenia ‖‖	Red						T.											T												T			T
Amidon	Lit. Missouri																																
Arnegard	Missouri														T.							.10		.05									0.15
Ashley	Missouri																T.						.10										0.10
Beach	Lit. Missouri												T.		.02		.05			T.	T.	.06	T										0.13
Berthold Agency	Missouri														T.		.05					T.			.06								0.11
Bismarck ***	Missouri												T.	T.	T.	T.	.01	T.		T.		.10			T.					T.			0.11
Bottineau‖‖	Mouse		T.														T.							T.									T
Bowman	Grand												T.		T.	T.	T.						.10		T.								0.10
Cando	Devils Lake																	T.							T.								T
Carson	Heart																.02						.08										0.10
Cavalier	Red																																
Cooperstown	Sheyenne																																0.00
Crosby	Mouse														.05																		0.05
Devils Lake ***	Devils Lake						T.	T.					T.	T.	T.	T.	T.	T.		T.				T.						.01			0.01
Dickinson‖‖	Heart							T.						T.		.01	T.	.03	T.	T.	T.	.01	.20		.01					.01			0.27
Dogden Butte	Mouse															T.	T.	T.				T.		T.	T.								T.
Dunn Center ‖‖	Knife																T.				T.	.08											0.08
Dunseith	Mouse		.25																														0.25
Eckman	Mouse																																0.00
Edgeley	James																					.05											0.05
Ellendale***	James					T.	.12	.02					T.	T.		T.	.02	.01		T.	T.	.02	.04		T.					T.			0.23
Energy	Missouri															T.	.10					.15			T.				T.				0.25
Epping	Missouri																																
Fessenden‖‖	James																								.05					.03			0.08
Forman	Sheyenne						.18	.04														.04								T.			0.26
Fort Yates	Missouri																																0.00
Foxholm (near)	Mouse														T.	T.	.02	T.				T.	T.	T.	.02				T.				0.04
Fryburg	Heart														T.	T.	T.	.04	.05									T.	T.				0.09
Fullerton	James					T.	.15							T.		T.	T.	T.															0.15
Garrison	Missouri																																0.00
Grafton	Red		T.					T.								T.				T.					T.								T.
Grand Forks ***	Red						.01	.01						T.		T.	.01			T.				T.						T.			0.03
Granville	Mouse														T.	T.	T.							T.					T.				T.
Hannah	Pembina																		.08										.08				0.16
Hansboro	Devils Lake																																0.00
Hettinger	Grand														T.	T.	.01	T.					.07										0.08
Hillsboro	Red																																0.00
Howard (near)	Missouri												T.		T.	T.	T.					T.	T.						T.	T.			T.
Jamestown‖‖	James		T.														.02						.10	.02									0.14
Lamoine	Missouri															T	T	T.				.08		T.	.16								0.24
Langdon‖‖	Pembina																							.04									0.04
Larimore	Red																.02					.02								.02			0.06
Linton	Missouri																T.					T.			T.			T.					T.
Lisbon ‖‖	Sheyenne						T.	T.																									T.
McClusky	Missouri																																0.00
McKinney (near)	Mouse														T.	T.	T.													T.			T.
McLeod	Sheyenne				T.		.18	.27					T.		T.								.06	T.	T.					T.			0.51
Maddock	Sheyenne															T.	T.	T.					T.	T.	T.					T.			T.
Mandan‖‖	Missouri	T.														T.		.02					.05		T.					T.			0.07
Manfred	James															T.	.02	.02				T.	.05	.05	T.					.10			0.24
Marmarth	Lit. Missouri																.11	.10					.08										0.29
Mayville	Red																			T.													T.
Melville	James																																0.00
Metigoshe	Mouse																																0.00
Minot‖‖	Mouse																																0.00
Minto	Red																																
Mott	Cannon Ball													T.			.09					T	.31		T.								0.40
Napoleon ‖‖	Missouri																	.05					.05										0.10
New England	Cannon Ball																T.						.10										0.10
New Salem	Heart															T.	.02			T.		.02	.06		T.								0.10
Park River	Red																																0.00
Parshall (near)	Missouri																.16					T.		T.	T.				T.				0.16
Pembina‖‖	Red																																0.00
Pettibone	James															T.	T	.02	T.			T.	.02		T.					T.			0.04
Power	Sheyenne						.03	.04									.10					.20											0.37
Powers Lake	Missouri																.07								.14								0.21
Richardton	Heart														T.		.08					.16											0.24
Sharon	Red		T.				T.	T.					T.	T.		T.	.01			.01		T.	T.	.01	T.					T.			0.03
Stanton	Missouri															T.																	T.
Starkweather	Devils Lake														T.	T.																	T.
Steele	Missouri													T.		T.	T.	T.				.04				.04				T.			0.08
Towner	Mouse															T.	T.	T.						T.						T.			T.
Trotters	Lit. Missouri														T.		T						.09										0.09
Turtle Lake	Missouri																.16								T.								0.16
Valley City	Sheyenne						T.								T.	T.						.06	T.						.02	T.			0.08
Velva	Mouse														T.		T.	.01				T.	T.	T.					T.	T.			0.01
Wahpeton	Red						.08	.04															.10										0.22
Washburn	Missouri																																
Westhope	Mouse																																0.00
Williston ***	Missouri												T.		.04	T.	.02	T.				.16		T.					T.	T.			0.22
Willow City	Mouse		T													T.	.02			T.				T.					T.	T.			0.02
Wilton																	.04					.08											0.12
Moorhead, Minn ***	Red		T.		T.	T.	.21	.05					T.	T.		.01	.01		T.	.07		.09		T.	T.					T.			0.44

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for Eebruary, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	32	29	49	23	36	31	32	37	40	41	39	40	26	32	26	18	9	20	31	18	20	13	16	10	30	42	42	38	36	....	....	29.5
	Minimum...	-6	-5	-6	7	7	29	20	20	19	22	26	28	22	8	8	11	-7	-11	10	8	-6	2	-4	-16	-12	2	9	10	12	....	....	5.9
Amidon	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum...	23	27	38	27	40	33	37	38	40	45	51	37	35	30	22	24	22	39	33	22	13	5	7	14	27	32	33	31	27	....	....	29.4
	Minimum...	-3	5	19	16	15	22	16	19	21	30	30	25	14	17	7	5	4	6	8	-5	5	-10	-10	-4	6	7	3	11	12	....	....	10.0
Ashley	Maximum...	30	29	46	40	40	31	30	36	40	45	51	45	33	32	30	23	17	26	30	18	17	17	11	14	29	35	40	36	30	....	....	31.1
	Minimum...	-7	-2	18	16	14	26	22	15	20	30	25	26	20	13	15	5	0	4	13	-4	8	1	-10	-9	-4	10	11	19	14	....	....	10.7
Beach	Maximum...	30	35	37	32	41	40	35	37	37	43	51	35	35	30	25	28	25	38	28	26	22	10	6	20	25	29	35	25	27	....	....	30.6
	Minimum...	3	10	22	19	21	28	22	23	21	30	30	23	18	18	10	8	7	10	9	-1	10	-5	-11	-1	0	10	20	16	13	....	....	13.2
Berthold Agency	Maximum...	35	35	43	30	28	45	48	42	44	50	54	45	32	38	28	20	16	44	40	20	18	15	5	15	32	38	40	35	30	....	....	33.3
	Minimum...	-7	-3	12	15	16	17	22	12	20	32	22	26	20	12	13	7	7	-11	2	-6	11	-5	-18	-1	-5	11	11	18	10	....	....	9.0
Bismarck	Maximum...	35	30	45	25	29	38	34	40	43	47	52	40	28	39	27	20	13	42	34	19	18	9	10	15	32	34	41	36	29	....	....	31.2
	Minimum...	-4	-4	17	15	14	23	24	17	22	32	27	27	17	10	10	7	5	3	6	-2	9	-8	-8	-5	-2	9	13	19	16	....	....	10.7
Bottineau §§	Maximum...	14	28	25	29	30	34	36	37	39	40	38	37	33	31	13	10	32	35	10	13	9	8	10	31	33	35	34	29	31	....	....	27.0
	Minimum...	-15	-5	-1	-2	12	20	5	5	11	19	23	18	12	8	10	-3	-5	-1	0	-15	-5	12	7	-10	-8	9	5	9	10	....	....	3.0
Cando	Maximum...	19	22	34	30	32	29	29	31	37	40	40	39	32	33	34	16	12	27	31	12	14	13	9	30	35	38	37	36	33	....	....	28.4
	Minimum...	-2	-8	6	1	12	24	18	10	11	23	23	25	19	15	14	3	-7	2	-6	-7	0	-6	0	6	-5	10	8	14	10	....	....	6.9
Carson	Maximum...	32	35	40	30	25	44	35	40	40	44	48	40	28	35	28	25	15	40	30	25	20	15	10	18	30	33	36	32	28	....	....	31.1
	Minimum...	-6	-1	20	12	15	20	15	10	18	28	28	18	16	10	12	3	3	5	7	-7	10	-8	-13	-8	6	6	9	15	12	....	....	8.0
Crosby §§	Maximum...	12	25	27	18	26	28	42	40	41	35	41	42	31	31	31	18	22	23	40	10	16	10	5	12	16	30	36	36	32	....	....	26.8
	Minimum...	-4	-3	4	12	15	20	28	25	28	12	26	25	12	12	12	3	5	16	1	-3	-1	10	9	-1	2	4	8	12	14	....	....	9.1
Devils Lake	Maximum...	23	23	39	20	31	28	29	37	37	40	39	38	24	34	26	12	5	29	28	11	12	6	8	10	35	37	37	30	30	....	....	26.1
	Minimum...	-6	-4	13	2	14	25	20	12	18	26	22	24	15	14	8	-2	7	0	0	-6	1	-4	-4	-6	0	11	10	15	10	....	....	7.6
Dickinson §§	Maximum...	31	37	39	25	29	38	34	37	37	42	47	34	31	30	25	27	22	38	15	22	17	1	8	13	28	32	34	31	26	....	....	28.6
	Minimum...	-4	-4	-2	15	12	9	11	9	8	16	20	10	19	11	12	3	6	-2	14	-4	-4	2	-11	-8	3	1	9	12	11	....	....	5.7
Dunn Center §§	Maximum...	35	35	44	24	31	44	37	43	42	47	52	35	34	25	26	25	41	14	22	15	2	9	15	15	28	31	35	32	28	....	....	30.0
	Minimum...	-4	-3	1	15	15	20	25	14	16	32	28	29	19	14	8	6	-5	11	-4	-1	-4	-11	6	-4	0	5	9	16	9	....	....	8.6
Dunseith	Maximum...	18	17	36	31	30	29	40	38	35	42	37	38	29	33	30	15	10	32	37	11	13	10	10	12	34	41	35	36	31	....	....	27.9
	Minimum...	-12	3	7	2	10	20	10	15	16	23	22	19	16	10	8	-3	-8	-1	2	-9	-4	-11	-1	-8	5	12	6	16	10	....	....	5.9
Edgeley	Maximum...	14	28	48	44	42	33	31	38	38	45	48	38	33	36	30	25	18	25	27	18	21	17	19	22	32	35	40	35	33	....	....	31.5
	Minimum...	-3	0	16	11	21	25	22	17	20	29	22	22	21	14	15	6	-7	0	10	6	0	1	5	3	21	13	11	20	12	....	....	11.8
Ellendale	Maximum...	34	26	46	29	31	34	30	38	40	48	45	43	29	33	26	20	9	31	31	19	25	11	13	13	32	38	43	37	30	....	....	30.7
	Minimum...	-7	5	13	14	16	30	25	20	21	31	27	23	22	15	14	7	3	2	7	1	6	2	5	-3	-2	15	15	22	15	....	....	11.8
Fessenden §§	Maximum...	29	35	45	25	35	40	30	40	43	48	49	40	25	37	21	18	14	33	20	18	18	9	14	28	34	41	42	35	34	....	....	31.0
	Minimum...	-6	-6	10	8	10	15	15	8	20	27	24	27	20	8	9	5	-3	0	3	6	-3	-6	6	-9	5	9	8	17	12	....	....	7.1
Foxholm (near)	Maximum...	25	27	35	31	30	40	38	39	41	45	48	43	29	33	29	15	15	40	37	15	14	9	11	14	33	37	39	31	31	....	....	30.2
	Minimum...	-3	-7	14	7	14	18	20	14	20	29	24	24	14	13	7	3	3	0	3	6	2	-8	3	3	1	11	13	15	12	....	....	8.7
Fullerton	Maximum...	25	33	43	35	29	36	32	38	39	47	43	42	35	33	29	24	15	23	32	18	23	15	12	12	31	33	41	35	30	....	....	30.4
	Minimum...	-4	5	15	13	16	28	25	20	28	21	26	25	23	15	18	8	-5	5	12	3	5	4	6	6	-3	14	20	22	14	....	....	12.2
Garrison	Maximum...	34	31	46	29	31	48	38	46	46	51	50	37	33	37	30	25	16	45	36	23	19	9	14	17	34	38	42	40	34	....	....	33.8
	Minimum...	-4	-5	17	14	15	21	26	14	21	32	32	28	19	12	11	11	5	4	7	-2	9	-3	-5	-2	0	11	12	15	14	....	....	11.3
Grafton	Maximum...	20	20	35	34	31	33	33	31	39	40	39	43	38	31	30	20	8	20	32	13	15	13	10	11	36	38	42	40	34	....	....	28.6
	Minimum...	-6	-11	11	1	13	25	26	15	16	26	21	31	18	8	20	5	-8	-10	-12	-9	0	-4	2	-14	-5	15	5	18	12	....	....	7.2
Grand Forks	Maximum...	20	22	38	22	31	34	31	26	40	40	40	35	30	30	28	14	5	31	31	13	16	12	11	11	38	38	42	33	33	....	....	27.4
	Minimum...	-7	-13	12	3	16	26	25	18	19	27	23	29	15	9	14	0	7	9	1	-7	2	0	-3	10	-1	14	8	20	13	....	....	8.2
Granville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Hansboro	Maximum...	20	17	38	22	32	35	34	42	38	42	42	42	30	32	30	12	5	28	28	12	20	10	20	30	35	44	42	40	35	....	....	29.6
	Minimum...	-10	-15	-2	-10	-8	20	14	9	17	24	26	18	14	10	7	-4	12	-4	-5	-15	-10	-14	10	0	10	18	25	25	15	....	....	4.6
Hettinger	Maximum...	37	41	45	35	27	45	36	40	42	47	59	42	33	32	28	30	23	43	36	25	30	17	10	14	37	35	39	33	25	....	....	34.0
	Minimum...	0	6	22	20	19	18	27	16	22	31	28	25	21	10	13	6	4	1	13	2	6	-3	-12	-6	-3	9	16	17	12	....	....	11.7
Hillsboro	Maximum...	26	23	45	40	31	33	33	30	41	43	40	37	35	38	28	22	13	17	17	15	19	15	13	14	34	41	43	40	37	....	....	29.8
	Minimum...	-6	-6	10	6	14	25	28	20	19	29	22	28	19	8	19	8	-7	-9	5	-8	2	1	-1	-12	-4	14	9	21	12	....	....	9.2
Howard (near)	Maximum...	21	28	30	25	36	35	33	33	33	38	40	33	30	28	20	21	17	38	30	20	14	7	7	11	25	31	23	30	29	....	....	26.4
	Minimum...	-5	-3	16	14	14	19	14	9	14	21	22	22	7	15	3	1	-3	5	1	-3	3	17	-16	6	0	3	13	10	9	....	....	6.5
Jamestown §§	Maximum...	30	47	23	30	33	29	38	38	44	45	42	26	30	25	20	8	30	21	17	19	8	12	15	31	37	39	34	33	35	....	....	28.9
	Minimum...	-5	-4	-6	10	9	15	22	17	15	18	26	25	22	14	13	8	-5	-6	-1	-4	-5	1	-11	-13	-13	-2	10	10	12	....	....	5.9
Lamoine	Maximum...	20	20	32	32	28	30	30	32	34	36	37	37	28	34	28	18	13	30	28	16	13	8	10	10	23	28	28	30	31	....	....	25.7
	Minimum...	-10	-10	10	8	12	20	20	8	18	24	28	25	18	7	12	4	-2	-3	3	-4	4	-6	-10	-8	7	-4	1	4	12	....	....	6.0
Langdon §§	Maximum...	15	20	30	21	29	30	30	30	33	35	36	37	24	26	17	12	5	24	18	12	14	9	8	11	31	35	35	30	30	....	....	23.7
	Minimum...	-12	-12	-5	-8	-9	15	20	5	15	15	17	25	16	10	11	-4	-17	-15	-6	-16	-15	-12	-9	-16	-16	7	8	8	8	....	....	0.3
Larimore §§	Maximum...	20	20	40	25	40	33	30	35	40	40	42	40	33	30	22	15	15	20	10	12	10	15	10	18	35	40	40	34	33	....	....	27.5
	Minimum...	-4	-10	12	3	10	25	26	15	18	22	20	18	20	12	15	7	-10	-12	5	-12	-8	-4	-1	-13	-6	5	10	18	8	....	....	6.2
Linton	Maximum...	35	36	47	30	28	32	31	48	42	47	47	43	31	37	32	24	17	33	33	22	24	18	11	18	33	32	42	37	31	....	....	32.4
	Minimum...	-16	-10	6	15	15	22	16	8	12	24	19	24	21	4	14	4	4	1	12	13	4	0	-13	-12	-11	2	-1	19	15	....	....	7.1
Lisbon §§	Maximum...	32	35	38	36	34	31	32	42	44	45	46	42	40	26	19	17	30	30	15	20	30	10	10	15	30	34	40	36	31	....	....	31.0
	Minimum...	10	14	20	18	20	18	19	22	24	26	28	23	23	21	11	2	5	2	1	6	2	2	9	10	15	2	9	14	10	....	....	13.3
McClusky	Maximum...	29	25	40	29	30	38	30	28	40	42	40	38	44	35	28	34	30	26	32	33	15	10	11	14	32	35	38	33	29	....	....	30.6
	Minimum...	-9	-9	15	8	11	24	24	19	16	28	24	21	20	16	12	2	0	5	0	-8	-7	-9	8	-6	-6	5	-8	15	12	....	....	7.1
McKinney (near)	Maximum...	24	27	35	27	32	40	35	40	40	43	52	40	31	30	28	20	14	40	38	15	15	10	10	12	32	36	38	32	32	....	....	29.9
	Minimum...	-2	10	4	10	15	10	19	8	20	20	24	20	14	20	14	6	5	2	0	-5	3	-8	0	-1	0	14	12	14	14	....	....	8.9
Maddock	Maximum...	24	25	38	32	32	35	42	35	40	42	42	38	31	37	35	20	15	32	33	14	15	12	12	14	35	39	38	36	35	....	....	30.3
	Minimum...	-6	-2	13	4	14	23	17	11	19	25	24	25	18	9	13	5	-8	0	3	-7	2	6	-4	-9	2	10	10	15	10	....	....	7.8
Melville	Maximum...	20	18	17	15	17	22	18	24	40	46	38	34	28	21	24	18	12	32	22	21	18	18	17	18	23	18	28	33	32	....	....	23.8
	Minimum...	8	-3	5	-3	-1	6	4	8	22	26	19	22	16	7	12	6	-6	0	5	-6	5	6	-7	-10	0	5	10	15	8	....	....	5.8
Minot §§	Maximum...	29	27	44	20	44	28	36	43	42	50	56	38	28	25	25	19	17	13	12	15	13	7	11	15	33	45	44	33	34	....	....	29.2
	Minimum...	-9	-1	9	15	14	20	8	20	31	24	23	20	18	11	12	11	5	0	-7	5	-6	6	-2	0	11	10	10	12	12	....	....	9.4
Mott	Maximum...	26	36	39	26	27	40	36	37	39	44	35	35	30	31	26	27	16	39	31	30	23	1	8	25	27	30	36	34	27	....	....	30.2
	Minimum...	-8	-1	8	11	14	23	23	19	25	29	25	22	20	8	12	6	5	11	6	-5	8	2	-11	-9	-6	4	7	15	13	....	....	9.4
Napoleon §§	Maximum...	30	28	44	28	30	35	30	30	39	43	50	38	23	35	24	20	12	33	16	17	20	5	10	14	29	33	40	32	30	....	....	28.2
	Minimum...	-10	-5	18	12	12	15	16	10	17	28	25	24	20	6	8	4	0	0	15	-8	4	1	-13	-14	7	5	6	8	12	....	....	7.1
New Salem	Maximum...	34	32	43	34	28	44	34	38	44	47	50	40	31	39	35	20	11	41	20	28	26	25	15	17	31	32	35	33	30	....	....	32.4
	Minimum...	-5	-4	13	22	11	18	21	14	20	29	29	29	20	11	12	6	3	-1	10	-5	5	5	-10	-8	-5	9	10	15	10	....	....	9.4
Pembina §§	Maximum...	22	31	32	32	36	30	28	28	34	28	38	28	40	28	20	10	8	2	18	10	8	10	12	25	28	40	30	25	26	....	....	24.4
	Minimum...	5	-10	12	20	20	20	18	12	10	20	14	20	18	20	15	-5	-10	-10	-8	-10	-2	-5	-10	-10	5	10	10	12	10	....	....	6.6
Steele	Maximum...	20	25	35	32	30	28	32	35	37	45	45	37	22	24	22	21	22	21	12	10	10	4	14	16	18	34	39	34	32	....	....	26.1
	Minimum...	10	15	15	10	10	10	18	10	18	22	27	24	18	18	4	3	0	0	2	0	-2	-4	1	0	-4	10	5	15	10	....	....	9.1
Towner	Maximum...	20	25	37	28	33	38	33	39	40	46	47	45	28	39	31	16	11	41	38	10	12	16	11	14	37	38	39	34	32	....	....	30.3
	Minimum...	-10	-10	6	4	14	23	15	8	16	24	24	26	19	11	10	2	-2	2	0	2	-2	-6	-2	-9	-1	14	12	16	13	....	....	7.6
Valley City	Maximum...	30	24	45	39	30	34	33	37	38	45	38	44	35	32	30	21	17	23	32	15	18	15	14	12	30	40	39	35	32	....	....	30.2
	Minimum...	-5	-4	12	9	15	25	26	8	20	28	23	29	23	12	18	10	-5	-6	9	4	7	2	-6	-11	-4	11	11	21	11	....	....	9.8
Wahpeton	Maximum...	28	28	40	40	28	34	35	32	37	42	41	42	36	30	29	26	20	18	30	26	26	21	20	17	30	37	38	38	36	....	....	31.3
	Minimum...	-7	2	15	12	12	25	30	22	23	27	24	26	20	11	21	13	-5	-7	8	-5	8	-4	6	-13	-5	13	13	24	14	....	....	10.7
Westhope	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Williston	Maximum...	26	34	36	27	40	39	35	36	38	46	50	35	34	31	20	25	21	38	23	20	16	4	9	11	28	32	33	31	29	....	....	29.3
	Minimum...	0	0	20	17	20	23	20	15	20	31	30	22	14	18	9	8	7	1	4	-1	4	-8	-4	1	0	7	12	15	13	....	....	11.1
Moorhead, Minn	Maximum...	26	22	39	27	28	33	32	30	39	42	37	36	33	29	28	16	6	22	31	15	19	11	13	10	32	39	37	36	32	....	....	27.6
	Minimum...	-4	1	14	8	18	26	25	22	22	28	26	31	16	10	16	1	-6	-6	4	-5	6	-1	-5	-11	-4	13	13	23	14	....	....	10.2

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 3-23-28—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVII BISMARCK, N. D., MARCH, 1928 No. 3

GENERAL SUMMARY

The weather during March was mild and pleasant, the mean temperature having been exceeded but four times in the climatological history of the State. There was also a deficiency of precipitation in nearly all sections, and no severe storms occurred. As a result of these favorable conditions livestock ranged freely on ranges, pastures and harvested fields, thus saving much feed. Highways were generally open to auto and wagon traffic. Spring work on farms consisted mostly in burning of stubble fields, straw stacks and corn stalks, very little plowing or discing being done. Winter rye came through generally in good condition, few reports of winter killing having been reported.

TEMPERATURE

The mean temperature for the State was 28.1°, or 5.5° above the normal, and 2.3° lower than the mean for March, 1927. The highest mean reported was 34.0° at Beach, Golden Valley County and at Hettinger, Adams County; the lowest was 21.2° at Langdon, Cavalier County. The highest temperature reported was 85° at Edgeley, Lamoure County, on the 24th; the lowest was −17° at Eckman, Bottineau County, on the 7th and at Starkweather, Ramsey County, also on the 7th. The greatest monthly range of temperature was 93° at Eckman, Bottineau County; the least was 50° at Mott, Hettinger County. The greatest daily range in temperature was 64° at Edgeley, Lamoure County, on the 24th.

PRECIPITATION

The average precipitation for the State was 0.54 inch, or 0.29 inch below the normal, and 0.20 inch less than the average for March, 1927. The greatest monthly amount reported was 2.60 inch at Cando, Towner County; there was none at Fort Yates, Sioux County and at Pembina, Pembina County. The average snowfall was 4.8 inches. The average number of days with 0.01 inch or more of precipitation was 3.

AURORAS

Auroras were observed at Howard on the 11th; at Epping on the 12th; at Devils Lake, Howard, Metigoshe and Trotters on the 13th; at Bottineau on the 14th; at Bottineau, Dogden Butte, Howard, Foxholm and Willow City on the 19th; at Willow City on the 20th; at Howard, Foxholm and Grand Forks on the 22d.

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BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.02	30.64	15	29.44	11	57	5,967	8.0	31§	nw.	8
Devils Lake	30.03	30.69	15	29.48	23	44	6,005	8.1	30§	n.	3
Ellendale	30.03	30.64	15	29.41	24	56	8,488	11.4	38§	n.	4
Grand Forks	30.00	30.61	15	29.16	23	90	....	......	38	nw.	4
Williston	30.01	30.62	15	29.40	11	48	5,549	7.5	26§	nw.	1
Moorhead, Minn	30.02	30.69	15	29.46	25	58	5,357	7.2	26§	n.	4
Av'ges and extremes	30.02	30.69	15	29.40	11	.....	....	8.4	38§	n.	4

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	217.3	369.9	59	+ 3	83	54	58	26	23
Devils Lake	275.0	369.7	74	+16	85	73	78	32	30
Ellendale	275.4	370.0	74	+18	91	53	....	27	29
Grand Forks	......	......	......	......	80	.....	67	......	....
Williston	217.9	369.7	59	+ 7	79	54	58	26	23
Moorhead, Minn	266.5	369.9	72	+16	87	60	69	33	29
Averages and extremes	250.4	369.8	68	+12	84	59	66	26	23

† And other dates.

COMPARATIVE STATE DATA FOR MARCH

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898	21.2	−1.4	79	−24	0.79	−0.04	5	13	8	10	nw.
1899	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905	32.5	+9.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915	22.9	+0.3	63	−23	0.22	−0.71	2	16	6	9	nw.
1916	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921	25.2	+2.6	75	−22	1.00	+0.17	6	9	12	10	nw.
1922	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.
1923	18.3	−4.3	65	−35	0.41	−0.42	4	10	10	11	nw.
1924	25.5	+2.9	58	−20	0.45	−0.28	4	10	9	12	nw.
1925	27.4	+4.8	75	−26	0.67	−0.16	4	14	9	8	nw.
1926	25.8	+3.2	83	−23	0.24	−0.59	3	13	10	8	nw.
1927	30.4	+7.8	77	−10	0.74	−0.09	5	13	8	10	nw.
1928	28.1	+5.5	85	−17	0.54	−0.29	3	15	8	8	nw.

Climatological Data for March, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	2	...	...	...	...	...	...	...	0.70	...	0.56	...	3	...	...	...	...	H. A. Bury.
Amenia	Cass	954	32	26.0	+2.4	67	23	−9	16	45	0.70	+0.13	0.50	7.0	3	18	7	6	n.	E. T. Carley.
Amidon	Slope	...	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. H. Toussaint.
Arnegard	McKenzie	...	13	30.6	+7.1	69	20	−1	4	34	0.05	−0.74	0.05	0.5	1	19	3	9	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	32.0	+10.0	72	21	3	4†	42	0.30	−0.89	0.20	2.0	2	18	4	9	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	34.0	+7.5	77	22	4	4	40	0.26	−0.52	0.20	2.6	2	15	9	7	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	31.4	+6.7	77	22	0	4	47	0.19	−0.65	0.12	1.5	2	21	4	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	32.0	+7.8	74	22	3	4	32	0.32	−0.57	0.32	1.5	1	9	14	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	25.4	+7.7	72	31	−7	9	47	0.63	−0.17	0.24	5.2	5	15	11	5	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	14	...	...	...	...	...	...	...	0.60	+0.15	0.40	5.0	2	18	6	7	nw.	...
Cando	Towner	1,488	27	24.0	+3.5	62	23	−15	26	40	2.60	+1.97	1.10	26.0	6	14	7	10	n.	A. J. Swanson.
Carson	Grant	2,500	16	32.2	+7.7	75	22	−1	4	40	0.15	−0.51	0.15	...	1	13	10	8	nw.	J. W. Evens.
Cavalier	Pembina	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. W. Felson
Cooperstown	Griggs	1,428	22	...	...	...	...	...	...	...	1.40	+0.86	0.60	10.0	4	14	6	11	nw.	S. Friswold.
Crosby	Divide	1,954	21	28.2	+6.2	72	22	−10	8	58	0.18	−0.40	0.15	1.8	2	16	10	5	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	22.7	+4.2	61	21	−9	7	35	0.67	+0.07	0.32	7.9	7	15	7	9	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	31.7	+7.3	76	22	1	4†	45	0.37	−0.47	0.13	2.2	7	13	4	14	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	28.1	...	71	22	−4	5†	42	0.30	...	0.12	1.5	5	13	9	9	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	30.2	+6.1	75	22	0	4	46	0.67	−0.44	0.34	2..	2	10	7	14	nw.	W. F. Moede.
Dunseith	Rolette	1,682	32	25.4	+6.6	67	23	−7	4	41	0.72	−0.05	0.40	6.7	4	15	6	10	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	23	25.6	+3.5	76	22	−17	7	55	0.38	−0.12	0.13	3.5	4	3	17	11	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	27	30.7	+4.2	85	24	0	4†	64	0.17	−0.63	0.17	1.7	1	6	15	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	31.0	+5.4	72	21	4	5	41	0.33	−0.87	0.24	0.8	6	6	13	12	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	16	31.8	...	74	22	1	4†	44	0.30	−0.37	0.30	2.0	1	13	13	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	20	32.5	...	79	22	−4	4	59	0.10	−0.46	0.10	T.	1	21	7	3	w.	A. O. Wang.
Fessenden	Wells	1,610	16	25.8	+4.4	67	22	−13	15	43	1.06	+0.34	0.60	9.0	4	15	10	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	34	...	...	...	...	...	...	...	0.38	−0.52	0.28	...	3	21	4	6	n.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	0.00	−1.02	0.00	0.0	0	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	26.6	...	67	22	−6	9	37	0.78	...	0.23	3.8	7	8	12	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10	...	...	...	...	...	...	...	0.19	...	0.15	2.0	2	18	8	5	nw.	Verne King.
Fullerton	Dickey	1,439	30	32.6	+7.4	80	24	3	4†	44	0.20	−1.02	0.13	2.0	3	6	18	7	nw	F. O. Alin.
Garrison	McLean	1,901	33	31.1	+9.4	76	22	0	4	45	0.06	−0.98	0.06	0.0	1	22	8	1	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	26.2	+7.0	64	23	5	4	40	0.50	−0.19	0.27	4.5	5	16	9	6	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	24.6	+2.2	64	23	−9	16	34	1.60	+0.89	0.70	10.2	8	17	9	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	21.3	−2.4	60	23†	−10	7†	42	0.37	−0.20	0.20	3.5	5	9	13	9	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34	...	...	...	...	...	...	...	0.60	−0.06	0.30	6.0	4	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	20	23.5	+2.2	65	21†	−14	9	45	0.98	+0.32	0.50	16.0	4	18	6	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	34.0	+6.4	75	22	6	4	48	0.37	−0.39	0.17	5.5	4	11	17	3	nw.	C. H. Plath.
Hillsboro	Traill	901	22	27.5	+2.8	65	23	−7	16	47	1.05	+0.31	0.70	9.5	5	17	8	6	n.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	21	27.2	+6.4	75	22	−6	4	41	0.05	−1.09	0.05	0.5	1	14	7	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	26.8	+4.2	65	22	−3	15	45	0.36	−0.64	0.20	3.0	5	15	3	13	sw.	S. Calvelage.
Lamoine	Kidder	1,936	23	24.3	+1.3	60	31	−5	15	37	1.00	+0.23	0.60	10.0	3	19	5	7	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	21.2	+2.2	63	23	−12	5	31	1.00	+0.16	0.30	10.0	7	18	7	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	24.4	+3.4	65	22	−8	4	50	2.50	+1.81	0.95	15.5	7	14	5	12	n.	Reuben Gray.
Linton	Emmons	1,711	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Rev. O. Weber.
Lisbon	Ransom	1,091	24	27.9	+1.3	73	24	0	3†	45	T.	−0.56	T.	T.	0	18	2	11	...	L. B. Walker.
McClusky	Sheridan	1,943	10	26.6	...	68	23	−9	26	38	0.68	...	0.52	5.7	3	20	4	7	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	31	26.0	+6.8	74	22	−12	7	44	0.37	−0.34	0.15	2.5	4	12	10	9	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	31.6	+5.7	70	24	−1	14	40	0.15	−0.48	0.15	1.5	1	24	2	5	nw.	J. G. Carlson.
Maddock	Benson	1,604	12	24.8	+1.3	63	22	−13	15†	44	0.34	−0.09	0.30	3.4	2	12	7	12	nw.	A. T. Felland.
Mandan	Morton	1,644	14	31.1	+5.9	74	22	2	4	46	0.23	−0.61	0.23	2.0	1	8	7	16	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25	26.4	+3.3	64	22	−10	15	41	1.37	+0.59	0.60	11.5	9	14	7	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	19	...	...	...	...	...	...	...	0.24	−0.21	0.10	1.4	4	...	...	...	...	Wm. Lamb.
Mayville	Traill	975	32	27.0	+3.8	66	23	−9	16	39	1.05	+0.34	0.80	10.5	3	19	3	9	n.	N. C. Burhans.
Melville	Foster	1,590	30	21.8	−0.5	58	31	−9	7†	33	0.63	−0.05	0.54	6.3	2	23	6	8	n.	J. P. Fischer.
Metigoshe ‡‡	Bottineau	...	3	...	...	...	...	...	...	...	0.50	...	0.32	9.0	3	23	5	3	nw.	J. A. Thorburn.
Minot	Ward	1,557	32	27.7	+6.3	70	22	−3	4†	48	0.40	−0.37	0.10	4.0	4	14	8	9	w.	W. I. Faris.
Minto	Walsh	820	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. M. Evans.
Mott	Hettinger	2,424	21	33.2	+6.6	62	21	12	4	29	0.51	−0.53	0.41	5.0	2	9	10	12	w.	O. H. Opland.
Napoleon	Logan	1,955	36	30.2	+8.9	70	21†	0	4†	47	0.50	−0.43	0.40	5.0	2	15	6	10	nw.	C. J. Hoof.
New England	Hettinger	2.400	37	33.2	+8.8	77	22	0	4	49	0.30	−0.57	0.30	3.0	1	13	7	11	nw.	W. L. Sales.
New Salem	Morton	2,163	24	31.8	+7.3	72	22	6	9	44	0.08	−0.88	0.08	T.	1	12	16	3	nw.	J. Christiansen.
Park River	Walsh	998	24	24.4	+2.3	63	23	−11	7	48	0.64	+0.09	0.53	8.5	2	15	4	12	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	13	...	...	...	...	...	...	...	0.30	+0.09	0.15	3.0	3	13	9	9	nw.	Carl J. Knutson.
Pembina	Pembina	789	54	24.0	+8.0	73	31	2	5	48	0.00	−0.90	0.00	0.0	0	12	15	4	s	C. W. Shumaker.
Pettibone	Kidder	1,856	19	28.4	+4.6	72	30	−8	16	43	0.47	−0.07	0.45	4.5	2	9	12	10	nw.	A. L. Carlson.
Power	Richland	1,020	34	...	...	...	...	...	...	...	0.50	−0.20	0.40	5.0	3	13	8	10	n.	Frank B. Power.
Powers Lake	Burke	2,205	14	28.0	...	56	23	−2	1	34	0.38	−0.50	0.21	6.0	4	16	7	8	w.	Geo. B. Gee.
Richardton	Stark	2,467	12	32.4	+6.1	73	22	−4	4	38	0.12	−0.40	0.11	0.0	2	10	12	9	nw	John Muggli.
Sharon	Steele	1,516	3	24.9	...	63	23	−7	4	38	1.21	...	0.55	9.9	11	14	7	10	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	4	...	...	...	...	...	...	...	0.57	...	0.42	3.0	3	11	12	8	nw.	J. H. Giffey.
Starkweather	Ramsey	...	1	23.0	...	60	23	−17	7	41	0.24	...	0.17	2.4	2	20	7	4	ne.	F. R. Irons.
Steele	Kidder	1,857	32	26.2	+4.1	68	21†	−2	4	40	0.90	0.03	0.35	7.5	6	16	13	2	nw.	C. D. Stiles.
Towner	McHenry	1,482	26	26.2	+7.0	70	23	−15	9	44	0.80	−0.10	0.30	7.5	6	18	3	10	nw.	B. Bagley.
Trotters	Golden Valley	...	3	...	...	...	...	...	...	...	0.22	...	0.12	1.5	3	8	2	21	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	13	30.0	+7.2	72	22	−1	14	38	0.35	−0.46	0.30	5.0	2	9	11	11	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	27.8	+1.7	66	24	−9	16	43	0.57	+0.07	0.45	4.5	5	19	6	6	n.	I. C. Robertson.
Velva	McHenry	...	2	27.8	...	73	22	6	7	46	0.29	...	0.07	2.3	8	12	9	10	nw.	Oscar Anderson.
Wahpeton	Richland	962	34	31.0	+4.8	67	24	−2	15	44	0.55	−0.36	0.50	5.5	2	21	0	10	ne.	C. G. Laick.
Washburn	McLean	1,731	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. W. Smith.
Westhope	Bottineau	1,508	26	24.6	+3.7	72	22	12	11	43	0.44	−0.05	0.39	4.4	2	21	7	3	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	31.1	+8.2	75	22	0	4	39	0.26	−0.43	0.12	0.6	3	11	12	8	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	24.6	+6.3	69	22	−16	7†	45	0.73	0.00	0.40	7.0	6	12	10	9	nw.	M. A. Ostby.
Wilton	McLean	...	1	30.1	...	70	22	0	3	44	0.40	...	0.40	4.0	1	20	4	7	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	47	27.2	+4.5	65	23	−4	15	30	0.71	−0.30	0.55	7.4	7	12	8	11	n.	U. S. Weather Bureau.
Averages	...	...	...	28.1	+5.5	85	24	−17	7	64	0.54	−0.29	1.10	4.8	3	15	8	8	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for March, 1928

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																						T	T.	.08			.06	.56	T			0.70
Amenia |||	Red		T.			T.				T		T	.10	.50					.10							T.	T						0.70
Amidon	Lit. Missouri																																....
Arnegard	Missouri						T.		T.	.05			T.																				0.05
Ashley	Missouri												.20					.10															0.30
Beach	Lit. Missouri	T.											T.				T.	T							T.			.06	.20				0.26
Berthold Agency	Missouri												.12												.07								0.19
Bismarck ***	Missouri	T	T.					T.	T.				.32					T.							T.								0.32
Bottineau ||	Mouse	T.					.21		.09		T.	.08	T.	.01				T.								.24							0.63
Bowman	Grand	T.								T			.20			T									T.			T.	.40	T.	T.		0.60
ando	Devils Lake	.20		T.		T.	.30		.40	T.			1.10	.40				T.								.20							2.60
arson	Heart												.15																				0.15
avalier	Red																																....
ooperstown	Sheyenne					.30						.10	.60												.40								1.40
rosby	Mouse							.15																		.03							0.18
Devils Lake ***	Devils Lake	.01	T.	.01	.01		.20		T.	T.		.03	.32	T.				T.	T.						.09	T.							0.67
Dickinson ||	Heart	.02	T.		T.			T.		T.			.13	T.				T.	T.							.02	.01	T.	.04	.10	T	.05	0.37
Dogden Butte	Mouse		T.				.04				T.	.04	.12					.03							.07	T.							0.30
Dunn Center ||	Knife												.34													.33	T.						0.67
Dunseith	Mouse	.02		T.			.40	T.	.20				T.													.10							0.72
Eckman	Mouse						.13		.09		.07	.09																					0.38
Edgeley	James												.17																				0.17
Ellendale***	James	.01	.01		T			T.	T.			.03	.21	T.				T.	.01						.06		T.						0.33
Energy	Missouri												.30					T							T.	T.							0.30
Epping	Missouri	T.								T.							T.										.10						0.10
Fessenden ||	James	T.	.06				.13						.60													.27	T.						1.06
Forman	Sheyenne												.28						.05							.05							0.38
Fort Yates	Missouri																																0.00
Foxholm (near)	Mouse	.02	.03		T.		.21	T.	T.			.23	T.					.01							.12	.16							0.78
Fryburg	Heart									.04															T.	T.	T.	.15		T.			0.19
Fullerton	James	T.	.03									T.	.13					T.	.04														0.20
Garrison	Missouri																								.06								0.06
Grafton	Red	T.		T.			.04		T.				.27	T.				.03	.05							.11							0.50
Grand Forks ***	Red	.02		.03			.18		.03			.05	.70	T.				.03							.56	T.							1.60
Granville	Mouse	T.					.05				.05	.05	.20					T.							.02								0.37
Hannah	Pembina	.10		.10		.30																		.10									0.60
Hansboro	Devils Lake	.05					.25		.18																	.50							0.98
Hettinger	Grand												.09															.06	.17	.05			0.37
Hillsboro	Red						.10		.05			.10	.70												.10								1.05
Howard (near)	Missouri	T.				T.	.05		T.	T.		T.	T.	T.			T.								T.	T.	T.				T.		0.05
Jamestown ||||	James												.20	.05	.02										.07		.02						0.36
Lamoine	Missouri											.10	.60					.30							T.								1.00
Langdon || ||	Pembina	.20		.10			.20		.30				.05	T.					.05							.10							1.00
Larimore	Red		.10		.20		.30				.05		.80						.10							.95							2.50
Linton	Missouri																																....
Lisbon ||||	Sheyenne								T.				T.																				T.
McClusky	Missouri	T.					.05				T.		.52												.11								0.68
McKinney (near)	Mouse	T					.15	.05		.05	T.	T.					T.	T.							.12								0.37
McLeod	Sheyenne	T						T.					.15				T.										T.						0.15
Maddock	Sheyenne	T.	T.	T.			.04		T.			T.	.30	T.				T.	T.						T.								0.34
Mandan || ||	Missouri		T										.23													T.							0.23
Manfred	James	T.	.07	T.	.07		.15				T.	.12	.60	.10				.05							.05	.16							1.37
Marmarth	Lit. Missouri												.10															.05	.05		.04		0.24
Mayville	Red						.15					.10	.80																				1.05
Melville	James												.54													.09							0.63
Metigoshe	Mouse						.32		.10																	.08							0.50
Minot || ||	Mouse	.10					.10				.10	.10																					0.40
Minto	Red																																....
Mott	Cannon Ball											T.																.10	.41				0.51
Napoleon ||||	Missouri		T.										.10						.40														0.50
New England	Cannon Ball												T.															T.	.30				0.30
New Salem	Heart	T.	T.						T.				.08					T.													T.		0.08
Park River	Red																																....
Parshall (near)	Missouri	.10								.05			.15												T.								0.30
Pembina ||||	Red																																0.00
Pettibone	James	T.	T.				T.						.45	T.				T.	T.						.02		T.						0.47
Power	Sheyenne	T.							.05			.05	.40																				0.50
Powers Lake	Missouri						.07			.04		.06												.21									0.38
Richardton	Heart												.11												.01								0.12
Sharon	Red	.01	T.	.01	T.		.07	T.	.01			.05	.55	T.				.01	.06						.14	.29	.01						1.21
Stanton	Missouri												.42					.05							.10								0.57
Starkweather	Devils Lake	T.		T.		.17		T.			T.	.07																					0.24
Steele	Missouri	.05	.05								T.	T		.35			T.	.20	.10					T.	.15	T.	T.						0.90
Towner	Mouse	T.		.05	T.		.25					.30	.10					.05							.05	T.							0.80
Trotters	Lit. Missouri											.05													.05				.12	T.			0.22
Turtle Lake	Missouri												.30					.05															0.35
Valley City	Sheyenne	T.					.02					T.	.45					.02	.02						.06								0.57
Velva	Mouse	T.	.01				.07				.05	.05	.03					.02							.04	.02							0.29
Wahpeton	Red												.50													.05							0.55
Washburn	Missouri																																
Westhope	Mouse																																....
Williston ***	Missouri	T.		T.		T.	T.		T.	.09		T.	.05				T.								.12		T.			T.	T.		0.26
Willow City	Mouse	.05		T.			.40		T.		.05	.10	.05	T.				T.							T.	.08							0.73
Wilton													.40					T.															0.40
Moorhead, Minn ***	Red	.01	T.	.01			.04	T.	.01	T.		.08	.55	T.					.01	T.					T.	T.	T.						0.71

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for March, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum	36	38	45	30	29	25	22	33	32	46	30	30	28	28	27	30	32	36	50	46	62	60	67	66	44	30	38	40	42	48	66	39.
	Minimum	11	12	0	4	-1	2	3	5	3	7	13	17	11	-1	-6	-9	8	10	18	25	22	30	34	32	31	16	10	18	22	18	22	12.
Amidon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Arnegard	Maximum	31	24	41	24	30	32	37	34	30	32	47	37	36	32	37	35	45	46	56	69	66	51	61	53	42	31	34	35	32	50	61	41.
	Minimum	9	15	20	-1	5	15	10	11	11	16	21	22	17	17	11	18	22	22	26	35	36	33	49	33	23	19	17	18	21	17	34	20.
Ashley	Maximum	34	34	49	45	32	36	35	43	41	51	56	37	30	32	29	37	34	33	49	60	72	68	67	70	65	50	34	30	40	45	55	44.
	Minimum	12	24	19	3	3	17	14	18	5	23	23	27	20	13	7	10	26	28	17	28	34	29	35	30	35	15	10	20	21	12	16	19.
Beach	Maximum	35	36	40	30	33	35	47	37	37	46	51	39	46	39	36	40	34	43	53	70	70	77	60	67	46	35	31	35	34	42	57	44.
	Minimum	18	20	23	4	8	21	27	18	15	27	34	28	28	24	18	20	22	21	25	33	35	37	40	36	28	20	18	20	14	16	30	23.
Berthold Agency	Maximum	35	36	50	36	35	30	35	36	40	30	54	44	32	32	32	40	41	42	56	68	70	77	72	60	50	33	35	34	40	48	64	44.
	Minimum	15	26	2	0	6	0	8	16	16	18	18	24	10	6	10	12	30	25	24	32	30	30	36	30	22	18	14	20	23	17	23	18.
Bismarck	Maximum	36	35	49	22	30	34	35	41	29	39	55	33	29	32	33	40	37	38	54	65	70	74	66	66	53	32	35	32	41	41	63	43.
	Minimum	21	24	22	3	8	17	14	11	8	22	22	25	20	15	13	16	31	23	22	31	36	31	37	34	21	16	16	22	23	18	25	20.
Bottineau §§	Maximum	30	37	33	17	21	17	20	16	20	21	31	27	32	30	31	37	38	44	54	59	67	67	57	42	24	33	34	39	45	57	72	37.
	Minimum	4	4	18	-5	-5	12	6	13	-7	8	-1	19	16	3	0	10	24	28	23	27	33	32	35	30	19	3	8	16	18	22	25	13.
Cando	Maximum	32	32	39	34	21	21	19	23	20	23	26	31	28	29	28	30	37	39	44	56	59	60	62	60	44	25	34	34	38	44	58	36.
	Minimum	7	8	18	-4	-2	11	-9	14	6	-4	-5	2	18	2	1	-3	19	17	17	27	35	37	29	31	21	-15	10	17	19	16	25	11.
Carson	Maximum	33	35	45	35	33	34	40	45	30	45	52	45	35	32	35	40	36	43	50	65	70	75	66	68	48	40	40	32	38	40	60	44.
	Minimum	16	20	18	-1	4	18	15	18	7	20	28	24	18	15	12	14	20	25	18	28	32	35	37	34	34	15	15	20	19	12	25	19.
Crosby §§	Maximum	35	35	38	29	35	32	23	25	27	30	52	24	36	31	30	34	35	40	55	65	65	72	60	48	35	31	30	30	32	50	60	39.
	Minimum	18	12	17	-6	14	18	14	-10	-3	13	6	15	9	10	3	18	25	20	28	34	36	35	43	30	32	13	14	11	13	20	27	16.
Devils Lake	Maximum	32	25	41	15	22	19	18	21	19	27	25	27	26	27	22	28	34	33	40	50	61	60	60	52	33	23	32	32	39	45	57	33.
	Minimum	9	11	6	-5	-2	1	-9	2	6	8	5	16	5	0	-5	-5	18	21	15	25	38	32	37	31	16	8	11	18	16	21	26	11.
Dickinson §§	Maximum	33	34	40	18	33	31	42	38	32	39	50	33	37	30	33	41	43	43	55	67	68	76	61	66	47	31	34	30	31	49	60	42.
	Minimum	11	21	17	1	1	8	15	19	13	13	27	32	23	20	15	17	22	23	22	30	35	31	41	35	34	19	17	20	20	15	21	20.
Dunn Center §§	Maximum	36	36	46	25	33	29	39	32	31	34	52	29	35	28	21	40	42	42	55	66	68	75	63	59	48	34	33	33	35	37	50	41.
	Minimum	13	23	25	0	2	8	11	14	9	11	20	25	15	9	9	15	20	23	24	29	36	29	36	33	34	17	15	20	16	14	27	18.
Dunseith	Maximum	34	35	38	34	20	23	20	22	17	26	26	30	30	28	27	31	39	39	46	53	62	65	67	59	42	26	33	34	41	47	57	37.
	Minimum	10	4	16	7	-5	10	-2	9	-5	13	3	18	16	5	0	5	21	25	21	28	36	36	40	33	16	1	6	14	17	18	23	13.
Edgeley	Maximum	36	33	48	33	28	41	29	42	38	51	40	31	29	29	27	35	39	35	46	71	66	69	69	85	58	52	34	39	43	45	62	44.
	Minimum	14	19	16	0	0	11	6	14	3	21	17	23	21	6	5	4	22	28	19	35	30	31	30	21	32	16	8	20	21	16	12	16.
Ellendale	Maximum	37	35	49	29	28	42	33	40	32	56	47	31	29	30	26	35	37	33	47	62	72	68	68	67	57	30	32	34	41	45	60	43.
	Minimum	16	18	18	5	4	15	13	15	6	20	21	26	19	14	7	10	24	25	21	29	31	32	31	32	27	17	12	23	21	16	22	19.
Fessenden §§	Maximum	36	42	45	19	27	29	25	34	36	30	32	28	32	26	28	34	39	43	45	55	66	67	63	59	54	28	34	33	43	48	60	40.
	Minimum	14	9	12	-3	-2	9	-6	1	-5	2	12	10	12	5	-13	9	7	23	11	25	29	30	38	33	32	11	13	19	17	14	23	11.
Foxholm (near)	Maximum	35	30	42	33	23	21	17	26	25	29	25	25	26	24	32	37	37	38	49	60	64	67	66	54	43	26	31	33	37	45	58	37.
	Minimum	13	15	20	-1	-3	14	-5	9	6	17	6	18	9	1	3	13	26	25	25	34	40	33	42	31	18	7	12	16	15	19	25	15.
Fullerton	Maximum	38	33	48	33	29	41	32	40	32	53	42	32	29	27	33	35	37	34	58	44	71	78	79	80	66	50	40	34	42	45	60	45.
	Minimum	15	18	17	3	3	14	10	18	5	20	18	22	21	10	6	14	20	27	28	21	32	34	43	40	37	24	28	22	22	17	21	20.
Garrison	Maximum	35	34	48	26	31	28	32	33	27	33	47	28	30	33	33	38	40	41	54	66	70	76	61	65	50	33	34	35	48	43	65	42.
	Minimum	17	21	19	0	1	17	2	17	6	22	21	15	16	9	7	19	27	27	25	31	39	31	40	33	26	13	14	21	22	19	26	19.
Grafton	Maximum	33	27	42	35	20	23	24	23	23	34	33	29	30	26	30	30	31	37	40	57	63	60	64	61	42	26	33	38	40	46	56	37.
	Minimum	12	10	13	-5	-2	6	0	16	-1	18	7	23	20	9	4	1	10	24	18	27	33	30	34	35	25	13	13	17	21	16	25	15.
Grand Forks	Maximum	32	26	43	17	19	22	20	26	24	38	28	28	28	25	27	23	33	37	38	49	60	56	64	55	36	27	31	36	40	44	54	35.
	Minimum	14	12	11	4	-2	5	7	12	-1	19	12	25	14	2	-7	9	4	25	13	24	35	34	36	33	23	16	15	20	21	21	28	14.
Granville	Maximum	28	25	34	10	22	12	20	18	28	22	23	20	15	24	34	30	30	30	35	44	42	52	60	60	30	20	22	27	30	30	40	29.
	Minimum	12	10	10	-3	-3	8	-10	15	-10	0	3	15	5	-2	8	10	20	23	22	29	34	38	18	30	20	10	10	17	15	18	32	13.
Hansboro	Maximum	31	30	44	30	20	25	20	20	18	32	28	30	30	27	40	32	36	36	44	62	65	60	65	55	30	20	34	32	44	48	60	37.
	Minimum	2	0	20	10	-10	5	12	10	-14	-2	-2	12	15	2	1	3	18	25	15	25	35	35	33	25	15	-3	0	10	8	16	24	10.
Hettinger	Maximum	35	35	48	55	35	37	48	49	36	51	55	47	40	37	34	43	43	42	58	69	71	75	64	67	54	39	30	23	35	36	53	45.
	Minimum	17	22	20	6	9	22	20	21	15	27	29	31	23	21	18	12	27	20	17	33	37	27	34	34	36	21	17	17	17	5	26	22.
Hillsboro	Maximum	31	31	43	43	27	29	29	28	28	40	31	39	28	26	26	30	38	36	41	50	61	61	65	63	49	31	35	37	41	46	57	39.
	Minimum	13	12	14	-4	0	9	5	14	2	22	13	26	16	3	-2	-7	4	24	17	21	32	33	35	31	31	16	13	20	22	20	24	15.
Howard (near)	Maximum	31	34	55	18	26	22	27	20	33	34	41	29	34	30	35	34	38	39	53	55	65	75	60	45	37	29	33	32	33	50	56	38.
	Minimum	10	19	17	-6	4	11	1	5	3	11	15	19	11	14	10	14	24	20	27	28	27	34	38	31	20	10	10	10	17	17	28	16.
Jamestown §§	Maximum	36	31	47	18	28	35	25	34	27	44	33	28	28	26	24	36	36	33	47	58	62	65	64	64	55	28	33	41	48	62	62	40.
	Minimum	14	14	15	0	0	0	5	5	-1	-1	15	16	20	4	-3	-1	0	25	16	18	26	31	31	30	30	15	12	14	19	17	19	13.
Lamoine	Maximum	31	30	32	32	23	25	25	24	22	24	34	34	33	16	15	28	33	32	45	48	52	51	51	47	45	37	27	27	27	40	60	33.
	Minimum	12	15	15	3	0	3	7	-4	-3	15	13	21	9	-3	-5	0	2	20	29	28	34	35	37	34	35	10	10	18	18	16	23	14.
Langdon§§	Maximum	29	24	35	19	20	20	20	20	22	30	25	28	28	28	30	30	34	22	40	53	60	56	63	38	31	24	32	30	37	44	56	33.
	Minimum	8	5	10	-10	-12	10	-8	-8	-3	-2	8	14	16	3	0	3	5	21	15	22	35	30	31	31	16	4	5	3	15	16	22	9.
Larimore §§	Maximum	27	42	12	21	20	22	25	25	35	27	27	27	25	28	30	35	35	40	50	60	56	65	54	35	27	32	35	40	45	65	71	36.
	Minimum	10	8	12	-8	-5	5	5	0	1	12	8	15	17	0	-2	-3	5	15	15	21	30	30	36	35	27	12	10	16	20	15	21	12.
Linton	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Lisbon §§	Maximum	34	40	40	33	36	38	25	38	25	50	34	30	32	32	26	36	37	34	44	54	70	67	67	73	60	30	35	35	42	49	61	42.
	Minimum	13	16	0	2	13	4	2	12	6	5	15	24	15	2	0	4	15	16	15	11	28	27	27	28	35	17	7	10	20	14	19	13.
McClusky	Maximum	33	31	45	36	25	28	29	30	27	33	43	31	27	28	30	33	38	35	62	58	65	55	68	61	48	28	35	31	35	42	59	39.
	Minimum	15	18	13	-2	0	6	-1	2	0	20	12	20	15	-8	-8	8	19	23	32	23	35	16	31	32	22	-9	10	17	23	18	24	13.
McKinney (near)	Maximum	34	32	40	32	23	21	15	25	25	31	25	25	28	28	35	40	40	40	42	60	61	74	60	59	40	26	30	32	38	47	60	37.
	Minimum	10	9	20	-4	-5	10	-12	2	15	15	-2	19	5	5	-7	5	28	25	20	30	40	30	39	29	20	9	11	27	15	16	23	14.
Maddock	Maximum	56	35	42	35	23	24	22	27	23	29	25	28	28	24	23	27	36	35	43	51	61	63	62	60	50	26	32	32	40	45	56	37.
	Minimum	12	4	17	-4	-1	13	-12	13	-12	15	4	19	15	-12	-13	-13	17	26	14	22	33	30	33	32	25	11	12	18	16	21	24	12.
Melville	Maximum	32	36	38	28	18	19	17	17	19	30	30	26	28	21	18	28	32	35	38	37	42	55	41	38	34	37	32	31	36	41	58	32.
	Minimum	10	12	14	1	5	0	-9	0	-5	6	10	12	5	-3	-9	7	12	18	20	19	26	31	28	24	22	12	14	15	11	20	25	11.
Minot §§	Maximum	33	30	46	23	23	23	16	32	18	27	27	27	29	28	37	39	38	42	52	64	69	70	67	53	40	30	34	36	42	43	64	38.
	Minimum	13	20	-2	3	18	12	13	-3	15	5	19	14	6	13	-2	13	27	21	27	40	21	41	32	35	10	10	17	15	17	24	28	16.
Mott	Maximum	33	34	44	35	36	40	44	44	38	46	54	39	37	36	40	42	35	41	50	58	62	57	58	47	38	35	32	30	36	38	44	42.
	Minimum	17	16	23	12	14	17	19	20	19	25	33	29	19	20	22	24	24	27	30	31	33	33	35	36	32	24	25	26	26	18	26	24.
Napoleon §§	Maximum	35	33	43	23	30	35	38	42	30	45	53	30	29	30	30	38	35	32	46	64	70	69	67	70	55	30	30	32	41	45	62	42.
	Minimum	14	19	20	0	0	15	10	18	2	25	22	24	20	10	10	6	25	26	15	25	38	36	30	32	32	13	9	15	20	13	15	18.
New Salem	Maximum	32	36	47	38	32	35	31	55	30	45	56	48	32	31	33	41	39	42	53	64	71	72	66	66	53	32	36	31	42	35	63	44.
	Minimum	11	21	21	15	9	10	11	11	6	22	20	20	11	14	10	14	15	18	22	32	35	35	37	34	21	16	10	20	16	14	27	18.
Pembina §§	Maximum	25	15	18	10	15	20	20	30	20	30	25	20	20	28	28	25	28	25	38	60	45	60	45	40	25	32	48	55	45	60	73	33.
	Minimum	10	5	10	10	2	6	5	10	20	10	20	20	10	10	10	10	10	10	10	15	26	20	32	30	25	10	10	15	20	30	25	14.
Steele	Maximum	36	32	40	15	30	31	34	24	20	39	40	40	20	30	30	30	35	32	42	38	68	68	68	64	54	30	32	35	33	40	60	38.
	Minimum	10	20	10	-2	0	5	5	0	0	15	14	18	10	18	0	10	8	20	12	20	30	30	30	33	32	11	12	15	14	15	20	14.
Towner	Maximum	33	34	42	22	25	26	27	22	20	25	28	32	28	32	32	32	35	40	45	51	60	69	70	65	40	32	34	36	40	50	62	38.
	Minimum	12	6	17	-3	-2	1	16	14	-15	-1	10	11	17	-9	-12	3	15	21	25	21	38	32	36	35	8	11	20	22	30	35	22	14.
Valley City	Maximum	34	33	41	42	27	33	24	33	33	42	32	30	27	27	25	34	36	34	44	54	65	64	64	66	55	36	33	34	42	47	58	40.
	Minimum	15	13	12	0	1	14	6	12	2	19	16	23	16	2	-5	-9	12	21	19	23	32	28	30	27	35	17	11	20	22	17	20	15.
Wahpeton	Maximum	35	37	41	43	27	37	31	34	31	50	47	35	30	29	24	32	40	40	40	50	66	65	65	67	64	50	33	37	43	46	56	42.
	Minimum	16	16	19	-1	5	20	10	20	10	24	20	26	15	7	-2	0	17	17	25	30	34	32	35	33	36	20	15	23	25	22	27	19.
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Williston	Maximum	35	35	39	15	30	30	35	29	33	32	45	31	37	32	38	38	43	43	58	69	66	75	61	47	38	29	34	34	33	52	58	41.
	Minimum	18	25	8	0	9	11	10	11	11	20	23	20	17	19	14	24	28	24	27	33	37	36	41	32	21	18	18	22	24	22	31	21.
Moorhead, Minn	Maximum	34	30	43	21	24	30	25	31	27	47	27	29	27	22	22	25	35	35	39	49	64	58	65	65	44	29	31	37	39	45	55	37.
	Minimum	15	12	18	-3	5	14	7	16	5	20	16	19	14	2	-4	-1	13	24	22	28	34	34	38	35	29	16	15	21	24	21	27	17.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing. b 2 days, etc

[WBO, Minneapolis, 4-28-28—1000

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

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1928
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NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVII   BISMARCK, N. D., APRIL, 1928   NO. 4

GENERAL SUMMARY

The month opened with the temperature below normal, and spring work on farms was delayed considerably by frozen ground, especially in the mornings, a condition that prevailed throughout much of the first and second decades. More progress was made during the third decade, but at the close of the month seeding and other work was somewhat behind the average. Vegetation made slow growth generally. Pastures and ranges were also backward, not affording much feed for livestock. Highways were generally in excellent condition and much construction work was begun.

TEMPERATURE

The mean temperature for the State was 35.9°, or 5.8° below the normal, and 5.5° lower than the mean for April, 1927. The highest mean reported was 39.6° at McLeod, Ransom County ;the lowest was 27.8° at Melville, Foster County. The highest temperature reported was 84° at Minot, Ward County, on the 28th; the lowest was -6° at Eckman, Bottineau County, on the 19th. The greatest monthly range of temperature was 38° at Eckman, Bottineau County; the least was 57° at Granville, McHenry County, and at Melville, Foster County. The greatest daily range in temperature was 56° at Jamestown, Stutsman County, on the 1st.

PRECIPITATION

The average precipitation for the State was 0.88 inch, or 0.50 inch below the normal, and 0.82 inch less than the averge for April, 1927. The greatest monthly amount reported was 2.30 inch at Mott, Hettinger County; the least was 0.08 nch at Westhope, Bottineau County. The average snowfall was 5.0 inches. The average number of days with 0.01 inch r more of precipitation was 5.

AURORAS

Auroras were observed at Steele on the 15th and at Bottineau n the 16th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure in inches (reduced to sea level)					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.95	30.54	8	29.22	28	57	6,725	9.3	40§	nw.	29
Devils Lake	29.96	30.52	26	29.27	29	44	7,213	10.0	34§	n.	2
Ellendale	29.96	30.45	26	29.21	28	56	10,287	14.3	49§	nw.	29
Grand Forks	29.92	30.45	26	29.16	29	90	....	.....	39	nw.	2†
Williston	29.96	30.60	7	29.38	28	48	5,859	8.1	32§	nw.	29
Moorhead, Minn	29.94	30.47	26	29.11	29	58	6,965	9.7	31§	nw.	2†
Av'ges and extremes	29.95	30.60	7	29.11	29	.....	....	10.3	49§	nw.	29

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	218.9	408.5	54	− 5	76	47	47	15	27
Devils Lake	267.3	410.5	65	+ 7	77	53	57	13	27
Ellendale	324.9	407.2	80	+22	81	44	....	16	27
Grand Forks	......	......	......	......	71	.....	48	......	....
Williston	246.6	410.5	60	+ 2	71	44	46	14	30
Moorhead, Minn	252.9	408.5	62	+ 2	76	50	51	19	14
Averages and extremes	262.1	409.0	64	+ 5	75	48	50	13	27

† And other dates.

COMPARATIVE STATE DATA FOR APRIL

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922	42.3	+0.6	89	− 2	0.92	−0.46	6	10	9	11	se.
1923	38.7	−3.0	89	−15	1.45	+0.07	5	13	8	9	nw.
1924	39.3	−2.4	84	6	2.55	+1.19	9	8	9	13	nw.
1925	47.8	+6.1	85	10	1.64	+0.26	6	11	10	9	se.
1926	42.8	+1.1	98	− 4	0.28	−1.10	3	17	8	5	nw.
1927	41.4	−0.3	95	7	1.70	+0.32	7	10	8	12	se.
1928	35.9	−5.8	84	− 6	0.88	−0.50	5	12	10	8	nw.

Climatological Data for April, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								0.83		0.37		9					H. A. Bury.
Amenia	Cass	954	32	35.4	-6.9	77	28	4	19	45	1.52	-0.36	0.82	7.0	4	10	15	5	n.	E. T. Carley.
Amidon	Slope		14																	W. H. Toussaint.
Arnegard	McKenzie		13	36.6	-4.0	76	26	4	8	41	0.60	-0.85	0.20	6.0	5	16	5	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	37.2	-5.3	75	1†	4	8	51	1.56	-0.41	0.64	4.0	6	17	8	5	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22																	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	38.6	-5.1	78	28	4	8†	42	0.23	-0.93	0.15	4.1	3	16	2	12	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	37.0	-5.1	77	28	4	19	39	1.15	-0.37	0.68	4.5	5	9	14	7	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	33.5	-5.9	77	28	3	19	46	0.30	-0.57	0.09	1.2	9	15	9	6	ne.	N. A. Eckberg.
Bowman	Bowman	2,961	14								0.95	-0.29	0.39	2.2	6	9	11	10	nw.	
Cando	Towner	1,488	27	35.4	-5.2	78	28	1	19	46	1.18	+0.29	0.85		3	9	12	9	n.	A. J. Swanson.
Carson	Grant	2,500	16	37.0	-5.0	80	28	-2	8	46	0.97	-0.58	0.35	7.5	7	13	9	8	se.	J. W. Evens.
Cavalier	Pembina																			W. W. Felson
Cooperstown	Griggs	1,428	22								1.45	+0.40	0.50	10.0	4	18	6	6	nw.	S. Friswold.
Crosby	Divide	1,954	21	33.4	-7.2	76	28	3	19	40	0.90	-0.29	0.40	5.0	5	12	12	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	33.8	-4.4	76	28	3	19	40	1.08	-0.95	0.40	8.9	6	14	7	9	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	37.0	-5.9	80	28	5	8	52	1.15	-0.08	0.31	5.3	12	12	2	16	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	35.5		77	28	-4	8†	40	0.99		0.43	6.2	4	12	10	8	n.	R. L. Williams.
Dunn Center	Dunn	2,191	29	35.1	-7.5	73	27	4	8	43	0.91	-0.41	0.30	2.0	8	8	5	17	n.	W. F. Moede.
Dunseith	Rolette	1,682	32	36.6	-3.8	79	28	3	19	48	0.34	-0.49	0.18	2.2	7	12	13	5	sw.	J. G. Lamont.
Eckman	Bottineau	1,500	23	33.9	-7.7	82	28	-6	19	55	0.36	-0.69	0.29	2.5	3	4	16	10	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	27	37.2	-6.0	77	1	3	8	49	1.17	-0.71	0.55		3	3	14	13	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	37.0	-6.6	75	28	7	8	46	1.08	-0.75	0.55	2.7	9	7	10	13	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	16	37.6		79	28	-5	19	46	1.01	-0.13	0.40	9.5	6	9	18	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	20	37.0		75	1†	5	8†	44	0.47	-0.68	0.25	2.0	5	15	7	8	nw.	A. O. Wang.
Fessenden	Wells	1,610	16	34.8	-5.4	79	28	-3	19	47	1.19	-0.35	0.50	5.5	4	7	9	14	nw.	T. D. Monsen.
Forman	Sargent	1,249	34								1.64	0.55	1.02		5	10	16	4	nw.	O. Enger.
Fort Yates	Sioux	1,670									0.55	-1.12	0.50	0.5	2					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	34.8		76	28	0	19	38	0.33		0.30	6.3	6	7	12	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								1.21		0.31	8.0	6	10	11	9	nw.	Verne King.
Fullerton	Dickey	1,439	30	37.8	-5.0	76	2	7	8	47	1.70	-0.30	0.88	3.2	4	9	10	11	nw.	F. O. Alin.
Garrison	McLean	1,901	33	37.2	-5.4	80	28	1	19	42	0.75	-0.45	0.32		4	21	4	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	37.6	-2.7	78	28	7	8†	44	0.68	-0.80	0.28		3	8	13	9	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	37	36.1	-5.9	76	28	7	19	39	0.59	-1.34	0.50	5.0	2	12	12	6	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	28.8	-13.7	57	28	0	18	29	6.47	-0.49	0.30	4.5	3	7	17	6	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34																	J. Moffatt.
Hansboro	Towner	1,597	20	35.0	4.9	80	28	-2	19	46	0.69	-0.60	0.50	5.0	5	12	14	4	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	36.0	-8.8	78	28	1	8	51	0.87	-0.29	0.34	3.0	5				nw.	C. H. Plath.
Hillsboro	Traill	901	22	38.2	-5.4	76	28	7	19	39	0.75	-1.26	0.60	7.0	3	7	16	7	n.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	21	35.0	-4.8	72	26†	-1	18	44	0.70	-0.70	0.50	7.0	2	11	7	12	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	35.7	-6.8	80	30	5	8	56	3.57	-1.17	0.25	5.2	5	12	4	14	nw.	S. Calvelage.
Lamoine	Kidder	1,936	23	35.0	-7.6	78	28	-1	19	43	1.91	+0.94	0.81	11.0	4	18	7	5	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	34.6	-3.5	76	28	0	19	41	1.08	0.25	0.78	3.0	3	19	8	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	35.2	-5.2	76	28	2	19	45	0.61	-1.01	0.45	5.2	4	15	5	10	n.	Renben Gray.
Linton	Emmons	1,711	10	38.0^{a}	-4.2	82^{a}	28	0^{a}	8	50^{a}	2.05	+0.63	1.10	T.	4	15	4	11	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	24	36.6	-6.1	75	28	6	8	50	0.62	-1.27	0.60	T.	2	12	5	13		L. B. Walker.
McClusky	Sheridan	1,943	10	35.0		78	28	-1	19	42	1.49		0.59	8.8	5	14	7	9	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	31	36.3^{d}	-4.7	77^{d}	28	-5^{d}	19^{d}	44^{d}	0.50	-0.45	0.25	5.0	2	10	16	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	39.6	-3.7	80	2	8	8	42	0.43	-1.96	0.28		3	20	6	4	nw.	J. G. Carlson.
Maddock	Benson	1,604	12	35.9	-5.2	77	28	-3	19	43	0.97	-0.45	0.41	5.6	4	8	14	8	n.	A. T. Felland.
Mandan	Morton	1,644	14	36.0	-6.1	76	28	1	19	42	0.99	-0.56	0.55	3.5	4				nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25	36.4	-5.4	75	28	-1	19	39	1.08	-0.19	0.68	3.5	6	11	9	10	nw.	P. B. Anderson.
Marmarth	Slope	2,714	19																	Wm. Lamb.
Mayville	Traill	975	32	38.8	-4.4	77	28	1	19	44	0.50	-1.25	0.50	5.0	1	16	6	8	n.	N. C. Burhans.
Melville	Foster	1,590	30	27.8	-12.3	59	2	2	18	32	0.54	-0.57	0.48	5.4	2	26	0	4	ne.	J. P. Fischer.
Metigoshe‡‡	Bottineau		3								0.36		0.23	3.0	2	21	3	3	ne.	J. A. Thorburn.
Minot	Ward	1,557	32	35.2	-6.5	84	28	1	19	42	0.52	-0.80	0.15		7	9	13	8	nw.	W. I. Faris.
Mott	Hettinger	2,424	21	37.6	-5.0	78	29	10	14	41	2.30	+0.80	0.68	6.0	9	7	13	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	36	36.5	-5.0	80	28	0	8	44	1.31	-0.36	0.40	9.0	9	10	2	18	n.	C. J. Hoof.
New England	Hettinger	2,400	37	37.7	-5.4	78	28	5	8	45	0.17	-0.85	0.06	T.	5	12	8	10	nw.	W. L. Sales.
New Salem	Morton	2,163	24	37.0	-5.5	82	28	-3	8	44	0.74	-0.49	0.30		7	11	16	3	nw.	J. Christiansen.
Park River	Walsh	998	24	35.8	-5.7	77	28	5	8	50	0.43	-0.88	0.25	5.0	2	15	8	7	nw.	C. B. Wright.
Parshall (near)	Mountrail		13								0.79	-0.57	0.30	6.0	6	7	11	12	nw.	Carl J. Knutson.
Pembina	Pembina	789	51	32.2	-5.7	64	1	10	8	32	0.20	-1.21	0.10	1.0	2	19	7	4	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	34.0	-7.9	76	28	-2	19	43	0.53	-0.87	0.31	2.2	2	10	6	14	nw	A. L. Carlson.
Power	Richland	1,020	34								1.57	-0.26	0.40	13.3	8	12	9	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	14	35.8		73	28	13	8	40	0.49	-1.07	0.30	8.3	4	13	11	6	e.	Geo. B. Gee.
Richardton	Stark	2,467	12	37.4	-3.4	78	28	2	8	40	1.59	+0.09	0.44	7.8	7	8	12	10	nw.	John Muggli.
Sharon	Steele	1,516	3	36.2		75	28	4	19	41	0.62		0.38	4.6	4	12	12	6	n.	Nels O. Grefsheim.
Stanton	Mercer	1,722	4								0.78		0.31	8.0	4	12	8	10	se.	I. H. Giffey.
Starkweather	Ramsey		1	33.8		71	1†	-1	19	43	0.59		0.27		4	15	9	6	n	F. R. Irons.
Steele	Kidder	1,857	32	34.8	-9.6	77	28	0	9	42	1.25	+0.14	0.80	9.0	5	7	15	8	nw.	C. D. Stiles.
Towner	McHenry	1,482	26	35.2	-6.2	75	1	3	18	49	0.30	-0.80	0.20	3.0	2	17	9	4	nw.	B. Bagley.
Trotters	Golden Valley		3																	A. J. Nellermoe
Turtle Lake	McLean	1,899	13	35.4		77	28	-1	19	44	1.16		0.60	6.0	4	7	8	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	38.1	-5.7	76	28	7	8†	47	0.64	-0.95	0.29	2.5	6	15	12	3	n	I. C. Robertson.
Velva	McHenry		2	36.7		81	28	0	19	44	0.79		0.29	5.2	5	8	14	8	nw.	Oscar Anderson.
Wahpeton	Richland	962	34	39.4	-4.9	80	2	10	8	42	1.05	-1.18	0.45		6	19	0	11	nw.	C. G. Luick.
Washburn	McLean	1,731	26																	H. W. Smith.
Westhope	Bottineau	1,508	26	34.0	-5.7	78	28	2	17	44	0.08	-0.98	0.05	0.8	3	14	9	7	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	36.4	-5.6	76	27	6	19	37	0.53	-0.67	0.29	5.0	9	10	12	8	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	35.1	-5.1	78	28	-1	19	46	0.73	-0.22	0.30	5.2	5	12	11	7	nw.	M. A. Ostby.
Wilton	McLean		1	37.7		77	28	3	7	45						10	10	10		L. Q. Perkins.
Moorhead, Minn.	Clay	935	47	36.6	-4.0	77	2	9	8	37	1.37	-0.81	0.39	6.9	7	6	12	12	n.	U. S. Weather Bureau.
Averages				35.9	-5.8	84	28	-6	19	56	0.88	-0.50	1.10	5.0	5	12	10	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for April, 1928

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri			.12	.05	.05	.10					.04	T.						T.	.04	.02								.37	.04			0.83
Amenia ‖‖	Red			T.							T.				T.		T.		.10	.50		.10								T.	.82		1.52
Amidon	Lit. Missouri																																
Arnegard	Missouri		T.	.10			.10	.20					.05						.15			T								T			0.60
Ashley	Missouri											.25		.07			.05		.64			.50								.05			1.56
Beach	Lit. Missouri																																
Berthold Agency	Missouri			.15			T.	.01					T.						.07			T.								T.			0.23
Bismarck ***	Missouri			T.			T.	.03			.08		T				T.		.36				T.						.66	.02			1.15
Bottineau‖‖	Mouse				.03		.01						.09			.02			.01	.02			.02							.01	.09		0.30
Bowman	Grand			.26	.05		T.				T.		.07			.11			.07										.39				0.95
Cando	Devils Lake															T.				.27	.06									.85			1.18
Carson	Heart						.05	.35					.02	.10		.02			.20											.23			0.97
Cavalier	Red																																
Cooperstown	Sheyenne												.30		.20				.50											.45			1.45
Crosby	Mouse				.15	.05		.25			T.				.05				.40														0.90
Devils Lake ***	Devils Lake		.01	T.	T.	T.							T.			.04			.26		.32	.05					T.			.40			1.08
Dickinson‖‖	Heart				.22		.15	.02	.01			.03	.04	.20	T.	.01		T.	.10	T.	.03		T.	T.						.31	.03		1.15
Dogden Butte	Mouse			.08	T.	T.	.30	T.						T.					.18		T.									.43			0.99
Dunn Center‖‖	Knife				.15		.07	.09					.06	.10					.10											.30	.04		0.91
Dunseith	Mouse		.01	.01			.01						.01			.02			.18											.10			0.34
Eckman	Mouse			.05	T.	T.	.02	T.											.29											T.			0.36
Edgeley	James											.12								.50		.55											1.17
Ellendale***	James										.04	.02		.16		.01	.01		.55		.25	.02								.02			1.08
Energy	Missouri			.15			.12	.10						.10					.40			T.							T.	.14			1.01
Epping	Missouri			.10			.05											T.	.25			.03								.04			0.47
Fessenden‖‖	James													03		T.				.50										.50	.16		1.19
Forman	Sheyenne													.05		.06			1.02			.44									.07		1.64
Fort Yates	Missouri							.05																					.50				0.55
Foxholm (near)	Mouse		T.	.10	.05		.08	T.					.08	T.	T.	T.			.30	T.										.02			0.63
Fryburg	Heart			T.	T.	.20	.10	.10					T.	T.	.20				.30											.31			1.21
Fullerton	James										.12					.06	T.		.88		T.	.64								T.			1.70
Garrison	Missouri			.18			.09	T.											.32											.16			0.75
Grafton	Red															T.			.28		.20		T							.20			0.68
Grand Forks ***	Red			T.							T.			T.		T.			.50				T.							.09			0.59
Granville	Mouse			.02	T.		.30		T.			T.			T.				.15														0.47
Hannah	Pembina																																
Hansboro	Devils Lake		.05																.05		.04									.50	.05		0.69
Hettinger	Grand				T.		.03	.04	T.				T.	.16					.30											.34	T.		0.87
Hillsboro	Red													T.		.10			.60											.05			0.75
Howard (near)	Missouri		T.	T.	.20	T.	T.	T.				T.	T.		T.			.50	T.		T.	T.						T.		T.	T.		0.70
Jamestown‖‖	James											.01	T.				.02		.18	.25										.11	T.		0.57
Lamoine	Missouri			.10			.40												.60											.81			1.91
Langdon‖‖	Pembina					T.										.10				.20	T.									.78	T.		1.08
Larimore	Red				.03											.05				.45										.08			0.61
Linton	Missouri						T.	T.			1.10			T.		T.			.68		.05									.22			2.05
Lisbon ‖‖	Sheyenne												T.						.02		T.	.60								T.			0.62
McClusky	Missouri			.11			.51												.27			.01								.59			1.49
McKinney (near)	Mouse			T.	T.														.25	.25	T.	T.							T.	T.			0.50
McLeod	Sheyenne											T.	T.	T.		T				.08		.28									.07		0.43
Maddock	Sheyenne		T.			T.							.02	T.		T.			.40		.14		T							.41			0.97
Mandan‖‖	Missouri				T.		T.	.03	T.					T.				T.	.34	.07										.55			0.99
Manfred	James		T.	T.										.02		.03			.30	.02	.03		T.							.68			1.08
Marmarth	Lit. Missouri																																
Mayville	Red																			.50													0.50
Melville	James																		.48											.06			0.54
Metigoshe	Mouse		T.										T.						.13											.23			0.36
Minot‖‖	Mouse			.05	.07	.15	.05						.03				.15													.02			0.52
Mott	Cannon Ball			T.		.05	.31	.05				.08	.11	.37		.22			.68											.43			2.30
Napoleon ‖‖	Missouri											.15		.02		.02		.35	.16	.40		.03								.16	.02		1.31
New England	Cannon Ball			T.			T.				T.		T.		T.			.04	.06	.03	T.								.03	.01			0.17
New Salem	Heart			.07	.02		.03	.12			T.			.02					.30											.18			0.74
Park River	Red															T.			.25		T.									.18			0.43
Parshall (near)	Missouri			.10			T.	.10			T.		.05	.05					.30										.19				0.79
Pembina‖‖	Red			T.																.10		T.									.10		0.20
Pettibone	James							T.			T.		T.	T.		T.			.22				T.							.31			0.53
Power	Sheyenne										.07			.15	.05	.10			.25	.30	.40									.25			1.57
Powers Lake	Missouri			.05				.12											.02	.30													0.49
Richardton	Heart			.17			.32				.22			.09	.05				.30											.44			1.59
Sharon	Red										T.	.02	T.			.01			.38	T.			T.							.21	T.		0.62
Stanton	Missouri			.24			.03												.31											.20			0.78
Starkweather	Devils Lake		T.			T.							T.						.21		.27	.03					T.			.08			0.59
Steele	Missouri						.05							.05	T.	T.	T.	T.	.80	T.								.20	.15				1.25
Towner	Mouse		T.	T.			.10												.20										T.	T.			0.30
Trotters	Lit. Missouri																																
Turtle Lake	Missouri			.18			.20												.60											.18			1.16
Valley City	Sheyenne			T.							.12		T.			.02			.29		.07		T.						.02	.12			0.64
Velva	Mouse		T.	.06	T.		.15	T.					T.	.01					.29		T.									.28			0.79
Wahpeton	Red															.07			.45		.02	.32								.09	.10		1.05
Washburn	Missouri																																
Westhope	Mouse			T.				T.				.01	.05					.02															0.08
Williston ***	Missouri		T.	.10	T.	T.	.02	.02			T.	.03	T.		T.			.20	.09	.02	.04	.01	T.						T.	T.			0.53
Willow City	Mouse		T.	.10	T.		T.						.10			.02			.30		T.	T.								.21			0.73
Wilton																																	
Moorhead, Minn ***	Red			T.							.08	.31		T.		.09			.34		.17	.06	T.							.32			1.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	72	50	55	43	43	38	33	51	58	45	43	34	34	35	49	34	54	30	32	38	54	53	40	50	54	58	67	77	60	64	....	48.3
	Minimum...	34	43	29	27	20	22	7	11	18	26	20	19	11	20	16	19	20	24	4	10	19	34	18	23	22	24	22	32	42	38	....	22.5
Amidon	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum...	71	47	34	35	43	35	27	27	51	50	47	32	29	47	45	52	58	33	36	44	57	50	50	54	62	76	71	72	49	65	....	48.3
	Minimum...	36	29	22	27	23	25	12	4	24	34	28	22	11	17	18	27	27	12	8	24	21	34	30	19	33	35	34	43	36	33	....	24.9
Ashley	Maximum...	75	70	49	44	48	44	39	28	50	57	50	45	40	32	44	40	50	50	49	43	54	53	47	49	54	50	64	75	67	64	....	50.8
	Minimum...	24	39	24	32	22	21	22	4	10	33	23	23	12	8	22	21	21	12	10	35	26	35	24	20	22	23	24	38	43	37	....	23.7
Beach	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Berthold Agency	Maximum...	76	70	50	35	48	45	32	28	55	51	50	48	30	46	45	50	62	58	31	45	60	53	52	50	55	58	75	78	72	70	....	52.4
	Minimum...	34	33	18	25	25	28	20	4	20	34	32	26	15	14	23	24	25	12	4	28	20	43	28	11	20	23	35	48	42	32	....	24.9
Bismarck	Maximum...	74	56	48	41	48	34	31	26	52	54	46	44	30	36	46	41	55	43	31	45	58	50	48	50	56	55	68	77	56	65	....	48.8
	Minimum...	36	33	29	31	24	27	14	5	14	35	25	24	18	12	25	21	25	15	4	25	23	33	29	23	21	28	29	46	44	41	....	25.3
Bottineau §§	Maximum...	71	54	34	36	37	43	30	29	50	50	40	35	32	35	42	50	55	20	28	45	55	46	45	48	53	55	69	77	76	63	....	46.8
	Minimum...	33	42	23	26	16	17	21	4	7	20	20	21	7	9	15	20	23	11	3	7	16	20	17	21	22	27	29	31	44	33	....	20.2
Cando	Maximum...	42	43	42	39	37	43	43	41	51	55	51	42	38	39	41	49	56	49	32	41	56	49	43	49	52	56	68	78	69	63	....	48.6
	Minimum...	29	28	25	30	19	23	20	21	5	33	20	22	11	12	23	17	22	11	1	24	20	30	15	20	20	30	24	36	42	35	....	22.3
Carson	Maximum...	75	55	50	40	44	40	35	30	55	55	50	42	40	38	38	43	56	40	46	44	55	52	50	55	55	56	68	80	65	65	....	50.6
	Minimum...	38	32	26	24	19	28	15	− 2	9	35	22	25	14	8	16	23	24	14	13	22	19	32	28	18	25	28	28	50	41	30	....	23.5
Crosby §§	Maximum...	60	67	43	36	31	39	36	25	31	50	40	42	28	31	30	41	50	51	20	31	39	51	46	45	50	55	57	76	70	57	....	44.3
	Minimum...	30	33	22	25	20	20	17	7	10	28	27	17	13	21	21	23	29	11	− 3	− 1	25	30	29	22	27	28	31	36	42	36	....	22.5
Devils Lake	Maximum...	73	61	35	40	37	40	28	29	49	54	41	38	30	35	39	48	55	20	27	40	52	43	40	46	49	54	65	76	57	62	....	45.4
	Minimum...	33	30	24	25	19	21	9	6	18	27	20	20	13	15	24	16	20	9	3	25	24	24	20	20	20	29	34	40	43	37	....	22.3
Dickinson §§	Maximum...	71	52	49	40	50	39	31	30	59	53	46	35	30	47	45	50	60	31	38	41	61	51	51	53	62	61	73	80	52		....	50.1
	Minimum...	30	31	21	32	23	31	22	5	7	32	29	27	15	15	20	26	27	17	14	18	20	29	30	18	21	26	30	35	37		....	24.0
Dunn Center §§	Maximum...	72	49	36	33	46	34	29	28	52	49	46	31	28	42	45	48	59	25	36	46	58	48	49	50	58	57	73	70	52		....	47.1
	Minimum...	36	35	20	25	19	25	22	4	13	27	27	25	15	16	20	23	25	12	10	17	18	28	32	14	18	22	30	38	46	32	....	23.1
Dunseith	Maximum...	75	73	45	36	39	42	41	34	50	63	48	46	46	38	43	50	55	43	32	47	56	54	44	47	53	57	69	79	78	62	....	51.5
	Minimum...	32	36	22	25	15	23	11	11	15	15	19	30	10	13	18	20	22	8	3	22	18	31	17	20	22	28	28	40	43	38	....	21.8
Edgeley	Maximum...	77	66	48	47	47	47	38	33	52	64	48	46	40	38	43	44	55	52	29	44	54	53	54	54	53	51	64	75	70	66	....	51.8
	Minimum...	28	33	21	33	28	17	15	3	9	26	23	20	17	9	22	19	22	15	8	25	28	21	21	27	21	27	24	31	43	38	....	22.6
Ellendale	Maximum...	75	74	47	47	46	45	37	29	51	61	47	44	30	32	40	42	55	39	30	45	54	51	46	48	53	53	63	75	63	64	....	49.5
	Minimum...	29	32	26	31	26	21	13	7	12	31	25	22	14	10	25	22	21	13	12	28	29	30	23	24	24	31	27	37	45	42	....	24.4
Fessenden §§	Maximum...	75	60	36	42	43	44	32	30	53	55	45	42	32	36	44	52	53	20	30	45	57	48	43	48	53	57	67	79	57	62	....	48.0
	Minimum...	33	39	22	27	25	22	22	6	18	23	23	20	12	9	17	19	23	17	− 3	8	10	30	20	21	19	23	24	39	44	37	....	21.6
Foxholm (near)	Maximum...	72	65	43	32	37	35	32	28	50	47	41	46	30	34	41	51	55	28	29	44	55	47	44	45	52	54	71	76	63	63	....	46.7
	Minimum...	35	35	19	27	18	24	18	5	21	33	21	23	9	13	18	20	28	8	0	24	20	28	22	18	22	22	33	47	43	35	....	23.0
Fullerton	Maximum...	75	76	47	47	45	40	37	29	51	60	46	45	35	34	40	48	58	40	35	47	54	50	45	49	52	55	64	72	65	64	....	50.2
	Minimum...	28	40	25	35	30	21	20	7	12	30	25	22	21	11	22	22	23	27	10	26	29	30	23	24	23	30	27	35	44	42	....	25.5
Garrison	Maximum...	76	62	42	34	44	41	31	30	55	53	48	38	32	39	46	47	62	53	27	53	58	51	47	50	58	58	70	80	58	67	....	50.3
	Minimum...	34	39	20	30	20	25	18	4	20	34	22	24	14	15	23	22	24	13	1	26	22	33	24	20	20	28	29	42	40	36	....	24.1
Grafton	Maximum...	72	67	51	47	39	44	40	33	50	61	53	40	36	41	41	47	56	39	32	39	61	53	42	49	53	58	67	78	78	66	....	51.1
	Minimum...	29	40	25	32	25	21	20	7	17	35	22	20	17	11	18	17	18	12	7	24	31	34	17	26	25	32	25	34	44	42	....	24.2
Grand Forks	Maximum...	69	64	42	50	38	42	33	30	48	61	45	41	33	40	31	45	54	29	30	37	49	45	43	48	51	55	65	76	61	65	....	47.3
	Minimum...	33	38	29	28	25	21	14	10	19	36	25	19	19	14	23	16	21	15	7	22	31	28	23	28	24	29	26	38	46	41	....	24.9
Granville	Maximum...	45	32	32	25	35	37	32	30	42	35	34	25	20	30	40	40	39	21	27	28	35	30	30	47	40	45	50	57	50	45	....	35.9
	Minimum...	32	28	18	25	30	25	22	6	22	34	20	20	10	15	18	18	20	0	14	18	15	12	18	18	18	36	30	45	40	35	....	21.7
Hansboro	Maximum...	70	65	38	30	35	42	38	30	50	55	45	35	33	47	44	48	68	23	41	44	55	60	44	46	53	60	75	80	70	64	....	49.6
	Minimum...	24	32	22	12	15	18	15	15	12	32	16	16	8	10	20	12	22	7	− 2	18	17	27	13	16	15	25	45	50	40	34	....	20.3
Hettinger	Maximum...	68	51	50	43	50	36	26	25	54	48	47	27	27	42	43	51	57	28	45	40	55	54	53	53	59	58	69	78	51	63	....	48.4
	Minimum...	35	32	32	33	24	26	20	1	3	25	31	25	17	5	12	23	28	21	18	18	21	23	31	23	26	28	30	33	34	33	....	23.7
Hillsboro	Maximum...	70	71	51	52	44	44	40	32	51	56	53	43	42	40	38	49	54	51	33	38	50	50	45	49	52	58	65	76	74	65	....	51.2
	Minimum...	32	45	29	35	22	22	23	9	16	32	25	20	19	13	22	13	19	16	7	20	30	33	22	27	27	26	27	37	45	41	....	25.1
Howard (near)	Maximum...	62	49	33	29	38	33	28	28	50	45	44	32	30	39	42	49	34	30	50	57	48	45	79	58	58	72	68	68	72	56	....	47.5
	Minimum...	32	28	19	22	19	23	14	3	20	25	23	15	9	16	15	24	10	− 1	23	23	32	30	23	24	25	28	45	45	25	35	....	22.5
Jamestown §§	Maximum...	75	72	43	43	43	43	35	32	54	52	47	43	34	38	42	42	58	25	32	48	56	50	46	50	54	56	67	68	64	80	....	49.7
	Minimum...	19	30	22	25	27	19	27	5	12	17	23	23	17	9	14	25	23	20	15	15	28	29	18	19	20	21	23	32	35	38	....	21.7
Lamoine	Maximum...	73	63	38	38	43	38	37	25	53	53	48	42	33	42	42	45	53	48	28	45	54	52	45	48	52	55	65	78	60	63	....	48.6
	Minimum...	31	37	20	21	24	22	17	1	13	25	21	21	13	10	20	21	22	5	− 1	24	17	32	20	18	22	23	27	38	40	36	....	21.3
Langdon §§	Maximum...	70	50	47	39	37	40	27	31	50	55	52	49	48	41	40	40	50	30	37	37	52	42	41	46	50	56	65	76	65	63	....	47.5
	Minimum...	29	36	24	25	19	20	19	4	14	20	19	19	10	10	21	20	30	10	0	12	24	31	17	22	19	28	28	39	42	36	....	21.6
Larimore §§	Maximum...	71	68	45	48	40	41	30	32	50	62	41	41	32	41	35	48	50	20	32	40	54	45	44	47	52	58	67	76	58	66	....	47.8
	Minimum...	30	45	20	25	24	20	21	5	15	30	22	18	16	10	17	16	18	20	2	20	22	32	19	22	25	30	28	31	38	38	....	22.6
Linton	Maximum...	...	77	51	47	51	47	36	29	51	59	50	47	41	36	54	52	49	48	32	47	57	51	55	53	53	59	66	82	77	66	....	[a]52.6
	Minimum...	....	27	25	38	22	28	24	0	5	34	23	34	17	2	26	21	24	18	12	24	22	24	21	15	24	21	24	42	44	36	....	[a]23.3
Lisbon §§	Maximum...	74	68	49	48	42	42	38	30	50	57	48	42	35	40	37	40	54	37	37	39	58	51	57	50	55	56	67	75	64	65	....	50.2
	Minimum...	24	38	29	29	36	20	20	6	10	31	25	19	18	10	20	15	17	25	7	12	27	37	21	22	23	25	18	30	40	39	....	23.1
McClusky	Maximum...	74	63	39	36	43	34	30	25	49	30	43	40	36	35	45	47	59	46	26	44	54	47	44	47	52	66	66	78	63	62	....	47.4
	Minimum...	32	38	20	28	21	22	18	− 2	12	11	21	21	21	11	22	25	23	11	− 1	22	19	30	21	18	23	45	45	39	39	33	....	22.9
McKinney (near)	Maximum...	70	43	48	27	36	37	34	28	50	49	....	....	....	....	41	50	50	31	30	42	56	49	45	47	54	55	74	77	62	65	....	[d]48.1
	Minimum...	38	32	21	27	20	26	19	10	21	34	....	....	....	....	21	21	28	12	− 5	22	21	30	21	21	20	24	30	42	48	35	....	[d]24.9
Maddock	Maximum...	73	70	43	39	39	43	39	30	50	54	52	44	36	37	44	49	59	52	30	40	51	50	43	47	51	55	66	77	72	63	....	50.0
	Minimum...	22	37	21	30	19	21	21	5	17	36	19	18	11	12	22	16	22	10	− 3	21	20	31	18	19	18	24	24	34	42	35	....	21.8
Melville	Maximum...	56	59	45	44	43	34	38	26	27	36	40	42	31	34	28	30	31	22	29	30	36	34	47	44	46	48	52	50	52	54	....	39.4
	Minimum...	34	36	24	22	20	12	18	3	12	20	21	21	15	9	10	14	12	2	4	12	11	10	12	16	14	16	21	18	20	22	....	16.1
Minot §§	Maximum...	72	50	32	32	34	35	31	32	52	54	44	34	35	30	40	49	58	24	28	55	56	52	49	53	55	53	63	84	55	63	....	46.8
	Minimum...	28	38	20	29	19	25	21	5	21	36	20	25	11	11	19	19	28	11	1	26	19	30	21	26	19	22	33	42	43	38	....	23.5
Mott	Maximum...	58	65	67	46	44	40	38	27	44	42	41	40	38	30	44	42	48	40	37	41	43	48	50	52	58	59	69	72	78	63	....	48.8
	Minimum...	35	36	37	35	38	34	22	15	17	27	24	19	21	10	24	14	27	27	10	17	22	26	23	24	28	29	40	38	37	35	....	26.4
Napoleon §§	Maximum...	76	70	49	42	47	42	36	29	54	56	48	45	34	37	47	43	54	23	30	44	57	52	48	49	56	55	65	80	61	65	....	49.8
	Minimum...	32	35	25	28	22	25	19	0	10	36	21	30	15	6	22	18	17	19	1	25	22	37	22	17	21	25	23	43	43	37	....	23.2
New Salem	Maximum...	75	72	48	45	50	37	31	27	55	51	44	35	40	31	40	43	58	55	29	39	55	50	47	50	56	56	69	82	72	63	....	50.2
	Minimum...	36	40	23	27	20	27	18	− 3	12	37	26	20	29	11	21	20	21	13	2	19	26	34	30	20	21	24	25	43	45	36	....	23.9
Pembina §§	Maximum...	64	50	52	48	42	43	32	30	46	46	24	18	18	36	42	38	38	22	44	32	34	36	34	30	58	41	55	41	48	56	....	40.0
	Minimum...	38	39	26	34	23	24	22	10	20	36	18	18	15	10	16	20	18	16	12	22	22	24	22	26	29	27	30	41	39	31	....	24.3
Steele	Maximum...	72	60	36	36	40	42	36	30	33	57	40	45	32	42	46	45	55	32	40	45	50	45	46	48	55	60	70	77	60	65	....	47.6
	Minimum...	30	30	24	22	25	25	16	10	0	35	30	24	14	6	8	18	19	15	11	20	22	29	25	17	21	28	35	35	35	35	....	22.0
Towner	Maximum...	75	68	48	42	38	38	35	34	40	42	50	40	36	38	38	52	52	52	36	42	42	40	42	50	54	56	66	69	65	66	....	48.2
	Minimum...	29	39	18	20	20	22	20	12	20	30	25	15	12	20	10	18	20	3	18	22	20	10	29	22	19	26	36	35	36	38	...	22.1
Valley City	Maximum...	....	..	..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	...	....	....	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Wahpeton	Maximum...	69	80	67	57	52	43	42	36	52	60	58	48	45	40	40	41	49	49	33	37	47	55	49	50	55	57	65	75	74	66	....	53.0
	Minimum...	33	45	30	32	29	23	23	10	13	32	27	20	25	11	24	16	23	20	11	26	32	33	22	26	25	26	23	37	45	32	....	25.8
Westhope	Maximum...	74	68	45	35	38	38	32	30	53	48	41	40	34	42	52	51	28	29	32	45	59	45	44	48	45	52	72	78	63	70	....	47.7
	Minimum...	30	38	20	12	14	18	10	8	18	29	22	22	12	15	20	18	− 2	2	2	27	20	18	20	22	22	29	30	41	45	34	....	20.5
Williston	Maximum...	70	47	35	35	42	34	28	29	52	48	48	29	30	44	46	50	53	21	34	45	54	49	48	51	61	58	76	70	56	64	....	46.9
	Minimum...	35	27	24	26	23	28	13	9	27	28	28	19	12	22	20	30	20	10	6	28	27	36	29	22	39	33	39	50	41	35	....	25.9
Moorhead, Minn	Maximum...	68	77	47	55	38	40	34	29	47	57	43	41	30	38	32	42	50	40	30	37	49	48	44	47	51	54	64	74	59	63	....	47.6
	Minimum...	34	42	28	31	25	22	15	9	15	32	26	22	21	14	25	17	24	14	11	26	30	29	22	28	25	30	28	37	45	41	....	25.6

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 5-28-28—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVII BISMARCK, N. D., MAY, 1928 No. 5

GENERAL SUMMARY

The month opened with weather favorable for farm and other outdoor work, although the top soil was rather too dry for germination and growth of grains. This condition obtained during the first one-half of the month. Showers, light to moderate, prevailed from the 14th to the 17th, inclusive. The weather was dry from the 18th to the 30th, inclusive, with generally high temperatures on the 23d and 24th, which dried the pastures and meadows, greatly reducing feed for livestock. At the close of the month small grains and pastures were generally in serious need of rain. Corn was the only crop that was in first class condition.

TEMPERATURE

The mean temperature for the State was 58.2°, or 5.6° above the normal, and 10.2° higher than the average for May, 1927. The highest mean reported was 63.2° at Berthold Agency, McLean County; the lowest was 52.3° at Melville, Foster County. The highest temperature reported was 107° at Berthold Agency, McLean County, on the 24th; the lowest was 16° at Eckman, Bottineau County, on the 12th. The greatest monthly range of temperature was 82° at Eckman, Bottineau County; the least was 59° at Steele, Kidder County. The greatest daily range in temperature was 58° at Energy, McLean County, on the 12th, and at Linton, Emmons County, on the 4th.

PRECIPITATION

The average precipitation for the State was 1.15 inches, or 1.40 inches below the normal, and 4.47 inches lower than the average for May, 1927. The greatest monthly amount reported was 3.34 inches at Richardton, Stark County; the least was 0.22 inch at Ashley, McIntosh County. The greatest amount recorded in any 24 consecutive hours was 1.74 inches at Cooperstown, Griggs County, on the 17th. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS

Auroras were observed at Foxholm on the 7th; at Howard on the 8th; at Foxholm on the 10th; at Arnegard and Fullerton on the 11th; at Foxholm on the 17th; at Arnegard on the 20th; at Howard on the 21st; at Napoleon on the 25th; at Foxholm on the 26th; at Arnegard, Bottineau, Carson, Devils Lake, Foxholm and Velva on the 27th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.95	30.50	11	29.51	9	57	6,099	8.2	26§	s.	13
Devils Lake	29.97	30.51	11	29.46	9	44	6,044	8.1	29§	nw.	10
Ellendale	30.01	30.48	11	29.53	9	56	9,292	12.5	35§	s.	7
Grand Forks	29.94	30.42	11	29.41	9	90	....	......	48	s.	7
Williston	29.95	30.51	11	29.54	9	48	5,396	7.3	29§	n.	9
Moorhead, Minn	29.96	30.49	11	29.49	9	58	5,721	7.7	24§	sw.	7
Av'ges and extremes	29.96	30.51	11	29.44	9	.....	....	8.8	48§	s.	7

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	294.2	467.3	63	+ 5	63	35	33	15	23
Devils Lake	325.5	471.0	69	+11	65	36	38	12	3
Ellendale	243.5	463.8	52	− 6	64	34	....	15	1
Grand Forks	....	....	....	......	61	.....	37	......	....
Williston	359.3	471.0	76	+18	60	30	30	11	6
Moorhead, Minn	365.6	467.3	78	+21	60	27	32	12	3
Averages and extremes	317.6	468.1	68	+11	62	34	34	11	6

† And other dates.

COMPARATIVE STATE DATA FOR MAY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903	54.3	+1.7	96	11	3.12	+0 57	4	14	8	9	s.
1904	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918	51.7	−0.9	99	6	2.30	0.25	9	10	11	10	nw.
1919	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921	53.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.
1923	54.1	+1.5	100	13	1.77	−0.78	6	15	10	6	nw.
1924	46.9	−5.7	84	15	0.79	−1.76	5	12	10	9	nw.
1925	53.6	+1.0	111	10	1.44	−1.11	4	17	9	5	nw.
1926	58.5	+5.9	105	10	2.18	−0.37	7	13	11	7	nw.
1927	48.0	−4.6	87	13	5.62	+3.07	14	6	8	17	nw.
1928	58.2	+5.6	107	16	1.15	−1.40	5	18	7	6	nw.

Climatological Data for May, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	2	...	...	...	...	...	...	...	1.08	...	0.42	0	6	...	...	...	...	H. A. Bury.
Amenia	Cass	954	32	58.4	+4.3	95	23	25	12	50	0.72	−2.12	0.30	0	4	19	8	4	n.	E. T. Carley.
Amidon	Slope	...	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. H. Toussaint.
Arnegard	McKenzie	...	13	59.8	+6.7	97	23	29	11	47	0.52	−1.19	0.30	0	3	26	2	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	58.8	+6.1	91	23	26	12	45	0.22	−2.24	0.10	0	3	23	4	4	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	60.0	+9.9	92	23	30	3	49	0.67	−1.14	0.27	0	6	20	7	4	nw.	J. C. Russell.
Berthold Agency ‡‡	McLean	2,082	35	63.2	+9.5	107	24	28	3	52	1.50	−0.96	0.42	0	5	23	5	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	60.4	+5.9	96	23	34	3	41	0.58	−1.74	0.34	0	6	17	6	8	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	56.5	+5.2	96	23	27	3	47	1.23	−0.81	0.40	0	6	18	5	8	ne.	N. A. Eckberg.
Bowman	Bowman	2,961	14	...	...	...	...	...	...	...	0.88	−1.56	0.73	0	5	17	6	8	nw.	M. S. Byrne.
Cando	Towner	1,488	27	57.5	+6.0	96	23	27	5	44	1.98	−0.42	0.76	0	5	9	15	7	nw.	A. J. Swanson.
Carson	Grant	2,500	16	61.0	+8.7	95	23	30	3	46	.61	−2.03	0.23	0	3	19	8	4	nw.	J. W. Evens.
Cavalier	Pembina	...	...	...	...	...	...	...	...	...	1.30	...	0.72	0	6	24	1	6	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	22	...	...	...	...	...	...	...	2.71	+0.50	1.74	0	4	20	6	5	nw.	S. Friswold.
Crosby	Divide	1,954	21	57.2	+6.8	92	23	31	4	44	0.60	−1.40	0.23	0	6	20	7	4	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	57.0	+4.3	94	23	26	11	43	2.44	+0.24	1.13	0	6	16	7	8	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	58.4	+6.2	93	23	25	2	51	1.22	−1.21	0.77	0	9	19	6	5	nw.	Leroy Moomaw.
Dogden Butte ‡‡	McLean	1,880	2	58.4	...	92	23	21	11	47	3.33	...	2.20	0	5	18	8	5	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	59.4	+6.1	94	23	27	3†	50	1.33	−1.21	0.61	0	6	21	2	8	nw.	W. F. Moede.
Dunseith	Rolette	1,682	32	59.4	+7.5	96	23†	29	11	47	1.95	+0.25	1.05	0	4	20	3	8	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	23	54.6	+4.0	98	23	16	12	57	1.72	−0.46	0.88	0	5	1	20	10	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	27	58.1	+4.6	92	7†	26	6	57	0.67	−2.00	0.39	0	3	3	21	7	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	58.1	+2.4	92	7	30	5	46	0.67	−2.34	0.32	0	8	11	10	10	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	16	59.8	...	96	23	17	12	58	1.50	−0.70	0.65	0	7	11	18	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	20	56.8	...	92	23	21	3	12	0.61	−1.70	0.33	0	5	21	10	0	nw.	A. O. Wang.
Fessenden	Wells	1,610	16	57.9	+6.4	97	23	25	12	47	2.43	+0.15	1.60	0	8	17	5	9	nw.	T. D. Monsen.
Forman	Sargent	1,249	34	...	...	...	...	...	...	...	0.86	−2.12	0.38	0	4	17	8	6	se.	O. Enger.
Fort Yates	Sioux	1,670	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	57.6	...	93	23	25	11	43	1.85	...	0.75	0	6	13	10	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10	...	...	...	...	...	...	...	1.03	...	0.42	0	5	20	7	4	nw.	Verne King.
Fullerton	Dickey	1,439	30	59.2	+5.9	94	7	28	12	48	0.60	−2.64	0.33	0	5	19	5	7	n.	F. O. Alin.
Garrison	McLean	1,901	33	58.2	+5.6	93	23	29	11†	45	1.86	−0.31	0.76	0	8	23	6	2	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	57.5	+4.6	96	23	25	6	55	1.71	−0.40	0.68	0	6	17	7	7	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	57.4	+4.0	95	23	27	5	49	0.80	−1.74	0.32	0	7	12	13	6	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	55.2	+3.8	95	23	23	11	40	1.25	−0.59	0.53	0	5	14	12	5	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34	...	...	...	...	...	...	...	1.56	−0.54	1.05	0	3	...	...	...	...	J. Moffatt.
Hansboro	Towner	1,597	20	55.0	+4.7	98	22	20	11	52	1.94	0.14	1.25	0	3	16	8	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	57.9	+5.1	93	21	27	3	48	1.25	−0.87	0.53	0	5	19	8	4	nw.	C. H. Plath.
Hillsboro	Traill	901	22	59.7	+6.5	94	23	27	12	48	0.41	−3.11	0.18	0	5	21	7	3	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	21	55.8	+6.4	90	24†	26	4†	46	0.49	−1.69	0.43	0	5	18	8	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	57.7	+4.2	93	23	28	5†	55	0.33	−2.36	0.14	0	5	22	3	6	nw.	S. Calvelage.
Lamoine	Kidder	1,936	23	56.5	+5.8	95	23	26	11†	51	0.58	−1.78	0.41	0	2	22	3	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	55.0	+4.2	94	23	25	11	54	0.96	−1.29	0.36	0	4	24	4	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	56.6	+4.2	96	23	25	5†	55	0.82	−1.65	0.35	0	4	15	7	9	n.	Reuben Gray.
Linton	Emmons	1,711	10	61.1^{a}	+7.0	97^{a}	24	24^{a}	4	58^{a}	0.62	−1.43	0.31	0	4	21	4	6	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	24	58.1	+5.3	92	23	30	1†	52	0.55	−2.64	0.40	0	2	18	8	5	...	L. B. Walker.
McClusky	Sheridan	1,943	10	57.6	...	91	23	25	11	50	0.65	...	0.24	0	3	21	10	0	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	34	56.9	+5.6	98	23	21	1†	54	0.74	−1.21	0.20	0	4	10	18	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	59.6	+5.5	90	23	24	11	46	0.98	−2.80	0.76	0	3	21	2	8	nw	J. G. Carlson.
Maddock	Benson	1,604	12	58.0	+4.8	95	23	21	11	47	1.07	−0.96	0.50	0	4	10	12	9	nw.	A. T. Felland.
Mandan	Morton	1,644	14	59.5	+5.6	95	23	31	3	39	0.55	−1.95	0.26	0	7	17	1	13	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25	57.6	+6.0	91	23	27	12	46	1.56	−0.80	0.58	0	5	15	9	7	nw.	P. B. Anderson.
Marmarth	Slope	2,714	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Wm. Lamb.
Mayville	Traill	975	32	59.2	+4.7	97	23	23	5†	56	0.77	−2.20	0.29	0	3	21	2	8	n.	N. C. Burhans.
Melville	Foster	1,590	30	52.3	−0.2	91	23	25	14	42	2.40	−0.27	1.60	0	3	25	0	6	se.	J. P. Fischer.
Metigoshe ‡‡	Bottineau	...	3	...	...	...	...	...	...	...	1.30	...	0.70	0	4	27	0	4	nw.	J. A. Thorburn.
Minot	Ward	1,557	32	59.0	+5.6	100	22	26	10	53	1.58	0.39	0.80	0	6	21	7	3	w.	W. I. Faris.
Mott	Hettinger	2,424	21	58.6	+7.0	95	23	32	7	15	0.83	−1.53	0.47	0	4	14	10	7	nw.	O. B. Opland.
Napoleon	Logan	1,955	36	58.2	+5.8	95	23	26	12	51	0.50	−1.90	0.18	0	5	18	5	8	s.	C. J. Hoof.
New England	Hettinger	2,400	37	58.8	+7.2	97	21	25	10	52	1.93	−0.22	0.61	0	5	6	21	1	nw.	W. L. Sales.
New Salem	Morton	2,163	24	61.3	+10.0	96	23	29	11	49	0.60	−1.77	0.33	0	4	17	11	3	nw.	J. Christiansen.
Park River	Walsh	998	24	57.1	+4.9	...	...	...	...	...	2.04	−0.19	...	...	...	...	...	...	...	C. B. Wright.
Parshall (near)	Mountrail	...	13	...	...	...	...	...	...	...	1.40	−0.32	0.74	0	6	19	7	5	nw.	John A. Anderson.
Pembina	Pembina	789	54	56.2	+3.7	96	23	25	11	48	1.20	−1.02	1.00	0	2	27	4	0	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	57.8	+7.3	93	23	27	5	46	0.85	−2.00	0.34	0	7	16	8	7	nw.	A. L. Carlson.
Power	Richland	1,020	34	...	...	...	...	...	...	...	0.41	−2.48	0.25	0	2	18	6	7	s.	Frank B. Power.
Powers Lake	Burke	2,205	14	58.4^{a}	...	92^{a}	24	30^{a}	12	34^{a}	1.03	−0.77	0.53	0	5	20	9	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	12	59.6	+6.7	93	23	31	3	43	3.34	+1.51	1.70	0	4	16	12	3	nw.	John Muggli.
Sharon	Steele	1,516	3	58.2	...	95	23	28	11	41	0.73	...	0.36	0	6	21	3	7	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	4	...	...	...	...	...	...	...	1.24	...	0.85	0	5	21	6	4	nw.	J. H. Giffey.
Starkweather	Ramsey	...	1	55.4	...	93	23	21	5	46	2.37	...	0.79	0	7	24	1	6	nw.	F. R. Irons.
Steele	Kidder	1,857	32	56.7	+2.9	89	23	30	11	44	1.33	−0.16	0.73	0	6	11	10	10	nw.	C. D. Stiles.
Towner	McHenry	1,482	26	58.4	+6.1	98	23	24	11	51	1.53	−0.79	0.57	0	4	25	2	4	nw.	B. Bagley.
Trotters	Golden Valley	...	3	...	...	...	...	...	...	...	0.38	...	0.12	0	6	16	4	11	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	13	58.6	+5.5	94	23	19	1	56	0.48	−1.79	0.27	0	4	9	9	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	59.6	+7.0	94	23	25	12	51	0.57	−2.56	0.40	0	6	22	3	6	w.	I. C. Robertson.
Velva	McHenry	...	2	59.0	...	95	23	26	11	46	1.92	...	0.65	0	5	15	10	6	nw.	Oscar Anderson.
Wahpeton	Richland	962	34	60.0	+4.7	92	23	25	12	48	0.96	−1.85	0.42	0	5	21	0	10	nw.	C. G. Luick.
Washburn	McLean	1,731	26	...	...	...	...	...	...	...	1.22	−1.06	0.43	0	6	...	...	...	...	H. W. Smith.
Westhope	Bottineau	1,508	26	57.8	+6.4	100	23	28	4	56	0.41	−1.63	0.17	0	3	22	3	6	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	59.6	+5.6	92	23	29	4	43	0.67	−1.39	0.33	0	6	18	9	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	55.7	+4.2	96	23	23	11	47	1.59	0.33	0.65	0	5	10	14	7	nw.	M. A. Ostby.
Wilton	McLean	...	1	60.5	...	96	23	32	10	41	0.56	...	0.31	0	2	23	1	7	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	47	59.1	+4.0	92	23	30	5	46	0.46	−2.43	0.18	0	7	12	8	11	n.	U. S. Weather Bureau.
Averages	...	...	...	58.2	+5.6	107	24	16	12	58	1.15	−1.40	1.74	0	5	18	7	6	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau.

Daily Precipitation for May, 1928

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri							T.							.41	.42		.08		T.									.01		.06	.10	1.08
Amenia ‖	Red														.06	.10	T.	.30	.26														0.72
Amidon	Lit. Missouri																																
Arnegard	Missouri	T.													.02	.30	.20													T.	T.		0.52
Ashley	Missouri														T.	.05		.07														.10	0.22
Beach	Lit. Missouri							T.			T.				.09	.27	.03			.23									T.	.03		.02	0.67
Berthold Agency	Missouri														.42	.38	.15														.15	.40	1.50
Bismarck ***	Missouri													T.	.10	.09		T.			.02								.01	.02	T.	.34	0.58
Bottineau ‖	Mouse															.17	.06	.13	.40												.32	.15	1.23
Bowman	Grand														.73	.08	.02	.01														.04	0.88
Cando	Devils Lake														.61	.38	.18	.05														.76	1.98
Carson	Heart														.20	.23																.18	0.61
Cavalier	Red														.15	.05	.06	.30								.02						.72	1.30
Cooperstown	Sheyenne														.30			1.74		.16												.51	2.71
Crosby	Mouse															.05	.10	.02												.08	.12	.23	0.60
Devils Lake ***	Devils Lake													.08	.44	.06	.03	1.13		T.					T.							.70	2.44
Dickinson ‖	Heart		T.						T.	.01		T.			.12	.77	.13	.01	T.		.01									.05	.06	.06	1.22
Dogden Butte	Mouse														2.20	.40	.06	.22			T.											.45	3.33
Dunn Center ‖	Knife														.05	.42	.15				.03										.07	.61	1.33
Dunseith	Mouse														.10	.60	.20															1.05	1.95
Eckman	Mouse														.22	.88	.03	.31														.28	1.72
Edgeley	James													.16				.12														.39	0.67
Ellendale***	James		.06							.02				.01	.02	T.	T.	.19			.04					.01			T.			.32	0.67
Energy	Missouri															.25	.65	.20	.08		T.								.03	.04	T.	.25	1.50
Epping	Missouri													T.	T.	.09	.33												.04		.11	.04	0.61
Fessenden ‖	James														.15	.33	.05	.08	1.60		.01									.01		.20	2.43
Forman	Sheyenne		.07														.25		.38													.16	0.86
Fort Yates	Missouri																																
Foxholm (near)	Mouse	T.													.20	.75	T.	.54			T.					T.			.01	.10	T.	.25	1.85
Fryburg	Heart	T.							T.						.22	.42	.09												.08			.22	1.03
Fullerton	James		.08							T.					T.	T.	.06	.10								.03						.33	0.60
Garrison	Missouri														.76	.12	.16	.20											.07	.03	.06	.46	1.86
Grafton	Red				T.										.38	.21	.16	.68								.02						.26	1.71
Grand Forks ***	Red				.01									.07	.32			.17			.07					.02						.14	0.80
Granville	Mouse													T.	.22	.27	.09	.14								T.						.53	1.25
Hannah	Pembina												.36					.15														1.05	1.56
Hansboro	Devils Lake															.23	.46															1.25	1.94
Hettinger	Grand														.17	.33	.19				.03										T.	.53	1.25
Hillsboro	Red													.03	.06		.10	.04														.18	0.41
Howard (near)	Missouri		T.										.02		T.		T.	.01	.01			T.								.43	.02	T.	0.49
Jamestown ‖	James														.12	.04	.02	T.	.14								T.					.01	0.33
Lamoine	Missouri													T.	T.		.41	T.								T.						.17	0.58
Langdon ‖	Pembina															.36		.32	.20													.08	0.96
Larimore	Red														.15	.35	.25				.07												0.82
Linton	Missouri		T.												.02	T.	.18	.31											T.	T.	.11		0.62
Lisbon ‖	Sheyenne																	T.	.40												.15		0.55
McClusky	Missouri	T.												T.	.19	.22															T.	.24	0.65
McKinney (near)	Mouse	T.													T.	.20	.14	T.											T.	.20	T.	.20	0.74
McLeod	Sheyenne		T.							T.				T.	.06	T.	T.		.76													.16	0.98
Maddock	Sheyenne													T.	.35	.19	.03	T.														.50	1.07
Mandan ‖	Missouri														.05	.10	.03	.01	.06											.04	T.	.26	0.55
Manfred	James													T.	.34	.15	.16	.58											T.			.33	1.56
Marmarth	Lit. Missouri																																
Mayville	Red														.27			.29														.21	0.77
Melville	James														.40			1.60														.40	2.40
Metigoshe	Mouse															.15	.15	.30														.70	1.30
Minot ‖	Mouse													.05	.80	.15	.02	.46											.10				1.58
Mott	Cannon Ball					T.	.02	T.							.47	.29		.05			T.										T.	T.	0.83
Napoleon ‖	Missouri														.08	.05	.02	.18														.17	0.50
New England	Cannon Ball													.61	.46		.10			T.			.61					T.			.15		1.93
New Salem	Heart														.11	.33	.05	T.		T.									T.			.11	0.60
Park River	Red																																
Parshall (near)	Missouri														.18	.23	.09	.12											.04			.74	1.40
Pembina ‖	Red														T.	T.		.20	1.00														1.20
Pettibone	James													.15	.07	.08	.02	.09			.10					T.						.34	0.85
Power	Sheyenne																	.25														.16	0.41
Powers Lake	Missouri														.03	.53	.11													.05	.31		1.03
Richardton	Heart														.98	.32		1.70														.34	3.34
Sharon	Red													.09	.15	.02	.01	T.			.10					T.						.36	0.73
Stanton	Missouri															.85	.14												.03	.04		.18	1.24
Starkweather	Devils Lake													.01	.79	.20	.04	.67	.01													.65	2.37
Steele	Missouri													.15	.15	.10	.73	T.			.10											.10	1.33
Towner	Mouse														.33	.57	.08															.55	1.53
Trotters	Lit. Missouri														.12	.10	.06												.03		.02	.05	0.38
Turtle Lake	Missouri																												.06	.12	.03	.27	0.48
Valley City	Sheyenne													.02	.05	.04	.02	.04									T.					.40	0.57
Velva	Mouse														.65	.41	.06	.19						T.		T.			T.	T.	T.	.61	1.92
Wahpeton	Red		.01						.18								.15	.20	.42														0.96
Washburn	Missouri																																
Westhope	Mouse															.17	.08	.16											T.				0.41
Williston ***	Missouri	T.											T.		.04	.12	.29			T.									.03		.16	.03	0.67
Willow City	Mouse	T.													.13	.65	.14	.02											T.		T.	.65	1.59
Wilton																.25															.31		0.56
Moorhead, Minn ***	Red		T.		T.			T.		T.				.02	.03	.01	.14	.18			.03					T.						.05	0.46

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24 hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	77	67	72	71	74	80	88	86	92	70	61	70	71	61	70	75	76	74	80	68	82	93	95	81	78	64	62	71	75	78	71	75.4
	Minimum	29	37	42	34	28	42	50	42	48	37	27	25	42	47	49	52	51	51	44	37	32	48	52	60	46	41	32	33	40	40	50	41.5
Amidon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum	67	62	66	67	76	89	82	84	71	65	64	66	67	64	59	65	67	76	79	71	86	92	97	88	93	78	80	84	81	73	71	75.2
	Minimum	42	40	34	34	43	42	56	54	51	34	29	39	42	45	50	52	47	38	47	48	45	53	57	45	47	49	37	43	45	50	43	44.5
Ashley	Maximum	79	79	65	69	72	82	89	87	86	68	63	69	64	64	65	73	76	72	77	69	77	87	91	87	85	80	67	66	77	79	72	75.4
	Minimum	34	42	36	32	30	43	51	44	52	40	31	26	44	50	47	52	45	50	47	42	33	45	47	55	42	47	31	29	41	47	54	42.2
Beach	Maximum	70	69	65	66	75	86	83	86	73	63	68	76	73	66	60	66	77	75	76	62	84	89	92	86	79	69	79	75	76	70	78	74.5
	Minimum	37	37	30	38	39	48	52	55	54	36	36	39	47	53	57	52	47	38	42	38	39	50	59	48	46	50	45	50	52	49	50	45.6
Berthold Agency	Maximum	74	62	70	76	78	90	94	90	80	70	82	78	70	65	59	67	80	72	70	80	85	92	98	107	92	92	92	77	80	75	70	79.6
	Minimum	34	42	28	40	38	43	58	50	45	32	32	36	44	55	57	54	50	38	50	54	37	58	55	85	60	50	37	45	43	50	51	46.8
Bismarck	Maximum	77	59	68	67	74	84	87	89	78	66	59	72	65	65	63	69	75	74	79	63	83	89	96	82	87	71	70	65	78	76	69	74.2
	Minimum	42	45	34	37	40	47	57	50	53	41	36	38	50	54	52	55	48	47	54	40	42	52	59	62	47	46	35	36	45	52	52	46.7
Bottineau §§	Maximum	70	61	66	61	69	84	82	85	75	63	59	68	67	62	63	62	74	75	75	64	85	89	96	79	87	68	64	65	71	74	60	71.7
	Minimum	35	39	27	31	32	37	56	50	43	30	28	33	37	45	46	47	52	37	40	33	39	49	59	56	41	44	38	36	44	47	49	41.3
Cando	Maximum	74	65	68	64	70	83	87	85	85	69	60	68	65	59	64	63	76	74	67	70	85	90	96	92	82	73	60	70	71	73	69	73.5
	Minimum	33	39	32	50	27	40	53	43	47	34	28	28	42	41	51	52	53	41	45	31	41	51	52	57	41	37	32	33	41	40	50	41.5
Carson	Maximum	75	70	70	70	77	85	88	90	78	70	65	74	70	75	60	70	85	80	82	80	82	88	95	85	87	87	77	75	84	75	70	78.0
	Minimum	40	45	30	31	38	42	55	45	55	35	32	36	48	55	50	50	46	40	44	35	36	50	54	55	44	44	47	42	42	50	52	44.1
Crosby §§	Maximum	65	62	65	65	76	87	77	85	68	62	60	74	69	68	59	64	68	74	75	69	84	90	92	80	90	73	71	70	75	61	66	72.5
	Minimum	41	38	27	31	42	45	55	41	45	36	25	33	45	42	44	47	42	37	44	32	41	46	55	51	48	42	41	46	46	49	42	42.0
Devils Lake	Maximum	76	62	68	62	68	83	86	85	79	62	57	67	68	58	67	65	73	72	76	58	83	88	94	79	80	63	60	66	69	73	62	71.3
	Minimum	37	44	36	31	30	44	52	42	50	36	26	31	44	44	51	52	52	43	48	33	43	56	59	52	44	39	32	35	42	42	47	42.6
Dickinson §§	Maximum	91	57	65	66	74	86	85	87	74	65	62	76	71	62	58	65	77	73	75	64	80	86	93	81	86	74	76	76	81	75	70	74.5
	Minimum	40	40	25	34	41	38	46	40	49	31	33	39	41	49	50	51	49	39	48	38	40	50	46	54	40	41	36	45	39	49	49	42.3
Dunn Center §§	Maximum	69	60	66	66	75	87	83	87	72	63	60	75	71	59	58	59	77	74	78	65	82	88	94	80	88	72	75	75	80	77	66	73.6
	Minimum	38	42	27	31	38	37	47	41	48	34	27	37	47	49	50	50	52	36	57	37	39	45	47	59	57	53	53	50	50	59	60	45.1
Dunseith	Maximum	70	76	67	65	71	85	88	88	90	74	61	70	68	60	67	66	79	75	75	68	85	91	96	96	90	80	68	65	70	75	70	75.8
	Minimum	35	38	35	38	31	40	41	47	53	40	29	34	44	44	44	52	52	42	47	31	42	56	56	59	45	40	38	37	48	46	48	43.0
Edgeley	Maximum	78	77	69	71	73	83	92	86	85	79	63	68	62	69	65	79	74	69	78	62	80	88	92	84	84	74	68	68	72	74	72	75.4
	Minimum	32	45	35	30	32	26	53	42	56	34	30	27	35	50	50	44	47	46	40	40	32	55	51	61	39	40	28	28	43	42	51	40.8
Ellendale	Maximum	79	60	67	68	69	82	92	87	84	67	58	68	60	66	65	70	79	72	77	61	78	86	90	82	81	68	65	66	73	74	67	72.9
	Minimum	33	47	38	35	30	38	56	46	50	43	30	32	40	51	52	54	45	50	49	42	37	54	48	51	43	40	32	33	48	43	52	43.3
Fessenden §§	Maximum	77	61	71	67	74	83	79	79	82	64	60	72	61	60	65	65	78	72	78	67	84	87	97	80	85	69	67	66	75	75	65	73.1
	Minimum	34	43	31	31	28	44	51	51	51	37	28	25	44	46	48	50	53	45	49	36	42	51	59	58	43	41	33	32	46	44	49	42.7
Foxholm (near)	Maximum	69	61	66	62	72	86	80	86	76	62	55	70	67	59	58	57	74	71	74	64	82	85	93	83	88	77	65	65	71	70	67	71.5
	Minimum	36	39	31	31	30	44	59	43	52	36	25	33	45	44	50	50	47	61	48	31	47	59	59	52	46	40	38	35	43	47	50	43.6
Fullerton	Maximum	79	69	68	68	70	83	94	88	85	68	60	70	66	67	65	70	82	73	77	82	83	89	92	85	82	71	67	68	75	75	67	75.4
	Minimum	33	49	37	34	30	36	53	47	48	42	33	28	39	50	48	51	44	50	46	45	35	52	47	58	43	44	32	33	48	42	52	42.9
Garrison	Maximum	76	63	70	68	75	86	85	87	75	65	61	72	67	61	59	63	77	74	78	65	83	86	93	79	87	69	69	64	74	73	67	73.3
	Minimum	42	43	30	31	34	42	54	42	49	34	29	29	50	49	51	53	48	39	47	36	44	52	55	53	45	44	37	35	45	49	46	43.1
Grafton	Maximum	75	70	71	66	68	80	88	84	82	71	62	68	72	59	68	71	77	74	77	68	85	89	96	94	78	63	63	68	72	73	72	74.3
	Minimum	27	49	39	33	30	25	51	40	52	36	29	26	30	44	53	52	51	47	52	33	38	45	50	50	48	39	35	36	38	35	50	40.7
Grand Forks	Maximum	75	66	70	64	62	78	88	83	84	64	58	67	69	58	70	74	75	73	77	57	84	91	95	79	72	62	60	67	70	71	62	71.8
	Minimum	30	49	42	33	27	39	54	43	51	39	28	28	45	49	51	53	56	49	53	38	35	54	53	55	45	38	32	34	41	37	50	42.9
Granville	Maximum	50	45	68	60	70	70	80	86	70	50	50	55	52	60	58	62	74	74	75	63	82	85	95	80	78	70	68	64	72	75	65	67.9
	Minimum	35	40	28	29	38	48	58	60	45	34	23	26	50	43	52	52	45	38	45	33	43	56	57	52	43	38	33	30	42	47	50	42.4
Hansboro	Maximum	74	70	74	70	74	84	86	85	78	63	60	67	67	62	69	67	76	75	62	62	87	98	95	85	82	68	63	74	74	74	67	73.9
	Minimum	40	35	35	26	22	34	45	35	46	30	20	25	37	35	43	45	46	37	42	24	40	48	47	50	42	28	26	35	25	30	46	36.1
Hettinger	Maximum	70	55	64	66	74	83	85	86	76	68	63	71	70	63	56	66	77	71	70	62	79	85	93	81	83	75	77	75	82	75	66	73.1
	Minimum	33	45	26	30	35	37	50	41	44	36	38	38	41	50	50	50	50	42	45	40	35	37	51	57	42	47	39	48	43	51	50	42.7
Hillsboro	Maximum	75	74	71	79	65	79	88	86	88	78	64	69	69	60	71	78	74	75	80	78	83	92	94	93	79	72	62	70	71	76	76	76.1
	Minimum	30	49	43	36	29	37	54	44	53	41	29	27	40	48	52	53	52	51	50	38	35	50	52	62	49	41	34	35	41	39	49	43.3
Howard (near)	Maximum	58	70	61	62	64	74	88	78	85	67	60	60	60	74	70	61	60	62	67	73	75	68	84	90	90	77	78	74	80	64	61	70.8
	Minimum	35	40	30	26	26	33	44	52	42	41	32	42	26	37	50	41	46	52	48	37	43	35	45	44	55	45	36	45	42	47	41	40.7
Jamestown §§	Maximum	66	61	69	70	71	83	90	88	87	68	60	70	66	64	66	67	76	72	77	63	83	90	93	82	84	68	66	68	76	76	68	73.8
	Minimum	43	36	45	33	28	28	44	43	43	37	34	29	35	47	50	52	48	47	48	38	35	47	50	60	43	44	33	32	41	44	53	44.6
Lamoine	Maximum	78	69	68	64	73	78	85	84	77	63	56	71	62	62	62	65	78	70	75	70	80	86	95	84	84	65	66	65	73	73	66	72.5
	Minimum	36	40	34	33	32	40	42	40	53	35	26	26	48	40	50	52	50	40	48	35	35	35	53	53	38	42	32	31	42	48	45	40.5
Langdon §§	Maximum	64	70	63	65	80	87	83	76	68	60	68	67	60	68	66	75	73	76	58	85	91	94	76	78	60	58	69	68	71	59	59	70.8
	Minimum	33	40	29	30	26	34	54	40	47	30	25	31	40	40	45	45	52	40	43	31	40	50	55	55	40	34	30	30	42	38	50	39.3
Larimore §§	Maximum	66	70	67	70	80	90	86	87	66	60	65	70	57	67	73	76	75	78	57	85	92	96	80	76	63	61	70	70	75	61	61	72.6
	Minimum	31	40	40	33	25	35	53	40	50	37	25	25	27	47	47	50	50	46	50	35	37	50	58	60	45	40	31	33	40	35	45	40.6
Linton	Maximum	81	71	68	82	85	87	92	91	86	71	61	71	67	63	66	74	80	75	79	77	83	89	96	97	87	89	76	71	81	79	....	[a]79.2
	Minimum	32	46	27	21	45	48	52	45	53	33	32	36	50	54	49	52	46	47	49	41	29	44	54	60	37	49	34	28	40	58	....	[a]43.1
Lisbon §§	Maximum	79	66	70	70	71	82	90	86	87	69	60	69	68	71	68	74	80	74	79	60	81	90	92	82	80	69	65	70	75	76	70	74.9
	Minimum	30	43	40	35	30	39	56	45	50	37	33	36	37	48	52	52	49	40	40	38	30	46	40	52	43	43	32	34	37	42	50	41.3
McClusky	Maximum	75	63	62	65	71	75	78	85	85	72	57	70	72	63	61	65	68	71	76	78	82	84	91	88	84	68	66	64	75	73	69	72.8
	Minimum	59	40	40	30	32	59	55	52	45	42	25	29	46	47	45	52	48	39	51	46	36	44	52	38	35	38	35	26	39	46	49	42.4
McKinney (near)	Maximum	69	61	64	64	75	88	80	88	74	64	59	73	71	67	58	62	75	78	79	74	88	91	98	81	91	70	68	67	73	70	67	73.8
	Minimum	21	37	28	25	25	34	59	35	50	36	21	22	49	44	49	49	47	39	43	28	46	55	52	48	38	38	30	36	51	49	56	40.0
Maddock	Maximum	75	75	69	69	70	83	88	87	86	76	63	69	65	59	64	64	79	74	79	75	83	89	95	94	84	85	70	65	71	76	75	76.0
	Minimum	32	39	31	27	25	40	53	42	49	34	21	25	42	41	50	50	52	40	46	32	40	52	52	51	39	38	30	32	41	40	49	39.9
Melville	Maximum	54	56	57	58	54	56	58	54	56	58	59	60	62	51	65	55	68	65	58	52	56	79	91	85	89	82	81	80	81	76	74	65.5
	Minimum	31	40	34	32	32	30	36	31	36	35	31	28	36	25	32	40	45	44	39	31	35	55	64	60	58	40	45	30	44	42	50	39.1
Minot §§	Maximum	63	71	63	73	90	87	93	80	66	57	70	65	57	56	58	75	77	81	68	87	90	100	85	89	75	76	70	77	77	78	68	74.9
	Minimum	42	28	28	31	42	61	40	49	36	26	31	31	46	51	51	45	39	47	33	45	57	59	55	45	45	43	33	43	54	48	54	43.2
Mott	Maximum	76	74	68	67	62	68	66	70	72	68	68	72	76	71	68	76	79	75	77	76	78	87	95	82	88	85	84	82	84	77	77	75.7
	Minimum	41	38	36	35	33	35	32	38	40	34	36	38	42	41	40	50	50	44	45	42	41	48	56	44	47	45	39	41	44	42	42	41.4
Napoleon §§	Maximum	80	59	68	71	75	85	92	90	82	68	58	70	63	64	65	72	78	74	79	62	81	90	95	83	87	70	68	68	79	80	68	75.0
	Minimum	33	42	30	28	29	34	54	44	52	35	29	26	38	53	50	50	49	49	48	41	35	52	57	60	38	45	27	24	30	48	50	41.3
New Salem	Maximum	61	60	68	62	75	88	88	88	89	68	69	74	68	69	61	70	80	73	78	72	84	91	96	85	90	88	79	70	81	80	78	76.9
	Minimum	37	45	35	35	32	39	57	45	58	41	29	32	50	45	51	51	48	41	58	36	43	54	62	55	49	48	63	36	40	51	51	45.7
Pembina §§	Maximum	62	72	78	72	68	72	74	78	76	72	58	68	72	74	78	79	78	78	58	62	79	95	96	82	78	65	72	74	72	76	72	73.9
	Minimum	33	33	33	34	35	33	38	38	45	35	25	28	33	43	38	45	45	42	46	38	41	48	48	47	48	37	32	30	38	41	45	38.5
Steele	Maximum	78	60	58	67	65	82	88	87	86	66	70	75	66	60	65	76	79	74	79	62	78	84	89	78	82	70	62	60	66	71	70	72.7
	Minimum	35	35	35	38	41	32	54	45	46	33	30	31	45	45	46	47	47	44	49	37	35	44	50	55	38	42	31	32	40	40	40	40.7
Towner	Maximum	75	70	70	67	67	87	84	88	84	75	64	70	68	60	62	62	60	68	70	72	71	77	98	95	89	77	76	68	70	75	76	74.1
	Minimum	42	38	40	36	27	36	36	52	46	38	24	38	40	45	48	57	50	50	50	46	48	45	50	55	50	57	46	35	28	36	39	42.7
Valley City	Maximum	78	75	68	69	68	84	90	87	89	78	64	69	69	62	67	68	72	75	79	76	82	91	94	92	81	77	65	69	72	77	74	76.2
	Minimum	27	56	40	32	30	40	59	45	53	38	31	25	40	49	52	54	50	50	45	38	32	52	52	65	44	44	29	33	38	40	52	42.9
Wahpeton	Maximum	78	77	68	72	67	79	83	86	88	81	68	69	68	75	73	74	76	75	80	78	79	88	92	89	80	72	66	69	73	74	74	76.5
	Minimum	33	52	43	33	29	40	54	45	58	40	32	25	44	52	54	53	55	54	43	42	31	51	55	57	40	46	39	33	40	41	47	43.6
Westhope	Maximum	65	68	67	64	72	88	82	88	78	68	61	70	68	68	61	62	78	86	78	68	80	93	100	91	90	72	69	63	72	73	68	74.5
	Minimum	36	36	29	28	32	42	53	52	44	35	33	30	30	48	47	50	58	30	40	29	34	58	59	49	49	39	34	32	45	45	49	41.1
Williston	Maximum	64	61	63	66	75	88	80	86	69	61	61	75	71	60	60	63	72	73	77	69	85	90	92	80	89	74	75	75	80	68	66	73.2
	Minimum	45	40	33	29	45	49	51	43	44	38	29	47	52	44	52	54	47	43	41	38	48	56	60	52	52	53	43	51	46	49	45	45.9
Moorhead, Minn	Maximum	75	65	68	67	65	77	84	85	87	66	57	67	66	71	70	75	77	73	78	60	81	91	92	81	74	63	62	68	69	73	72	72.9
	Minimum	36	50	46	38	30	39	53	49	56	43	34	34	43	49	54	55	54	53	48	40	35	51	53	60	49	44	35	35	46	42	50	45.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 6-26-28—1000]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVII   Bismarck, N. D., June, 1928   No. 6

GENERAL SUMMARY

Cool weather prevailed throughout the month in all sections of the State. It was the coolest June since 1916. The temperature was below freezing on the 2d-3d and again on the 9th-10th at many places and some garden truck, corn and other tender crops were damaged by frost. At the close of the month temperatures were somewhat higher. Crops needed rain at the beginning of the month and pastures and ranges were drying, but from the 4th to the 30th good showers occurred in all sections. June was the first month in 1928 with precipitation above normal. Heavy rain fell at many places on the 7th-8th, 11th-12th and again on the 18-19th. Only five other years since 1892 had more rainfall in June than 1928. By the close of the month crops were in good condition generally, but more sunshine and higher temperatures were needed.

TEMPERATURE

The mean temperature for the State was 58.2°, or 4.6° below the normal, and 3.0° lower than the average for June, 1927. The highest mean reported was 61.2° at Pembina, Pembina County; the lowest was 54.2° at Steele, Kidder County. The highest temperature reported was 92° at Melville, Foster County, on the 30th; the lowest was 24° at Melville, Foster County, on the 8th. The greatest monthly range of temperature was 68° at Melville, Foster County; the least was 38° at Dunn Center, Dunn County. The greatest daily range in temperature was 52° at Pembina, Pembina County.

PRECIPITATION

The average precipitation for the State was 5.07 inches, or 1.57 inches above the normal, and 2.23 inches more than the average for June, 1927. The greatest monthly amount reported was 10.61 inches at Stowers, Adams County; the least was 1.88 inches at Power, Richland County. The average number of days with 0.01 inch or more of precipitation was 12.

AURORAS

Auroras were observed at Beach and Foxholm on the 12th; at Bottineau and Willow City on the 13th; at Ellendale on the 16th and 17th; and at Towner on the 22d.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Winds: Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.81	30.15	9	29.21	12	57	5,214	7.2	40§	ne.	12
Devils Lake	29.82	30.11	24	29.27	12	44	5,105	7.1	27§	n.	12
Ellendale	29.84	30.12	9	29.17	12	56	7,762	10.8	40§	ne.	12
Grand Forks	29.79	30.04	24	29.20	12	90	....	......	37	n.	12
Williston	29.82	30.20	9	29.15	12	48	4,113	5.7	24§	n.	12
Moorhead, Minn	29.81	30.09	14	29.12	12	58	4,969	6.9	22§	nw.	8
Av'ges and extremes	29.82	30.20	9	29.12	12	.....	....	7.5	40§	ne.	12

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	192.1	475.1	40	−22	84	53	53	23	4
Devils Lake	298.9	478.7	64	+ 4	83	58	59	25	3
Ellendale	332.1	470.9	71	+10	81	54	....	24	4
Grand Forks	......	......	......	......	76	.....	57	....	....
Williston	255.5	478.7	53	− 8	80	51	50	24	11
Moorhead, Minn	345.1	475.1	73	+10	76	52	52	20	3†
Averages and extremes	284.7	475.7	60	− 6	80	54	54	20	3†

† And other dates.

COMPARATIVE STATE DATA FOR JUNE

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P'cdy days	Cl'dy days	Wind Dir.
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.1	108	20	3.51	+0.01	9	14	10	6	se.
1922	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.
1923	66.1	+3.3	100	30	3.82	+0.32	8	13	12	5	se.
1924	58.6	−4.2	89	26	4.17	+0.67	11	10	12	8	nw.
1925	61.5	−1.3	98	30	6.07	+2.57	14	11	10	9	nw.
1926	60.7	−2.1	104	22	2.65	−0.85	9	13	9	8	nw.
1927	61.2	−1.6	99	22	2.84	−0.66	9	11	13	6	nw.
1928	58.2	−4.6	92	24	5.07	+1.57	12	10	10	10	nw.

Climatological Data for June, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								5.26		1.36	0	17					H. A. Bury.
Amenia	Cass	954	32	54.9	−8.6	86	29	28	3	44	5.41	+1.54	2.06	0	10	18	9	3	nw.	E. T. Carley.
Amidon	Slope		14																	W. H. Toussaint.
Arnegard	McKenzie		13	58.6	−3.4	84	15	35	9	39	4.53	+1.24	1.18	0	14	17	5	8	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	59.2	−2.8	83	30	33	2	43	4.77	+1.28	2.48	0	7	17	8	5	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	56.8	−4.3	80	6	36	1†	35	4.33	+0.85	0.98	0	16	9	9	12	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	58.5	−4.1	84	30	34	9	37	2.65	−1.23	0.94	0	10	12	4	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	59.4	−4.3	81	30	38	9	33	4.81	+1.46	2.59	0	16	10	10	10	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	57.1	−3.9	80	29	33	9†	34	7.66	+4.52	2.92	0	12	12	9	9	ne.	N. A. Eckberg.
Bowman	Bowman	2,961	14								5.35	+2.14	1.47	0	15	6	3	21	nw.	M. S. Byrne.
Cando	Towner	1,488	27	58.7	−3.0	85	30	34	4	41	5.58	+1.70	1.21	0	11	7	15	8	ne.	A. J. Swanson.
Carson	Grant	2,500	16	59.6	−3.4	84	1	33	9	48	3.96	+0.09	0.90	0	11	9	14	7	nw.	J. W. Evens.
Cavalier	Pembina										5.77		1.58	0	16	9	13	8	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	22								4.74	+1.10	1.30	0	9	12	10	8	nw.	S. Friswold.
Crosby	Divide	1,954	21	57.6	−3.0	79	29	35	9	35	2.77	−0.58	0.58	0	15	4	15	11	se.	John Jensen.
Devils Lake	Ramsey	1,478	31	57.6	−5.0	83	29	35	3	33	5.17	+1.64	1.52	0	14	10	9	11	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	57.1	−4.2	82	6	32	1	39	3.39	+0.35	0.95	0	17	12	6	12	sw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	56.2		78	29†	34	2†	31	7.25		1.45	0	14	10	10	10	se.	R. L. Williams.
Dunn Center	Dunn	2,191	29	60.1	−1.8	80	30	42^{a}	17	31^{a}	3.59	−0.71	0.63	0	16	4	6	20	se.	W. F. Moede.
Dunseith	Rolette	1,682	32	58.3	−2.9	83	29	34	10	35	5.09	+2.13	1.10	0	12	9	15	6	sw.	J. G. Lamont.
Eckman	Bottineau	1,500	23	57.0	−4.3	85	30	28	9	47	3.74	+0.98	0.90	0	13	0	15	14	se.	C. E. Strock.
Edgeley	LaMoure	1,468	27	57.5	−5.3	82	6†	31	2	42	7.33	+3.97	4.95	0	9	0	21	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	59.2	−6.8	83	16	34	3	38	5.63	+2.63	1.80	0	12	3	17	10	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	16	59.4		89	30	34	9	36	4.75	+1.14	1.34	0	10	3	22	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	20	57.2		82	7	38	17†	38	2.94	−0.40	1.07	0	12	11	10	9	se.	A. O. Wang.
Fessenden	Wells	1,610	16	58.8	−2.2	85	15	34	2†	41	7.66	+3.61	2.60	0	15	9	8	13	nw.	T. D. Monsen.
Forman	Sargent	1,249	34								4.14	+0.53	1.26	0	10	7	13	10	sw.	O. Enger.
Fort Yates	Sioux	1,670									5.49	+1.83	2.47	0	8					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	57.1		80	29†	35	9	35	2.97		1.50	0	9	6	9	15	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								4.72		1.03	0	15	8	12	10	se.	Verne King.
Fullerton	Dickey	1,439	30	59.8	−2.9	85	30	33	2	40	6.65	+3.37	2.10	0	13	14	13	3	ne.	F. O. Alin.
Garrison	McLean	1,901	33	57.1	−5.1	81	30	35	9	34	5.57	+2.25	1.52	0	12	15	6	9	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	60.2	−2.3	89	29	30	3	41	5.17	+1.93	1.48	0	12	8	16	6	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	59.2	−3.7	84	29	31	2†	40	5.08	+1.69	2.36	0	14	9	13	8	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	57.8	−5.3	80	29†	33	9	37	4.68	+1.93	1.22	0	11	5	17	8	se.	W. A. Christianson.
Hannah	Cavalier	1,568	34								5.10	+1.66	1.75	0	8					J. Moffatt.
Hansboro	Towner	1,597	20	58.1	−2.3	90	29	29	3	46	3.55	+0.86	0.90	0	10	10	12	8	ne.	C. E. Blackorby.
Hettinger	Adams	2,675	21	57.0	−5.1	82	6†	31	10	44	6.27	+3.03	1.30	0	12	15	7	8	nw.	C. H. Plath.
Hillsboro	Traill	901	22	56.0	−8.4	87	30	33	3	41	4.47	+1.12	2.51	0	13	13	12	5	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	21	55.4	−4.3	79	30	30	10	38	3.26	+0.67	1.37	0	11	7	14	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	59.2	−3.9	84	30	34	2	42	4.62	+0.84	1.50	0	11	14	3	13	s.	S. Calvelage.
Lamoine	Kidder	1,936	23	57.0	−3.5	80	30	31	2	40	6.09	+2.77		0	9	9	11	10	ne.	E. V. Virgin.
Langdon	Cavalier	1,615	32	57.2	−2.5	81	29	31	2†	38	5.24	+1.74	1.50	0	14	18	0	12	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	58.7	−3.4	85	29	32	2	37	8.40	+4.90	2.00	0	12	11	6	13	n.	Reuben Gray.
Linton	Emmons	1,711	10																	Rev. O. Weber.
Lisbon	Ransom	1,091	24	59.6	−3.5	85	16	32	2†	46	3.37	−0.92	1.23	0	8	9	17	4		L. B. Walker.
McClusky	Sheridan	1,943	10	57.2		82	6	34	9	38	6.25		2.25	0	10	9	17	4	se.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	34	57.0	−3.7	82	29	30	3	42	3.29	−0.01	1.50	0	7	2	19	9	n.	N. P. Swenson.
McLeod	Ransom	1,075	16	60.5	−4.5	83	16†	30	3†	45	2.37	−1.83	0.84	0	8	11	13	6	nw.	J. G. Carlson.
Maddock	Benson	1,604	12	57.8	−3.6	88	10	28	3	42	6.32	+3.12	1.56	0	13	2	18	10	ne.	A. T. Felland.
Mandan	Morton	1,644	14	59.1	−5.1	82	30	35	9	39	4.88	+1.72	1.95	0	14	6	8	16	n.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25	57.6	−3.9	79	28	33	3	36	7.77	+4.19	2.60	0	13	10	11	9	ne.	P. B. Anderson.
Marmarth	Slope	2,714	19																	Wm. Lamb.
Mayville	Traill	975	32	60.0	−4.5	91	6†	28	3	50	3.01	−0.50	2.36	0	11	15	5	10	n.	N. C. Burhans.
Melville	Foster	1,590	30	58.0	−4.9	92	30	24	8	42	7.67	+4.16	2.40	0	9	17	0	13	se.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		3								8.14		2.02	0	9	20	4	6	ne.	J. A. Thorburn.
Minot	Ward	1,557	32																	W. I. Faris.
Mott	Hettinger	2,424	21	57.6	−5.4	86	13	32	10	40	6.37	+2.97	1.75	0	15	8	7	15	nw.	O. H. Opland.
Napoleon	Logan	1,955	36	58.2	−4.0	83	6†	32	9	43	4.66	+1.04	1.57	0	13	12	8	10	s.	C. J. Hoof.
New England	Hettinger	2,400	37	56.6^{f}	−5.4	83^{f}	7	34	2†	38^{f}	5.23	+2.54	0.94	0	17	4	14	12	nw.	W. L. Sales.
New Salem	Morton	2,163	24	59.8	−3.0	84	30	31	9	37	3.32	−0.39	1.30	0	14	7	19	4		J. Christiansen.
Park River	Walsh	998	24	58.4	−4.8	84	29	31	2†	37	4.95	+1.62	1.63	0	10	12	7	11	nw.	C. B. Wright.
Parshall (near)	Mountrail		13								3.43	+0.31	1.95	0	9	6	11	13	nw.	John A. Anderson.
Pembina	Pembina	789	54	61.2	−1.4	86	26†	30	2	52	5.80	+2.52	1.70	0	8	13	6	11	e.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	57.8	−2.4	81	30	32	2†	37	4.87	+1.65	2.24	0	10	10	5	15	ne.	A. L. Carlson.
Power	Richland	1,020	34								1.88	−2.08	0.41	0	8	15	13	2	s.	Frank B. Power.
Powers Lake	Burke	2,205	14	56.4		87	29†	32	9	36	4.88	+2.02	1.07	0	11	15	6	9	se.	Geo. B. Gee.
Richardton	Stark	2,467	12	57.2	−5.4	80	30	36	9	35	4.55	+1.22	1.06	0	14	3	18	9	se.	John Muggli.
Sharon	Steele	1,516	3	58.7		86	29	32	2	36	6.29		2.11	0	12	11	8	11	n.	Nels O. Gretsheim.
Stanton	Mercer	1,722	4								4.13		1.20	0	7	8	14	8	se.	J. H. Giffey.
Starkweather	Ramsey		1																	F. R. Irons.
Steele	Kidder	1,857	32	54.2	−8.2	80	16	30	9	38	6.37	+3.04	2.20	0	13	6	14	10	se.	C. D. Stiles.
Stowers‡‡	Adams		13								10.61	+7.54	2.05	0	16	9	1	20		Chas. E. Stowers.
Towner	McHenry	1,482	26	58.8	−3.4	91	29	28	1	44	4.91	+1.83	1.22	0	8	18	6	6	nw.	B. Bagley.
Trotters	Golden Valley		3								5.67		3.12	0	12	5	3	22		A. J. Nellermoe
Turtle Lake	McLean	1,899	13	57.5	−4.6	80	30	32	1†	36	5.83	+2.15	1.65	0	11	3	9	18	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	60.2	−3.0	84	29	32	3	46	4.85	+1.54	1.70	0	9	16	6	8	s.	I. C. Robertson.
Velva	McHenry	1,511	2	57.8		82	30	36	2†	35	4.79		0.78	0	13	6	13	11	e.	Oscar Anderson.
Verona	LaMoure	1,387	34								6.20		2.55	0	11	10	4	16	sw.	Louis C. Schmidt.
Wahpeton	Richland	962		60.8^{c}	−1.0	86^{c}	29†	29^{c}	3	45^{c}	2.74	−1.21	1.02	0	14	22	0	8	se.	C. G. Luick.
Washburn	McLean	1,731	26								5.27	+1.72	2.43	0	9					H. W. Smith.
Westhope	Bottineau	1,508	26	59.0	−2.6	83	28†	33	9	37	5.30	+2.36	1.38	0	10	12	15	3	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	58.4	−4.3	80	29	36	9	33	4.56	+1.13	1.94	0	16	8	13	9	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	57.6	−3.4	83	29	32	3†	40	6.56	+3.38	1.66	0	13	11	12	7	nw.	M. A. Ostby.
Wilton	McLean		1	60.4		90	28	36	8	35	6.82			0	12	17	4	9		L. Q. Perkins.
Moorhead, Minn.	Clay	935	47	60.2	−4.2	85	29	35	2	35	3.13	−0.92	1.44	0	11	8	6	16	n.	U. S. Weather Bureau.
Averages				58.2	−4.6	92	30	24	8	52	5.07	+1.57	4.95	0	12	10	10	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for June, 1928

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			.35	.11	.01		.35	.04			.16	.03		.03		.68	1.36		.11	.05		1.02	.65	.08			.21			.03		5.26
Amenia ‖‖	Red	.15						.05	.56	.06			2.06	1.04		T.	.52	.22	.03	.72													5.41
Amidon	Lit. Missouri																																
Arnegard	Missouri				T.	.10		.18	.20	.02						.36	.70	.02	.95	.32	.06	T	T	1.18	.18	.23					.03		4.53
Ashley	Missouri											.18	2.48						.55		.38							.71	.05		.42		4.77
Beach	Lit. Missouri			.16	.18	T.		.43	T.	T.		.15			.13	.04	.33	.02	.86	.02	T.		.42	.98	.54	T.	.01	.02			.04		4.33
Berthold Agency	Missouri	T.			T.	.21			.28			.28	.08			.40		.94	.08	.05				T.	.18						.15		2.65
Bismarck ***	Missouri	T.				.17		.11	.01			.82	1.77	T.	.03	.29	.27		.83	.02	.07			.05	.06			.22		.01	.08		4.81
Bottineau‖‖	Mouse	.15							1.37	.06		.11		.04			.08	1.67	.02	2.92	1.15	.02			.07								7.66
Bowman	Grand				.05	.05		.10				.60	.38				.52	.45	.22		.35		.83	1.47	.05		.15	.02			.11		5.35
Cando	Devils Lake			T.	.09	T.		.56	.29		T.		1.21			.28	.22	.25	.49	.97	1.00										.22		5.58
Carson	Heart					.15			.05			.36	.90						.40		.73		.04	.18	.15			.73			.27		3.96
Cavalier	Red						.24	.08	1.58	.04	.02		1.08	.03	.01	.02	.92		.40	.65	.56		.10	.03							.01		5.77
Cooperstown	Sheyenne							.50	.05			1.30	.62			.08	.28		.58	1.25				.08									4.74
Crosby	Mouse	.03	.02			.03	.18	.16	.08							.20	T.	.58	.05	.53	.31	.10		.20	.29	.01					T.		2.77
Devils Lake ***	Devils Lake					T.		.32	.42			.13	1.18	T.		.20	.01		.74	.14	1.46	.02	.01	.11				.12			.31		5.17
Dickinson‖‖	Heart				T.	.01	.12	.30	T.	.07			.34	.03		.09	.32	.38	.95	.13	.02	.07	T	.16	.20	.02					.18		3.39
Dogden Butte	Mouse	.05			T.	.17		.81	.76				1.19			.28	1.45	T.	.73	.31	.42	.01		.84	.11						.12		7.25
Dunn Center ‖‖	Knife					.02	.02	.36		.08			.09				.03	.40	.58	.22	.12	.14		.19	.63	.15	.26				.30		3.59
Dunseith	Mouse				.01	.03		1.00	.60		.25		.14	.01		T.		.42	.45	1.10	.93										.15		5.09
Eckman	Mouse					.03		.90	.32		.06					.09	.63	.12	.73	.43	.32			.04	.04						.03		3.74
Edgeley	James						.15						4.95						.82	.59		.05		.12	.15			.30			.20		7.33
Ellendale***	James	T.				T.	T.	.13	.01			.93	.50			.02			1.80	.52	T.	.04	T.	.10	T.			1.48	.04		.06		5.63
Energy	Missouri					.25		.28	T.				1.16		T.	.88	.40	T.	1.34	.05	.04	T.	T.	.10	.25			T.					4.75
Epping	Missouri		T.		.12			.09	.11							.19	.54	.06	.65	.03	.04	T.	T.	1.07	.02	.02							2.94
Fessenden‖‖	James	.16						.40	.82	.11			1.22	.81			.33	.02		2.60	.52	.06	.14	.02	.42						.03		7.66
Forman	Sheyenne							1.26				.25	1.04	.06			.30			.41	.29							.15	.34		.04		4.14
Fort Yates	Missouri											2.47	.23		1.04				.45		.75			.17				.28		.10			5.49
Foxholm (near)	Mouse				T.	.50	T.	.13	.18							.03	.21	T.	1.50	.02	.29		T.		.11								2.97
Fryburg	Heart			.01	.03	.04		.50	.05			.18		.02	T.	T.	.78		1.03	T	.10	T.	.15	.93	.12	T.		.48		T.	.30		4.72
Fullerton	James						.03	.23	T.			.43	2.10			.20			1.17	.75	.07	.35		.22				.55	.30		.25		6.65
Garrison	Missouri					.51	T.	.46	.03			.36	.65			.70	.54	.02	1.52	.60	.06	T.		T.	.12						T.		5.57
Grafton	Red						.01		.91	.06	.07		1.48	.01		.05	.54		.26	.79	.97			.02							T.		5.17
Grand Forks ***	Red						.02	.06	.41			.84	1.52	.01		.43	.07		.36	.32	.99	T.		.01	.02						.02		5.08
Granville	Mouse	T.				.07		.73	.35				.24	T.		.25	.98	.08	1.22	.06	.15	T.		.14	.05			.24			.12		4.68
Hannah	Pembina				.41			1.02			.78				.15	.75				1.75	T.	.12	T.	T.				.12		T.			5.10
Hansboro	Devils Lake	.05									.05		.30					.90	.60	.60	.35	.05		.05							.60		3.55
Hettinger	Grand	T.					.17	T.		.05			.92	.70				.08	.58	T.		.53		1.30	.86	.10		.77	T.		.21		6.27
Hillsboro	Red						.02	.12	.21				2.51	.53		.04	.31	.20		.31	.03	.04		.13							.02		4.47
Howard (near)	Missouri	T.		T.		.02		.01	.02		.02				.07	.58		T.	.14	T.	T.		1.00	1.37	.02	.01					T.		3.26
Jamestown‖‖	James	.61					.35		T.				1.50	.18			.26	.25		1.07	.16	.08			.12				.04		T.		4.62
Lamoine	Missouri					*	.41	.16	.26			*	2.30				.53			1.19		1.24			T.						T.		6.09
Langdon‖‖	Pembina						.08		1.50	.05			.36	.72		.18	.53	.08		.92	.35	.30	.03	.08	.06								5.24
Larimore	Red	.60							1.00	.25			1.50	.60		.30	.60	.25	.10	1.10	2.00	.10											8.40
Linton	Missouri																																
Lisbon ‖‖	Sheyenne	.15						.15	.22				1.23	.55						.55	.12								.40				3.37
McClusky	Missouri	T.				.01		1.21	.27			T.	2.25				1.35		.78	.13	.05	T.		.10	.10								6.25
McKinney (near)	Mouse	T.				.55		.45	.12		T.					.12	.15	T.	1.50	.40	T.	T.	T.		T.						T.		3.29
McLeod	Sheyenne						.20	.15	.08			T.	.84	.51						.48	.03		T.	T.				T.			.08		2.37
Maddock	Sheyenne				T.	T.		.67	.27			.12	1.56				.41	.07	.82	1.27	.69	.03	T.	.09	.26						.06		6.32
Mandan‖‖	Missouri					.12	T.	.16		T.			1.95	.63			.26	.01	.44	.67	.02	.12			.04			.23	.02		.21		4.88
Manfred	James						T.	1.01	.24			.21	1.45				.17		2.60	.25	.54	.11	.90	.12	.14					.04			7.77
Marmarth	Lit. Missouri																																
Mayville	Red	.30						.10	.04				2.36	.02			.05	.03		.05	.02	.02									.02		3.01
Melville	James								2.40			.95	1.05			.72	.50	.40	.50	.45	.70												7.67
Metigoshe	Mouse							1.50	.30		.05						2.02	1.64	1.44	.70	.24										.25		8.14
Minot‖‖	Mouse																																
Mott	Cannon Ball					.05	.24			T.	T.	.30	.95			.24	.08		.28	.04	.35		.18	1.23	.18	.40		1.75			.10		6.37
Napoleon ‖‖	Missouri	.08						.27	.01	.05			1.57	.18					.02	.90	.30	.07			.20				.91		.10		4.66
New England	Cannon Ball			T.	.02		.38			.03		.30	.53		.56	.03	.44	.94	.03	.17	.20		.10	.86	.39			.03		.22			5.23
New Salem	Heart					.11		.12	.02			.05	1.30			.08	.06		.55	.05	.17			.09	.17			.46			.09		3.32
Park River	Red	.02						.14	.11				1.28			.12	.50	.16	.19	.80	1.63												4.95
Parshall (near)	Missouri				.15	.04		.40	.08							.30	.35		1.95	.08	.08												3.43
Pembina ‖‖	Red	.70				T.			1.00		T.		.10	1.00			1.70		.50	.70	T.	.10											5.80
Pettibone	James							.20	.08			.15	2.24				.12		1.34	.24	.41			.05							.04		4.87
Power	Sheyenne							.18	.06			.34	.40	.41			.31			.10											.08		1.88
Powers Lake	Missouri				.46	.11			.31	.61	.07					.81	.56		1.07	.59			.16		.13								4.88
Richardton	Heart				T.	.26						.61	1.06			.16	.29		.51	.03	.02		.11	.06	.26	.43		.44			.31		4.55
Sharon	Red						T.	.32	.52			.21	2.11			T.	.91		.30	.34	1.35	.01	.09	.11				T			.02		6.29
Stanton	Missouri		.07			.10		.53					1.20			.68		T.	1.07						.48								4.13
Starkweather	Devils Lake																																
Steele	Missouri				T.	T.		T.	T.			.10	2.20	.10	T		.35	.10	1.00	.50	.55	.10	.30	.57	.40	T		T.		T.	.10		6.37
Stowers	Cannon Ball	.05					.21	T.		.10			.95	.80		1.05		.90	.60	T.		.40		2.05	.80	.25		.90	.25	1.10	.20		10.61
Towner	Mouse						1.00	.50					.55				.10	.11	1.22	1.18	.25												4.91
Trotters	Lit. Missouri			.02	.10	T.		.33	.12			.09				.36	.48		.80	.03				3.12	.13	T.				.09			5.67
Turtle Lake	Missouri					T.		.66	.05				1.65			.03	1.62		1.04	.12	.23	.02	T.	.23	.18								5.83
Valley City	Sheyenne							.32	T.			1.70	.95				.72	.40	.57	.05	T.		.02								.12		4.85
Velva	Mouse				T.	.23		.28	.53				.69			.24	.65	.01	.78	.51	.28			.09	.45						.05		4.79
Verona	James							2.00			.05	.15	2.55			.11		T.	.10	.55	.19	T.	.10	.09				.31		T.	T.		6.20
Wahpeton	Red	.05						.04	.05			.20	1.02	.13		.02	.50	.07		.35	.09			.08	.05						.09		2.74
Washburn	Missouri					.08		.50					2.43			.74			.89	.18	.18				.21						.06		5.27
Westhope	Mouse	.01					1.08	.20			.09						.88	1.38	.37	1.20	.05				.04								5.30
Williston ***	Missouri			T.	.32	.08		.08	.10		.01				.25	.02	.75	.16	.64	.01	.01		.92	1.11		.06	T.			.04			4.56
Willow City	Mouse				T.			.84	.12		.03		.15				.63	.04	1.60	.88	1.66	.01		.07	.15						.38		6.56
Wilton					.20		.30				*	*	3.01			.39	.23		.86		.14			.50						.41	.78		6.82
Moorhead, Minn ***	Red	T.					.07	.73	.04			1.08	.40		T.	.02	.07		.03	.11	T.	T.	.49	T.	T.			T.			.09		3.13

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. **‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours** ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	65	68	72	81	79	81	66	62	70	77	78	73	72	71	81	82	73	71	70	67	68	70	70	73	76	78	74	78	86	70	..	73.4
	Minimum	46	31	28	37	43	46	49	46	39	37	43	54	41	54	51	56	47	59	51	52	47	50	50	44	45	46	49	46	51	53	..	46.4
Amidon	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Arnegard	Maximum	73	76	74	70	69	82	72	65	66	75	77	65	72	80	84	60	75	66	70	61	65	67	58	69	71	72	74	78	78	80	..	71.2
	Minimum	39	37	49	46	48	46	52	42	35	39	41	51	40	42	53	50	38	50	42	45	45	46	52	47	51	48	54	45	49	56	..	45.9
Ashley	Maximum	68	73	73	78	75	82	78	68	65	77	72	68	72	75	79	80	71	65	74	72	67	68	69	69	72	74	72	72	77	83	..	72.9
	Minimum	42	33	37	35	45	46	58	43	34	38	50	49	39	45	55	55	42	52	42	41	42	50	52	48	41	42	51	52	50	58	..	45.6
Beach	Maximum	70	69	66	65	65	80	67	63	63	68	66	63	70	79	76	64	70	65	60	64	63	73	64	65	66	67	70	72	76	78	..	68.2
	Minimum	36	48	52	45	44	45	42	40	36	48	46	42	40	45	46	41	40	45	47	50	40	48	58	45	50	47	47	42	50	53	..	45.3
Berthold Agency	Maximum	77	75	77	72	70	80	70	58	64	75	74	58	70	72	80	72	64	67	62	58	58	70	70	70	75	70	74	80	80	84	..	70.9
	Minimum	40	38	47	50	50	43	55	45	34	41	39	48	35	39	54	40	54	48	52	42	52	44	57	52	42	51	42	43	47	60	..	46.1
Bismarck	Maximum	68	70	72	76	67	81	68	61	64	75	67	58	67	74	78	74	74	60	71	65	60	68	68	70	73	74	63	77	78	84	..	70.2
	Minimum	44	41	42	50	54	48	52	47	38	41	44	44	43	45	56	48	45	51	49	53	49	47	54	54	50	46	54	49	54	62	..	48.5
Bottineau §§	Maximum	63	65	70	76	70	75	61	60	63	64	74	57	63	66	75	74	74	74	67	63	59	66	69	73	73	71	75	78	80	75	..	69.1
	Minimum	43	40	38	44	50	42	41	47	33	38	40	50	35	33	44	47	42	47	46	49	46	49	51	54	47	48	52	47	52	58	..	45.1
Cando	Maximum	82	63	68	75	76	77	75	55	64	71	75	69	62	66	78	75	71	67	67	61	63	69	71	72	75	76	78	80	84	85	..	71.7
	Minimum	45	36	41	34	47	48	50	44	37	39	40	48	36	35	48	51	45	51	50	50	49	51	50	51	45	46	49	47	53	55	..	45.7
Carson	Maximum	84	74	72	75	78	80	83	70	66	75	75	65	68	75	80	69	73	75	70	65	72	68	70	70	70	72	74	77	76	82	..	73.4
	Minimum	36	38	40	47	50	42	42	40	33	38	54	49	40	40	54	46	39	54	46	50	44	45	52	50	49	55	50	49	50	56	..	45.9
Crosby §§	Maximum	69	68	74	74	67	75	66	57	65	68	75	65	67	74	78	63	73	58	62	55	60	59	66	68	71	73	76	77	79	77	..	68.6
	Minimum	42	43	45	51	49	48	47	47	35	41	40	47	44	43	50	48	41	53	49	47	43	43	51	48	50	45	53	49	52	54	..	46.6
Devils Lake	Maximum	59	60	68	78	74	77	58	56	60	71	73	54	61	65	78	76	70	61	67	59	61	65	69	71	72	76	75	77	83	76	..	68.3
	Minimum	44	36	35	49	50	52	51	42	36	42	43	41	39	38	50	53	45	52	51	51	48	51	51	49	44	48	51	49	56	56	..	46.8
Dickinson §§	Maximum	71	72	71	66	71	82	74	66	65	73	71	63	73	76	81	58	70	64	64	64	61	68	65	65	68	71	70	76	77	79	..	69.8
	Minimum	32	39	40	48	43	43	52	37	36	34	38	51	37	44	51	45	37	52	47	49	42	47	52	51	52	43	51	40	46	54	..	44.4
Dunn Center §§	Maximum	69	72	72	69	69	79	69	61	63	73	70	60	68	73	78	60	70	59	67	60	59	65	68	66	69	71	65	76	78	80	..	68.6
	Minimum	49	49	..	59	56	50	61	50	43	48	50	60	45	52	53	53	42	59	53	48	48	50	54	54	54	46	53	45	56	55	..	[a]51.6
Dunseith	Maximum	60	66	71	75	73	74	74	59	63	67	73	69	62	65	77	76	74	72	68	62	62	67	68	72	74	74	75	78	83	82	..	70.5
	Minimum	43	38	36	48	52	45	50	41	35	34	43	48	35	35	48	51	43	52	50	48	47	48	51	51	46	48	51	50	59	58	..	46.1
Edgeley	Maximum	67	68	70	76	79	82	68	66	67	78	77	70	65	73	79	82	71	65	69	69	65	68	69	68	73	74	61	70	79	79	..	71.6
	Minimum	43	31	32	38	45	50	39	36	36	36	37	35	37	40	40	56	43	50	48	50	50	50	45	46	47	43	[a]50	45	51	54	..	43.4
Ellendale	Maximum	65	67	68	74	75	81	76	66	63	76	65	69	73	72	80	83	69	66	70	68	65	67	69	69	72	73	61	69	76	80	..	70.9
	Minimum	43	37	34	40	47	49	54	46	40	38	45	47	44	43	55	52	42	54	52	49	53	53	49	50	46	48	52	54	53	57	..	47.5
Fessenden §§	Maximum	63	64	75	74	78	81	61	54	72	75	74	55	65	69	85	76	75	60	69	65	65	68	73	72	74	74	75	80	83	83	..	71.2
	Minimum	43	34	34	44	43	48	55	46	37	39	43	53	37	48	49	50	45	50	46	53	50	52	48	49	44	45	50	52	48	55	..	46.3
Foxholm (near)	Maximum	63	66	71	72	72	72	69	57	62	68	72	64	64	68	75	67	72	64	65	58	59	61	68	69	68	71	72	75	80	80	..	68.1
	Minimum	40	36	36	48	52	47	52	44	35	43	43	50	40	43	52	53	41	51	47	47	46	43	44	49	48	45	47	48	53	59	..	46.1
Fullerton	Maximum	66	69	71	78	79	81	76	66	64	78	72	73	72	73	82	83	71	65	72	68	66	68	70	74	74	74	62	73	82	85	..	72.9
	Minimum	38	33	34	38	48	50	54	45	36	40	41	44	43	42	55	57	41	50	53	50	55	55	50	47	45	46	52	53	51	57	..	46.8
Garrison	Maximum	65	69	73	70	69	76	63	55	62	73	70	59	65	70	73	65	72	60	67	61	58	65	68	69	70	73	68	78	78	81	..	68.2
	Minimum	40	36	40	44	52	47	52	44	35	43	42	51	40	45	53	46	41	50	48	51	42	42	45	53	48	43	51	44	52	60	..	46.0
Grafton	Maximum	63	61	70	80	80	81	79	62	63	71	75	66	64	67	79	78	72	69	64	61	66	69	71	73	77	78	78	80	89	79	..	72.2
	Minimum	45	34	30	39	44	47	49	49	39	44	64	54	44	36	48	57	52	57	51	50	49	51	56	52	47	49	47	46	56	57	..	48.1
Grand Forks	Maximum	62	60	69	78	77	76	65	60	63	73	76	58	67	66	79	78	70	66	66	58	66	68	70	72	75	78	76	78	84	75	..	70.3
	Minimum	44	31	31	38	46	50	50	49	39	44	47	49	41	39	53	57	52	55	53	50	50	54	54	53	47	48	51	52	58	58	..	48.1
Granville	Maximum	64	70	72	70	66	77	60	60	70	72	70	60	65	67	78	72	75	60	66	60	62	65	70	70	70	74	72	78	80	80	..	69.2
	Minimum	43	40	35	45	54	44	52	44	33	45	44	45	39	45	52	47	47	52	47	50	48	50	47	53	45	44	48	46	52	60	..	46.5
Hansboro	Maximum	60	64	75	85	75	77	68	65	69	71	80	61	66	75	77	77	76	60	64	62	65	70	72	84	84	80	78	88	90	75	..	73.1
	Minimum	32	32	29	42	44	55	38	46	46	50	40	40	49	46	36	40	43	42	47	45	42	45	45	47	45	38	42	46	52	50	..	43.1
Hettinger	Maximum	69	72	68	68	67	82	71	65	65	75	62	55	70	80	78	64	69	64	62	59	63	68	63	66	67	68	63	71	75	82	..	68.4
	Minimum	38	38	45	48	44	44	49	36	41	31	50	51	37	45	52	46	42	50	49	49	40	45	48	51	53	48	50	47	50	53	..	45.7
Hillsboro	Maximum	63	64	72	82	80	79	77	60	64	75	78	65	69	71	82	80	78	72	72	68	66	70	71	73	76	80	79	80	86	87	..	74.0
	Minimum	48	34	33	41	44	47	49	48	39	43	44	55	42	42	52	59	49	58	52	52	48	53	53	49	46	58	49	48	55	54	..	48.1
Howard (near)	Maximum	68	70	74	75	69	70	69	55	64	68	74	64	75	76	60	65	64	60	65	65	58	56	60	67	68	70	71	75	76	79	..	67.7
	Minimum	35	40	45	40	43	44	45	39	32	30	40	45	40	50	48	41	43	49	35	35	40	41	49	45	47	45	48	47	50	55	..	43.0
Jamestown §§	Maximum	65	67	72	79	77	83	63	60	78	77	74	60	70	71	82	82	70	68	68	64	66	68	70	72	74	79	67	76	83	84	..	72.3
	Minimum	43	34	35	37	50	50	55	44	38	44	43	50	39	40	51	52	44	49	52	51	50	51	46	48	43	44	46	47	51	55	..	46.1
Lamoine	Maximum	63	66	70	78	74	78	62	61	60	72	70	58	63	69	78	74	73	70	63	68	63	58	64	66	68	70	73	75	79	80	..	68.9
	Minimum	40	31	35	42	48	38	53	40	32	37	43	51	51	50	53	48	43	48	50	51	47	48	48	45	44	46	43	46	51	51	..	45.1
Langdon §§	Maximum	58	58	69	80	78	76	60	57	62	68	73	68	60	65	75	75	68	59	60	57	60	62	67	69	72	75	78	79	81	75	..	68.2
	Minimum	44	31	31	42	47	52	50	46	35	40	40	52	36	35	46	53	47	53	50	52	47	50	50	50	50	45	50	49	52	58	..	46.1
Larimore §§	Maximum	61	65	70	80	81	81	64	59	69	73	76	56	68	70	81	77	79	60	66	56	65	68	70	72	75	86	77	80	85	75	..	71.3
	Minimum	47	52	35	43	50	47	48	49	36	39	45	53	40	38	45	51	48	50	50	50	46	50	51	50	45	45	48	47	50	55	..	46.1
Linton	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Lisbon §§	Maximum	68	69	72	79	79	81	66	65	76	79	73	75	74	75	82	85	72	68	73	68	68	73	75	77	78	76	66	71	75	80	..	74.0
	Minimum	33	32	32	33	43	47	46	44	45	35	42	50	40	37	52	56	52	53	50	49	46	48	48	49	47	46	46	52	54	52	..	45.3
McClusky	Maximum	63	70	72	72	80	82	76	55	62	72	71	60	64	69	77	75	74	60	70	63	60	65	70	70	70	73	71	77	79	81	..	70.1
	Minimum	38	36	36	42	42	44	53	41	34	37	42	50	37	43	51	46	41	49	45	49	47	47	43	50	45	42	53	45	41	58	..	44.2
McKinney (near)	Maximum	66	68	72	76	70	79	63	60	64	70	73	66	74	70	77	68	73	66	68	58	59	64	70	71	74	74	77	78	82	80	..	70.3
	Minimum	43	31	30	50	50	45	52	44	31	43	36	51	40	34	52	42	42	53	48	49	46	44	48	51	43	37	39	39	44	48	..	43.8
Maddock	Maximum	63	65	76	75	71	77	77	58	61	88	74	63	61	66	80	75	75	72	66	63	61	65	69	71	76	73	74	78	84	80	..	70.8
	Minimum	38	34	28	40	44	46	52	43	58	58	39	49	35	43	47	50	43	48	51	50	46	50	48	48	40	44	48	45	51	52	..	44.8
Melville	Maximum	74	81	78	82	86	82	78	63	54	61	61	54	62	55	63	54	60	58	65	70	74	76	78	76	79	84	83	86	89	92	..	71.9
	Minimum	41	46	43	47	44	46	38	24	35	40	44	42	44	38	41	41	43	40	44	43	45	44	46	45	44	48	52	55	58	60	..	44.1
Minot §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Mott	Maximum	75	78	72	70	67	66	76	70	67	65	73	76	86	71	82	68	70	68	66	68	70	68	69	70	68	73	70	75	77	84	..	71.9
	Minimum	48	53	42	42	38	38	42	38	42	32	33	45	47	34	45	47	42	42	43	42	40	44	48	45	44	45	45	47	48	55	..	43.2
Napoleon §§	Maximum	68	71	73	80	74	83	75	65	65	78	71	60	70	77	80	81	76	62	72	65	61	68	69	70	72	75	62	72	80	83	..	71.9
	Minimum	41	33	38	37	47	47	54	41	32	35	45	46	37	40	44	50	43	49	40	50	48	50	48	47	44	42	45	51	52	55	..	44.4
New Salem	Maximum	73	75	75	75	69	82	77	69	68	74	73	60	68	75	81	72	73	75	70	64	69	71	69	71	72	75	74	76	77	84	..	72.9
	Minimum	42	38	38	55	51	47	59	43	34	65	42	48	40	41	53	46	42	41	45	50	45	52	45	52	48	44	52	45	47	55	..	46.8
Pembina §§	Maximum	76	82	78	78	82	70	73	74	74	78	78	73	74	82	81	82	78	78	79	75	72	72	82	83	85	86	85	84	86	81	..	78.7
	Minimum	43	30	34	42	45	46	42	41	44	48	46	44	46	36	45	44	45	47	47	47	42	41	42	48	44	40	47	46	48	48	..	43.8
Steele	Maximum	68	65	70	69	74	69	68	48	60	71	60	56	65	72	79	80	78	59	62	66	68	67	65	65	68	70	60	70	69	72	..	66.9
	Minimum	40	38	40	41	40	40	40	38	30	34	33	49	35	42	54	50	40	40	41	40	40	44	43	42	43	43	44	50	54	33	..	41.4
Towner	Maximum	72	75	77	80	75	75	70	65	60	72	75	66	64	65	78	76	72	68	69	64	66	70	70	70	74	77	81	81	91	86	..	72.8
	Minimum	28	38	42	44	40	41	51	55	34	38	42	51	28	40	41	43	48	51	47	51	48	49	50	49	43	43	49	44	49	55	..	44.8
Valley City	Maximum	65	67	74	80	81	82	80	64	64	76	72	64	71	74	82	82	75	71	73	65	68	68	72	72	75	77	74	77	84	83	..	73.7
	Minimum	45	33	32	34	45	50	54	45	39	36	41	53	43	45	53	56	46	55	52	52	58	52	49	49	44	43	49	48	50	53	..	46.8
Wahpeton	Maximum	67	68	73	78	78	82	77	68	67	77	75	65	75	75	83	80	73	72	73	73	69	72	73	72	71	..	..	..	86	86	..	[c]77.4
	Minimum	46	32	29	38	49	49	52	48	40	36	52	50	44	40	57	61	49	60	59	57	46	50	49	52	49	..	..	..	50	41	..	[c]47.1
Westhope	Maximum	66	72	72	77	72	77	59	66	68	69	79	61	67	70	79	73	77	71	67	56	59	63	68	70	71	77	80	83	83	83	..	71.1
	Minimum	44	39	53	52	52	46	45	40	33	42	42	52	41	34	50	37	43	53	51	40	48	50	52	53	51	47	58	40	52	51	..	46.9
Williston	Maximum	69	73	72	67	67	78	69	55	63	70	73	65	69	76	77	59	71	59	65	57	59	64	59	70	71	71	74	78	80	79	..	68.6
	Minimum	43	41	49	52	52	49	47	43	36	44	40	47	45	46	56	46	43	51	49	48	48	51	50	48	51	51	56	48	52	50	..	48.2
Moorhead, Minn	Maximum	62	64	70	76	76	77	63	60	63	76	71	74	72	72	81	79	72	69	70	69	65	66	72	71	75	77	76	75	85	75	..	71.9
	Minimum	45	35	36	44	43	50	53	48	40	41	47	50	44	48	56	58	48	53	52	52	48	55	51	52	46	48	51	50	51	57	..	48.6

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[W. B. O., Minneapolis, 7-31-28—1550]

51.05
NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

ol. XXXVII Bismarck, N. D., July, 1928 No. 7

GENERAL SUMMARY

Weather favorable for crops prevailed generally throughout he month. No unusually high or unusually low temperatures ccurred in any section. The precipitation for the State averged 5.05 inches, which exceeds by 0.63 inch the greatest averge ever recorded during July in North Dakota since records egan. This precipitation combined with the 5.07 inches which ell during June supplied crops with ample moisture. Rain fell n some parts of the State on every day during the month, but mounts were light and scattered after the 22d. A tornado was eported in the northeast corner of Ramsey County and the outhwest corner of Cavalier County on July 5, and many farm uildings were destroyed, cattle killed and crops damaged. evere wind and hail storms were also reported from other arts of the State, particularly in the southeastern and northestern sections.

F.J.B.

TEMPERATURE

The mean temperature for the State was 67.4°, or 0.1° below he normal, and 2.0° higher than the average for July, 1927. he highest mean reported was 74.8° at Melville, Foster ounty; the lowest was 63.6° at Dunn Center, Dunn County nd at Pembina, Pembina County. The highest temperature eported was 96° at Powers Lake, Burke County, on the 23d; e lowest was 38° at Hansboro, Towner County, on the 29th. he greatest monthly range of temperature was 55° at Powers ake, Burke County; the least was 39° at Bottineau, Bottineau ounty, Grand Forks, Grand Forks County and at Sharon, teele County. The greatest daily range in temperature was 7° at Pembina, Pembina County.

PRECIPITATION

The average precipitation for the State was 5.05 inches, or .44 inches above the normal, and 2.20 inches more than the erage for July, 1927. The greatest monthly amount reported as 12.22 inches at Berthold Agency, McLean County; the ast was 1.77 inches at Alpha, Golden Valley County. The erage number of days with 0.01 inch or more of precipitation as 10.

AURORAS

Auroras were observed at Verona on the first; at Ellendale d Velva on the 7th; at Ashley, Carson and Ellendale on the h; at Arnegard, Carson, Foxholm, Fullerton, Grand Forks d Ellendale on the 21st; at Ashley, Crosby, Dogden Butte, llendale, Foxholm and Steele on the 22d; at Moorhead and owner on the 23d; at Moorhead on the 24th; at Powers Lake the 28th and 29th; and at Verona on the 30th.

BAROMETRIC PRESSURE AND WINDS

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Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.92	30.21	[illegible]	29.43	6	57	4,797	6.4	44§	nw.	6
Devils Lake	29.93	30.25	24	29.39	6	44	4,786	6.4	35§	nw.	6
Ellendale	29.96	30.22	28	29.53	6	56	6,909	9.3	53§	ne.	7
Grand Forks	29.89	30.22	29	29.47	6	90	[illegible]	[illegible]	42	ne.	11
Williston	29.93	30.24	24	29.59	6	48	3,822	[illegible]	44§	w.	5
Moorhead, Minn	29.92	30.24	29	29.53	1	58	4,571	6.1	46§	nw.	1
Av'ges and extremes	29.94	30.25	24	29.39	6	.....	....	6.7	53§	ne.	7

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	299.4	479.2	62	− 9	88	58	57	39	3
Devils Lake	325.4	483.1	67	− 2	89	60	65	39	29
Ellendale	386.3	475.2	81	+10	88	60	....	52	25
Grand Forks	......	......	......	......	86	.....	70	......	....
Williston	336.7	483.1	70	0	84	55	56	40	10
Moorhead, Minn	364.6	479.2	76	+ 9	87	59	62	38	13
Averages and extremes	342.5	480.0	71	+ 2	87	58	62	39	3†

† And other dates.

COMPARATIVE STATE DATA FOR JULY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893...	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894...	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895...	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896...	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897...	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898...	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899...	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900...	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901...	70.8	+3.3	110	40	4.28	+1.67	6	18	7	6	se.
1902...	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903...	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904...	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905...	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906...	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907...	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908...	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909...	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910...	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911...	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912...	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913...	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914...	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915...	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916...	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917...	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918...	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919...	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920...	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921...	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922...	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.
1923...	71.2	+3.7	103	35	3.14	+0.53	8	16	11	4	se.
1924...	65.5	−2.0	99	32	1.95	−0.66	6	18	9	4	nw.
1925...	66.7	−0.8	106	29	1.34	−1.27	6	18	9	4	nw.
1926...	70.3	+2.8	108	32	2.00	−0.61	7	18	8	5	se.
1927...	65.4	−2.1	97	28	2.85	+0.24	9	15	10	6	nw.
1928...	67.4	−0.1	96	38	5.05	+2.41	10	16	10	5	nw.

Climatological Data for July, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								1.77		0.48	0	10					H. A. Bury.
Amenia	Cass	954	32	68.4	−0.3	89	25	46	29	35	5.33	+2.32	2.98	0	10	16	10	5	nw.	E. T. Carley.
Amidon	Slope		14																	F. A. Garfoot.
Arnegard	McKenzie		13	66.6	−2.6	92	15	41	2	29	4.92	+3.32	1.72	0	10	23	5	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	69.0	+0.6	90	5†	45	28	32	8.15	+5.49	1.41	0	12	26	2	3	se.	H. D. Piper.
Beach	Golden Valley	2,759	22	67.7	+0.4	93	30	42	21	34	2.41	+0.61	0.81	0	11	17	12	2	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	67.2	−1.7	92	15	45	28	35	12.22	+10.25	4.35	0	11	23	5	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	69.4	−0.4	92	5	47	28	29	5.06	+2.82	1.64	0	10	18	7	6	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	64.4	−1.4	85	15	46	27	30	5.26	+2.98	1.95	0	14	16	8	7	ne.	N. A. Eckberg.
Bowman	Bowman	2,961	14								4.08	+1.32	1.29	0	11	18	9	4	se.	M. S. Byrne.
Cando	Towner	1,488	27	66.9	+0.8	87	16†	46	27†	41	3.88	+1.35	1.33	0	11	7	17	7	nw.	A. J. Swanson.
Carson	Grant	2,500	16	68.1	0.0	95	30	49	27	37	3.82	+1.88	1.40	0	9	18	11	2	nw.	J. W. Evens.
Cavalier	Pembina										3.30		1.19	0	14	14	9	8	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	22								2.98	+0.25	1.10	0	7	18	9	4	nw.	S. Friswold.
Crosby	Divide	1,954	21	65.0	−0.9	86	5†	48	27†	32	5.13	+2.92	1.63	0	11	8	18	5	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	66.0	−2.1	89	30	45	29	32	3.27	−0.51	0.79	0	12	13	9	9	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	66.8	−1.2	93	25†	48	9	37	3.52	+1.20	1.13	0	11				nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	65.2^{g}		84^{f}	15	42^{c}	27	29^{g}	7.85		3.95	0	10	18	8	5	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	63.6	−4.4	89	15	44	27†	38	6.34	+4.29	3.28	0	9	15	7	9	nw.	W. F. Moede.
Dunseith	Rolette	1,682	32	66.3	+1.9	87	15†	46	27	28	5.27	+2.93	1.53	0	10	18	8	5	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	23	64.4	−1.4	88	15†	40	26†	38	4.91	+2.47	1.20	0	10	0	27	4	nw.	C. E. Strock.
Edgeley	La Moure	1,468	27	68.4	−0.1	88	5†	47	27†	30	6.20	+3.40	1.63	0	8	3	24	4	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	69.2	−1.5	89	30	48	28	29	4.92	+2.02	1.58	0	14	12	16	3	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	16	69.0		93	15	45	28	33	6.43	+4.25	1.64	0	11	10	21	0	se.	H. S. Solenberger.
Epping	Williams	2,224	20	65.6		86	14	44	31	41	6.98	+5.06	1.58	0	9	17	8	6	se.	A. O. Wang.
Fessenden	Wells	1,610	16	66.3	−0.8	90	5	43	29	35	3.03	+0.56	0.77	0	10	16	9	6	nw	T. D. Monsen.
Forman	Sargent	1,249	34								3.28	+0.25	0.87	0	8	21	9	1	sw.	O. Enger.
Fort Yates	Sioux	1,670									2.95	+0.43	1.00	0	7					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	64.8		84	15	45	29	29	6.68		2.06	0	12	9	16	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								2.22		0.38	0	9	22	6	3	se.	Verne King.
Fullerton	Dickey	1,439	30	70.2	+1.8	92	16†	49	28	32	5.66	+2.34	1.65	0	10	23	8	0	nw.	F. O. Alin.
Garrison	McLean	1,901	33	69.3	+1.2	92	16	45	28	38	6.36	+4.26	1.88	0	10				n.	Wm. H. Robinson.
Grafton	Walsh	827	36	68.0	+0.5	88	30	44	29	37	2.88	+0.40	0.76	0	9	13	11	7	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	37	68.0	+0.6	87	15	48	29	31	4.68	+1.93	1.47	0	11	10	16	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	66.0	−1.1	89	15	44	29	31	5.12	+3.05	0.97	0	10	14	12	5	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34								4.13	+1.67	1.75	0	11					J. Moffatt.
Hansboro	Towner	1,597	20	63.7	−1.7	90	5†	38	29	41	3.34	+1.36	0.77	0	14	6	17	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	67.6	−1.9	91	25†	50	3†	32	3.91	+1.12	1.17	0	11				se.	C. H. Plath.
Hillsboro	Traill	901	22	69.8	+0.3	92	26	48	29	37	4.35	+1.72	1.61	0	14	18	11	2	nw.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	21	67.1	+1.6						4.24	+2.64								C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	67.8	−0.7	90	15	45	28†	35	3.84	+1.09	1.68	0	9	17	6	8	w.	S. Calvelage.
Lamoine	Kidder	1,936	23	66.6	+0.7	90	15	43	27	36	6.27	+3.72	2.89	0	7	16	12	3	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	65.2	+0.7	87	23	45	28	32	3.20	+0.64	1.00	0	12	21	5	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	67.0	+0.3	89	15	46	29	37	5.36	+2.37	1.25	0	12	15	9	7	n.	Reuben Gray.
Linton	Emmons	1,711	10																	Rev. O. Weber.
Lisbon	Ransom	1,091	24	69.4	+1.2	90	5†	42	28	36	5.84	+2.31	1.25	0	9					L. B. Walker.
McClusky	Sheridan	1,943	10	66.4		88	25	43	27	32	4.81		1.10	0	12	16	9	6	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	34	65.8	−0.2	95	5	42	29	39	6.99	+4.83	2.16	0	8	4	24	3	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	68.8	−1.4	95	15†	46	14†	38	4.66	+1.23	1.10	0	9	24	5	2	nw.	J. G. Carlson.
Maddock	Benson	1,604	12	66.4	−1.4	88	15	40	29	35	5.43	+2.79	1.91	0	12	5	20	6	nw.	A. T. Felland.
Mandan	Morton	1,644	14	68.2	−2.6	92	30	46	28	32	6.29	+3.33	1.44	0	13	18	4	9	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25								3.19	+0.89								P. B. Anderson.
Marmarth	Slope	2,714	19																	Wm. N. Thompson.
Mayville	Traill	975	32	69.4	0.0	91	25	44	29	39	2.65	−0.32	0.87	0	12	21	1	9	nw.	N. C. Burbans.
Melville	Foster	1,590	30	74.8	+6.9	94	17	54	26	33	3.10	+0.36	1.50	0	4	22	0	9	se.	J. P. Fischer.
Metigoshe‡‡	Bottineau		3								5.37		1.31	0	9	21	3	7	sw.	J. A. Thorburn.
Minot	Ward	1,557	32																	W. I. Faris.
Minto	Walsh	820	35								4.21	+1.45	1.16	0	9					C. M. Evans.
Mott	Hettinger	2,424	21	69.4	+0.3	94	25	49	9	38	3.35	+0.98	0.98	0	9	14	9	8	nw.	O. H. Opland.
Napoleon	Logan	1,955	36	68.0	−0.3	95	5	42	28	38	5.12	+2.64	2.50	0	11	22	6	3	w.	C. J. Hoof.
New England	Hettinger	2,400	37	69.2	+0.7	95	15†	46	1	33	3.20	+1.19	1.10	0	10	17	11	3	nw.	W. L. Sales.
New Salem	Morton	2,163	24	68.6	−0.7	94	30	48	20	36	4.96	+2.86	1.20	0	9	17	12	2		J. Christiansen.
Park River	Walsh	998	24	66.8		88	30	43	29	38	4.02	+1.64	1.12	0	8	17	3	11	se.	C. B. Wright.
Parshall (near)	Mountrail		13								3.07	+1.50	1.17	0	6	14	16	1	nw.	John A. Johnson.
Pembina	Pembina	789	54	63.6	−4.1	93	2	41	9†	47	4.93	+2.55	3.50	0	5	21	4	6	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	68.6	+2.8	91	15	49	29	34	8.38	+5.63	2.15	0	9	14	10	7	nw.	A. L. Carlson.
Power	Richland	1,020	34								7.92	+4.54	1.55	0	9	15	15	1	nw.	Frank B. Power.
Powers Lake	Burke	2,205	14	68.8		96	23	41	28†	35	9.81	+8.03	3.43	0	10	17	10	4	e.	Geo. B. Gee.
Richardton	Stark	2,467	12	67.9	−2.1	94	30	49	11	34	5.16	+3.15	1.66	0	11	14	15	2	nw.	John Muggli.
Sharon	Steele	1,516	3	67.8		88	23	49	29	35	2.99		0.89	0	13	16	10	5	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	4								4.71		1.25	0	9	16	9	6	nw.	J. H. Giffey
Starkweather	Ramsey		1	65.6		88	15	43	26	31	3.50		0.87	0	10	17	10	4	nw.	Geo. Rollofson.
Steele	Kidder	1,857	32	64.4	−5.0	89	5†	40	28	39	5.15	+2.27	1.80	0	8	16	12	3	nw.	C. D. Stiles.
Stowers‡‡	Adams		13								3.67	+1.82								Chas. E. Stowers.
Towner	McHenry	1,482	26	68.0	+0.9	92	15	48	28	33	6.67	+4.44	1.54	0	12	18	8	5	nw.	B. Bagley.
Trotters	Golden Valley		3								1.86		0.42	0	10	15	10	6		A. J. Nellermoe
Turtle Lake	McLean	1,899	13	66.2	−2.4	89	5	47	14†	33	8.89	+6.43	3.95	0	12	7	10	14	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	70.1	+2.1	90	5	46	29	33	5.54	+2.70	1.63	0	10	18	10	3	w.	I. C. Robertson.
Velva	McHenry	1,511	2	66.6		88	5	46	27†	27	4.96		0.92	0	12	12	13	6	w.	Oscar Anderson.
Verona	LaMoure	1,387	34								7.73		1.88	0	10	5	16	10	nw.	Louis C. Schmidt.
Wahpeton	Richland	962		71.0	+1.7	91	16†	46	28	35	5.55	+1.75	0.94	0	15	21	0	10	nw.	C. G. Luick.
Washburn	McLean	1,731	26								5.79	+3.49								H. W. Smith.
Westhope	Bottineau	1,508	26	66.8	+0.7	90	15	45	27	32	6.65	+4.70	2.36	0	13	22	5	4	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	67.3	−1.6	90	14	48	28	29	6.07	+4.18	1.69	0	15	16	12	3	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	65.2^{a}	−0.2	89^{a}	15	44^{a}	27†	31^{a}	3.48	+1.39	1.19	0	10	13	13	5	nw.	M. A. Ostby.
Wilton	McLean		1	69.4		94	5	51	1	36	5.88		1.52	0	11	20	3	8		L. Q. Perkins.
Moorhead, Minn.	Clay	935	47	69.3	+1.2	89	25	51	29	30	7.17	+3.74	1.99	0	10	12	13	6	n.	U. S. Weather Bureau.
Averages				67.4	−0.1	96	23	38	29	47	5.05	+2.44	4.35	0	10	16	10	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for July, 1928

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
pha	Lit. Missouri	.03	.20				.48	.15		.03	.08						.12		.31		.33	T.						T.	.04				1.77
ienia ||	Red		2.98				.78	.17	.10	.14								.30		.48	.05	.30	.03									T.	5.33
andon	Lit. Missouri																																....
negard	Missouri					.18	.40	1.00	.85	.15					.22		.27		1.72		.03						.10						4.92
hley	Missouri	.63	.09				.40	.36	.19		1.02					1.14	1.40			1.41	.11	.02									1.38		8.15
ach	Lit. Missouri	.54	.17	.01			.81	.23	.05	.11	T.	T.			.05		.01		.04								.39			T			2.41
rthold Agency	Missouri	.36	.68			T.	.50	3.00	4.35	.35	.05	.05			T.		.10		2.75	T	T.	T.					T	.03		T.			12.22
smarck ***	Missouri	1.64				T.	.44	.73	.28	.16					.05		.10		.76		.88	.02					T.						5.06
ttineau|| ||	Mouse	.10	1.10	.02		.12	.25		.61	.09						.02	1.95			.71	.01	.05	.20		.03				T.				5.26
wman	Grand	.79		.05			.29	.35	.01	.33		.55					.12				1.29						.12	.18					4.08
ndo	Devils Lake					.16	1.33	.08	.11	.03			.14	T.			1.35		.34	.03		.30							.11				3.88
rson	Heart	1.40					.96	.16		.26	.04								.85	.05		.03						.07					3.82
valier	Red		.01	.02		.25	1.19	.33	.84		.08	.04					.36		.03	.04		.03			.02	.06							3.30
operstown	Sheyenne	1.10					.60				.10						.30		.30	.30	.28												2.98
osby	Mouse					.03	.28	T.	1.63		T.				.14	.33	.50		.15	1.18	.85		.02				.02				T.	T.	5.13
vils Lake ***	Devils Lake	.26	.49			.33	.46	.07	.19		.09				T.		.76		.33	.23	.04	T.				T.			.02				3.27
ckinson||	Heart	.56	.26				.41	1.13	.30	.08	.21						.11			.18	.13							.15					3.52
gden Butte	Mouse	T.	1.03			T.	3.95	.32	.23		.48				.23		.07		1.01		.04	.49				T.							7.85
nn Center ||	Knife	.17	.06				.41	.72	3.28	.12	.34								.12	1.12													6.34
nseith	Mouse		.88			.08	.22	.35	.64						.05		1.53		.77		.30	.45											5.27
kman	Mouse		.53			.23		.75	.83		.15						1.09		1.20		.01	.04							.05				4.91
geley	James	1.35	.15				.75	.42			.15						1.63			1.63	.12												6.20
endale***	James	.91					.78	.34	.05	.17	.16		.01		T.	.06	1.58		.38	.34	.02	T.									.09	.03	4.92
ergy	Missouri	1.63	.03				1.64	.71	.10			.10			.22		.16		1.54		.20	.10											6.43
ping	Missouri		.25			.38	.27	1.58	T.	T.					.75				1.20		.25			T				1.05				1.25	6.98
ssenden|| ||	James	.34	.15				.65		.68	.10	.05							.14		.77	.05	.10											3.03
rman	Sheyenne		.49				.20	.68	.18		.07							.87		.71		.08											3.28
rt Yates	Missouri	1.00				.21	.44			.65									.43		.12											.10	2.95
xholm (near)	Mouse	T.	.44			.02	.31	.90	2.06		.17				.03		1.25		1.37		.06	.06				T.				.01			6.68
yburg	Heart	.30	.23				.38	.32	.37	.22	.07						.13		T.								.20				T	T.	2.22
llerton	James	.22	.30				.63	1.11	.07		.24				T.		1.65			.90	.34	T.									.20		5.66
rrison	Missouri	.60					1.70	1.10	.60		.12	.12			.04		.02		1.88			.18											6.36
afton	Red		.30			.70	.76		.15		.08						.20			.01		.50				T.					.18		2.88
and Forks ***	Red	.53	T.		T.		.31	T.	.05		.64	.13					.85			.13	1.47		T.			.54		.01			.02		4.68
anville	Mouse	.97	.24			.18	.30	.90	.83		.49				.23				.93	T.		.05								T.			5.12
anah	Pembina		.25			.15	1.75	.08	.05		1.04		T.			.26		.10	.21		.16	T.					.08						4.13
nsboro	Devils Lake	.05	.45		.05	.15	.40	.05	.35			.08					.77		.60		.13	.08			.15			.03					3.34
ttinger	Grand	.11	.12				1.17	.40	.05		.20		.19				.02			1.02	.28	T.						.35					3.91
lsboro	Red	.21	1.61				.75		.30	.18		.08					.25	.05		.05	.12	.20							.13		.02	.40	4.35
ward (near)	Missouri																																....
nestown|| ||	James	1.68	.05				1.18	.32	.05	T.						T.		.30	.18		.07	.01											3.84
moine	Missouri	2.89					.56	*	1.34			.03							1.41		.04										T.		6.27
ngdon|| ||	Pembina			T.			1.00	.08	.48	.03		.20					.45	.14		.28	.06	.14	.16				T.		.18				3.20
rimore	Red		.75				.75		.05	.05		.03					.15	1.00			.75	1.25	.06						.50		.02		5.36
nton	Missouri																																....
bon |||	Sheyenne	.76	1.10				.76	.35	.27	.15								.70		1.25												.50	5.84
Clusky	Missouri	.84					1.10	.65	.30		.03	.05			.41		.24		1.09	.06		.03	.01										4.81
Kinney (near)	Mouse		.16			.45	.32		2.16	.10							1.70		1.63		.17	T.			T.	T.					T.		6.99
Leod	Sheyenne	.30	.24				.69	.55	1.10										.63		.91	.08									.16		4.66
ddock	Sheyenne	.21	.35			.56	.92	.05	1.91		.02				T.		.48		T.	.77	.05	.05	.06										5.43
ndan|| ||	Missouri	1.44	1.35				.55	.24	.50	.03	.16					.09	.04	.14		.68	1.05	.02						T.					6.29
nfred	James																																....
rmarth	Lit. Missouri																																....
yville	Red	.15	.45				.87		.04	.28							.04	.15		.08	.39	.05	.05						.10				2.65
lville	James	1.50				.70												.30	.60														3.10
tigoshe	Mouse		.66			1.06	.46	.43									1.31		.75		.23	.27				.20							5.37
not|| ||	Mouse																																....
nto	Red		.40			.38	.46	T.	.16		.68	.20					.37					1.16									.40		4.21
tt	Cannon Ball	.36	.18				.80	.98			.24								.15		.32							.11		.21			3.35
poleon |||	Missouri	.15	2.50				.62	.30	.03		.20							.02		.75	.37		.03									.15	5.12
v England	Cannon Ball	1.10					.65	.57	.12		.14						.10		.03		.37	.01						.11					3.20
v Salem	Heart	1.20					.80	.18	.57		.27				.24		.30		1.12		.28	T.					T.						4.96
k River	Red		.49			1.12	.70		.68		.33						.36				.04	.30									T.		4.02
shall (near)	Missouri	.12				.20	.45	.93							.20				1.17														3.07
nbina || ||	Red						3.50			1.06							.07					T.		.20			.10				T.		4.93
tibone	James	2.15	2.10				.55	.37	.75			.08					1.02			1.30			.06								T.		8.38
ver	Sheyenne	.73	1.48				.77	.50	1.24								1.35			1.55	.15										.15		7.92
vers Lake	Missouri					.45	.41	3.43	.51	.07						2.01	1.03		1.63		.06			.21									9.81
hardton	Heart	1.17	.05				.78	.15	.28	.44					.13		.23		1.66	.11	.16												5.16
aron	Red	.30	.28				.89	.01	.68	.01	.07						.31	.02	T	.03	.35	.03	T.				T.	.01			T.		2.99
nton	Missouri	1.10					1.10	.58			.15				.28		.15		1.25	.05	.05												4.71
rkweather	Devils Lake		.35			.71		.12	.11		.04	.09					.67		.30	.24		.87											3.50
ele	Missouri	1.60	.15				.70	.25	.25	.10					T.		.30	T.		1.80											T.		5.15
wers	Cannon Ball																																....
vner	Mouse	.10	1.54			.22	.40	.50	1.43		.27				.20		.69		.65		.42	.25											6.67
tters	Lit. Missouri	.02	T.			.06	.42	.41	.07	.14					.31				.27	T.	T.						.07			T.		.09	1.86
tle Lake	Missouri	1.43	.13			.14	1.21	3.95	.06		.09	.07			.30		.17		1.33	.01						T.							8.89
ley City	Sheyenne	1.63					.50	.15	.37								.42		.72	.72	.17	.14									.72		5.54
va	Mouse	.11	.72			.17	.81	.56	.45		.07				.49		.38		.92		.26	.02								T.			4.96
ona	James	.50	T.				.67	.60	1.69	.34	.06						1.38	.44		1.88	.17									T.	T.		7.73
hpeton	Red	.25	.90				.30	.76	.21	.05		.10	.10			.15		.39		.74	.94		.10				.14					.42	5.55
shburn	Missouri																																....
sthope	Mouse		.21			1.26	.17	.37	1.18		.06						2.36		.65	.01	.09	.19				.05					.05		6.65
liston ***	Missouri	.02	.11		T.	.79	.06	1.27	.22	.03		T.			T.	1.62	.07		1.35		.20	T.		.10		T.	.08			.04		.11	6.07
low City	Mouse		.31			.02	.25	.39	.29		.07				T		1.19		.75		.05	.16											3.48
ton		.19			.70		.29	1.52	.75	.10					.40		.40	.07	1.43	.03							T.						5.88
orhead, Minn ***	Red	1.99					.83	.24	.97		.36	.03			T.		1.74			.27	.73	.01							T.		T.		7.17

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of ervation ||| Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the our period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	77	78	80	83	88	82	80	70	76	80	84	80	81	84	86	86	78	80	81	78	83	78	85	85	89	72	73	76	79	84	74	80.3
	Minimum	54	57	55	57	62	62	65	61	56	54	55	55	54	54	58	66	62	51	55	59	58	56	52	58	54	59	53	47	46	59	56	56.5
Amidon	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Arnegard	Maximum	78	70	80	85	83	81	67	71	81	70	81	81	80	89	92	74	71	74	72	73	79	83	81	82	87	72	75	75	77	86	80	78.4
	Minimum	56	41	52	60	59	59	57	53	52	60	53	52	52	62	64	49	49	57	56	54	55	54	55	63	63	52	50	48	49	62	55	54.9
Ashley	Maximum	78	77	83	84	90	87	81	74	80	78	80	79	79	81	87	85	77	78	78	83	81	80	83	89	88	83	72	75	79	90	87	81.5
	Minimum	60	53	52	59	65	61	62	52	52	56	52	61	50	54	63	64	60	53	57	60	58	55	55	57	59	58	48	45	50	59	58	56.4
Beach	Maximum	73	67	78	84	83	74	70	69	84	76	76	80	80	90	92	72	77	84	79	78	82	86	90	90	91	80	76	74	81	93	86	80.5
	Minimum	56	56	50	56	57	52	51	53	54	56	55	53	55	62	68	56	53	52	57	56	42	52	56	56	60	53	51	54	51	61	57	54.9
Berthold Agency	Maximum	70	70	80	85	87	80	70	68	80	75	72	84	80	84	92	78	76	72	72	78	77	80	88	90	90	72	74	74	76	84	88	78.9
	Minimum	55	60	50	56	56	62	62	55	47	50	47	49	58	64	64	60	51	59	57	58	50	52	55	61	60	54	46	45	54	60	62	55.5
Bismarck	Maximum	73	74	82	85	92	82	79	66	82	78	78	80	79	81	90	75	77	77	78	86	81	80	86	88	92	72	73	75	80	92	79	80.2
	Minimum	60	58	55	63	69	62	59	57	54	57	54	58	57	62	64	64	57	59	58	58	57	57	57	61	64	56	51	47	55	64	60	58.5
Bottineau §§	Maximum	81	72	71	79	84	80	65	64	73	77	76	78	77	75	85	74	79	65	67	67	74	77	84	80	83	69	72	70	65	80	71	74.6
	Minimum	59	58	54	51	58	60	64	57	47	47	51	55	57	58	60	60	52	57	51	56	50	50	55	61	56	54	46	49	48	54	49	54.3
Cando	Maximum	79	81	74	82	86	82	82	69	74	80	80	77	79	82	83	87	76	71	71	78	78	79	85	83	86	81	74	72	84	87	77	79.3
	Minimum	60	57	55	58	52	63	60	58	51	57	52	57	52	55	58	61	52	55	54	58	51	52	56	60	52	54	46	48	49	46	51	54.5
Carson	Maximum	75	74	82	85	92	80	76	69	85	78	74	82	79	83	91	79	80	79	82	79	75	80	89	90	93	80	75	75	80	95	84	81.3
	Minimum	51	50	59	59	55	58	59	53	55	50	50	50	55	60	60	60	50	58	56	57	50	56	56	60	65	50	49	50	53	60	55	54.9
Crosby §§	Maximum	77	73	75	86	82	80	63	69	78	72	77	78	80	83	83	71	73	63	60	75	75	80	86	78	80	69	72	73	73	78	78	75.5
	Minimum	51	59	54	51	61	59	53	52	51	49	53	52	56	61	61	62	53	55	54	51	54	51	58	54	57	50	48	58	51	60	48	54.4
Devils Lake	Maximum	79	72	75	81	85	81	70	64	72	77	78	78	80	82	88	74	75	67	72	78	79	77	85	78	87	67	71	70	75	89	73	76.7
	Minimum	60	56	56	52	64	63	61	56	52	57	53	54	53	56	63	60	52	52	55	58	54	53	59	55	55	54	47	50	45	60	52	55.4
Dickinson §§	Maximum	79	70	79	82	84	78	72	68	83	70	75	79	80	84	91	73	76	80	77	77	81	80	87	84	93	74	72	73	80	93	84	79.3
	Minimum	58	57	51	55	61	58	59	52	48	50	49	51	55	59	59	63	51	57	57	58	51	52	52	54	59	51	49	49	51	56	55	54.4
Dunn Center §§	Maximum	70	79	84	85	72	69	67	80	75	78	78	79	82	89	75	73	68	71	76	77	78	85	81	88	70	73	72	73	80	85	84	77.3
	Minimum	53	53	46	49	49	55	54	48	45	46	45	48	51	54	57	59	45	53	50	52	48	54	48	53	54	47	44	44	45	50	44	49.8
Dunseith	Maximum	81	78	73	80	85	84	83	65	73	77	77	78	79	79	87	87	77	71	70	76	73	78	85	85	81	80	71	71	72	83	77	77.9
	Minimum	57	58	54	52	61	63	59	55	50	56	52	56	56	56	59	60	51	51	53	56	50	53	58	59	53	53	46	49	48	64	49	54.7
Edgeley	Maximum	74	76	77	78	88	86	80	79	78	78	80	78	79	80	87	87	77	76	78	82	78	80	83	85	88	78	73	74	76	88	81	80.1
	Minimum	56	53	56	57	60	60	65	53	53	58	53	58	52	52	62	64	60	53	59	59	58	57	59	60	68	58	47	47	50	58	57	56.8
Ellendale	Maximum	79	76	82	84	88	81	81	72	79	78	79	77	78	81	86	86	76	77	78	83	81	78	83	85	87	71	72	75	78	89	74	79.8
	Minimum	58	55	56	62	64	62	66	54	54	60	57	60	55	54	63	64	60	55	64	64	61	60	58	60	60	56	50	48	54	60	60	58.5
Fessenden §§	Maximum	80	76	80	85	90	84	74	65	77	77	82	80	78	75	76	74	80	73	77	82	80	80	88	85	88	72	75	75	77	90	78	79.1
	Minimum	61	50	48	50	60	55	65	59	50	55	54	55	54	51	50	51	50	54	58	54	49	55	52	60	56	51	45	44	43	63	57	53.5
Foxholm (near)	Maximum	80	73	72	79	82	79	78	66	73	73	76	75	76	75	84	81	72	67	66	76	75	76	83	82	83	73	70	70	71	83	72	75.5
	Minimum	55	59	53	50	61	59	58	54	49	48	52	53	55	57	62	61	50	55	54	52	54	54	58	57	58	51	48	48	45	57	50	54.1
Fullerton	Maximum	78	77	84	88	91	82	85	75	78	78	81	78	83	84	91	92	77	79	80	84	81	78	85	86	92	78	73	75	78	90	76	81.8
	Minimum	60	55	65	60	62	62	63	54	53	59	55	60	54	53	63	65	65	54	63	62	60	58	58	60	60	60	50	49	52	60	59	58.5
Garrison	Maximum	79	71	90	82	86	84	78	72	78	90	81	79	75	78	89	92	77	88	80	87	87	88	88	87	87	77	71	73	74	87	78	81.7
	Minimum	58	61	52	55	63	60	58	56	48	53	49	70	58	54	60	64	62	58	53	57	53	65	67	58	61	52	48	45	48	61	57	56.9
Grafton	Maximum	72	76	76	81	85	83	81	74	71	80	81	81	82	83	87	86	77	75	75	81	83	77	87	84	87	79	73	74	76	88	78	79.8
	Minimum	61	54	59	55	65	64	62	63	56	52	53	55	52	56	62	64	55	48	58	56	54	56	53	62	70	58	54	52	44	58	54	56.3
Grand Forks	Maximum	76	77	75	80	86	80	74	76	72	80	78	78	82	82	87	75	76	77	78	77	83	74	86	80	86	68	70	72	75	85	70	77.9
	Minimum	61	58	60	55	65	65	66	60	58	55	57	56	58	56	61	64	56	52	61	62	58	57	55	60	55	57	55	54	48	61	55	58.1
Granville	Maximum	82	72	74	80	83	84	82	65	75	75	78	78	78	75	89	75	75	65	70	74	78	78	84	80	85	70	70	72	75	87	77	76.9
	Minimum	55	60	55	52	64	62	62	55	48	53	54	53	54	57	60	63	50	54	54	52	54	53	57	60	62	53	45	48	44	60	53	55.0
Hansboro	Maximum	83	81	80	62	90	84	75	70	74	75	85	86	87	84	90	75	76	70	75	77	70	74	88	80	85	74	70	75	74	80	77	78.3
	Minimum	52	52	50	46	60	60	60	53	48	45	45	46	46	46	53	53	45	50	50	52	48	46	52	52	47	49	40	42	38	52	45	49.1
Hettinger	Maximum	73	73	81	83	85	77	71	68	84	76	71	79	78	85	88	77	76	78	78	74	80	80	86	87	91	74	70	73	80	91	82	79.0
	Minimum	57	55	50	54	45	59	60	54	52	52	56	50	55	58	59	66	53	57	58	58	51	53	56	58	60	55	52	55	55	61	58	56.2
Hillsboro	Maximum	76	78	79	80	80	86	81	76	75	82	83	81	85	85	89	87	77	80	83	82	83	78	86	90	91	92	79	72	79	86	84	82.1
	Minimum	59	55	55	55	65	55	65	63	57	55	54	57	56	56	61	67	60	52	63	60	60	57	55	63	54	60	50	54	48	59	55	57.6
Howard (near)	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Jamestown §§	Maximum	73	73	80	83	90	82	71	74	77	83	84	80	82	85	90	78	78	79	78	83	83	78	86	85	89	71	73	75	77	89	77	80.2
	Minimum	60	51	56	59	55	60	63	51	53	57	52	56	52	55	60	68	60	53	58	59	57	55	53	59	57	52	47	45	45	51	57	55.4
Lamoine	Maximum	84	83	76	82	89	80	78	77	80	76	80	80	78	80	90	72	75	72	74	80	78	76	87	83	89	72	70	72	71	89	78	79.1
	Minimum	51	51	52	53	53	60	60	56	58	48	48	50	53	55	57	64	52	55	56	57	54	54	60	54	58	55	43	46	50	60	57	54.2
Langdon §§	Maximum	83	74	73	81	83	80	69	64	71	79	73	77	80	85	86	77	74	70	68	75	80	74	87	76	84	72	68	68	78	86	70	76.3
	Minimum	60	52	55	53	65	62	58	59	52	51	51	52	50	55	60	62	51	52	51	55	50	50	55	59	52	55	47	45	46	56	55	54.1
Larimore §§	Maximum	67	76	77	81	86	86	78	65	74	82	81	80	84	84	89	75	75	76	80	77	82	76	88	80	86	68	72	79	77	87	73	78.5
	Minimum	58	53	52	54	61	64	65	64	54	54	55	55	50	54	60	64	55	50	56	56	56	55	56	62	52	56	52	54	46	50	50	55.6
Linton	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Lisbon §§	Maximum	80	78	81	88	90	86	89	78	76	82	81	81	86	86	88	90	78	80	81	83	82	80	86	89	89	75	76	78	80	87	71	82.4
	Minimum	56	54	56	56	59	60	64	57	53	56	55	55	52	55	62	66	62	53	61	61	60	56	50	56	57	59	48	42	46	60	57	56.3
McClusky	Maximum	79	80	77	83	87	81	77	65	80	75	78	78	78	76	87	76	75	71	75	78	78	80	84	84	88	83	73	75	73	87	77	78.6
	Minimum	59	58	51	51	64	59	63	56	48	56	49	51	52	56	59	58	49	55	53	57	51	52	51	57	58	53	43	44	48	61	55	54.2
McKinney (near)	Maximum	78	73	75	80	95	85	82	73	74	74	85	87	86	84	81	75	76	76	68	77	75	84	90	78	83	68	73	73	72	79	78	78.6
	Minimum	52	59	55	46	61	60	57	51	48	49	53	49	47	57	59	62	49	51	53	52	51	52	58	56	59	51	45	48	42	58	48	52.9
Maddock	Maximum	80	71	75	82	87	85	79	70	73	77	79	79	81	81	88	85	76	72	72	80	79	79	84	84	87	85	71	71	75	87	85	79.3
	Minimum	56	53	53	49	62	60	61	57	49	56	52	52	51	52	58	61	49	50	53	55	52	52	53	58	53	52	42	47	40	69	53	53.5
Melville	Maximum	88	90	92	89	91	90	88	89	87	85	88	90	91	88	92	89	94	89	90	88	92	91	87	85	90	88	82	84	88	92	86	88.8
	Minimum	56	65	67	60	61	61	57	60	59	60	58	64	63	58	63	58	61	62	58	65	63	59	62	59	65	54	58	64	59	61	60	60.7
Minot §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Mott	Maximum	80	78	82	79	86	85	84	73	79	84	86	80	80	86	87	80	86	81	80	78	82	83	88	89	94	83	80	76	80	94	86	82.9
	Minimum	52	50	55	56	59	62	58	54	49	52	50	52	57	58	62	58	53	40	58	55	53	58	61	59	63	58	55	50	54	56	57	55.9
Napoleon §§	Maximum	71	74	81	85	95	82	81	67	80	77	80	78	82	80	91	83	76	80	80	82	81	78	85	85	91	72	71	76	80	94	80	80.6
	Minimum	60	50	55	58	62	62	63	53	49	56	50	55	51	56	60	68	60	54	55	58	55	56	54	57	58	54	43	42	47	56	56	55.3
New Salem	Maximum	80	75	82	85	90	80	79	71	82	80	81	80	79	80	91	84	77	76	82	84	85	80	86	86	90	75	73	81	80	94	83	81.6
	Minimum	59	56	54	58	62	60	63	55	52	53	52	55	52	58	57	60	52	57	53	48	53	55	56	61	61	52	48	52	49	61	56	55.5
Pembina §§	Maximum	92	93	85	84	85	83	78	72	74	73	79	82	83	88	92	79	77	74	77	84	78	82	84	83	81	82	78	74	78	88	76	81.2
	Minimum	48	51	52	45	48	48	47	47	41	41	41	42	45	47	45	48	48	42	46	46	41	46	47	52	48	48	48	43	45	42	46	45.9
Steele	Maximum	69	68	70	87	89	86	70	60	74	70	72	70	76	79	89	65	72	80	75	76	76	74	80	84	80	70	72	64	70	88	86	75.5
	Minimum	58	54	54	57	69	62	60	54	49	45	45	45	45	50	61	61	55	54	55	54	53	51	54	58	53	56	50	40	46	49	52	53.2
Towner	Maximum	77	78	78	81	87	84	80	68	75	78	80	81	82	78	92	89	82	75	78	81	78	78	90	85	87	83	75	74	78	80	80	80.4
	Minimum	57	57	50	55	50	65	68	55	52	53	57	52	55	51	65	64	60	52	53	55	57	52	63	54	54	56	52	48	53	54	55	55.6
Valley City	Maximum	80	77	81	89	90	89	82	79	76	82	82	80	83	83	88	89	78	79	81	86	83	80	85	86	89	86	73	76	78	87	86	82.7
	Minimum	59	53	55	58	63	62	65	58	54	57	55	57	52	53	64	67	62	52	62	69	59	56	52	60	57	59	52	47	46	61	57	57.5
Wahpeton	Maximum	79	84	82	86	88	89	82	83	79	82	83	82	86	84	87	92	84	87	82	81	83	84	85	88	91	90	73	78	79	86	85	84.0
	Minimum	62	56	55	57	67	65	66	62	55	55	55	56	51	51	63	67	65	52	61	60	60	53	52	59	61	63	51	46	48	59	61	57.9
Westhope	Maximum	84	75	76	81	87	85	77	66	82	78	80	83	81	77	90	79	79	65	70	80	80	83	88	82	84	70	76	74	74	84	75	78.9
	Minimum	66	60	55	49	62	61	63	55	50	53	52	52	52	58	60	55	50	55	55	55	53	52	59	57	56	53	45	49	48	59	48	54.7
Williston	Maximum	75	70	78	86	82	78	69	71	81	76	80	81	81	90	90	71	75	71	71	75	77	82	90	82	85	68	72	74	77	83	80	78.1
	Minimum	57	56	53	60	59	61	55	53	52	54	57	54	62	64	63	55	54	58	56	53	56	56	61	62	59	53	52	48	56	58	56	56.5
Moorhead, Minn	Maximum	71	78	80	83	86	81	80	75	75	79	80	79	81	82	85	87	77	79	80	76	82	76	83	84	89	73	71	74	76	84	73	79.3
	Minimum	59	58	58	59	66	63	65	61	58	56	57	58	59	58	64	66	63	56	62	59	62	59	56	63	59	59	55	51	51	60	57	59.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing. ᵇ 2 days, etc.

[W. B. O., Minneapolis, 7-28-28—100.]

CHANGE OF ADDRESS OF
AUG 31 1928

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVII BISMARCK, N. D., AUGUST, 1928 No. 8

GENERAL SUMMARY

The month of August was favorable for crops and farm work in most sections of the State although rain delayed harvesting and threshing somewhat, and severe scattered hailstorms at the beginning of the month and again on the 15th, caused considerable damage to crops. It was the wettest August since 1918, and the third consecutive month with precipitation above normal, while from January to June the precipitation was below normal. The precipitation was well distributed throughout the month, but a dry period occurred from the 7th to the 13th. Heavy rain fell in many parts of the State on the 1st and again on the 27th. The wind movement was light and the temperature averaged near the normal although some corn, flax and garden truck in exposed places were damaged by frost on the 23d-24th.

F. J. B.

TEMPERATURE

The mean temperature for the State was 64.8°, or 0.6° below the normal, and 1.4° higher than the average for August, 1927. The highest mean reported was 73.0° at Melville, Foster County; the lowest was 60.1° at Pembina, Pembina County. The highest temperature reported was 105° at Beach, Golden Valley County, on the 11th; the lowest was 25° at Pembina, Pembina County, on the 31st. The greatest monthly range of temperature was 70° at Arnegard, Beach, Lisbon and Pembina; the least was 54° at Dogden Butte, McLean County and at Moorhead, Minn. The greatest daily range in temperature was 55° at Amidon, Slope County on the 18th.

PRECIPITATION

The average precipitation for the State was 3.30 inches, or 1.02 inches above the normal, and 0.07 inch more than the average for August, 1927. The greatest monthly amount reported was 9.17 inches at Edgeley, Lamoure County; the least was 0.20 inch at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 4.42 inches at Turtle Lake, McLean County on the 27th. The average number of days with 0.01 inch or more of precipitation was 8.

AURORAS

Auroras were observed at Arnegard, Crosby and Foxholm on the 4th; at Crosby on the 5th; at Crosby, Foxholm, Towner and Willow City on the 6th; at Crosby on the 7th; at Crosby and Towner on the 8th; at Crosby, Dunn Center, Foxholm, Sharon and Moorhead on the 10th; at Arnegard, Crosby, Dunn Center and Moorhead on the 11th; at Arnegard, Bottineau, Crosby, Foxholm, Napoleon and Towner on the 12th; at Towner on the 21st; at Steele on the 22d; at Devils Lake and Sharon on the 25th; at McClusky on the 26th; and at Howard on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.92	30.27	31	29.61	11	57	5,316	7.1	28§	nw.	29
Devils Lake	29.94	30.24	30	29.63	22	44	5,157	6.9	26§	ne.	15
Ellendale	29.96	30.29	31	29.60	12	56	7,542	10.1	48§	sw.	13
Grand Forks	29.91	30.20	31	29.62	22	90	....	......	33	s.	11
Williston	29.94	30.26	30	29.48	11	48	4,021	5.4	22§	se.	13
Moorhead, Minn	29.94	30.28	31	29.64	22	58	4,792	6.4	24§	n.	26
Av'ges and extremes	29.94	30.29	31	29.48	11	....	....	7.2	48§	sw.	13

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	315.5	439.4	72	+ 1	84	51	50	26	11
Devils Lake	312.9	442.0	71	+ 6	85	50	57	28	21†
Ellendale	330.7	437.4	76	+11	90	61	....	37	7
Grand Forks	......	......	......	......	83	.....	63	.....	....
Williston	320.8	442.0	73	+ 6	82	47	49	23	18
Moorhead, Minn	334.4	439.4	76	+10	85	54	58	30	10
Averages and extremes	322.9	440.0	74	+ 7	85	53	55	23	18

† And other dates.

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COMPARATIVE STATE DATA FOR AUGUST

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P.cdy days	Cl'dy days	Wind Dir.
1892	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917	65.2	−0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.
1923	63.0	−2.4	97	28	1.90	−0.38	8	14	12	5	nw.
1924	63.8	−1.6	102	28	1.65	−1.45	6	17	9	5	nw.
1925	67.9	+2.5	110	29	1.07	−1.21	5	20	8	3	nw.
1926	65.6	+0.2	105	36	2.43	+0.15	7	14	8	9	nw.
1927	63.4	−2.0	96	28	3.23	+0.95	8	18	8	5	nw.
1928	64.8	−0.6	105	25	3.30	+1.02	8	17	9	5	nw.

Climatological Data for August, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr. Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Precipitation, in inches Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	Number of days With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Alpha	Golden Valley		2								1.48		0.44	0	7					H. A. Bury.
Amenia	Cass	954	32	65.6	−0.7	97	14	37	24	41	5.45	+2.73	2.85	0	12	17	9	5	n.	E. T. Carley.
Amidon	Slope		14	67.3	−0.6	100	11	35	23	55	2.82		0.93	0	9	20	9	2	se.	F. A. Garfoot.
Arnegard (near)	McKenzie		13	64.2	−2.9	104	11	34	23	44	2.99	+1.56	1.08	0	8	22	7	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	66.4	+0.5	98	12	35	23	39	3.32	+1.12	1.05	0	10	22	8	1	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	66.5	+1.5	105	11	35	23	43	3.33	+1.28	1.77	0	5					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	67.4	−0.3	98	11	32	23†	43	5.41	+3.64	1.64	0	8	18	6	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	66.7	−0.6	100	11	38	23	37	2.11	+0.29	1.11	0	12	15	11	5	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	62.1	−1.5	91	9	31	23	37	2.19	−0.02	0.57	0	9	20	5	6	ne.	N. A. Eckberg.
Bowman	Bowman	2,961	14								1.58	+0.63	0.65	0	8	15	9	7	nw.	M. S. Byrne.
Cando	Towner	1,488	27	63.6	−0.3	92	13	32	23	45	3.36	+0.85	1.30	0	8	9	14	8	nw.	A. J. Swanson.
Carson	Grant	2,500	16	67.0	−0.6	101	11	32	23	41	2.61	+1.21	1.10	0	6	27	4	0	ne.	J. W. Evens.
Cavalier	Pembina										2.00		0.56	0	13	21	5	5	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	22								3.44	+0.78	1.00	0	8	16	7	8	nw.	S. Friswold.
Corinth	Williams	2,180	1								1.24		0.46	0	9					L. S. Evenson.
Crosby	Divide	1,954	21	62.2	−1.5	94	11	33	24	41	0.88	−1.22	0.44	0	6	13	12	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	63.8	−1.3	95	12	34	23	36	3.34	+0.58	1.04	0	10	16	8	7	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	64.0	−2.3	100	11	32	23	45	3.38	+1.43	1.22	0	6	21	7	3	n.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	62.8		90	11	36	24	31	3.76		1.03	0	8	16	8	7	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	62.0^{b}	−4.6	100^{b}	11	31^{b}	22	43^{b}	2.72	+1.15	1.33	0	6	11	10	10	se.	W. F. Moede.
Dunseith	Rolette	1,682	32	62.9	−0.7	91	9	35	23	34	3.34	+0.93	0.62	0	10	23	6	2	ne.	J. G. Lamont.
Eckman	Bottineau	1,500	23	60.8	−2.5	93	8	27	24	51	3.59	+1.27	1.12	0	9	4	19	8	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	27	65.6	−0.8	95	12	36	24	40	9.17	+7.03	2.85	0	9	8	17	6	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	66.2	−2.6	96	12	39	24	37	3.35	+1.09	1.36	0	11	15	10	6	ne.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	16	64.8		96	11	30	23	55	5.56	+3.61	1.82	0	8	8	22	1	nw.	H. S. Solenberger.
Epping	Williams	2,224	20	62.8		92	11†	30	23	47	2.01	−0.14	0.56	0	8	19	11	1	w.	A. O. Wang.
Fairfield	Billings		1								4.77		2.75	0	3	11	10	10	nw.	F. R. Hecker.
Fessenden	Wells	1,610	16	65.1	+0.1	94	8†	28	23	44	2.42	+0.04	0.65	0	8	13	16	2	ne.	T. D. Monsen.
Forman	Sargent	1,249	34								7.21	+4.50	2.35	0	9	18	10	3	sw.	O. Enger.
Fort Yates	Sioux	1,670									3.51	+1.54	2.60	0	8					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	62.4		97	12	33	23†	42	3.25		1.10	0	11	15	7	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								3.99		2.78	0	1	18	10	3	se.	Verne King.
Fullerton	Dickey	1,439	30	66.4	+0.1	98	12	38	24	40	4.68	+2.15	2.60	0	7	17	8	6	nw.	F. O. Alin.
Garrison	McLean	1,901	33	63.8	−1.9	93	11	34	23†	39	3.80	+1.80	0.94	0	10	23	5	3	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	64.7	+0.2	94	12	37	31	38	3.06	+0.47	1.01	0	9	16	12	3	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	64.8	−0.1	94	12	38	24	34	3.05	+0.59	1.48	0	13	14	11	6	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	63.4	−0.5	95	11	32	24	40	2.93	+0.84	0.86	0	8	17	11	3	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34																	J. Moffatt.
Hansboro	Towner	1,597	20	61.4	−1.4	95	12	26	24	48	1.85	−0.37	0.90	0	6	21	9	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	65.1	−1.9	98	11	35	23†	41	1.58	+0.33	0.38	0	8	19	8	4	nw.	C. H. Plath.
Hillsboro	Traill	901	22	67.4	+0.5	94	12†	32	31	34	3.74	+0.80	1.35	0	8	18	9	4	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	21	65.1	+1.6	97	6†	29	25	52	1.06	−0.83	0.50	0	4	14	13	4	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	65.6	−0.6	97	12	35	24	42	2.16	−0.58	0.74	0	11	15	7	9	s.	S. Calverage.
Lamoine	Kidder	1,936	23	64.0	+0.1	92	8	31^{a}	23	40^{a}	1.86	−0.12	0.62	0	5	17	11	3	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	63.0	+1.3	100	12	31	23	42	1.96	−0.75	0.61	0	9	26	3	2	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	31	64.2	−0.1	95	12	35	24	42	3.44	+0.84	1.75	0	11	20	0	11	n.	Reuben Gray.
Linton	Emmons	1,711	10																	Rev. O. Weber.
Lisbon	Ransom	1,091	24	66.4	−0.1	104	14	34	24	44	3.29	+1.03	0.85	0	12	18	9	4		L. B. Walker.
McClusky	Sheridan	1,943	10	63.6		92	11†	30	23	39	2.57		1.05	0	7	20	9	2	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	34	62.2	−1.3	93	8	29	24	40	3.14	+1.36	0.99	0	7	6	23	2	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	67.2	−0.4	98	13	38	24	43	4.00	+1.65	1.48	0	8	22	4	5	sw.	J. G. Carlson.
Maddock	Benson	1,604	12	64.2	−1.5	90	8†	28	24	50	4.12	+1.90	1.56	0	8	5	17	9	nw.	A. T. Felland.
Mandan	Morton	1,644	14	66.2	−1.6	100	11	37	23†	39	2.24	+1.02	1.08	0	7				nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25								3.12	+0.66	1.30	0	7					P. B. Anderson.
Marmarth	Slope	2,714	19																	Wm. N. Thompson.
Mary	McKenzie		1																	Fred Hartman.
Mayville	Traill	975	32	67.0	+0.7	97	12	36	23†	42	3.31	+0.37	1.10	0	10	23	0	8	sw.	N. C. Burhans.
Melville	Foster	1,590	30	73.0	+6.6	97	13	40	24	38	0.83	−1.16	0.45	0	3	22	0	9	sw.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		3								3.34		0.75	0	9	24	6	1	sw.	J. A. Thorburn.
Minot	Ward	1,557	32																	W. I. Faris.
Minto	Walsh	820	35								2.78	+0.37	1.11	0	6					C. M. Evans.
Mott	Hettinger	2,424	21	65.0	−0.9	100	10	36	23	44	3.76	+2.12	1.64	0	5	14	11	6	se.	O. H. Opland.
Napoleon	Logan	1,955	36	65.8	−0.2	99	12	32	23	46	3.30	+0.91	1.00	0	12	20	3	8	s.	C. J. Hoof.
New England	Hettinger	2,400	37																	W. L. Sales.
New Salem	Morton	2,163	24	67.6	+1.2	100	11	34	23	42	2.67	+1.00	1.00	0	6	19	9	3	nw.	J. Christiansen.
Park River	Walsh	998	24	63.2	−2.3	94	12	32	23	37	3.29	+1.06	0.73	0	10	18	8	5	nw	C. B. Wright.
Parshall (near)	Mountrail		13								5.24	+3.70	1.80	0	8	20	8	3	nw.	John A. Johnson.
Pembina	Pembina	789	54	60.1	−4.0	95	11	25	31	53	0.20	−1.93	0.10	0	2	21	4	6	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	64.5	+2.1	92	8†	32	24	43	2.88	+0.59	1.37	0	9	18	5	8	ne.	A. L. Carlson.
Power	Richland	1,020	34								4.66	+2.19	1.52	0	11	19	7	5	s.	Frank B. Power.
Powers Lake	Burke	2,205	11	61.2		96	12	31	22	32	2.04	+0.45	1.03	0	6	19	9	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	12	65.8	−2.0	99	11	33	23	41	2.92	+1.33	1.11	0	8	15	13	3	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1								3.42		1.39	0	7	18	9	4	nw.	E. C. Erickson.
Ryder	Ward	2,108	1								4.41		1.24	0	8					E. M. Lomen.
Sharon	Steele	1,516	3	65.4		95	12	36	23†	37	3.45		1.41	0	11	18	8	5	ne.	Nels O. Greisheim.
Stanton	Mercer	1,722	4								3.25		1.15	0	6	13	14	4	nw.	J. H. Giffey.
Starkweather	Ramsey		1																	Geo. Follofson.
Steele	Kidder	1,857	32	60.8	−6.0	96	13	30	23	43	4.14	+1.80	1.90	0	11	14	12	5	se.	C. D. Stiles.
Stowers‡‡	Adams		13								1.90	+0.25	0.70	0	4					Chas. E. Stowers.
Tagus	Mountrail	2,179	1																	J. C. Abbott.
Towner	McHenry	1,482	26	65.0	+0.6	90	12	29	24	47	2.62	+0.53	1.08	0	4	23	7	1	nw.	B. Bagley.
Trotters	Golden Valley		3								0.97		0.48	0	6	19	4	8		A. J. Nellermoe
Turtle Lake	McLean	1,899	13	63.9	−2.8	92	11	34	23	37	5.96	+4.08	4.42	0	6	9	12	10	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	67.6	+2.0	96	12	34	24	46	3.56	+1.31	1.83	0	9	17	8	6	w.	I. C. Robertson.
Velva	McHenry	1,511	2	63.9		93	11	34	24	40	2.88		0.84	0	8	10	15	6	w.	Oscar Anderson.
Verona	LaMoure	1,387	34								6.26		2.40	0	8	20	6	5	s.	Louis C. Schmidt.
Wahpeton	Richland	962		69.4	+2.5	100	14	40	24	37	5.08	+2.18	1.45	0	11	26	0	5	se.	C. G. Luick.
Washburn	McLean	1,731	26								4.37	+3.04	1.46	0	6					H. W. Smith.
Westhope‡‡	Bottineau	1,508	26	62.4^{d}	−1.7	95^{d}	8	33	23†	40^{d}	2.73	+0.50	0.76	0	7	25	4	2	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	64.2	−1.9	102	11	35	24	42	1.79	−0.32	0.46	0	11	18	8	5	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	63.3	−0.2	93	8	30	24	41	2.89	+0.81	1.04	0	9	18	9	4	se.	M. A. Ostby.
Wilton	McLean		1	66.9		95	11	37	22	40	3.26		1.84	0	3	24	2	5		L. Q. Perkins.
Zap	Mercer	1,838	1								4.44		1.50	0	8					Grayce M. Joyce.
Moorhead, Minn.	Clay	935	47	67.2	+1.1	96	14	42	24	32	6.42	+3.53	3.30	0	9	17	6	8	s.	U. S. Weather Bureau.
Averages				64.8	0.6	105	11	25	31	55	3.30	+1.02	4.42	0	8	17	9	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for August, 1928

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.02	.44		.10																.33							.20	.20	.19			1.48
Amenia ||	Red	.10	.12				.05	.12							T.		.86							.30		.38	.03	2.85	.14	.30	.20		5.45
Ammon	Lit. Missouri	.98	.17		.48	.30				.03						T.					.16						T.	.35	.25	.10			2.82
Arnegard (near)	Missouri	.82	.50									.13			.05	1.08					.06			T			.10	.25					2.99
Ashley	Missouri	.20				.08	.12								.42		1.05		T.		.32		.07			.05		.66		.35			3.32
Beach	Lit. Missouri	1.77	.02			.27						T.															.07		1.20				3.33
Berthold Agency	Missouri	1.10	1.64			T	.65						T.		.42	.01		.10					T.					1.25		.24			5.41
Bismarck ***	Missouri	.03	1.11	.01		.15	.27									.02		T.		.04	.22		T				.13	.11	.01	.01			2.11
Bottineau ||	Mouse		.15												.10		.37		.34							.16		.57	.04	.21	.22		2.19
Bowman	Grand				.65	.05	.18								.01						.43							.13	.12		.01		1.58
Cando	Devils Lake	.57		.06											.32	.05	.02										.06	1.30	.98				3.36
Carson	Heart		.07			.30	.75														.30							1.10		.09			2.61
Cavalier	Red	.18	.04				.10								.56	.06	.05	.26				.01	.02			.04	.03	.20		.15			2.00
Cooperstown	Sheyenne	1.00	.05				.30									.28							.08				.85		.20	.68			3.41
Corinth	Missouri	.46	.03		.09	.06										.05		.04							.01	.09				.38			1.24
Crosby	Mouse	.44	.15	T.												.02	.02		.10		T.						T.	.15		T.			0.88
Devils Lake ***	Devils Lake	.45	.19	T.		T.									.15	.53	.01	T.	.20							.01	.10	.94		.76			3.34
Dickinson ||	Heart		1.22				.40											.17										1.00	.29	.30			3.38
Dogden Butte	Mouse	.68	.25	T.											.45	.40		.10					T.			T.	.13	.72		1.03	T.		3.76
Dunn Center ||	Knife	1.33	T.			.80				T.																		.17	.17	.17	.08		2.72
Dunseith	Mouse	.52													.42	.62	.04	.06	.21							.12	.27	.58		.50			3.34
Eckman	Mouse	.68	.03												.20	.53					.05	T.				.08	.70	.20		1.12			3.59
Edgeley	James	.51		1.85			.25							.15			2.35				.20		1.50					2.00		.36			9.17
Ellendale***	James	.28	T.			T.	.14							.49		1.36	T.	T.		T.	.19		.10		.01	.01	.46	.02		.29			3.35
Energy	Missouri	1.21	.89			.90	.16											.20		T.	T.		T.				.06	1.82		.32			5.56
Epping	Missouri	.25	.10			.38										.25	.11				T.						.30	.06		.56			2.01
Fairfield	Knife	T.	2.75									T.					T.											.02	2.00				4.77
Fessenden ||	James	.34	.44					.10											.24							.05		.65		.42	.18		2.42
Forman	Sheyenne	1.04					.75									.08	1.70				.10		.68					2.35		.50	.01		7.21
Fort Yates	Missouri	.07				1.91	.09									.76				.45						.13	.06			.04			3.51
Foxholm (near)	Mouse	.63	.05	.06									T.		.12	.16		.05			.03					.06	.43	.56		1.10			3.25
Fryburg	Heart	T.	2.78				.26									T.				T.							T.	.33		.62			3.99
Fullerton	James	.49	T.	.15			T									2.60					.12		.07			T.	.40	.85					4.68
Garrison	Missouri	.77	.60	.46			.36								.11	.05		.02									.26	.94		.23			3.80
Grafton	Red	.23	.03												.98	.23	.39	.02	.09								.08		1.01				3.06
Grand Forks ***	Red	.09					.20						.16	.26	.55	.10		.07	.02	T.			.03			.01	.03	.05		1.48			3.05
Granville	Mouse	.25	.09		.04											.44		.86			T.						.17	.42		.66			2.93
Hannah	Pembina																																
Hansboro	Devils Lake	.35													.10	.08											.10	.90		.32			1.85
Hettinger	Grand		.24			.04	.34			T.	.02					.35	T.				.38							.07		.14			1.58
Hillsboro	Red	.20					.11								.02		1.25						1.35				.03	.17		.61			3.74
Howard (near)	Missouri	.16			.29	T.	.50								T.	T.		T.									T.	.11			T.		1.06
Jamestown ||	James	.10	.74					T.									.07				.09	.05		.11			.01	.14	.01	.46	.08		2.16
Lamoine	Missouri	.48	.36				.22									T.							T.					.62		.18			1.86
Langdon ||	Pembina	.08	.27												.23		.13		.06							.06		.61		.05	.41		1.90
Larimore	Red		.30					.10							.10	.02	.03		.06					.03			.05	.50		.50	1.75		3.44
Linton	Missouri																																
Lisbon ||	Sheyenne	.15	.65	.10			.07										.85				.10			.22		.10		.55	.15	.25	.10		3.29
McClusky	Missouri	.35	.55				.13												.08							.04		1.05		.37			2.57
McKinney (near)	Mouse	.70		.48										T.		.20	T.	T.			.14						.47	.16		.99			3.14
McLeod	Sheyenne	.80				T.									T.		.54				.05			.39		.12		1.48		.55	.07		4.00
Maddock	Sheyenne	1.21	.12	.04			T.										.12	T.	.19							T.	.12	.76		1.56			4.12
Mandan ||	Missouri		.02	1.08			.60												.02		.28							.23		.01			2.24
Manfred	James	.60	.19	.09	.12		.14											T.										1.30		.68			3.12
Marmarth	Lit. Missouri																																
Mary	Lit. Missouri																																
Mayville	Red	.33					.07								.25		.33						1.10	.08		.27	.17			.66	.05		3.31
Melville	James							.18																				.45	.20				0.83
Metigoshe	Mouse	.43													.75	.35	.05	.09								.25	.22	.59		.61			3.34
Minot ||	Mouse																																
Minto	Red	.06														1.00	.40										.09			1.11	.12		2.78
Mott	Cannon Ball					.93	1.64														.43						T.	.64		.12			3.76
Napoleon ||	Missouri	.20	.10	.50		.08	.12										.17		.22		.25			.50		.05		1.00		.11			3.30
New England	Cannon Ball																																
New Salem	Heart	T.	.49	.72		.06	1.00											T.			.15						T.	.25					2.67
Park River	Red	.28	.10		.06		T.								.67	.33	.73		T								.15	.23		.63	.11		3.29
Parshall (near)	Missouri	1.10	.80				.10								.60	1.80											.20	.50		.14			5.24
Pembina ||	Red	T.															T		T.			T.				T.		.10			.10		0.20
Pettibone	James	.41	.04				T.									.60	.06				.02		.09				1.37	.22		.07			2.58
Power	Sheyenne	.23	.72	.58												1.52				.07	.15		.25			.14	.08	.63		.29			4.66
Powers Lake	Missouri	.51				.02										.11											.17	.20	1.03				2.04
Richardton	Heart	.11	.52				1.11									.11					.27						.05	.56		.19			2.92
Rugby [near]	Mouse	.52		.34											.07	.15									.02		.93			1.39			3.42
Ryder	Missouri	1.12	.65	.16											.18	1.24	.02									.04		1.00					4.41
Sharon	Red	.49	.01				.24								.10	.04	.09	T.	.15				.42				.38	.12		1.41			3.45
Stanton	Missouri	.65	.70				.15											T.									.10		1.15	.50			3.25
Starkweather	Devils Lake																																
Steele	Missouri	1.90				.11	.06									.57	.05		.10		.28		.57	T.		.10	.22			.18			4.14
Stowers	Cannon Ball					.70	.35									.20				.65					T.			T.					1.90
Tagus	Mouse																				.07				.02		.43	.20		.55			
Towner	Mouse	.62													T.	.42		T.								T.	1.08			.50			2.62
Trotters	Lit. Missouri	.07	.48													.01											.04	.35	.02				0.97
Turtle Lake	Missouri	.67	.30	.04																						T.	.03	4.42		.50			5.96
Valley City	Sheyenne	.29					.35								.03	.32										.06	1.83	.03		.55	.10		3.56
Velva	Mouse	.51	.25	.03												.52		.19			T.					T.	.12	.42		.84			2.88
Verona	James	.88	.02														1.50				.12		1.02			.16		2.10	.15				6.20
Wahpeton	Red	.81	.01				.36										1.00		.01		.09		.10			.13		1.45	.21	.91			5.08
Washburn	Missouri	1.46	.94	.11			.21																					1.07		.58			4.37
Westhope	Mouse	.53														.24		.44								.14	.43	.19		.76			2.73
Williston ***	Missouri	.02	.11	.06		.29				T			T.	T.		.39		.01			.07					T.	.34	.04	.09	.37			1.79
Willow City	Mouse	.66		.03											.23	.18					.02					.04	.19	.50		1.04			2.89
Wilton		1.84	.53																								.89						3.26
Zap	Knife	.60	.06			1.50											.42										1.00	.42	.21	.23			4.44
Moorhead, Minn ***	Red	.20	T.			T.	T.							T.	T.	1.04	T.		.20		.01		.68			.28	3.05	.25		.71			6.42

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum...	71	79	77	85	84	82	94	92	89	82	90	96	95	97	83	79	83	76	80	70	78	80	66	78	76	75	64	74	67	64	69	79.
	Minimum...	54	55	52	51	54	60	56	56	58	51	49	56	64	69	64	59	45	51	55	53	45	52	39	37	40	47	52	44	46	42	42	51.
Amidon	Maximum...	87	86	88	79	77	88	95	97	99	88	100	90	98	80	85	82	92	92	85	85	84	91	68	72	78	81	70	71	72	81	85	84.
	Minimum...	50	52	48	52	57	55	55	60	61	57	58	60	53	58	56	53	42	37	50	51	51	49	35	45	40	41	47	40	47	44	44	49.
Arnegard	Maximum...	77	68	77	81	82	84	89	92	85	87	104	86	92	74	57	76	79	87	76	72	89	72	70	69	70	72	65	71	71	78	76	78.
	Minimum...	60	54	48	53	56	57	56	59	55	56	60	59	56	53	52	53	52	52	51	47	45	49	34	35	44	45	47	43	35	43	42	50.
Ashley	Maximum...	78	79	76	79	71	81	86	92	89	84	92	98	95	88	77	70	80	87	80	74	80	78	67	79	78	79	75	72	68	67	74	79.
	Minimum...	55	59	56	50	55	55	54	55	55	56	53	66	62	69	62	55	47	52	53	53	50	60	35	41	50	50	55	44	55	42	42	53.
Beach	Maximum...	86	76	78	80	76	84	86	94	94	87	105	92	96	83	74	76	86	90	83	86	90	75	67	75	72	80	56	72	70	70	82	81.
	Minimum...	57	53	56	51	56	55	51	64	62	59	62	61	56	54	51	53	54	51	56	53	48	52	35	36	42	47	47	48	48	40	43	51.
Berthold Agency	Maximum...	78	70	77	82	81	84	81	94	84	96	98	92	89	87	72	74	82	85	77	82	84	75	66	74	70	70	68	70	73	68	78	82.
	Minimum...	60	55	54	55	51	57	54	54	55	55	55	57	53	56	58	54	50	46	54	55	55	55	32	32	45	41	47	42	54	36	45	52.
Bismarck	Maximum...	76	77	77	82	76	85	85	95	86	84	100	90	92	78	69	75	81	90	80	76	82	78	66	76	72	75	62	71	72	65	77	79.
	Minimum...	62	58	58	57	59	58	58	62	60	58	63	69	59	64	60	56	47	58	56	54	52	52	38	39	51	46	48	45	55	41	44	54.
Bottineau §§	Maximum...	76	73	74	83	77	81	81	91	82	80	88	87	87	72	65	72	73	83	71	65	76	74	63	68	66	67	63	71	71	65	74	74.
	Minimum...	53	55	52	53	57	57	53	56	59	54	56	58	60	62	54	52	48	50	54	47	39	48	31	37	44	47	48	35	41	34	38	49.
Cando	Maximum...	75	74	74	81	79	78	87	91	88	89	89	91	92	82	72	74	78	84	77	68	77	75	64	70	68	72	63	70	69	64	73	77.
	Minimum...	53	59	54	51	55	57	56	57	58	47	48	46	55	65	57	55	49	57	53	48	42	55	32	37	50	43	49	38	51	37	41	50.
Carson	Maximum...	88	85	80	75	79	90	89	95	92	85	101	95	95	85	75	79	84	92	81	80	85	85	70	78	77	80	70	70	72	68	78	82.5
	Minimum...	54	56	45	50	52	52	54	60	58	56	60	60	54	60	60	52	50	54	55	54	50	56	32	39	55	48	50	40	50	39	44	51.6
Crosby §§	Maximum...	76	68	76	83	80	83	84	90	83	85	94	80	90	71	60	75	84	87	72	71	83	68	65	73	66	59	60	71	71	70	79	76.0
	Minimum...	56	54	45	51	56	55	56	56	53	57	63	61	55	51	53	42	45	49	44	44	42	49	35	33	48	41	46	42	42	36	40	49.0
Devils Lake	Maximum...	77	70	74	81	77	77	82	92	85	83	89	95	88	82	70	72	81	85	76	70	78	76	61	72	71	75	57	71	69	63	73	76.0
	Minimum...	54	53	52	51	58	57	59	60	57	50	53	63	59	58	56	54	52	60	51	50	46	46	34	37	47	44	46	42	46	39	42	50.9
Dickinson §§	Maximum...	82	73	78	81	78	82	86	93	86	86	100	89	92	78	67	78	86	89	79	78	85	80	69	79	72	78	55	72	73	65	76	79.5
	Minimum...	59	55	48	49	53	56	50	52	54	55	55	55	52	54	57	54	49	48	45	51	42	52	32	34	37	43	48	42	42	38	42	48.5
Dunn Center §§	Maximum...	....	70	74	80	....	83	83	91	82	83	100	86	89	74	63	72	84	87	81	73	84	74	64	71	69	68	56	68	70	66	71	^{b}76.4
	Minimum...	....	48	50	56	57	53	54	55	54	55	58	49	50	56	53	44	47	51	48	44	51	31	35	43	40	47	....	39	45	35	32	^{b}47.6
Dunseith	Maximum...	76	70	73	80	78	78	80	90	91	83	87	87	86	86	73	70	74	81	79	65	74	76	61	68	70	65	67	68	70	63	71	75.5
	Minimum...	52	52	53	51	57	56	55	58	62	55	53	62	59	60	53	53	47	52	53	47	43	50	35	36	46	48	46	39	50	37	38	50.3
Edgeley	Maximum...	71	78	74	79	74	80	86	90	86	83	89	95	91	90	76	74	79	86	80	72	78	81	65	76	76	76	68	76	68	66	72	78.5
	Minimum...	56	54	55	53	54	56	55	58	59	53	49	65	61	66	61	56	48	56	55	50	51	57	37	36	51	45	55	45	55	40	42	52.7
Ellendale	Maximum...	72	78	74	79	72	80	88	90	87	80	90	96	95	91	76	72	77	83	79	73	77	75	64	76	72	76	65	70	68	63	73	77.8
	Minimum...	57	57	58	55	54	61	58	58	63	56	53	68	64	68	64	55	53	54	53	51	54	55	40	39	53	47	53	45	56	44	42	54.5
Fessenden §§	Maximum...	77	75	77	83	78	81	85	94	89	84	92	94	92	83	75	78	85	90	80	75	83	80	68	77	77	78	67	75	71	67	76	80.2
	Minimum...	54	53	52	49	51	52	52	55	58	50	49	66	58	66	58	55	48	53	53	50	47	54	28	33	47	44	49	38	48	39	42	50.0
Foxholm (near)	Maximum...	75	71	73	82	78	81	79	91	81	81	92	97	86	86	65	71	74	84	71	64	78	71	62	69	64	65	59	68	70	64	72	75.0
	Minimum...	55	56	53	54	53	57	56	62	56	52	50	67	52	56	49	49	55	50	49	45	43	56	33	33	42	41	41	41	51	36	48	49.7
Fullerton	Maximum...	70	73	77	81	77	85	88	92	88	89	91	98	94	93	76	72	78	83	80	72	78	77	64	76	74	77	67	69	68	64	72	78.5
	Minimum...	56	58	56	54	55	59	58	56	60	56	51	66	62	73	63	60	50	50	64	54	53	56	39	38	53	48	55	45	46	43	42	54.2
Garrison	Maximum...	74	70	76	80	77	81	81	92	82	81	93	86	86	73	71	72	81	85	75	73	81	75	65	72	69	68	62	70	71	66	77	76.3
	Minimum...	58	57	54	56	57	59	56	59	57	54	57	59	57	59	55	52	49	46	53	48	43	56	34	31	47	45	48	45	54	38	44	51.3
Grafton	Maximum...	71	69	76	82	83	81	84	91	87	81	86	94	91	88	76	74	79	82	78	71	76	80	67	70	72	76	75	68	74	65	75	78.1
	Minimum...	51	56	49	52	47	59	56	53	66	46	48	64	64	67	60	57	51	53	57	46	48	59	40	38	51	40	41	50	42	42	37	51.3
Grand Forks	Maximum...	71	75	74	82	79	79	85	90	85	80	85	94	89	80	67	73	81	84	76	70	77	77	66	72	73	77	62	74	62	64	75	76.7
	Minimum...	54	57	50	52	56	61	57	57	64	49	51	66	64	64	61	55	48	54	58	53	47	51	39	38	54	50	49	44	49	42	43	52.8
Granville	Maximum...	76	73	76	82	79	84	85	94	85	85	95	92	90	76	65	74	78	85	71	66	80	77	65	75	68	60	65	70	70	65	75	76.9
	Minimum...	58	60	54	53	56	51	55	58	57	48	55	58	52	55	50	50	52	50	52	48	43	55	34	32	46	42	49	40	50	37	45	50.0
Hansboro	Maximum...	84	80	82	80	85	87	88	90	90	92	93	95	92	80	68	75	73	74	73	70	80	70	65	74	76	70	67	65	60	60	70	77.7
	Minimum...	48	47	47	43	48	48	48	58	51	60	60	58	47	58	47	50	46	45	47	46	31	36	30	26	41	38	44	35	42	34	32	45.1
Hettinger	Maximum...	84	74	76	80	80	82	87	95	95	85	98	90	94	80	79	73	83	90	85	76	86	78	66	76	72	81	58	69	70	67	78	80.3
	Minimum...	60	58	46	45	51	56	51	54	55	60	59	54	55	56	61	54	49	52	47	55	47	48	35	35	36	48	51	39	42	45	41	49.9
Hillsboro	Maximum...	73	79	78	85	82	81	91	92	88	86	86	94	94	93	77	74	83	87	87	75	79	80	68	73	77	77	67	75	74	65	76	80.5
	Minimum...	55	56	51	54	56	61	57	57	61	51	52	64	66	73	65	58	51	59	59	53	49	60	51	41	54	49	54	45	54	43	32	54.3
Howard (near)	Maximum...	93	83	85	75	90	97	93	97	95	96	91	92	85	85	90	90	90	95	85	85	82	76	70	70	68	72	68	70	70	70	70	83.2
	Minimum...	50	50	50	45	45	45	54	53	47	47	55	57	47	41	49	39	52	47	46	44	44	60	44	50	29	38	40	44	40	54	54	47.0
Jamestown §§	Maximum...	75	78	79	83	76	85	90	95	89	83	93	97	95	91	71	76	84	90	83	77	84	84	65	77	73	72	62	75	69	66	75	80.3
	Minimum...	55	57	56	54	54	56	55	54	58	55	57	58	61	67	51	51	45	50	55	53	52	52	36	35	40	47	47	42	46	46	37	50.9
Lamoine	Maximum...	78	72	78	80	72	80	82	92	85	88	90	90	88	78	71	73	82	86	85	73	80	86	67	75	70	70	55	72	70	70	74	77.6
	Minimum...	55	56	55	52	52	52	54	55	54	53	58	60	60	64	55	53	45	52	54	52	45	55	31	35	40	45	47	42	38	35	....	^{a}50.3
Langdon §§	Maximum...	73	68	75	85	81	83	86	93	86	84	87	100	89	80	72	72	70	88	72	68	81	79	73	70	69	67	67	66	71	69	77	77.5
	Minimum...	51	51	48	49	58	58	55	56	60	50	54	65	58	55	54	55	48	49	50	47	46	49	31	34	40	45	49	38	35	35	39	48.5
Larimore §§	Maximum...	70	70	76	85	78	77	88	93	86	83	87	95	87	81	69	74	84	87	82	72	82	82	67	72	75	78	55	74	65	63	68	77.6
	Minimum...	53	50	50	52	50	58	57	56	64	47	48	53	63	63	58	55	48	51	57	50	47	55	36	35	55	40	50	45	46	40	42	50.9
Linton	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Lisbon §§	Maximum...	70	80	74	82	75	80	92	93	93	82	91	100	99	104	79	76	87	89	91	75	81	82	70	76	76	77	68	75	73	77	74	82.0
	Minimum...	53	53	54	49	52	58	55	56	58	53	48	59	63	64	62	58	43	52	52	54	45	52	40	34	38	47	48	44	50	40	37	50.7
McClusky	Maximum...	77	75	76	80	76	81	83	90	85	87	92	90	87	83	92	75	80	85	78	73	78	77	64	72	69	69	60	70	70	65	75	77.8
	Minimum...	55	56	53	51	57	55	55	57	55	57	56	58	55	61	56	46	45	49	51	48	43	52	30	33	42	41	47	29	52	36	37	49.3
McKinney (near)	Maximum...	78	69	78	81	80	81	85	93	82	83	90	90	86	83	61	73	78	83	71	70	78	77	65	69	62	62	64	69	71	68	76	76.0
	Minimum...	56	57	51	49	49	57	56	59	53	47	52	60	50	57	52	58	51	44	43	47	38	52	32	29	40	46	46	41	47	38	45	48.5
Maddock	Maximum...	75	71	74	79	79	75	88	90	89	83	89	90	89	88	79	75	82	85	78	74	79	79	74	78	71	75	64	72	70	65	74	78.3
	Minimum...	54	60	56	50	52	54	53	52	57	45	48	60	56	65	55	53	67	52	51	47	45	60	30	28	47	38	48	41	51	36	43	50.1
Melville	Maximum...	84	89	86	88	90	91	88	90	89	92	90	96	97	94	89	90	86	89	93	85	83	80	76	78	75	78	88	87	84	89	91	87.3
	Minimum...	61	59	60	54	65	66	57	61	58	63	61	64	65	66	64	61	58	59	61	57	55	52	45	46	48	54	61	58	63	58	62	58.7
Minot §§	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Mott	Maximum...	81	79	87	88	78	77	85	92	81	100	88	87	94	84	76	80	90	92	88	86	86	90	70	76	80	78	76	77	78	78	80	80.2
	Minimum...	61	48	47	44	46	46	50	51	60	58	50	50	61	60	53	55	56	57	51	46	47	46	36	38	48	47	46	45	48	49	48	49.9
Napoleon §§	Maximum...	75	80	78	83	72	82	86	96	87	85	98	99	95	88	75	75	84	92	85	75	84	84	65	78	74	78	62	74	68	65	76	80.6
	Minimum...	58	57	52	50	50	54	57	56	55	56	56	62	60	65	58	55	45	46	52	53	48	48	32	37	51	46	50	40	50	39	42	51.0
New Salem	Maximum...	76	81	78	84	80	83	85	94	88	85	100	89	93	88	85	78	84	90	85	75	85	82	67	78	84	75	66	71	72	86	80	82.1
	Minimum...	51	52	55	59	56	55	57	60	63	54	58	78	51	60	61	54	50	58	52	52	48	54	34	38	54	41	49	42	57	47	43	53.0
Pembina §§	Maximum...	77	74	74	86	84	86	87	92	88	88	95	93	88	84	78	74	74	78	84	76	77	80	77	74	75	78	58	73	58	62	68	78.7
	Minimum...	42	43	39	41	45	47	41	48	47	48	42	46	48	46	43	46	42	43	43	42	38	43	33	43	42	43	41	34	34	27	25	41.5
Steele	Maximum...	74	75	78	76	78	82	95	89	80	86	89	86	96	92	66	70	80	83	81	73	76	74	70	68	68	56	70	75	65	68	66	77.2
	Minimum...	37	42	45	44	41	40	32	55	52	56	51	56	56	57	56	51	41	43	51	50	51	50	36	32	40	42	40	35	32	34	36	44.5
Towner	Maximum...	75	80	78	80	82	86	84	87	87	84	86	90	87	85	82	78	78	88	80	78	76	78	78	74	70	74	70	74	76	68	74	79.6
	Minimum...	53	55	51	54	53	55	55	56	57	48	55	63	55	53	54	52	53	56	48	50	51	52	31	29	45	50	53	40	43	40	57	50.5
Valley City	Maximum...	75	80	82	87	83	83	89	91	89	88	88	96	94	93	80	75	82	89	87	75	80	81	67	80	81	79	83	75	71	66	79	82.2
	Minimum...	57	58	53	52	54	57	55	57	60	54	49	65	65	68	63	57	45	58	56	52	47	56	39	34	52	48	57	45	54	41	40	53.1
Wahpeton	Maximum...	76	78	79	83	82	83	92	92	90	88	86	93	97	100	97	84	81	86	86	85	80	82	78	77	76	77	78	74	73	67	72	83.0
	Minimum...	57	56	56	52	52	63	57	59	63	53	54	65	70	77	63	63	49	57	59	58	47	62	44	40	55	51	61	47	57	44	40	55.8
Westhope	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Williston	Maximum...	75	65	78	82	80	83	87	92	85	86	102	83	93	71	60	73	78	87	74	71	67	68	66	68	65	69	64	70	71	68	79	76.8
	Minimum...	59	52	46	58	58	58	56	64	59	62	65	65	61	52	51	48	56	55	54	48	45	42	35	35	44	46	48	44	46	39	49	51.5
Moorhead, Minn	Maximum...	70	78	76	81	77	79	91	90	88	80	84	91	96	96	82	72	80	84	80	73	78	81	65	74	71	74	67	72	67	63	71	78.4
	Minimum...	56	57	56	56	57	62	61	63	65	57	55	65	71	67	65	59	50	59	58	55	50	57	42	42	55	52	52	48	54	45	44	56.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ^{a} 1 day missing, ^{b} 2 days, etc

[WBO, Minneapolis, 10-3-28—1000]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVII Bismarck, N. D., September, 1928 No. 9

GENERAL SUMMARY

Although the precipitation for the State averaged considerably below the normal, it was not well distributed and heavy local showers caused some crop damage. Very little rain from the 1st to the 6th and from the 17th to the close of the month, but showers between the 8th and 16th interfered greatly with threshing. Threshing and other farm work made rapid progress after the 16th. Very low temperatures for so early in the season occurred from the 23d to the 26th and late corn and flax were damaged considerably in some sections of the State. By the close of the month fall plowing and rye seeding were well advanced, with much rye up to good stand and color. Fall feed was abundant and livestock was in excellent condition, but the ground was getting very dry in most sections. F.J.B.

TEMPERATURE

The mean temperature for the State was 53.9°, or 2.5° below the normal, and 2.9° lower than the mean for September, 1927. The highest mean reported was 59.0° at Melville, Foster County; the lowest was 46.4° at Pembina, Pembina County. The highest temperature reported was 95° at Arnegard, McKenzie County, on the 6th; the lowest was 12° at Berthold Agency, McLean County, on the 12th. The greatest monthly range of temperature was 81° at Arnegard, McKenzie County; the least was 54° at Moorhead, Minn. The greatest daily range in temperature was 60° at Berthold Agency, McLean County on the 18th, and at Willow City, Bottineau County on the 29th.

PRECIPITATION

The average precipitation for the State was 0.93 inch, or 0.71 inch below the normal, and the same as the mean for September, 1927. The greatest monthly amount reported was 4.89 inches at Valley City, Barnes County; the least was a trace at Howard, Minto, Park River and Pembina. The greatest amount recorded in any 24 consecutive hours was 4.22 inches at Hettinger, Adams County on the 14th. The average number of days with 0.01 inch or more of precipitation was 5. A trace of snow fell at Grand Forks on the 22d and 23d.

AURORAS

Auroras were observed at Foxholm and Sharon on the 1st; at Towner on the 2d and 7th; at Carson on the 8th; at Foxholm on the 14th, 23d and 24th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.99	30.36	17	29.48	19	57	5,501	7.6	29§	n.	15
Devils Lake	29.97	30.36	17	29.49	30	41	5,561	7.7	25§	n.	24
Ellendale	30.02	30.36	17	29.55	30	56	8,262	11.5	45§	nw.	15
Grand Forks	29.94	30.33	17	29.47	30	90	....	......	44	s.	18
Williston	30.00	30.40	16	29.38	18	48	4,268	5.9	30§	w.	7
Moorhead, Minn	29.97	30.35	17	29.51	30	58	5,260	7.3	25§	e.	13
Av'ges and extremes	29.98	30.40	16	29.38	18†	.....	....	8.0	45§	nw.	15

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	251.1	376.6	67	+ 5	81	49	44	15	29
Devils Lake	225.6	377.2	60	+ 2	83	47	52	15	28
Ellendale	272.0	376.0	72	+10	83	50	....	19	28*
Grand Forks	......	......	......	......	83	.....	61	.....	....
Williston	260.8	377.2	69	+11	79	39	40	15	29
Moorhead, Minn	240.7	376.6	64	+ 2	84	54	59	22	29
Averages and extremes	....	....	66	+ 5	82	48	51	15	28*

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER

Year	Temperature				Precipitation			Sky			Wind Dir
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893	57.1	−0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916	55.1	−1.3	99	15	1.62	0.02	6	14	9	7	nw.
1917	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.
1922	59.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw.
1923	60.1	+3.7	99	15	2.39	+0.75	6	14	8	8	nw.
1924	55.0	−1.4	98	20	2.31	+0.67	7	15	7	8	nw.
1925	58.1	+1.7	103	20	2.74	+1.10	8	12	8	10	nw.
1926	52.3	−4.1	95	9	2.42	+0.78	9	11	9	10	nw.
1927	56.8	+0.4	101	10	0.93	−0.71	3	16	9	5	nw.
1928	53.9	−2.5	95	12	0.93	−0.71	5	17	7	6	nw.

Climatological Data for September, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								0.70		0.33	0	5					H. A. Bury.
Amenia	Cass	954	32	53.2	-4.1	83	15	25	26	37	3.21	+1.24	1.45	0	5	18	9	3	se.	E. T. Carey.
Amidon	Slope		14																	F. A. Garfoot.
Arnegard (near)	McKenzie		13	53.9	-2.9	95	6	14	25	47	0.50	-1.10	0.22	0	4	24	2	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	55.4	-1.9	85	6	23	25	48	2.85	+1.83	2.00	0	5	20	5	5	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	56.0	-0.3	90	18	20	25	48	0.70	-0.57	0.29	0	4	14	10	6	nw	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	53.6^{a}	-3.4	91^{a}	6	12	25	60^{a}	0.08	-1.36	0.08	0	1	19	1	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	56.2	-1.9	90	6	23	25	51	1.15	-0.08	0.86	0	6	14	10	6	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	36	51.4	-4.1	86	6	19	24	54	0.25	-1.32	0.17	0	4	20	6	4	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	14								0.65	-0.65	0.49	0	5	12	9	9	nw.	M. S. Byrne.
Cando	Towner	1,488	27	52.6	-3.0	86	6	18	26	47	0.19	-1.24	0.17	0	2	13	11	6	nw.	A. J. Swanson.
Carson	Grant	2,500	16	55.4	-1.0	90	6	15	23	44	1.89	+0.16	0.93	0	5	25	1	4	nw.	J. W. Evens.
Cavalier	Pembina										0.19		0.11	0	4	15	6	9	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	22								1.41	-0.25	0.51	0	5	12	7	11	nw.	S. Friswold.
Corinth	Williams	2,150	1								0.32		0.26	0	3					L. S. Evenson.
Crosby	Divide	1,954	21	52.0	-1.7	93	6	14	25	55	0.70	-0.69	0.55	0	3	19	2	9	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	52.8	-3.1	87	6	20	26	43	0.27	-1.12	0.18	0	6	15	8	7	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	53.2	-3.3	92	6	14	27	55	0.50	-0.57	0.13	0	7	17	10	3	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	53.4		84	6	23	25	44	0.18		0.08	0	4	17	8	5	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	51.0	6.1	90	6	14	25	56	0.43	-0.69	0.19	0	4	20	3	7	nw.	W. F. Moede.
Dunseith	Rolette	1,682	32																	J. G. Lamont.
Eckman	Bottineau	1,500	23	52.4	-3.1	88	6	16	25	59	0.50	-0.63	0.19	0	6	2	24	4	nw.	C. E. Stroek.
Edgeley	LaMoure	1,468	27	54.7	-2.8	84	6†	24	25	46	2.79	+1.13	2.10	0	5	7	14	9	nw	O. A. Thompson.
Ellendale	Dickey	1,449	29	54.6	-3.8	86	7	25	25	40	2.35	+1.00	1.87	0	7	15	10	5	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	16	54.7		89	6	16	25	58	0.48	-1.06	0.25	0	5	13	14	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	20																	A. O. Wang.
Fairfield	Billings		1								0.10		0.03	0	4	13	10	7	nw.	F. R. Hecker.
Fessenden	Wells	1,610	16	53.9	-1.2	90	6	20	26	54	0.63	-1.09	0.15	0	7	13	10	7	nw	T. D. Monsen.
Forman	Sargent	1,249	34								1.24	-0.58	0.86	0	7					O. Enger.
Fort Yates	Sioux	1,670									2.37	+1.40	1.20	0	4					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	53.1		83	18	19	25	46	0.25		0.16	0	3	14	9	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								0.64		0.41	0	3	17	10	3	nw.	Verne King.
Fullerton	Dickey	1,439	30	54.4	-2.3	86	7	24	25	57	1.82	-0.25	0.56	0	4	19	8	3	nw.	F. O. Alin.
Garrison	McLean	1,901	33	54.0	-2.8	87	6	29	25	55	0.16	-1.20	0.16	0	1	25	3	2	nw	Wm. H. Robinson.
Grafton	Walsh	827	36	51.9	-1.0	87	7	23	26	44	0.25	-1.57	0.15	0	5	13	9	8	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	53.2	-3.0	86	7	24	26	42	0.88	-0.98	0.25	T.	10	11	10	9	nw	U. S. Weather Bureau
Granville	McHenry	1,504	21	53.1	-1.3	90	6	17	25	55	0.10	-1.15	0.08	0	2	18	11	1	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34																	J. Moffatt.
Hansboro	Towner	1,597	20	49.6	4.5	80	29	18	26	50	0.28	-1.62	0.18	0	3	11	16	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	53.4	-4.6	90	6	19	25†	52	4.35	+3.05	4.22	0	4	19	7	4	nw.	C. H. Plath.
Hillsboro	Traill	901	22																	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	21	52.0	-1.8	90	18	14	26	57	T.	-1.37	T.	0	0	16	10	4	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	36	53.6	-3.1	88	8	23	23†	52	1.56	+0.63	1.20	0	6	15	9	6	nw.	S. Calveiage.
Lamoine	Kidder	1,936	23	53.5	-3.1	89	6†	18	25†	47	0.84	-0.44	0.48	0	3	19	5	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	53.2	-0.3	89	6	15	26	56	0.25	-1.71	0.12	0	4	28	2	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	53.4	-1.8	88	7	20	26	41	0.78	-1.11	0.50	0	6	14	4	12	n.	Reuben Gray.
Linton	Emmons	1,711	10																	Rev. O. Weber.
Lisbon	Ransom	1,091	24	54.2	-3.5	90	7	20	23†	50	1.20	-0.95	0.55	0	5	15	10	5		L. B. Walker.
McClusky	Sheridan	1,943	10	52.2		86	6	14	25	53	0.83		0.30	0	6	18	8	4	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,649	34	52.4	-1.7	86	6	15	25	54	0.96	0.57	0.45	0	4	10	16	4	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	55.0	-1.9	81	1	22	23	43	1.77	-0.77	0.74	0	7	23	2	5	nw	J. G. Carlson.
Maddock	Benson	1,604	12	54.0	-2.2	88	6	18	25	51	0.31	-1.95	0.13	0	4	12	11	7	nw.	A. T. Felland.
Mandan	Morton	1,644	14	55.6	-2.5	90	6	24	25	51	0.89	-0.57	0.62	0	5	16	2	12	nw.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	25								0.38	-0.97	0.13	0	7					P. B. Anderson.
Marmarth	Slope	2,714	19																	Wm. N. Thompson.
Mary	McKenzie		1								0.50		0.40	0	3	13	12	5	nw	Fred Hartman.
Mayville	Traill	975	32	56.2	1.2	90	30	22	26	48	2.05	-0.23	1.13	0	6	18	6	6	nw.	N. C. Burhans.
Melville	Foster	1,590	30	59.0	+2.6	92	8	21	26	45	1.10	0.28	0.65	0	2	22	0	8	se.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		3								0.22		0.12	0	2	23	5	2	nw.	J. A. Thorburn.
Minot	Ward	1,557	32																	W. I. Faris.
Minto	Walsh	820	35								T	-2.00	T.	0	0					C. M. Evans.
Mott	Hettinger	2,424	21	56.7	+0.4	91	6	18	25†	44	1.31	-0.26	0.84	0	3	13	7	10		O. H. Opland.
Napoleon	Logan	1,955	36	54.2	-2.7	88	6	18	25†	52	1.63	+0.39	1.20	0	8	22	2	6	nw.	C. J. Hoof.
New England	Hettinger	2,400	37																	E. J. Freeman.
New Salem	Morton	2,163	24	56.6	0.6	91	6	19	25	49	0.30	-1.05	0.10	0	4	21	5	4	nw.	J. Christiansen.
Park River	Walsh	998	24	53.6	-3.3	85	6^{d}	23	26	45	T.	-1.59	T	0	0	14	8	8	nw.	C. B. Wright.
Parshall (near)	Mountrail		13								0.13	-1.41	0.07	0	2	19	8	3	nw.	John A. Johnson.
Pembina	Pembina	789	54	46.4	-7.4	76	11	16	9	48	T.	-1.69	T.	0	0	26	3	1	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	54.6	+0.9	79	29	19	26	38	1.46	+0.07	0.67	0	5	17	6	7	nw.	A. L. Carlson.
Power	Richland	1,020	34								1.84	-0.22	0.75	0	4	16	9	5	n.	Frank B. Power.
Powers Lake	Burke	2,205	14	53.0		83	2	14	21	33	0.20	-0.89	0.11	0	3	23	6	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	12	55.1	-1.7	90	6	17	25	47	0.42	-1.06	0.17	0	3	10	17	3	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1								0.11		0.08	0	2	19	8	3	nw.	E. C. Erickson.
Ryder	Ward	2,108	1								0.18		0.15	0	2					E. M. Lomen.
Sharon	Steele	1,516	3	53.2		85	7	21	26	44	1.25		0.45	0	8	15	10	5	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	4								0.50		0.50	0	1	16	10	4	nw.	I. H. Giffey.
Starkweather	Ramsey		1																	Geo. Rollofson.
Steele	Kidder	1,857	32	52.2	-5.6	85	6	15	25	51	2.45	+1.21	1.30	0	5	14	10	6	nw.	C. D. Stiles.
Stowers‡‡	Adams		13								0.77	-0.47	0.50	0	2	22	1	7		Chas. E. Stowers.
Tagus	Mountrail	2,179	1								0.78		0.67	0	4	17	9	4	nw.	J. C. Abbott.
Towner	McHenry	1,482	26	55.0	-0.8	88	6	21	23	47	0.08	-1.57	0.08	0	1	23	5	2	nw.	B. Bagley.
Trotters	Golden Valley		3								0.80		0.60	0	3	18	5	7		A. J. Nellermoe
Turtle Lake	McLean	1,899	13	54.4	-2.6	84	6	20	25	39	0.20	-1.24	0.09	0	4	3	10	17	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	55.9	-2.3	92	7	22	27	50	4.89	+3.25	3.75	0	4	18	5	7	sw.	I. C. Robertson.
Velva	McHenry	1,511	2	53.3		88	6	20	25	54	0.11		0.05	0	3	13	12	5	w.	Oscar Anderson.
Verona	LaMoure	1,387	34								1.59		0.69	0	4	17	3	10	nw.	Louis C. Schmidt.
Wahpeton	Richland	962		57.8	-0.8	85	14	26	26	15	2.08	0.14	0.71	0	6	22	0	8	nw.	C. G. Luick.
Washburn	McLean	1,731	26																	Karl Klein.
Westhope	Bottineau	1,508	26	52.6	-2.2	88	6	21	25	53	0.46	-0.73	0.29	0	3	22	4	4	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	52.7	-2.9	93	6	17	25	48	0.31	-0.78	0.16	0	4	18	8	4	nw.	U. S. Weather Bureau
Willow City	Bottineau	1,471	40	52.4	-1.9	87	6	19	26	60	0.09	-1.46	0.09	0	1	17	9	4	nw.	M. A. Ostby.
Wilton	McLean		1	56.6		88	6	21	24	47	0.73		0.38	0	4	16	5	9		L. O. Perkins.
Zap	Mercer	1,838	1																	Grayce M. Joyce.
Moorhead, Minn.	Clay	935	47	51.8	-3.4	83	6	29	26	40	2.28	+0.06	1.68	0	8	9	11	10	nw.	U. S. Weather Bureau.
Averages				53.9	-2.5	95	6	12	25	60	0.93	-0.71	4.22	T.	5	17	7	6	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for September, 1928

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri									.09	.35				.05	.11				T.	.05												0.70
Amenia ‖	Red								T.	T.	.28	.02	T.	T.	1.45	.23	.22																3.21
Amidon	Lit. Missouri																																
Arnegard (near)	Missouri				T.				T.	.10	.22	.12				.06					T.												0.50
Ashley	Missouri								T.	.28		.05		2.00	.10		.42																2.85
Beach	Lit. Missouri									.26	.29					.05					.10												0.70
Berthold Agency	Missouri								T.		.08			T.						T.													0.08
Bismarck ***	Missouri								.09	.04	.04			.81	.02	.12				T.	T.										T.		1.15
Bottineau ‖	Mouse								.17	.02		.04	.02																				0.25
Bowman	Grand									.04	.03	.02		.49		T.	.07			T.	T.												0.65
Cando	Devils Lake								.02		.17									T.													0.19
Carson	Heart									.05			.66	.93	.10	.15																	1.89
Cavalier	Red								.05			.02			.01								.11										0.19
Cooperstown	Sheyenne								.51	.10		.18		.40		.22																	1.41
Corinth	Missouri								.04		.26					.02																	0.32
Crosby	Mouse								.05		.55	.10	T.																				0.70
Devils Lake ***	Devils Lake	.01	T.					.18	.01		.03	.01		T.	T.	.03				T.		T.											0.27
Dickinson ‖	Heart									.05	.12	.08	.01		.10		.13				.01												0.50
Dogden Butte	Mouse							T.	.05	.08	T.	.03	T.	T.	T.		.02			T.													0.18
Dunn Center ‖	Knife										.08	.19					.05					.11											0.43
Dunseith	Mouse																																
Eckman	Mouse								.12	T.	.08	.19	.09	.01	.01																		0.50
Edgeley	James								.08	.20		.05			2.10		.36																2.79
Ellendale***	James		T.					T.	.02	T.	.01	.02		1.77	.10	.33	.10			T.	T.												2.35
Energy	Missouri							.07	.05	.06	.25	.05	T.			T.				T.													0.48
Epping	Missouri	*																															
Fairfield	Knife									.03		.03		.03		.01																	0.10
Fessenden ‖	James							.10	.08		.03	.15	.01		.14							.12											0.63
Forman	Sheyenne								.09	.04	.04			.80	.02	.09					.16												1.24
Fort Yates	Missouri									.12				1.20	.70	.35																	2.37
Foxholm (near)	Mouse								.07	T.	.16	T.	.02							T.													0.25
Fryburg	Heart									T.	.15	.41	T.	T.		.08																	0.64
Fullerton	James								T.	.26	T.	T.		.45	.55	.56					T.												1.82
Garrison	Missouri										.16					T.																	0.16
Grafton	Red	.15						T.	.03	.04		.02	.01																				0.25
Grand Forks ***	Red	.04	.01					.01	.24	.09	.01	.14		.18	.07	.09					T.	T.	T.	T.							T.		0.88
Granville	Mouse								.02	T.		.08				T.				T.													0.10
Hannah	Pembina																																
Hansboro	Devils Lake		.05						.18											.05													0.28
Hettinger	Grand									.05	T.		.01	T	4.22		.07					T.											4.35
Hillsboro	Red																																
Howard (near)	Missouri										T.					T.						T.											T.
Jamestown ‖	James			T.						.02	.03				1.20	.10	.17				.04												1.76
Lamoine	Missouri								.15	T.	.21				.48																		0.84
Langdon ‖	Pembina		.07						.03	.12			.03							T.													0.25
Larimore	Red								.02	.05		.10	.03		.50		.08																0.78
Linton	Missouri																																
Lisbon ‖	Sheyenne												.02		.55	.12	.45					.06											1.20
McClusky	Missouri								.03	.05	.30	.03		T.	.12		.30			T.													0.83
McKinney (near)	Mouse								.10	.08	.45		.33		T.	T.																	0.96
McLeod	Sheyenne		.04							.28		.02	.04	.74			.43				.22										T.		1.77
Maddock	Sheyenne							.05	.01		.13					T.				T.	.09												0.31
Mandan ‖	Missouri									.08	.01	.02		T.	.62		.16			T.													0.89
Manfred	James							.01	.06	.02	.08		.02				.13			T.		.06											0.38
Marmarth	Lit. Missouri																																
Mary	Lit. Missouri				T.					.08	.40				.02																		0.50
Mayville	Red								.40	.31	.13		.06		1.13		.02																2.05
Melville	James										.45			.65																			1.10
Metigoshe	Mouse								.12				.10																				0.22
Minot ‖	Mouse																																
Minto	Red								T.																								T.
Mott	Cannon Ball									.04				.84		.43											T						1.31
Napoleon ‖	Missouri								.02	.08	.10	.03	.01		1.20		.16				.03												1.63
New England	Cannon Ball																																
New Salem	Heart								.06	.10	.05			T.	.09					T.													0.30
Park River	Red	T.						T.		T.																							T.
Parshall (near)	Missouri								.06		.07																						0.13
Pembina ‖	Red							T.	T.														T										T.
Pettibone	James								.35	.03	.15			T	.67		.26																1.46
Power	Sheyenne									.25	T			.74			.75				.10												1.84
Powers Lake	Missouri								.02	.07	.11																						0.20
Richardton	Heart									.17				.12			.13																0.42
Rugby [near]	Mouse								.03		.08			T.		T.																	0.11
Ryder	Missouri							.03					.15																				0.18
Sharon	Red	.02						T.	.38	.08	.06	.03	.01		.45		.22			T.	T.	T.											1.25
Stanton	Missouri							.50																							T.		0.50
Starkweather	Devils Lake																																
Steele	Missouri									.32	.28	.15	T.		.30	.40			T.	T.													2.45
Stowers	Cannon Ball									T.				.50	.27					T.													0.77
Tagus	Mouse								.05	.03	.67		.03																				0.78
Towner	Mouse								.08	T.																							0.08
Trotters	Lit. Missouri									.10	.10	.60																					0.80
Turtle Lake	Missouri								.01	.09	.04	.03								T.													0.20
Valley City	Sheyenne	T.								.50	T.	T.		3.75	.44	.26					T.												4.89
Velva	Mouse								T.	.02	.04	T.				.05																	0.11
Verona	James								T.	T.	T.	.24		.69	.25		.41				T.										T.		1.59
Wahpeton	Red									.10	.08		.23		.71		.43				.53												2.08
Washburn	Missouri																																
Westhope	Mouse								.10		.07		.29																				0.46
Williston ***	Missouri								.03	.04	.16					.08																	0.31
Willow City	Mouse								.09	T	T					T.				T.													0.09
Wilton										.08	.02			.38		.25																	0.73
Zap	Knife																																
Moorhead, Minn ***	Red		T.					T.	T	.09	.01	.03	T.	1.12	.56	.17	.12			T.	.18	T.	T								T.		2.28

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	78	66	70	72	74	82	82	60	55	65	63	71	73	60	83	77	70	76	75	56	67	52	55	50	52	43	52	60	67	70	..	65.9
	Minimum	46	46	39	37	41	45	50	48	41	48	47	49	50	54	47	44	38	39	45	48	37	40	29	28	28	25	28	27	36	34	..	40.5
Amidon	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Arnegard	Maximum	80	71	76	86	73	95	79	61	53	58	63	78	65	76	73	67	76	69	70	65	72	58	51	52	55	52	64	71	82	75	..	69.0
	Minimum	49	44	37	44	40	48	55	41	39	46	42	46	50	45	45	37	33	40	47	35	39	40	41	25	14	23	21	25	35	39	..	38.8
Ashley	Maximum	80	73	66	73	76	85	84	70	65	55	62	70	78	69	78	68	71	76	72	59	68	64	56	50	50	50	60	71	80	80	..	68.6
	Minimum	53	46	34	39	48	49	58	50	43	48	50	48	55	50	50	42	36	48	52	46	38	41	25	26	21	25	26	34	32	49	..	42.1
Beach	Maximum	77	67	74	75	74	85	79	62	51	65	69	79	75	74	78	69	75	90	65	89	70	64	60	51	57	50	71	63	85	72	..	70.3
	Minimum	49	46	41	46	40	40	50	45	43	41	43	46	50	56	47	37	37	45	44	63	35	45	40	25	20	26	30	28	37	32	..	41.6
Berthold Agency	Maximum	80	70	71	68	84	91	81	68	55	52	65	70	76	65	75	75	82	88	66	68	71	65	56	52	50	55	..	72	84	78	..	*70.2
	Minimum	43	46	35	35	35	45	51	48	39	46	45	47	43	48	52	42	32	28	43	35	33	42	21	22	12	17	..	18	27	40	..	*37.0
Bismarck	Maximum	78	68	70	79	72	90	82	58	53	53	65	74	73	76	80	68	72	82	67	66	73	58	55	53	54	52	63	71	85	81	..	69.0
	Minimum	54	48	38	45	49	52	58	45	44	47	50	49	55	56	50	43	35	54	49	47	42	41	30	29	23	24	26	32	34	50	..	43.3
Bottineau §§	Maximum	76	66	69	79	69	86	72	59	58	62	64	66	66	76	71	68	68	80	66	65	61	55	54	50	51	53	60	67	79	77	..	66.4
	Minimum	45	47	35	37	46	45	51	45	39	43	44	45	50	48	46	35	31	30	46	35	32	32	20	19	20	25	20	21	25	33	..	36.4
Cando	Maximum	76	70	73	76	74	86	77	66	55	63	64	70	67	71	74	76	75	77	79	61	54	52	54	47	49	51	60	66	78	75	..	67.3
	Minimum	50	35	42	40	45	45	59	45	36	37	49	42	47	53	46	43	39	41	32	34	38	37	23	22	27	18	25	27	32	31	..	38.0
Carson	Maximum	80	70	72	70	82	90	85	64	50	65	77	75	74	80	69	75	84	75	63	70	55	62	56	50	62	72	80	75	85	80	..	71.7
	Minimum	50	45	35	40	44	54	54	44	40	40	46	50	52	45	39	40	40	40	40	35	24	24	15	24	19	33	37	40	36	50	..	39.2
Crosby §§	Maximum	71	70	73	79	72	93	67	56	55	53	64	72	70	72	65	62	76	89	65	64	72	59	52	51	53	51	61	69	83	75	..	67.1
	Minimum	50	42	39	42	38	39	52	44	40	40	45	41	42	40	45	40	57	37	45	31	31	34	22	25	14	16	17	21	28	39	..	36.9
Devils Lake	Maximum	77	65	68	76	70	87	81	56	55	64	63	72	65	69	75	67	68	78	65	61	62	53	55	46	46	53	60	67	77	78	..	65.9
	Minimum	50	46	37	45	47	48	49	40	37	37	50	49	48	54	47	40	33	48	44	41	34	30	26	24	29	20	26	30	34	51	..	39.8
Dickinson §§	Maximum	77	67	70	81	71	92	78	60	50	55	70	80	69	73	81	69	74	87	68	65	71	55	58	52	53	50	63	72	82	75	..	69.0
	Minimum	45	45	38	41	41	45	45	48	43	43	44	43	47	48	46	39	32	36	37	35	36	41	26	26	15	18	14	27	27	48	..	37.3
Dunn Center §§	Maximum	71	76	71	80	68	90	76	58	51	51	64	76	58	73	75	64	72	87	63	59	71	56	54	52	49	49	61	69	80	75	..	66.6
	Minimum	48	47	32	39	42	38	40	48	39	46	41	44	48	49	45	40	28	32	38	37	35	39	24	22	11	18	16	21	24	32	..	35.5
Dunseith	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Edgeley	Maximum	80	69	66	73	73	84	84	65	50	62	59	72	76	67	77	70	71	74	72	62	67	62	56	52	50	53	60	71	77	81	..	67.8
	Minimum	56	46	38	40	40	46	48	47	41	41	51	52	48	55	52	43	39	43	53	46	38	42	25	27	21	26	29	33	31	47	..	41.6
Ellendale	Maximum	81	66	65	73	74	85	86	61	53	57	61	71	79	67	78	67	70	74	72	56	67	58	52	51	48	51	59	70	77	81	..	67.0
	Minimum	50	43	38	35	48	46	54	46	46	50	53	52	50	53	50	46	39	48	52	42	41	34	27	30	25	30	31	33	40	41	..	42.3
Fessenden §§	Maximum	78	65	71	78	72	90	85	75	65	66	67	72	69	72	71	69	72	80	65	64	63	57	56	50	51	53	63	71	82	80	..	69.1
	Minimum	48	48	35	35	49	46	53	45	35	44	46	42	50	50	48	58	33	36	53	40	34	34	23	24	22	20	23	24	28	35	..	38.7
Foxholm (near)	Maximum	76	66	67	78	66	81	76	62	52	55	63	71	66	72	71	64	69	83	76	63	67	63	52	50	50	51	58	69	79	75	..	66.4
	Minimum	53	45	37	45	41	46	58	45	37	37	48	47	42	53	51	41	34	37	51	40	36	33	25	22	19	20	28	29	37	56	..	39.8
Fullerton	Maximum	81	66	63	72	73	83	86	60	52	58	62	70	77	67	78	67	68	73	72	56	68	56	55	52	48	51	60	71	75	81	..	66.7
	Minimum	49	46	37	37	48	48	55	50	43	49	53	54	48	53	57	45	46	39	50	43	39	36	25	25	24	27	29	32	35	43	..	42.2
Garrison	Maximum	77	66	71	80	68	87	76	57	56	54	68	71	60	75	76	67	72	82	73	68	74	57	52	52	57	52	65	71	85	78	..	68.2
	Minimum	51	48	37	42	46	47	55	47	39	43	44	51	43	53	46	39	33	46	50	36	36	37	25	26	20	22	24	30	30	49	..	39.8
Grafton	Maximum	78	76	70	75	72	84	87	63	53	70	61	69	68	66	78	72	77	78	71	64	64	59	51	47	47	56	63	69	76	82	..	68.3
	Minimum	51	49	41	36	51	43	61	45	32	41	49	55	47	56	45	45	33	43	54	46	39	40	28	28	31	23	31	31	32	39	..	41.5
Grand Forks	Maximum	75	64	68	72	71	82	86	52	53	68	62	69	69	61	77	68	65	76	73	53	64	52	51	45	48	54	62	69	73	80	..	65.4
	Minimum	51	44	38	39	51	48	52	42	38	47	54	52	51	51	45	44	36	45	50	38	41	35	30	29	28	24	30	28	31	42	..	41.1
Granville	Maximum	70	67	70	80	67	90	72	58	52	57	67	70	62	75	72	70	72	83	70	65	67	71	57	50	52	66	62	70	83	80	..	68.0
	Minimum	50	44	35	42	42	44	52	40	34	38	47	44	47	50	47	38	29	40	48	35	40	34	33	24	17	20	26	24	28	53	..	38.2
Hansboro	Maximum	70	65	65	73	75	74	70	68	65	68	64	65	66	70	68	70	75	71	68	76	62	55	50	40	38	53	65	74	80	75	..	65.9
	Minimum	47	43	32	35	38	42	40	36	28	37	40	42	42	40	33	35	27	40	37	33	30	25	20	20	20	18	25	28	30	40	..	33.4
Hettinger	Maximum	80	66	71	83	75	90	83	57	48	61	67	83	62	72	78	65	69	83	66	54	69	52	57	52	55	53	60	71	82	76	..	68.2
	Minimum	42	42	34	35	44	45	48	50	42	43	45	46	50	53	46	42	37	41	49	48	37	37	32	27	19	19	19	22	30	31	..	38.5
Hillsboro	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Howard (near)	Maximum	68	68	69	70	70	68	69	70	68	67	66	78	72	77	64	65	78	90	87	76	75	71	70	76	56	53	50	61	61	65	..	68.6
	Minimum	45	44	45	48	47	46	45	44	42	41	42	40	44	42	42	31	31	42	30	31	32	30	30	24	19	14	18	18	28	30	..	35.5
Jamestown §§	Maximum	79	67	69	76	75	82	88	55	52	62	63	74	76	67	77	68	72	77	72	68	67	57	55	51	50	52	62	72	81	78	..	68.2
	Minimum	44	46	33	34	38	44	49	48	41	43	48	53	52	55	48	44	35	36	47	45	30	37	28	23	25	23	26	27	29	34	..	38.9
Lamoine	Maximum	75	77	78	79	78	89	89	57	56	55	63	71	70	74	76	70	74	78	75	61	68	63	52	48	51	51	59	68	81	78	..	68.8
	Minimum	40	38	35	37	38	51	50	45	38	45	46	46	52	48	46	40	33	43	51	42	33	37	21	22	18	18	22	31	31	47	..	38.2
Langdon §§	Maximum	78	70	76	79	79	89	85	81	71	65	65	67	72	73	77	67	70	69	70	68	61	59	52	43	46	55	63	70	77	79	..	69.3
	Minimum	45	49	36	35	45	49	59	42	35	39	47	49	52	49	44	30	30	34	34	36	34	36	29	20	29	15	20	25	21	36	..	37.0
Larimore §§	Maximum	73	70	73	73	75	80	88	56	50	63	63	70	68	65	77	65	70	76	72	54	54	53	52	45	46	53	61	70	75	80	..	65.7
	Minimum	55	49	40	43	43	45	56	43	34	44	45	53	50	52	50	44	35	35	50	46	46	40	28	26	26	20	28	31	35	45	..	41.0
Linton	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Lisbon §§	Maximum	85	70	72	75	78	88	90	75	56	66	62	72	78	65	80	70	72	75	75	55	70	60	59	52	51	54	63	74	76	82	..	69.8
	Minimum	43	44	37	36	38	42	45	47	42	47	47	55	48	53	44	43	36	38	51	47	34	28	20	23	25	20	26	30	30	32	..	38.7
McClusky	Maximum	73	68	70	76	74	86	80	68	53	54	65	71	69	75	75	66	70	79	73	63	67	55	53	49	50	50	56	68	83	72	..	67.0
	Minimum	48	44	33	38	44	48	55	45	32	43	47	41	44	51	42	36	28	50	50	38	32	28	18	20	14	19	26	28	30	47	..	37.4
McKinney (near)	Maximum	78	69	72	80	66	86	78	59	54	52	62	69	69	74	69	72	69	84	74	64	68	65	54	50	52	52	60	69	79	77	..	67.5
	Minimum	51	46	31	41	31	36	57	45	38	45	48	44	44	54	49	45	27	35	47	37	31	34	24	24	15	21	26	28	25	44	..	37.4
Maddock	Maximum	77	73	69	77	73	88	85	74	55	65	65	71	69	72	75	69	70	80	79	62	66	58	55	49	49	53	66	68	79	79	..	68.8
	Minimum	52	46	35	56	43	43	65	46	34	37	50	39	47	57	47	38	30	44	52	38	32	36	19	23	18	19	22	33	28	46	..	39.2
Melville	Maximum	75	73	68	71	78	83	89	92	90	85	88	89	84	89	83	77	74	72	76	75	73	68	72	64	59	54	63	68	72	78	..	75.7
	Minimum	41	44	39	41	52	56	55	48	53	57	61	58	52	49	51	54	45	40	38	42	38	31	27	24	22	21	26	32	36	59	..	42.4
Minot §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Mott	Maximum	82	86	88	90	85	91	84	75	70	67	80	80	78	76	71	76	70	80	72	67	70	64	57	51	55	57	65	71	75	73	..	73.5
	Minimum	47	47	50	53	51	52	52	44	41	42	45	47	46	41	44	37	43	50	47	40	38	38	28	25	18	18	24	30	31	29	..	39.9
Napoleon §§	Maximum	80	68	70	78	75	88	86	58	52	55	64	73	75	72	78	68	74	80	73	63	70	58	55	53	52	52	60	72	81	82	..	68.8
	Minimum	45	45	30	39	44	48	57	50	40	44	47	47	50	55	50	40	35	50	53	46	36	36	22	23	18	18	22	33	29	40	..	39.7
New Salem	Maximum	84	80	73	82	73	91	84	72	54	53	68	77	74	74	79	82	75	84	82	84	73	65	57	58	56	50	73	80	75	77	..	73.0
	Minimum	49	47	37	40	44	43	57	44	46	45	42	47	46	52	50	48	34	35	38	45	36	41	30	21	19	24	32	39	36	38	..	40.2
Pembina §§	Maximum	58	68	62	58	64	65	58	64	62	65	76	72	66	64	60	68	68	68	64	54	56	56	58	42	42	54	56	58	56	61	..	60.8
	Minimum	35	41	24	25	27	32	38	39	16	20	42	42	48	45	36	34	20	36	46	42	25	28	24	38	22	22	23	28	28	32	..	31.9
Steele	Maximum	75	68	65	76	77	85	78	56	66	57	65	70	68	70	71	68	70	70	69	65	68	58	54	55	49	49	58	62	78	78	..	66.6
	Minimum	45	40	32	44	46	38	56	44	46	37	46	50	52	52	44	35	32	45	49	40	32	34	21	21	15	19	21	24	27	44	..	37.7
Towner	Maximum	75	78	80	82	78	88	82	68	68	68	68	70	74	70	69	70	69	72	74	70	70	70	68	65	55	54	56	58	84	82	..	71.2
	Minimum	48	33	36	47	42	48	51	40	40	47	45	43	44	40	40	38	39	42	48	43	38	40	21	25	35	25	28	22	45	35	..	38.9
Valley City	Maximum	80	72	74	75	75	87	92	76	58	68	63	73	75	71	77	72	71	80	79	58	67	55	54	52	53	54	64	76	77	86	..	70.5
	Minimum	52	49	35	39	48	47	60	47	42	54	55	52	54	46	44	36	47	53	48	38	43	27	26	25	27	25	22	27	27	44	..	41.3
Wahpeton	Maximum	85	81	69	73	80	85	83	83	62	60	65	70	77	73	80	79	71	74	76	75	68	67	59	54	50	55	62	72	77	77	..	71.4
	Minimum	50	48	40	40	47	54	60	52	49	52	55	54	52	57	47	47	39	47	55	45	39	45	28	37	32	26	29	32	32	32	..	44.1
Westhope	Maximum	70	69	74	83	72	88	72	60	62	63	67	70	69	78	76	70	73	87	77	65	64	57	57	51	54	57	57	72	83	79	..	69.2
	Minimum	40	46	35	36	37	43	48	42	39	38	47	43	41	40	46	37	30	44	40	35	32	30	23	24	21	22	22	25	30	47	..	36.1
Williston	Maximum	78	67	74	80	70	93	83	56	50	54	65	76	68	77	68	66	75	91	68	64	73	57	53	53	54	50	62	71	81	74	..	68.4
	Minimum	51	46	39	49	40	52	52	45	43	46	46	42	49	45	44	40	32	44	44	35	46	35	28	24	17	23	24	23	33	40	..	39.0
Moorhead, Minn	Maximum	79	65	66	71	73	83	81	56	55	62	63	68	73	61	78	67	65	74	73	56	65	76	51	46	47	52	60	69	74	79	..	65.6
	Minimum	55	47	42	40	47	55	56	44	43	51	55	54	52	55	48	48	41	49	53	41	42	38	32	32	31	29	33	30	34	44	..	44.0

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. ᵇ 2 days, etc

[WBO, Minneapolis, 10-25-28—1000]

51.05
NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVII Bismarck, N. D., October, 1928 No. 10

GENERAL SUMMARY

Under favorable weather conditions farming operations and other outdoor work made rapid progress. Occasional high winds delayed threshing somewhat, and due to too dry ground fall plowing was accomplished under difficulty. However, somewhat more than the usual acreage of fall plowing was done. The average precipitation for the State (0.41 inch) is, with but one exception (0.25 inch in 1895) the lowest of record for October. There was much marketing of grain and livestock, threshing was practically completed, and corn harvesting well advanced. Due to abundant feed on harvested fields and on pastures and ranges, livestock ranged freely and were in excellent condition at the close of the month.

TEMPERATURE

The mean temperature for the State was 43.5°, or 0.3° below the normal, and 3.5° lower than the mean for October, 1927. The highest mean reported was 48.5° at Wahpeton, Richland County; the lowest was 40.4° at Pembina, Pembina County. The highest temperature reported was 85° at Wahpeton, Richland County, on the 10th; the lowest was 3° at Eckman and Willow City, both in Bottineau County, on the 29th, and at McKinney, Renville County, on the 30th. The greatest monthly range of temperature was 80° at McClusky, Sheridan County; the least was 50° at Pembina, Pembina County. The greatest daily range in temperature was 52° at Howard, Williams, on the 2d.

PRECIPITATION

The average precipitation for the State was 0.41 inch, or 0.59 inch below the normal, and 0.98 less than the average for October, 1927. The greatest monthly amount reported was 1.89 inches at Wahpeton, Richland County; there was none at Cando, Towner County, Cooperstown, Griggs County, Fessenden, Wells County, and at Metigoshe, Bottineau, County. The greatest amount recorded in any 24 consecutive hours was 1.25 inches at Wahpeton, Richland County on the 15th. The average snowfall was 0.6 inch, the greatest fall reported being 5.0 inches at Mott, Hettinger County. The average number of days with 0.01 inch or more of precipitation was 2.

AURORAS

Auroras were observed at Carson, Crosby, Foxholm, Rugby, Sharon and Willow City on the 5th; at Carson, Fessenden, Foxholm, Rugby, Sharon and Willow City on the 6th; at Dogden Butte and Towner on the 7th; at McLeod, Metigoshe and Rugby on the 8th; at Dogden Butte and Howard on the 12th; at Foxholm on the 13th; at Willow City on the 14th; at Bottineau and McKinney on the 15th; at Foxholm and McLeod on the 19th; at McLeod on the 20th; at Bottineau, Carson and McLeod on the 23d; at Arnegard, Ashley, Berthold Agency, Bismarck, Bottineau, Fessenden, Foxholm, Fullerton, Grand Forks, Howard, McKinney, Metigoshe, New Salem, Rugby, Sharon, Stanton, Trotters, Velva, Verona, Williston and Moorhead, Minn. on the 24th; at Towner on the 25th; at Richardton on the 28th; at Powers Lake on the 29th; and at Stowers on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.04	30.69	28	29.28	3	57	5,835	7.8	26§	nw.	8
Devils Lake	30.01	30.69	29	29.27	3	44	6,131	8.2	28§	nw.	23
Ellendale	30.05	30.67	29	29.24	3	56	8,846	11.9	37§	s.	3
Grand Forks	30.00	30.63	29	29.29	3	90	....	......	40	s.	3
Williston	30.06	30.69	28	29.41	3	48	4,945	6 6	28§	w.	18
Moorhead, Minn	30.02	30.67	29	29.34	10	58	5,554	7.5	24§	nw.	8
Av'ges and extremes	30.04	30.69	28†	29.24	3	.....	....	8.4	40§	s.	3

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-ct.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	222.9	336.9	66	+ 6	74	44	56	19	6
Devils Lake	171.4	335.6	51	− 2	77	49	56	25	7
Ellendale	189.0	338.3	56	− 6	79	50	....	25	6
Grand Forks	......	......	......	......	78	.....	59	.....	....
Williston	192.7	335.6	57	+ 3	77	42	49	20	2
Moorhead, Minn	175.8	336.9	52	− 8	78	52	58	27	7
Averages and extremes	....	....	56	− 2	77	47	56	19	6

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896	40 2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898	38.8	−5.0	84	8	1.25	+0 25	6	8	8	15	nw.
1899	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.
1923	44.0	+0.2	84	− 8	0.88	−0.12	4	14	7	10	nw.
1924	50.3	+6.5	86	19	2.43	+1.43	7	17	5	9	se.
1925	33.3	−10.5	66	−16	0.78	−0.22	6	8	9	14	nw.
1926	42.6	−1.2	85	4	1.49	+0.49	6	10	10	11	nw.
1927	47.0	+3.2	88	12	1.39	+0.39	5	14	8	9	nw.
1928	43.5	−0.3	85	3	0.41	0.59	2	15	8	8	nw.

Climatological Data for October, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								1.00		0.55	3.7	3					H. A. Bury.
Amenia	Cass	954	32	45.0	+0.7	80	3	10	30	46	0.90	−0.39	0.38	0	5	18	12	1	nw.	E. T. Carley.
Amidon	Slope		14																	F. A. Garfoot.
Arnegard (near)	McKenzie		13	43.3	+1.2	80	3	14	29	37	0.35	−0.69	0.30	0.5	2	22	4	5	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	45.3	+1.6	83	10	13	29	45	0.96	−0.10	0.59	0	3	20	4	7	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	44.5	+0.5						0.96	−0.03								J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	44.2	−0.5	78	2†	8	29	44	0.40	−0.46	0.40	T.	1	18	5	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	45.4	+0.5	77	9	8	29	38	0.19	−0.75	0.15	T.	4	11	14	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	41.7	+0.1	72	3	8	29	37	0.10	−0.89	0.04	0.4	3	13	8	10	nw.	N. A. Eckberg.
Bowman	Bowman	2.961	14								1.05	+0.28	1.05	7.0	1	9	11	11	nw.	M. S. Byrne.
Cando	Towner	1,488	27	42.8	−0.9	71	3	9	29	39	0.00	−0.72	0.00	0	0	9	12	10	nw.	A. J. Swanson.
Carson	Grant	2,500	16	44.4	+0.9	82	9	18	27†	43	0.58	−0.30	0.58	1.0	1	22	4	5	nw.	J. W. Evens.
Cavalier	Pembina										0.55		0.28		4	14	2	15	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	22								0.00	-0.87	0.00	0	0	12	14	5	nw.	S. Friswold.
Corinth	Williams	2,180	1								0.13		0.09	0	2					L. S. Evenson.
Crosby	Divide	1,954	21	42.2^{a}	+0.7	75^{c}	1	15	29	50^{c}	0.13	−0.62	0.10	0	2	13	5	13	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	41.4	−1.0	75	3	11	31	38	0.06	−1.17	0.03	T.	3	11	9	11	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	42.1	−1.8	81	9	18	29	44	0.58	−0.20	0.24	1.0	5	13	11	7	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	43.1		72	2†	7	29	38	0.21		0.21	T.	1	15	8	8	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	41.1^{a}	−4.2	79^{a}	9	12^{a}	28	45^{b}	0.44	−0.19	0.24	0	2	18	7	6	w.	W. F. Moede.
Dunseith	Rolette	1,682	32	42.4	+1.3	70	3†	13	28	37	0.07	−0.68	0.05	0.5	3	13	11	7	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	23	41.4	−1.3	76	2	3	29	45	0.10	−0.75	0.10	1.0	1	3	20	8	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	27	45.8	−0.1	81	10	14	29	46	0.73	−0.19	0.60	0	2	5	16	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	45.0	−0.6	84	3	16	29	46	1.42	+0.38	0.70	0	6	10	8	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	16	45.4		76	2†	6	29	44	T.	−0.70	T.	T.	0	9	18	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	20	41.9^{f}		73^{f}	9	15^{f}	28†	39^{f}	0.15	−0.74	0.15	T.	1	15	13	3	w.	A. O. Wang.
Fairfield	Billings		1								0.30		0.20	2.0	3	18	4	9	nw.	F. R. Hecker.
Fessenden	Wells	1,610	16	43.6	+1.6	76	3	7	29	43	0.00	−0.78	0.00	0	0	16	9	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	34								1.62	+0.28	1.04	0	3	16	7	8	n.	O. Enger.
Fort Yates	Sioux	1,670									0.72	−0.07	0.72	0	1					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	41.9		72	2	8	29	38	0.24		0.20	2.2	3	12	12	7	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								0.50		0.40	T.	2	20	6	5	nw.	Verne King.
Fullerton	Dickey	1,439	30	45.6	+1.3	81	3	14	29	43	1.55	+0.26	0.73	0	4	11	9	11	nw.	F. O. Alin.
Garrison	McLean	1,901	33	44.5	+0.7	78	7	12	29	41	T.	−0.90	T.	T.	0	25	2	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	44.0	+1.3	79	3	9	29	40	0.20	0.69	0.09	0	4	11	9	11	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	43.2	−0.3	83	3	13	29	38	0.53	−0.63	0.22	0	5	8	12	11	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	43.4	−0.7	72	2†	5	29	42	0.10	−0.78	0.10	T.	1	18	10	3	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34								0.14	−0.82	0.14	T.	1					J. Moffatt.
Hansboro	Towner	1,597	20	41.2	−0.1	70	1†	4	31	48	0.30	−0.61	0.15	0	3	18	9	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	44.4	−2.0	81	9	21	25	44	0.33	−0.31	0.33	2.0	1	19	4	8	nw.	C. H. Plath.
Hillsboro	Traill	901	22																	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	21	40.8	−0.5	82	2	6	29	52	T.	−0.81	T.	T.	0	11	14	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	43.1	−1.7	80	3	8	29	42	0.01	−0.92	0.01	0	1	18	10	3	nw.	S. Calvelage.
Lamoine	Kidder	1,936	23	43.4	+0.3	74	3†	8	29	40	T.	−0.58	T.	0	0	20	6	5	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	40.1	−0.3	72	3	6	29†	45	0.32	−0.62	0.10	0	5	20	6	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	42.9	−0.4	80	3	10	29	43	0.03	−1.20	0.03	0	1	13	9	9	s.	Reuben Gray.
Linton	Emmons	1,711	10																	Rev. O. Weber.
Lisbon	Ransom	1,091	24	44.2	−1.1	84	10	9	28	49	1.40	+0.38	0.83	0	5	11	14	6		L. B. Walker.
McClusky	Sheridan	1,943	10	42.0		84	3	4	29	41	T.		T.	0	0	17	9	5	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	34	40.6	−1.1	71	2	3	30	46	0.25	−0.68	0.25	T.	1	5	18	8	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	47.0	+1.5	80	3†	10	29	50	1.77	+0.71	0.89	0	5	17	3	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	12	42.4	−0.2	76	3	6	29	46	0.08	−0.71	0.08	0	1	10	11	10	nw.	A. T. Felland.
Mandan	Morton	1,644	14	44.6	−0.3	76	7†	8	29	40	0.19	−0.52	0.15	0	2	17	4	10	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25								0.05	−0.76	0.05	0	1					P. B. Anderson.
Marmarth	Slope	2,714	19																	Wm. N. Thompson.
Mary	McKenzie		1								0.71		0.44	3.0	2	11	15	5	nw.	Fred Hartman.
Mayville	Traill	975	32	46.2	+1.3	82	3†	15	30†	43	0.54	−0.57	0.22	0	3	15	2	14	nw.	N. C. Burhans.
Melville	Foster	1,590	30																	J. P. Fischer.
Metigoshe ‡‡	Bottineau		3								0.00		0.00	0	0	26	1	4	nw.	J. A. Thorburn.
Minot	Ward	1,557	32																	W. I. Faris.
Minto	Walsh	820	35								0.15	−0.95	0.06	0	3					C. M. Evans.
Mott	Hettinger	2,424	21	42.4	−0.6	82	9	23	18†	46	0.96	−0.13	0.96	5.0	1	13	7	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	36	43.8	+1.9	80	10	6	29	45	0.33	−0.61	0.13	0	4	20	4	7	s.	C. J. Hoof.
New England	Hettinger	2,400	37																	E. J. Freeman.
New Salem	Morton	2,163	24	44.9	+0.6	79	9	12	29	41	0.02	0.93	0.02	0	1	23	4	4	nw.	J. Christiansen.
Park River	Walsh	998	24	42.6	−0.7	77	3	10	29	43	T.	−1.01	T.	T.	0	16	6	9	nw.	C. B. Wright.
Parshall (near)	Mountrail		13								0.27	−0.48	0.27	0	1	13	15	3	nw.	John A. Johnson.
Pembina	Pembina	789	54	40.4	−0.5	64	1†	14	30	36	0.10	−1.24	0.10	0	1	20	3	8	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	42.8	+1.6	79	2	6	29	42	0.02	−0.63	0.02	T.	1	13	7	11	nw.	A. L. Carlson.
Power	Richland	1,020	34								1.30	−0.17	1.12	0	3	15	7	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	14	44.9		70	7	17	25	31	0.43		0.23	4.9	3	20	6	5	w.	Geo. B. Gee.
Richardton	Stark	2,467	12	44.4^{a}	+1.7	83^{a}	9	18^{a}	31	43^{a}	0.37	−0.34	0.21	1.6	2	10	15	6	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1								0.09		0.09	0	1	14	11	6	nw.	E. C. Erickson.
Ryder	Ward	2.108	1								0.26		0.16	T.	2					E. M. Lonen.
Sharon	Steele	1,516	3	41.9		78	3	9	29	44	0.12		0.08	T	2	17	9	5	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	4								0.22		0.22	0	1	19	8	4	nw.	J. H. Giffey.
Starkweather	Ramsey		1																	Geo. Rolfolson.
Steele	Kidder	1,857	32	40.6	−3.4	76	7	5	30	46	0.41	−0.47	0.26	T.	2	9	16	6	nw.	C. D. Stiles.
Stowers‡‡	Adams		13								0.23	−0.78	0.23		1	25	0	6	nw.	Chas. E. Stowers.
Tagus	Mountrail	2,179	1								0.10		0.08	0	2					J. C. Abbott.
Towner	McHenry	1,482	26	44.1	+1.7	75	1	4	29	42	T.	−0.90	T.	T.	0	16	10	5	nw.	B. Bagley.
Trotters	Golden Valley		3								0.63		0.26	1.5	5	16	3	12		A. J. Nellermoe
Turtle Lake	McLean	1,899	13	44.4	+1.7	73	7	15	31	41	0.18	−0.58	0.18	0	1	3	11	17	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	45.8	+0.6	81	1†	9	29	45	0.18	−0.65	0.15	0	2	19	7	5	w.	I. C. Robertson.
Velva	McHenry	1,511	2	43.2		74	2	4	29	41	0.18		0.17	0.1	2	13	11	7	w.	Oscar Anderson.
Verona	LaMoure	1,387	34								1.32		0.57		4	11	12	8	nw.	Louis C. Schmidt.
Wahpeton	Richland	962		48.5	+2.6	85	10	15	29	42	1.89	+0.38	1.25	0	4	15	0	16	nw.	C. G. Luick.
Washburn	McLean	1,731	26								0.12	−0.82	0.12	0	1					Karl Klein.
Westhope	Bottineau	1,508	26	41.7	+0.3	74	2	10	29	45	0.22	−0.45	0.14	T.	3	22	4	5	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	42.8	−0.6	75	2	15	29	40	0.24	−0.62	0.15	1.9	4	12	13	6	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	41.2	−0.5	72	2	3	29	43	0.11	−0.59	0.07	0.7	2	14	11	6	nw.	M. A. Ostby.
Wilton	McLean		1	44.4^{b}		74^{c}	7	16^{c}	31	34^{c}	0.20		0.20	2.0	1	21	3	7		L. Q. Perkins.
Zap	Mercer	1,838	1																	Grayce M. Joyce.
Moorhead, Minn.	Clay	935	47	45.7	+1.2	79	3	17	30	40	1.01	−0.68	0.67	T.	4	8	9	14	n.	U. S. Weather Bureau.
Averages				43.5	−0.3	85	10	3	29†	52	0.41	−0.59	1.25	0.6	2	15	8	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for October, 1928

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
lpha	Lit. Missouri											.37	.08									.55											1.00
Amenia ‖‖	Red				.20	.20									.08	.38			.04									T.					0.90
Amidon	Lit. Missouri																																
Arnegard (near)	Missouri											.05							.30														0.35
Ashley	Missouri															.59			.15			.22											0.96
Beach	Lit. Missouri																																
Berthold Agency	Missouri											T.							.40													T.	0.40
Bismarck ***	Missouri								T.				T.					.01	.14		.02	.02										T.	0.19
Bottineau‖ ‖	Mouse								.02			.04							.04														0.10
Bowman	Grand											T.							T.		T.	1.05										T.	1.05
Cando	Devils Lake																																0.00
Carson	Heart																				.58												0.58
Cavalier	Red								.23	.02					.02				.28														0.55
Cooperstown	Sheyenne																																0.00
Corinth	Missouri											.04								.09													0.13
Crosby	Mouse					.03						.10	T.																				0.13
Devils Lake ***	Devils Lake			T.	T.	T.		T.	.03						T.			.02	.01				T.									T.	0.06
Dickinson‖ ‖	Heart											.05	.08						.24	.02		.19											0.58
Dogden Butte	Mouse								T										.21													T.	0.21
Dunn Center ‖‖	Knife												.24					.20															0.44
Dunseith	Mouse									.01		.05					.01															T.	0.07
Eckman	Mouse											.10																					0.10
Edgeley	James															.60			.13														0.73
Ellendale***	James			.18	.02				T.				T.		.36	.44			.05			.37					T.						1.42
Energy	Missouri																T.		T.														T.
Epping	Missouri			T.							T.	.15																					0.15
Fairfield	Knife											.20							.05		.05											T.	0.30
Fessenden‖ ‖	James																																0.00
Forman	Sheyenne															1.04			.04			.54											1.62
Fort Yates	Missouri																					.72											0.72
Foxholm (near)	Mouse				.02	T.						.20							.02													T.	0.24
Fryburg	Heart											.40						T.	.10														0.50
Fullerton	James				.18										T.	.73			.08		T.	.56											1.55
Garrison	Missouri											T.																					T.
Grafton	Red								.05	.02					.04				.09	T.												T.	0.20
Grand Forks ***	Red				.22				.13	.06									.10								.02						0.53
Granville	Mouse					T.	T.				T.							T.	.10	T.												T.	0.10
Hannah	Pembina							.14	T.															T.								T.	0.14
Hansboro	Devils Lake								.15	.10		.05																					0.30
Hettinger	Grand																					.33								T.			0.33
Hillsboro	Red																																
Howard (near)	Missouri			T.	T.	T.		T.	T.		T.	T.	T.		T.	T.		T.	T.													T.	T.
Jamestown‖ ‖	James															.01																	0.01
Lamoine	Missouri								T.											T.													T.
Langdon‖ ‖	Pembina								.06	.06					.10				.05	.05													0.32
Larimore	Red																		.03														0.03
Linton	Missouri																																
Lisbon ‖‖	Sheyenne					.17			.03							.83			.04			.33											1.40
McClusky	Missouri																			T.													T.
McKinney (near)	Mouse				T.	T.						.25	T.					T.	T.													T.	0.25
McLeod	Sheyenne				.35										.10	.89			.03			.40											1.77
Maddock	Sheyenne				T.	T.													.08														0.08
Mandan‖ ‖	Missouri								T.										.15	T.		.04											0.19
Manfred	James																		.05														0.05
Marmarth	Lit. Missouri																																
Mary	Lit. Missouri											.44						.27			T.												0.71
Mayville	Red				.22														.12	.20													0.54
Melville	James																																
Metigoshe	Mouse																																0.00
Minot‖ ‖	Mouse																																
Minto	Red				.06							.05			.04																		0.15
Mott	Cannon Ball																					.96											0.96
Napoleon ‖‖	Missouri								.01										.07	.12		.13											0.33
New England	Cannon Ball																																
New Salem	Heart																		.02														0.02
Park River	Red									T.					T.				T.														T.
Parshall (near)	Missouri																		.27														0.27
Pembina‖ ‖	Red				T.				T.	T.					T.				.10	T.													0.10
Pettibone	James											T.							.02													T.	0.02
Power	Sheyenne				.14											1.12			.04														1.30
Powers Lake	Missouri											.03							.23					.17									0.43
Richardton	Heart																		.16			.21											0.37
Rugby [near]	Mouse							T				T.							.09														0.09
Ryder	Missouri											.10						.16															0.26
Sharon	Red				.04	T.						T.	T.		T.				.08								T.					T.	0.12
Stanton	Missouri							T.											.22														0.22
Starkweather	Devils Lake																																
Steele	Missouri								T.				T.						.15	.26	T.	T.											0.41
Stowers	Cannon Ball																		T.			.23											0.23
Tagus	Mouse								.02			.08																					0.10
Towner	Mouse											T.																					T.
Trotters	Lit. Missouri				.02				T.			.26	.13						.20			.02											0.63
Turtle Lake	Missouri																		.18													T.	0.18
Valley City	Sheyenne				.03											.15																	0.18
Velva	Mouse											.01							.17													T.	0.18
Verona	James				.30										T.	.57			.05			.40											1.32
Wahpeton	Red				.17										.12	1.25			.10			.25											1.89
Washburn	Missouri											T.							.12														0.12
Westhope	Mouse								.04	.04		.14																					0.22
Williston ***	Missouri	T.		.01		T.		.04	T.		T.	.15	.04			T.		T.	T.		T.											T.	0.24
Willow City	Mouse								.04	T.		.07																					0.11
Wilton																			.20														0.20
Zap	Knife																																
Moorhead, Minn ***	Red				.26	T.			T.	T.		T.			.50	.17			.08			T.	T.				T.				T.		1.01

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	62	72	80	53	73	67	73	70	72	73	60	43	47	53	61	60	67	58	60	59	56	54	61	57	54	58	46	41	46	49	37	58.8
	Minimum	40	42	40	42	27	30	34	43	38	34	43	29	29	30	41	33	32	37	28	35	36	22	28	32	25	25	27	24	11	10	22	31.3
Amidon	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Arnegard	Maximum	62	64	80	61	62	62	71	67	79	67	45	35	47	60	65	61	66	45	51	57	51	49	59	51	59	50	46	40	43	46	27	55.7
	Minimum	33	35	45	40	35	32	45	45	34	37	32	29	28	30	28	34	35	33	27	28	27	29	38	27	22	30	21	25	14	25	16	30.9
Ashley	Maximum	71	75	77	68	73	67	73	73	72	83	65	36	44	40	60	61	61	48	17	52	50	58	60	53	55	57	48	38	43	45	35	58.3
	Minimum	38	44	42	39	31	36	40	52	35	38	34	26	30	36	39	31	28	35	32	31	52	25	35	30	21	30	28	26	13	20	24	32.3
Beach	Maximum	77	78	72	62	62	68	75	70	81	74	46	31	43	55	61	59	65	50	62	52	16	52	55	55	57	52	51	36	35	45	36	56.9
	Minimum	49	34	42	35	30	28	34	46	45	40	30	26	29	33	30	35	40	34	26	30	31	30	30	25	26	28	26	25	26	30	22	32.1
Berthold Agency	Maximum	65	78	65	60	70	75	72	70	78	64	45	33	50	62	64	62	68	45	58	55	50	60	60	54	55	57	47	38	45	48	35	57.7
	Minimum	35	34	43	38	35	45	48	40	35	35	32	28	30	33	26	32	28	33	34	27	40	28	30	24	16	27	27	26	8	25	14	30.8
Bismarck	Maximum	65	75	75	55	69	68	75	72	77	65	42	37	49	66	62	66	68	46	55	56	51	61	61	55	55	58	42	40	42	49	32	57.7
	Minimum	38	42	44	37	37	41	48	52	42	40	31	28	28	40	34	32	30	31	34	31	33	32	38	29	20	35	29	17	8	24	26	33.2
Bottineau §§	Maximum	53	71	72	61	64	61	70	68	59	60	55	34	48	58	62	62	63	61	41	55	52	51	56	54	50	54	49	37	40	41	36	54.9
	Minimum	35	34	49	38	28	33	34	41	31	39	30	27	25	29	27	38	30	33	29	23	24	20	29	26	21	29	21	9	8	19	20	28.5
Cando	Maximum	61	69	71	69	64	63	63	67	69	58	53	34	49	59	65	63	65	60	46	55	51	53	58	54	51	55	52	49	41	46	37	56.5
	Minimum	33	40	48	38	36	32	34	39	34	36	32	26	26	29	31	36	26	35	33	19	21	33	29	27	19	28	24	19	9	16	18	29.2
Carson	Maximum	66	77	68	60	73	66	80	80	72	70	50	40	40	65	65	66	66	60	60	60	55	60	55	54	56	50	42	40	41	46	32	58.8
	Minimum	28	36	50	33	34	28	46	44	39	45	29	23	28	34	30	28	31	30	28	30	25	28	22	22	32	24	18	18	19	26	18	29.9
Crosby §§	Maximum	75	60	74	53	63	61	63	68	70	70	66	37	33	50	60	64	61	60	50	56	53	55	63	57	52	58	49	34	..	..	..	[c]57.8
	Minimum	25	30	32	28	29	29	35	31	30	34	23	27	18	23	22	28	34	33	30	30	27	26	29	30	19	26	28	19	15	19	20	26.7
Devils Lake	Maximum	55	71	75	54	66	63	72	68	58	60	41	34	48	57	63	62	63	48	42	54	49	51	56	53	51	55	37	37	41	46	31	53.6
	Minimum	36	41	44	32	28	35	39	38	36	36	29	24	23	38	29	35	30	35	31	22	27	26	32	28	20	29	26	13	12	18	11	29.1
Dickinson §§	Maximum	67	76	66	58	65	67	74	71	81	63	34	38	49	60	61	62	69	36	62	53	53	59	58	55	57	56	38	36	39	46	33	56.2
	Minimum	28	34	37	35	34	28	35	44	37	39	32	26	24	30	25	27	26	32	26	25	27	26	29	23	19	22	21	20	18	21	19	28.0
Dunn Center §§	Maximum	62	76	56	58	65	..	72	68	79	65	36	23	49	60	62	60	69	36	61	53	50	61	63	55	51	38	38	42	51	46	27	[a]54.7
	Minimum	35	31	40	37	25	32	..	43	34	36	31	26	28	30	28	31	27	34	30	20	33	25	30	23	15	20	18	12	16	26	18	[a]28.2
Dunseith	Maximum	66	69	70	61	61	63	70	68	58	55	55	34	47	56	61	60	65	60	40	53	47	49	56	54	49	53	44	36	40	42	39	54.2
	Minimum	29	32	48	37	28	39	37	45	37	36	29	26	26	29	35	41	32	34	29	29	30	26	35	31	26	28	25	13	18	21	18	30.7
Edgeley	Maximum	71	74	80	67	65	66	76	73	70	81	64	61	45	59	59	61	61	52	48	57	52	58	58	55	52	53	52	54	44	49	31	59.6
	Minimum	31	44	41	40	31	39	35	41	38	35	36	27	29	38	38	31	30	37	38	29	35	25	37	33	26	25	26	21	14	19	20	31.9
Ellendale	Maximum	63	72	81	57	75	66	76	74	73	82	46	36	43	55	60	59	60	48	43	54	52	58	58	55	51	53	42	38	42	46	35	56.6
	Minimum	41	48	47	38	34	40	33	48	40	36	32	30	32	40	43	36	31	37	31	28	30	25	39	35	29	26	31	20	16	17	24	33.5
Fessenden §§	Maximum	62	75	76	56	72	69	74	70	68	64	45	37	52	64	65	63	66	49	50	55	52	61	64	54	63	59	50	38	45	48	31	58.0
	Minimum	34	38	48	40	29	32	34	35	34	38	37	25	26	27	29	35	34	28	30	28	31	24	33	29	22	28	23	12	7	17	14	29.1
Foxholm (near)	Maximum	59	72	63	50	63	61	70	66	65	55	45	32	48	58	60	58	62	60	52	53	46	60	56	52	52	53	46	35	40	43	33	53.8
	Minimum	32	39	45	36	25	33	40	38	37	32	50	26	25	32	33	39	36	32	29	30	27	31	34	29	23	33	25	13	8	22	17	30.0
Fullerton	Maximum	63	72	81	77	74	66	76	74	72	79	58	37	46	56	59	58	60	17	43	55	51	56	58	55	49	54	45	38	40	47	37	57.5
	Minimum	41	44	47	50	34	39	33	48	41	37	37	29	32	41	40	38	30	38	33	28	32	26	37	33	24	25	28	22	14	17	23	33.6
Garrison	Maximum	69	76	65	67	68	68	78	71	73	57	47	34	50	64	67	64	65	61	57	55	50	57	60	54	57	57	43	41	42	44	30	57.8
	Minimum	33	35	47	44	35	34	37	42	37	37	31	23	29	40	29	36	27	35	32	31	31	34	36	28	20	32	27	16	12	24	14	31.2
Grafton	Maximum	77	68	79	67	62	61	70	67	55	64	57	39	48	55	66	59	64	55	46	57	54	57	60	56	52	57	50	38	45	48	38	57.2
	Minimum	40	40	50	41	22	38	31	45	31	36	36	29	22	32	27	27	25	41	31	22	34	17	35	22	25	25	25	29	9	15	28	30.7
Grand Forks	Maximum	58	67	83	51	64	62	72	68	55	65	47	41	44	53	62	62	60	46	44	58	51	53	60	57	49	57	43	38	44	49	34	54.8
	Minimum	41	42	48	42	28	38	34	42	36	38	31	29	31	41	35	30	29	39	32	29	29	21	36	33	24	27	29	20	13	18	17	31.7
Granville	Maximum	70	72	70	52	70	68	72	70	67	60	45	35	55	60	67	62	70	57	60	58	48	60	65	68	57	55	50	40	45	40	35	58.2
	Minimum	30	37	40	28	28	35	32	34	36	37	32	28	25	25	30	33	32	35	28	25	32	30	32	28	24	28	30	10	5	15	20	28.5
Hansboro	Maximum	70	70	70	68	70	65	70	65	67	62	50	40	58	55	60	65	65	55	48	45	50	58	57	56	54	50	40	40	40	40	30	55.9
	Minimum	35	40	38	35	38	17	40	48	50	30	25	20	18	25	28	30	35	30	18	24	28	18	30	25	22	22	18	10	8	8	4	26.4
Hettinger	Maximum	76	76	66	59	67	66	79	72	81	65	54	34	44	63	60	63	67	57	66	48	44	54	57	54	56	57	45	33	33	45	34	57.3
	Minimum	32	34	43	38	36	31	40	45	39	41	31	26	31	34	31	29	25	35	23	30	31	27	32	26	21	28	28	27	27	31	23	31.5
Hillsboro	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Howard (near)	Maximum	76	82	68	60	65	64	62	62	70	58	35	35	50	59	63	60	62	42	60	51	51	61	52	57	58	50	40	39	42	43	33	55.2
	Minimum	30	30	39	28	33	26	42	39	35	34	30	25	20	33	25	33	28	29	29	23	17	26	24	19	16	26	20	25	6	17	15	26.5
Jamestown §§	Maximum	61	75	80	56	71	68	76	74	65	73	44	38	48	59	63	62	64	45	51	57	53	60	61	56	53	57	42	38	45	50	35	57.4
	Minimum	39	38	41	40	29	30	36	45	37	35	36	27	27	30	35	27	24	24	34	27	31	21	26	32	21	20	27	17	8	12	17	28.8
Lamoine	Maximum	68	73	74	67	67	64	74	70	68	70	56	37	49	62	59	60	67	58	47	55	52	60	58	54	53	57	48	37	42	48	37	57.8
	Minimum	29	37	51	36	27	32	40	40	37	37	32	25	21	38	30	30	31	35	31	30	35	21	30	25	20	31	21	12	8	15	12	29.0
Langdon §§	Maximum	68	67	72	60	64	65	71	66	52	52	48	40	48	53	65	61	63	55	44	50	52	53	57	53	49	55	41	36	43	45	33	54.2
	Minimum	33	35	42	36	19	33	35	42	26	31	36	26	24	28	27	27	29	30	31	20	29	20	28	22	17	17	20	15	6	6	25	26.0
Larimore §§	Maximum	75	70	80	65	68	70	70	69	66	65	40	38	47	53	63	64	65	45	42	52	56	50	60	53	57	57	44	38	35	45	33	56.0
	Minimum	40	40	50	38	25	40	30	45	35	35	30	26	27	30	34	35	28	37	34	24	26	20	26	23	25	27	26	24	10	20	15	29.8
Linton	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Lisbon §§	Maximum	64	75	82	65	77	72	79	75	66	84	66	50	44	53	60	58	62	52	45	55	55	53	59	56	54	45	40	45	45	46	45	58.9
	Minimum	38	39	43	40	26	27	30	48	32	35	35	27	27	28	45	36	26	29	35	23	35	21	33	32	26	24	18	9	14	19	18	29.6
McClusky	Maximum	69	73	84	60	56	64	76	73	71	55	53	35	50	63	62	67	64	58	59	55	48	60	53	53	54	56	44	38	41	45	34	57.2
	Minimum	30	32	44	33	40	29	38	32	34	37	30	21	20	35	26	29	34	30	29	27	27	24	29	26	12	27	21	10	4	15	10	26.9
McKinney (near)	Maximum	60	71	63	48	70	61	70	65	64	56	43	34	48	60	60	60	64	53	51	53	47	59	57	51	54	53	44	35	42	43	29	53.8
	Minimum	34	41	39	29	24	34	32	34	36	37	32	28	27	28	28	36	30	34	30	23	27	29	32	28	15	24	28	8	4	3	18	27.5
Maddock	Maximum	67	72	76	67	68	63	72	69	65	61	54	50	50	59	63	64	66	60	43	55	51	55	58	54	56	55	51	39	43	46	38	57.7
	Minimum	38	38	50	37	28	33	33	34	34	32	31	20	21	30	27	31	23	34	31	23	33	21	32	27	10	27	23	11	6	15	11	27.2
Melville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Minot §§	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Mott	Maximum	68	70	65	60	64	66	76	74	82	64	50	44	46	62	61	63	55	50	48	49	47	40	42	48	41	44	46	45	47	43	48	55.1
	Minimum	33	42	41	32	32	30	35	42	36	34	33	30	26	30	32	28	24	23	27	26	28	23	26	27	23	25	27	28	30	24	28	29.8
Napoleon §§	Maximum	65	77	78	58	75	68	78	74	75	80	40	36	48	61	63	65	65	41	50	56	51	66	60	55	58	43	48	38	44	47	33	57.7
	Minimum	33	45	40	39	30	33	35	50	34	35	38	25	28	34	32	28	28	30	32	28	35	25	30	26	21	30	23	16	6	15	19	29.8
New Salem	Maximum	75	69	73	59	68	75	78	74	79	64	51	36	55	63	49	65	69	42	59	55	51	60	58	60	55	57	56	40	32	50	32	58.2
	Minimum	31	39	36	34	51	39	41	47	44	34	34	23	28	36	30	35	30	23	31	32	34	30	27	25	31	29	28	21	12	25	18	31.6
Pembina §§	Maximum	64	60	56	59	56	58	56	54	44	64	38	42	52	50	56	54	60	43	58	62	56	58	48	52	56	46	44	42	46	40	41	52.1
	Minimum	33	38	34	34	23	28	30	40	32	34	38	28	28	34	36	29	29	36	32	26	28	28	29	26	20	31	24	18	15	14	20	28.7
Steele	Maximum	68	72	64	67	67	70	76	70	71	69	33	37	41	58	59	65	65	48	46	46	48	60	60	52	50	57	34	36	32	36	36	54.6
	Minimum	32	37	29	30	26	24	30	46	34	36	32	25	28	36	34	33	25	32	30	24	28	21	27	21	14	24	19	15	14	5	15	26.6
Towner	Maximum	75	72	72	68	68	64	65	66	65	60	55	58	68	72	70	65	63	56	53	50	50	65	63	60	65	60	52	34	36	34	36	59.4
	Minimum	33	35	45	38	36	34	32	33	32	35	30	28	30	30	31	31	28	32	23	28	30	36	31	30	33	18	23	10	4	18	15	28.8
Valley City	Maximum	81	73	81	78	72	67	75	72	68	73	64	37	45	55	63	63	62	56	52	59	54	50	58	56	53	56	56	47	43	49	43	60.3
	Minimum	40	43	45	41	27	38	30	48	37	39	36	27	32	34	37	29	24	40	35	27	41	18	34	29	25	29	27	18	9	16	11	31.2
Wahpeton	Maximum	75	75	81	80	71	69	78	76	72	85	83	46	47	56	62	59	60	58	48	59	55	59	60	59	52	55	54	44	45	42	40	61.4
	Minimum	40	46	52	43	29	40	40	51	35	47	42	31	37	43	49	40	32	37	38	32	40	25	34	31	24	31	30	28	15	21	22	35.6
Westhope	Maximum	64	74	66	52	62	66	72	66	62	56	44	41	46	59	65	65	68	48	46	56	49	59	57	55	56	35	39	41	46	46	33	54.6
	Minimum	32	38	40	40	32	32	40	39	35	39	32	28	24	31	28	43	23	26	30	23	25	25	30	27	24	23	23	12	10	18	20	28.8
Williston	Maximum	58	75	58	59	64	65	70	64	74	59	40	34	49	60	64	62	63	41	60	52	50	62	59	55	58	50	38	38	43	45	28	54.7
	Minimum	34	39	42	31	38	35	45	42	40	39	30	27	29	37	30	33	39	34	33	26	26	31	32	26	18	30	25	22	15	16	16	31.0
Moorhead, Minn	Maximum	61	69	79	67	71	65	77	71	61	79	48	46	44	55	58	58	59	49	43	55	52	52	59	56	50	56	44	37	42	42	36	56.0
	Minimum	44	46	54	39	31	41	40	46	40	45	33	30	36	43	47	38	35	38	36	32	31	26	37	35	28	32	31	25	18	17	23	35.4

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc

[W. B. O., Minneapolis, 11 [illegible] 1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVII   Bismarck, N. D., November, 1928   No. 11

GENERAL SUMMARY

The weather throughout North Dakota during the month was mostly mild and pleasant, and from the standpoint of personal comfort to those engaged in outdoor activities was one of the most agreeable Novembers of record. As a result of these favorable conditions, outdoor work of all kinds made rapid progress. Fall plowing continued in many parts of the State until near the end of the month. Livestock ranged freely on pastures, ranges and harvested fields, thus saving much feed. Practically all farm work, including corn husking, was completed before the close of the month. Nearly the average seeding of winter rye was accomplished, and this crop was of good stand and color.

TEMPERATURE

The mean temperature for the State was 31.0°, or 4.4° above the normal, and 10.3° higher than the average for November, 1927. The highest mean reported was 34.6° at Wahpeton, Richland County; the lowest was 24.0° at Melville, Foster County. The highest temperature reported was 70° at Carson, Grant County, on the 5th; the lowest was −11° at Berthold Agency, McLean County, on the 21st. The greatest monthly range of temperature was 71° at Berthold Agency, McLean County; the least was 40° at Melville, Foster County. The greatest daily range in temperature was 57° at Marmarth, Slope, on the 3d.

PRECIPITATION

The average precipitation for the State was 0.48 inch, or 0.10 inch below the normal, and 0.22 less than the average for November, 1927. The greatest monthly amount reported was 2.48 inches at Linton, Emmons County; there was none at five tations in the northern and western parts of the State. The greatest amount recorded in any 24 consecutive hours was 2.48 nches at Linton, Emmons County on the 14th. The average number of days with 0.01 inch or more of precipitation was 1. The average snowfall was 0.2 inch.

AURORAS

Auroras were observed at Foxholm, Powers Lake, and Rugby n the 1st; at Bottineau, Carson, Ellendale, Foxholm, Howard, Towner and Willow City on the 2d; at Arnegard, Carson, Foxholm, Grand Forks, Howard and Willow City on the 3d; at Napoleon on the 4th; at Bottineau and Foxholm on the 6th; at Willow City on the 7th; at Steele, Trotters and Williston on the 0th; at Steele and Williston on the 11th; at Devils Lake, Foxolm, Hettinger, Howard, Pettibone and Willow City on the 2th; at Bottineau, Towner, Trotters and Williston on the 3th; at Willow City on the 15th; at Foxholm, Towner and Willow City on the 16th; at Towner and Williston on the 23d; t Bottineau and Williston on the 24th; and at Carson, Foxolm, Minot and Trotters on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.09	30.74	24	29.26	14	57	4,729	6.6	35§	nw.	21
Devils Lake	30.06	30.75	24	29.19	14	44	5,870	8.2	28§	nw.	21
Ellendale	30.10	30.72	24	29.13	14	56	8,243	11.4	45§	nw.	21
Grand Forks	30.03	30.70	24	29.14	14	90	....	......	31	nw.	15†
Williston	30.09	30.79	24	29.39	14	48	4,026	5.6	28§	nw.	21
Moorhead, Minn	30.07	30.75	24	29.11	14	58	5,318	7.4	27§	nw.	21
Av'ges and extremes	30.07	30.79	24	29.11	14	.....	....	7.8	45§	nw.	21

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	145.8	281.1	52	0	86	58	62	30	5
Devils Lake	161.0	278.2	58	+12	86	67	74	33	6
Ellendale	148.4	284.1	52	0	90	62	....	36	3†
Grand Forks	......	......	......	......	82	.....	76	......	....
Williston	185.7	278.2	67	+20	81	68	57	32	6
Moorhead, Minn	132.8	281.1	47	− 1	87	62	71	36	23
Averages and extremes	154.9	280.5	55	+ 6	85	63	68	30	5

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901	26.8	+0.2	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918	28.9	+2.3	71	−18	1.04	+0.46	4	13	6	11	nw.
1919	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921	21.0	−5.6	69	−30	0.68	+0.10	5	7	8	15	nw.
1922	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.
1923	36.5	+9.9	72	− 5	0.50	−0.08	3	13	8	9	nw.
1924	27.6	+1.0	69	−15	0.18	−0.40	2	11	9	10	nw.
1925	28.8	+2.2	69	−17	0.25	−0.33	2	14	8	8	nw.
1926	21.5	−5.1	68	−23	0.65	+0.07	5	6	7	17	nw.
1927	20.7	−5.9	59	−24	0.70	+0.12	6	7	8	15	nw.
1928	31.0	+4.4	70	−11	0.48	−0.10	1	15	8	7	nw.

Climatological Data for November, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								0.15		0.12	0	2					H. A. Bury.
Amenia	Cass	954	32	29.8	+2.5	62	13	5	25	42	0.86	+0.32	0.86	0	1	19	9	2	n.	E. T. Carley.
Amidon	Slope		14																	F. A. Garfoot.
Arnegard (near)	McKenzie		13	32.2	+3.4	60	4	5	2	46	T.	−0.36	T.	T.	0	27	0	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	32.9	+5.2	61	13	7	25	36	1.35	+0.81	0.77	2.0	5	19	0	11	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22																	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	30.0	+1.2	60	10	−11	21	56	T.	−0.48	T.	T.	0	21	2	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	32.6	+4.1	64	10	4	25	42	0.07	−0.50	0.04	0.6	3	14	8	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	29.2	+5.6	53	6†	1	25	44	T.	−0.54	T.	0	0	11	11	8	nw.	N. A. Eckberg.
Bowman	Bowman	2.961	14								0.65	+0.33	0.54	0	2	15	5	10	nw.	M. S. Byrne.
Cando	Towner	1,488	27	29.2	+2.7	54	6†	4	26	42	0.06	−0.45	0.06	0	1	8	12	10	nw.	A. J. Swanson.
Carson	Grant	2,500	16	33.3	+2.6	70	5	5	2	42	0.25	−0.31	0.15	1.0	2	18	6	6	nw.	J. W. Evens.
Cavalier	Pembina										1.34		0.77	0	2	12	7	11	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	22								1.63	+1.09	1.63	0	1	7	18	5	nw.	S. Friswold.
Corinth	Williams	2,180	1								0.07		0.04	0	2					L. S. Evenson.
Crosby	Divide	1,954	21	30.2	+2.4	59	4	8	2	45	0.00	−0.71	0.00	0	0	10	8	12	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	30.0	+7.4	54	10	6	1	33	1.73	+1.02	1.73	T.	2	14	7	9	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	29.9	+1.3	67	10	0	2	57	0.08	−0.40	0.05	0.5	2	12	13	5	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	31.6		58	10	4	25	38	T.		T.	T.	0	15	7	8	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	30.6	+2.2	63	10	1	2	50	T.	−0.62	T.	T.	0	16	6	8	nw.	W. F. Moede.
Dunseith	Rolette	1,682	32	30.4	+4.2	57	13	4	25	34	0.02	−0.41	0.01	0	2	14	8	8	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	23	28.2	+1.9	58	3†	0	1	50	T.	−0.54	T.	T.	0	3	14	13	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	27	34.0	+3.6	59	13	8	24	40	1.50	+1.16	1.25	0	2	4	14	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	32.6	+6.5	58	13	9	25	38	1.01	+0.23	0.97	0.4	4	12	6	12	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	16	32.8		60	10	5	25	43	0.05	−0.21	0.05	0.5	1	19	4	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	20																	A. O. Wang.
Fairfield	Billings		1								0.00		0.00	0	0	20	3	7	nw.	F. R. Hecker.
Fessenden	Wells	1,610	16	30.6	+3.6	63	10	1	2	46	0.48	−0.16	0.48	0	1	15	5	10	nw.	T. D. Monsen.
Forman	Sargent	1,249	34								0.74	+0.18	0.48	0.8	3	17	8	5	nw.	O. Enger.
Fort Yates	Sioux	1,670									0.85	+0.32	0.85	0	1					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	30.8		58	10	7	2	36	0.05		0.05	0.5	1	11	11	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								0.05		0.05	T.	1	23	5	2	w.	Verne King.
Fullerton	Dickey	1,439	30	33.3	+3.6	58	13	9	25	34	1.49	+0.76	1.35	1.4	2	10	11	9	nw.	F. O. Alin.
Garrison	McLean	1,901	33	32.6	+5.6	63	10	7	2	42	T.	−0.58	T.	0	0	24	2	4	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	31.5	+7.5	58	6	8	2	40	1.20	+0.54	1.20	0	1	10	10	10	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	31.0	+4.9	57	13	9	25	33	1.13	+0.43	1.13	T.	2	5	11	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	31.2	+5.1	60	10†	0	2	45	T.	−0.61	T.	0	0	22	5	3	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34								0.32	−0.36	0.32	0	1					J. Moffatt.
Hansboro	Towner	1,597	20	28.3	+2.4	60	10	−1	25†	41	0.10	−0.36	0.10	0	1	18	5	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	33.8	+0.4	64	10	6	2	41	0.22	−0.10	0.11	1.0	3	18	5	7	nw.	C. H. Plath.
Hillsboro	Traill	901	22																	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	21	29.0	+1.3	58	4	0	20	44	T.	−0.51	T.	T.	0	18	11	1	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	30.6	+3.0	62	9	5	25	51	1.36	+0.63	1.34	0.2	2	10	12	8	nw.	S. Calvelage.
Lamoine	Kidder	1,936	23	30.6	+3.6						T.	−0.54								E. V. Virgin.
Langdon	Cavalier	1,615	32	27.1	+1.4	51	14	2	1	43	1.28	+0.58	1.23	0	2	10	16	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	34	30.4	+4.6	55	10	7	1†	36	1.60	+0.92	1.30	0	2	8	10	12	n.	Reuben Gray.
Linton	Emmons	1,711	10	31.6	+2.2	64	10	−3	8	52	2.48	+1.92	2.48	T.	1	19	3	8	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	24	31.8	+1.6	60	12	3	25	45	0.77	+0.15	0.77	0	1	16	6	8		L. B. Walker.
McClusky	Sheridan	1,943	10	29.2		60	10†	−2	2	44	T.		T	T.	0	12	8	10	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	34	29.0	+4.4	60	10	-4^{a}	1	39^{a}	0.00	−0.65	0.00	0	0	10	15	5	nw.	N. P. Swenson.
McLeod	Ransom	1,075	16	32.6	+2.9	62	14	5	25	42	0.56	−0.03	0.27	T.	3	15	4	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	12	30.7	+3.7	58	10	0	25	46	0.16	−0.52	0.16	0	1	17	4	9	nw.	A. T. Felland.
Mandan	Morton	1,644	14	31.3	+1.4	64	10	3	25	46	0.06	−0.49	0.03	0.3	2	12	5	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25								0.10	−0.64	0.05	T.	2					P. B. Anderson.
Marmarth	Slope	2,714	19	32.2	−1.8	67	10	0	2	57	T.	−0.33	T.	0.2	0	16	8	6		Wm. N. Thompson.
Mary	McKenzie		1								0.10		0.10	T.	1	21	5	4	nw.	Fred Hartman.
Mayville	Traill	975	32	32.7	+3.4	62	6	6	28	43	1.07	+0.40	0.60	0	2	17	3	10	nw.	N. C. Burhans.
Melville	Foster	1,590	30	24.0	−5.0	49	10	9	1†	32	0.60	+0.07	0.60	0	1	25	0	5	ne.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		3								0.00		0.00	0	0	23	6	1	nw	J. A. Thorburn.
Michigan	Nelson	1,518	1								1.32		1.32	0	1	12	14	4	nw.	Arnold Johnson.
Minot	Ward	1,557	32	31.8	+2.1	63	10	7	25	41	T.	−0.68	T.	T.	0	19	5	5	w.	W. I. Faris.
Minto	Walsh	820	35																	C. M. Evans.
Mott	Hettinger	2,424	21	32.9	+1.7	64	10	7	1	37	0.08	−0.38	0.06	0.2	2	13	11	6	nw.	O. H. Opland.
Napoleon	Logan	1,955	36	32.8	+6.2	63	13	2	2	46	1.25	+0.66	1.25	T.	1	16	4	10	sw.	C. J. Hoof.
New England	Hettinger	2,400	37																	E. J. Freeman.
New Salem	Morton	2,163	24	34.0	+3.3	60	10	6	2	46	0.05	−0.30	0.05	1.0	1	18	9	3	nw.	J. Christiansen.
Park River	Walsh	998	24	30.8	+2.8	56	6	9	1†	36	1.10	+0.34	0.84	T.	2	16	7	7	nw.	C. B. Wright.
Parshall (near)	Mountrail		13																	John A. Johnson.
Pembina	Pembina	789	54	26.9	+4.2	50	14	8	1†	33	1.00	+0.32	1.00	0	1	22	7	1	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	30.8	+3.9	58	13	−1	2	42	1.02	+0.47	0.76	T.	2	15	5	10	nw.	A. L. Carlson.
Power	Richland	1,020	34								0.99	+0.37	0.78	0	2	16	9	5	nw.	Frank B. Power.
Powers Lake	Burke	2,205	14	34.2		61	9	5	18	36	T.	−0.56	T.	0	0	22	6	2	nw.	Geo. B. Gee.
Richardton	Stark	2,467	12	32.6	+4.1	65	10	6	2	41	0.11	−0.40	0.11	1.1	1	19	7	4	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1								0.14		0.14	0	1	18	4	8	nw.	E. C. Erickson.
Ryder	Ward	2.108	1								0.00		0.00	0	0					E. M. Lomen.
Sharon	Steele	1,516	3	30.7^{c}		56^{f}	10	5	25	32^{f}	1.51		1.35	0	2	17	7	6	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	4								0.10		0.10	1.0	1	15	9	6	nw.	J. H. Giffey
Starkweather	Ramsey		1																	Geo. Rolofson.
Steele	Kidder	1,857	32	26.0	−2.4	52	6	5	25	41	1.20	+0.61	1.00	T.	2	13	12	5	nw.	C. D. Stiles.
Stowers‡‡	Adams		13								0.10	−0.36	0.10	1.0	1	28	0	2	w.	Chas. E. Stowers.
Tagus	Mountrail	2,179	1								0.05		0.05	0	1	12	11	7	nw.	J. C. Abbott.
Towner	McHenry	1,482	26	30.6	+5.6	62	6	0	2	43	T.	−0.48	T.	0	0	23	4	3	nw.	B. Bagley.
Trotters	Golden Valley		3								0.02		0.02	T.	1	19	2	9		A. J. Nellermoe
Turtle Lake	McLean	1,899	13	31.8	+3.6	62	10	7	2†	45	T.	−0.49	T.	0	0	0	14	16	nw.	A. T. Anderson.
Valley City	Barnes	1,245	23	32.6	+2.9	58	10†	5	25	44	1.20	+0.58	1.20	T.	1	17	9	4	sw.	I. C. Robertson.
Velva	McHenry	1,511	2	30.6		63	10	4	25	45	T.		T.	T.	0	12	11	7	w.	Oscar Anderson.
Verona	LaMoure	1,387	34								0.74		0.59	0.5	3	8	8	14	nw.	W. C. Taylor.
Wahpeton	Richland	962		34.6	+6.3	59	12	6	25	34	0.40	−0.29	0.20	0	2	19	0	11	nw.	C. G. Luick.
Washburn	McLean	1,731	26								0.06	−0.58	0.03	1.5	3					Karl Klein.
Westhope	Bottineau	1,508	26	30.2	+3.4	55	12	5	1†	45	0.03	−0.55	0.03	0.3	1	18	8	4	nw.	W. A. Meddaugh.
Williston	Williams	1,878	49	32.4	+5.2	59	4	7	2	37	T.	−0.58	T.	T.	0	16	9	5	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	28.8	+6.7	58	12	0	25	41	T.	−0.51	T.	T.	0	13	6	11	nw.	M. A. Ostby.
Wilton	McLean		1	32.0^{a}		64^{a}	10	9^{a}	24	37^{a}	T.		T.	T.	0	17	4	9	nw.	L. Q. Perkins.
Moorhead, Minn.	Clay	935	47	32.0	+4.9	58	13	8	25	27	0.30	−0.60	0.29	0.1	3	9	10	11	nw.	U. S. Weather Bureau.
Averages				31.0	+4.4	70	5	−11	21	57	0.48	−0.10	2.48	0.2	1	15	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine Tuttle Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for November, 1928

Stations	Drainage Basin	Day of Month 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri														.12	.03																	0.15
Amenia ‖	Red														T.	.86																	0.86
Amidon	Lit. Missouri																																
Arnegard (near)	Missouri					T.																											T.
Ashley	Missouri									.10					.77	.41	.05	.02															1.35
Beach	Lit. Missouri																																
Berthold Agency	Missouri														T.		T.		T														T.
Bismarck ***	Missouri					T.									.02		.01	T.	.04	T.									T.				0.07
Bottineau‖	Mouse															T.																	T.
Bowman	Grand					T.			.11						.54		T.																0.65
Cando	Devils Lake														.06																		0.06
Carson	Heart														.15				.10														0.25
Cavalier	Red														.77	.57																	1.34
Cooperstown	Sheyenne														1.63																		1.63
Corinth	Missouri																																
Crosby	Mouse																																0.00
Devils Lake ***	Devils Lake										T.				1.68	.05	T			T.	T.												1.73
Dickinson‖	Heart	T.					T.			.05						.03	T.		T.														0.08
Dogden Butte	Mouse														T.	T.			T.														T.
Dunn Center ‖	Knife																		T.														T.
Dunseith	Mouse										.01					.01																	0.02
Eckman	Mouse																		T.														T.
Edgeley	James														1.25	.25																	1.50
Ellendale***	James					T.			.01	.02	T.				.97		.01			T.		T.							T.				1.01
Energy	Missouri														T.				.05	T.													0.05
Epping	Missouri																																
Fairfield	Knife																																0.00
Fessenden‖	James															.48																	0.48
Forman	Sheyenne									.08					.48	.18																	0.74
Fort Yates	Missouri														.85																		0.85
Foxholm (near)	Mouse														T.				.05	T.													0.05
Fryburg	Heart					T.									.05		T.																0.05
Fullerton	James								T.	.14					1.35		T			T.									T.				1.49
Garrison	Missouri														T.																		T.
Grafton	Red														1.20																		1.20
Grand Forks ***	Red														1.07	.06				T.									T.				1.13
Granville	Mouse										T.				T.																		T.
Hannah	Pembina														.32																		0.32
Hansboro	Devils Lake														.10																		0.10
Hettinger	Grand								.11						.10		.01		T.														0.22
Hillsboro	Red																																
Howard (near)	Missouri										T.						T.					T.											T.
Jamestown‖	James														1.34		.02																1.36
Lamoine	Missouri																																
Langdon‖	Pembina														.05	1.23																	1.28
Larimore	Red														1.30	.30																	1.60
Linton	Missouri									T.					2.48	T.	T.		T.														2.48
Lisbon ‖	Sheyenne													T.	.77																		0.77
McClusky	Missouri														T.					T.													T.
McKinney (near)	Mouse																																0.00
McLeod	Sheyenne					T.				.04					.27	.25				T.													0.56
Maddock	Sheyenne														.16																		0.16
Mandan‖	Missouri														.03	T			.03														0.06
Manfred	James														.05	.05													T.				0.10
Marmarth	Lit. Missouri															T.																	T.
Mary	Lit. Missouri					T.									.10																		0.10
Mayville	Red														.47	.60																	1.07
Melville	James															.60																	0.60
Metigoshe	Mouse																	T.															T.
Michigan	Red														1.32															T.			1.32
Minot‖	Mouse																		T.														T.
Minto	Red																																
Mott	Cannon Ball														.06	T	.02																0.08
Napoleon ‖	Missouri															1.25			T.	T.													1.25
New England	Cannon Ball																																
New Salem	Heart														T.	T.			.05														0.05
Park River	Red														.84	.26									T.								1.10
Parshall (near)	Missouri																																
Pembina‖	Red															1.00																	1.00
Pettibone	James														.76	.26	T.																1.02
Power	Sheyenne													.21	.78																		0.99
Powers Lake	Missouri														T.																		T.
Richardton	Heart								.11																								0.11
Rugby [near]	Mouse														.14																		0.14
Ryder	Missouri																																0.00
Sharon	Red					T									1.35	.16					T.								T.				1.51
Stanton	Missouri																																
Starkweather	Devils Lake																		.10														0.10
Steele	Missouri					T.									1.00	.20			T.														1.20
Stowers	Cannon Ball							.10																									0.10
Tagus	Mouse																	.05															0.05
Towner	Mouse																			T.													T.
Trotters	Lit. Missouri					.02																											0.02
Turtle Lake	Missouri														T.																		T.
Valley City	Sheyenne														1.20		T.																1.20
Velva	Mouse					T.									T.			T.	T.			T.							T.				T.
Verona	James					T.				.02					.59	.13	T.																0.74
Wahpeton	Red													.20	.20																		0.40
Washburn	Missouri														.03	.01		.02															0.06
Westhope	Mouse																	.03															0.03
Williston ***	Missouri	T.				T.																							T.				T.
Willow City	Mouse														T.		T.	T.		T.													T.
Wilton																	T.	T.		T.													T.
Zap	Knife																																
Moorhead, Minn ***	Red					T.				T.	T.			T.	.26	.03	.01			T.		T.							T.				0.30

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	33	34	36	40	48	50	44	40	40	52	33	47	62	54	41	34	31	33	28	42	43	42	48	27	38	41	46	26	43	43	....	40.
	Minimum	15	10	13	12	18	17	19	22	30	26	33	15	20	30	35	30	20	20	17	18	22	18	20	18	5	10	15	18	11	13	....	19.
Amidon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum	32	38	46	60	51	52	51	49	53	58	49	59	46	46	43	45	27	36	30	49	46	55	45	37	44	57	36	26	37	40	....	44.
	Minimum	10	5	14	14	34	27	22	19	13	33	37	27	24	30	23	16	22	14	8	12	26	15	26	12	9	19	15	19	18	21	....	19.
Ashley	Maximum	30	31	44	53	48	47	51	47	41	56	50	52	61	51	40	34	35	35	32	42	42	42	48	42	36	50	52	40	39	34	....	43.
	Minimum	18	8	11	17	22	25	22	16	25	27	38	21	29	34	29	29	29	25	20	17	36	20	30	20	7	18	21	20	18	16	....	22.
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Berthold Agency	Maximum	25	30	54	50	44	48	52	46	54	60	55	55	50	47	38	45	40	38	32	46	45	50	45	32	45	55	42	36	40	42	....	44.7
	Minimum	18	10	2	10	15	10	0	10	18	25	33	25	28	15	23	17	15	13	15	19	−11	14	25	12	11	18	18	21	10	16	...	15.2
Bismarck	Maximum	29	38	55	54	50	55	54	41	35	64	49	57	57	45	37	38	38	36	29	48	47	48	48	31	40	55	45	24	46	41	....	44.5
	Minimum	12	8	13	16	33	27	20	14	30	28	24	25	20	33	31	30	30	20	15	14	31	19	28	8	4	18	20	21	14	16	....	20.7
Bottineau §§	Maximum	29	39	49	49	50	53	50	40	39	48	49	52	53	49	41	35	38	37	31	46	44	43	44	39	41	46	43	26	38	39	....	42.7
	Minimum	2	3	5	12	28	18	11	20	21	19	29	18	19	30	29	12	29	9	15	11	23	9	21	13	1	11	21	15	8	11	....	15.8
Cando	Maximum	31	39	47	43	50	54	46	39	42	54	49	51	51	50	37	34	36	36	32	45	43	41	45	44	44	46	46	27	24	39	....	42.2
	Minimum	5	5	5	15	23	24	5	20	20	26	24	14	16	32	32	21	23	19	15	15	28	11	23	9	7	4	21	5	9	14	....	16.3
Carson	Maximum	34	36	52	58	70	55	52	40	35	65	56	55	57	55	48	40	55	34	35	48	54	48	46	34	40	55	42	35	44	40	....	47.3
	Minimum	10	5	10	18	32	25	18	18	25	27	29	26	28	28	24	24	20	9	10	10	25	18	24	14	11	25	25	16	13	11	....	19.3
Crosby §§	Maximum	30	36	49	59	53	52	52	46	46	48	53	46	55	49	44	34	43	27	35	39	43	41	40	48	30	50	52	32	24	41	....	43.2
	Minimum	12	8	15	14	17	20	19	18	23	27	31	23	20	25	18	16	17	14	14	13	19	14	15	14	10	15	18	18	16	16	....	17.3
Devils Lake	Maximum	30	39	49	43	49	53	43	30	43	54	43	49	54	45	36	33	34	34	25	44	42	41	45	26	39	42	39	25	38	38	....	40.2
	Minimum	6	7	16	15	24	25	16	19	20	30	20	16	24	32	31	27	27	24	17	20	25	16	26	11	11	22	21	10	18	17	....	19.8
Dickinson §§	Maximum	30	36	59	63	50	54	52	41	48	67	54	56	51	43	31	44	33	38	32	53	47	41	36	36	33	52	39	22	24	34	....	43.3
	Minimum	17	0	2	8	30	26	14	15	16	25	36	24	19	21	24	21	13	14	12	8	26	11	12	8	8	11	18	22	17	16	....	16.5
Dunn Center §§	Maximum	28	38	54	60	51	54	51	44	44	63	51	54	48	43	32	45	32	48	32	50	45	52	42	34	42	57	42	24	47	43	....	45.0
	Minimum	27	1	4	16	35	23	17	10	14	23	31	15	15	21	26	18	11	10	11	8	30	11	14	10	3	13	17	20	17	16	....	16.2
Dunseith	Maximum	32	38	46	44	48	50	45	35	40	46	46	51	57	48	40	32	36	36	31	45	46	41	44	39	38	48	44	24	39	40	....	41.6
	Minimum	9	10	14	23	25	24	20	22	18	23	26	19	27	35	25	17	25	17	18	12	29	15	30	12	4	19	21	6	12	18	....	19.2
Edgeley	Maximum	32	30	50	51	50	51	52	44	44	54	51	52	59	52	41	32	33	38	30	43	43	45	50	47	52	53	52	39	43	38	....	45.0
	Minimum	11	12	30	21	21	29	24	14	27	28	33	19	29	33	30	28	28	23	20	17	37	26	21	8	12	24	26	19	18	18	....	22.9
Ellendale	Maximum	29	38	50	50	51	48	53	37	40	55	48	54	58	53	41	34	32	38	29	44	45	41	49	31	34	49	50	25	42	40	....	43.0
	Minimum	15	13	12	15	21	26	23	18	29	29	25	20	35	32	32	30	26	25	22	17	33	23	28	13	9	17	25	21	17	19	....	22.3
Fessenden §§	Maximum	31	43	53	50	52	58	47	33	43	63	43	57	60	40	31	33	38	38	25	47	47	45	46	25	45	52	43	24	43	40	....	43.3
	Minimum	4	1	7	9	23	21	18	18	18	31	30	17	18	24	32	25	30	21	16	17	25	15	12	17	5	14	24	16	17	14	....	18.0
Foxholm (near)	Maximum	27	37	51	43	50	52	44	34	43	58	53	51	45	41	40	37	32	31	29	46	44	47	44	38	41	54	48	27	39	40	....	42.3
	Minimum	10	7	15	13	29	25	24	14	17	32	31	17	25	24	27	15	17	15	12	14	32	14	26	13	10	25	22	18	18	21	....	19.4
Fullerton	Maximum	29	37	45	49	50	48	52	37	41	52	48	53	58	53	42	35	33	38	33	43	45	42	48	47	34	43	50	33	42	40	....	43.3
	Minimum	14	11	13	20	22	28	24	16	28	31	33	19	32	33	33	31	28	23	22	18	35	22	26	29	9	18	23	22	19	17	....	23.3
Garrison	Maximum	31	41	54	55	51	50	52	44	40	63	49	54	57	43	35	43	39	38	28	46	45	49	46	31	43	56	49	29	44	43	....	44.9
	Minimum	17	7	14	13	33	25	22	15	30	31	36	21	20	29	22	19	22	16	14	19	26	18	24	14	13	22	16	17	15	17	....	20.2
Grafton	Maximum	35	43	50	48	50	58	47	40	42	54	48	45	55	51	50	33	32	38	34	42	42	39	46	40	37	43	40	25	38	37	....	42.7
	Minimum	10	8	15	19	17	18	20	21	23	29	32	11	23	34	32	25	23	24	21	20	34	18	27	16	20	10	21	11	13	13	....	20.3
Grand Forks	Maximum	32	43	50	42	49	53	42	33	40	52	44	41	57	54	38	31	32	34	28	43	41	37	47	32	37	40	43	24	38	39	....	40.6
	Minimum	11	13	17	15	25	26	20	20	19	32	35	16	28	38	31	25	22	23	20	23	28	20	28	13	9	20	18	15	18	14	....	21.4
Granville	Maximum	30	25	55	50	54	57	48	40	42	60	54	60	60	40	44	40	40	37	33	47	45	50	50	40	40	56	45	35	32	46	....	45.2
	Minimum	5	0	20	27	28	20	14	10	15	20	15	15	15	20	18	15	20	12	12	14	23	42	23	10	12	26	15	18	20	16	....	17.3
Hansboro	Maximum	33	40	41	46	51	54	50	48	50	60	50	53	55	48	45	35	35	36	30	30	43	50	40	32	40	43	40	25	37	40	....	42.7
	Minimum	0	0	8	15	18	18	15	15	18	20	18	28	30	30	30	10	20	20	9	8	15	15	12	0	−1	13	20	−1	3	10	....	13.9
Hettinger	Maximum	28	34	51	59	50	50	52	34	48	64	55	57	60	48	41	40	35	37	31	54	49	52	50	35	46	59	42	34	43	38	....	45.9
	Minimum	20	6	15	20	33	23	20	18	16	33	37	26	25	34	24	29	20	16	15	13	29	18	31	16	13	22	21	21	16	18	....	21.6
Hillsboro	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Howard (near)	Maximum	30	39	44	58	52	50	48	48	51	52	54	48	51	38	35	41	35	25	26	42	42	52	42	33	46	50	40	27	26	42	....	42.2
	Minimum	10	4	10	14	27	20	19	13	14	34	27	20	19	16	20	14	17	6	7	0	25	20	19	16	5	21	21	15	15	10	....	15.9
Jamestown §§	Maximum	41	53	51	51	55	50	33	47	62	48	54	58	50	37	33	33	37	27	41	42	45	46	35	38	48	49	34	42	35	45	....	43.7
	Minimum	11	6	6	11	13	24	19	10	11	27	27	11	16	26	31	30	29	24	19	17	18	19	18	18	5	7	22	19	16	15	....	17.5
Lamoine	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Langdon §§	Maximum	30	41	46	35	48	53	41	30	40	50	38	46	50	54	34	31	37	34	31	40	39	37	42	32	36	40	37	34	32	36	....	39.1
	Minimum	2	3	3	6	24	22	12	12	15	24	25	21	20	22	31	18	19	24	13	16	20	12	11	10	6	17	19	5	11	10	....	15.1
Larimore §§	Maximum	35	44	51	49	50	45	50	30	45	55	45	45	55	45	42	32	32	36	32	37	41	40	46	37	35	47	40	25	40	37	....	41.4
	Minimum	7	10	20	17	14	26	18	20	16	21	30	13	23	26	32	28	27	23	20	22	20	17	30	16	7	22	20	10	14	15	....	19.5
Linton	Maximum	29	38	46	56	50	48	54	41	54	64	49	58	63	48	42	38	36	37	26	15	46	54	49	33	39	54	43	37	39	39	....	45.2
	Minimum	12	8	−3	4	16	14	20	14	10	25	24	15	17	31	26	30	24	21	14	22	31	36	28	17	6	15	17	20	15	9	....	17.9
Lisbon §§	Maximum	40	40	50	56	50	50	50	39	50	49	49	60	54	39	44	43	38	42	35	45	43	44	49	36	35	45	49	37	45	39	...	44.8
	Minimum	17	8	10	11	14	23	20	14	24	31	12	23	37	34	30	22	20	20	18	17	20	16	20	20	3	15	19	20	13	14	....	18.8
McClusky	Maximum	28	38	51	53	48	52	48	33	38	60	46	56	60	46	44	42	40	38	33	46	48	46	35	33	35	51	48	32	30	38	....	43.2
	Minimum	6	−2	8	9	26	19	12	9	18	23	9	16	18	24	26	24	20	10	9	9	27	27	13	12	13	16	14	15	13	10	....	15.1
McKinney (near)	Maximum	28	40	52	43	52	53	45	33	45	60	53	52	48	43	40	40	38	35	32	46	45	48	45	35	44	54	42	25	40	41	....	43.2
	Minimum	−4	8	13	8	....	24	19	9	19	28	19	17	12	23	20	12	10	10	10	12	18	12	15	13	10	20	13	20	18	19	....	*14.7
Maddock	Maximum	30	39	51	57	50	48	44	43	44	58	52	54	57	44	39	33	35	35	39	47	52	45	48	41	41	49	43	36	38	39	....	44.4
	Minimum	2	2	12	11	21	23	14	12	19	29	31	15	13	29	30	26	24	18	15	14	29	12	24	9	0	20	19	9	15	14	....	17.0
Melville	Maximum	26	32	27	33	30	35	31	29	31	49	38	34	39	36	34	30	27	24	19	27	29	34	37	39	33	28	30	27	29	31	....	31.6
	Minimum	9	14	10	18	16	21	18	15	9	31	21	19	26	26	21	14	17	16	14	15	18	12	17	20	14	11	10	12	13	17	....	16.5
Minot §§	Maximum	29	39	53	48	52	54	47	39	43	63	57	54	50	42	42	38	36	36	28	47	45	48	45	38	44	57	40	30	41	43	....	44.3
	Minimum	11	8	12	12	34	25	19	12	21	32	32	19	19	26	27	11	22	13	14	12	37	14	22	16	7	24	16	20	20	18	....	19.2
Mott	Maximum	37	36	46	50	41	58	55	56	60	64	55	43	40	45	47	41	35	39	40	48	40	50	48	46	48	50	51	46	44	40	....	46.6
	Minimum	7	14	26	30	20	22	24	22	24	27	24	20	18	24	21	22	12	15	15	16	13	21	20	18	15	13	21	17	16	18	....	19.2
Napoleon §§	Maximum	29	37	50	55	50	51	53	36	41	61	48	55	63	43	35	36	38	35	26	44	45	45	49	28	48	50	52	48	40	36	....	44.2
	Minimum	11	2	4	13	34	26	16	11	29	28	35	18	23	36	30	29	29	26	17	16	35	16	25	18	4	28	30	28	15	11	....	21.4
New Salem	Maximum	28	28	56	44	49	55	55	45	36	60	54	56	57	40	32	37	38	40	43	41	39	48	46	42	45	54	40	38	46	42	....	44.5
	Minimum	12	6	10	18	28	30	22	13	11	30	30	18	22	32	30	30	32	35	34	30	28	30	20	22	26	32	20	18	16	17	...	23.4
Pembina §§	Maximum	41	42	48	46	40	36	37	34	32	34	33	36	32	50	35	30	30	32	34	32	34	36	28	30	20	30	24	30	25	28	....	34.0
	Minimum	8	10	24	20	18	8	18	22	20	19	18	24	20	32	25	20	26	24	20	26	28	18	17	18	14	24	16	18	20	20	....	19.8
Steele	Maximum	25	45	45	51	50	52	49	48	36	42	45	46	44	36	30	28	30	30	32	30	33	34	35	28	19	34	24	28	36	35	....	36.7
	Minimum	9	9	9	10	12	16	18	14	12	14	10	8	18	22	21	20	21	20	22	22	24	20	21	18	5	17	12	12	10	10	....	15.2
Towner	Maximum	30	33	52	45	50	62	56	49	50	58	50	58	48	45	40	35	38	40	45	47	45	48	45	40	42	48	40	32	38	35	....	44.8
	Minimum	4	0	12	25	20	28	24	23	24	23	25	15	23	20	30	15	16	15	13	15	14	12	13	18	4	16	4	15	12	10	....	16.3
Valley City	Maximum	31	40	51	56	50	53	56	54	56	58	51	48	58	52	53	38	32	36	34	49	42	40	46	40	35	45	44	38	40	38	....	45.5
	Minimum	9	10	13	12	19	27	19	17	19	16	23	12	31	30	33	32	27	21	22	19	35	20	28	13	5	15	17	19	17	13	....	19.8
Wahpeton	Maximum	36	41	50	49	54	53	51	41	50	52	46	59	58	55	55	42	35	38	38	42	46	40	51	42	34	41	47	39	40	42	....	45.6
	Minimum	20	11	16	20	21	29	23	17	34	35	20	36	42	37	37	31	29	21	18	22	34	20	27	22	6	18	20	20	13	12	....	23.7
Westhope	Maximum	30	43	53	43	48	50	45	43	45	52	43	55	47	42	42	40	39	35	35	51	46	48	42	44	47	43	40	30	43	43	....	43.6
	Minimum	5	5	8	8	30	36	15	24	21	22	20	18	18	25	15	14	30	10	14	16	12	10	12	10	7	15	16	17	12	16	....	16.7
Williston	Maximum	30	36	49	59	53	72	49	48	53	57	47	58	46	46	36	41	33	35	29	50	45	55	45	33	44	49	37	23	37	42	....	43.9
	Minimum	11	7	16	23	32	24	20	21	26	32	32	29	18	30	23	19	21	15	15	22	28	18	22	14	11	22	22	18	16	18	....	20.8
Moorhead, Minn	Maximum	31	40	46	45	48	51	45	36	38	49	47	44	58	56	40	33	32	35	28	43	42	37	47	31	33	38	44	24	41	39	....	40.7
	Minimum	18	14	19	20	23	30	25	24	25	34	30	20	40	40	33	25	22	23	20	23	30	23	28	14	8	17	21	15	16	15	....	23.2

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. b 2 days, etc.

[WBO, Minneapolis, 12-27-28—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVII Bismarck, N. D., December, 1928 No. 12

GENERAL SUMMARY

The month opened with much cloudiness, general light snowfall and temperature below normal, a condition that continued throughout the first five days. Thereafter, except from the 17th to the 20th when light snows again occurred and temperature somewhat below normal prevailed, the weather was mild and pleasant. During the greater part of the month livestock ranged freely on pastures, ranges and harvested fields, saving much feed. At the close of the month livestock was in excellent condition. Marketing of livestock and grain constituted the greater part of farm activities. Highways, both main trails and crossroads, were in good condition at all times.

TEMPERATURE

The mean temperature for the State was 20.7°, or 7.7° above the normal, and 22.5° higher than the average for December, 1927. The highest mean reported was 25.2° at Hettinger, Adams County; the lowest was 15.4° at Melville, Foster County. The highest temperature reported was 57° at Carson, Grant County, on the 28th, at Dickinson, Stark County on the 9th and at Hettinger, Adams County on the 9th; the lowest was -30° at Hansboro, Towner County, on the 20th. The greatest monthly range of temperature was 77° at Fessenden, Wells County and at Maddock, Benson County; the least was 57° at Foxholm, Ward County. The greatest daily range in temperature was 57° at Dickinson, Stark County on the 8th.

PRECIPITATION

The average precipitation for the State was 0.28 inch, or 0.26 inch below the normal, and 0.47 less than the average for December, 1927. The greatest monthly amount reported was 0.95 inch at Cooperstown, Griggs County; there was none at Lisbon, Ransom County, and at Melville, Foster County. The greatest amount recorded in any 24 consecutive hours was 0.70 inch at Howard, Williams County on the 2d. The average snowfall was 3.2 inches. The average number of days with 0.01 inch or more of precipitation was 3.

AURORAS

Auroras were observed at Rugby on the first; at Velva on the 2d; at Arnegard, Beach and Foxholm on the 11th; at Bottineau, Crosby, Foxholm and Napoleon on the 12th; and at Bottineau on the 13th, 22d and 24th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.06	30.67	31	29.58	25	57	5,478	7.4	32§	nw.	18
Devils Lake	30.03	30.66	31	29.40	17	44	6,266	8.4	34§	n.	18
Ellendale	30.05	30.60	31	29.56	18	56	8,846	11.9	37§	nw.	18
Grand Forks	30.02	30.60	31	29.43	18	90	....	.....	35	s.	8
Williston	30.07	30.72	31	29.54	11	48	4,938	6.6	28§	w.	26
Moorhead, Minn	30.05	30.63	31	29.38	18	58	5,726	7.7	25§	nw.	26
Av'ges and extremes	30.04	30.72	31	29.38	18	.....	....	8.4	37§	nw.	18

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	124.1	265.8	47	− 2	85	68	75	38	26
Devils Lake	122.6	262.1	47	+ 2	87	82	85	55	27
Ellendale	172.2	269.6	64	− 1	87	72	....	36	27
Grand Forks	......	......	......	......	82	....	77	......	....
Williston	144.3	262.1	55	+ 5	81	71	78	56	4
Moorhead, Minn	134.7	265.8	51	+ 2	87	72	83	47	5
Averages and extremes	139.6	265.1	53	+ 1	85	73	80	36	27

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891...	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892...	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893...	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894...	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895...	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896...	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897...	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898...	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	nw.
1899...	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900...	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901...	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902...	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903...	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904...	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905...	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906...	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907...	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908...	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909...	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910...	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911...	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912...	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913...	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914...	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915...	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916...	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917...	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918...	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919...	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920...	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921...	16.5	+3.5	59	−33	0.41	−0.13	4	14	7	10	nw.
1922...	8.5	−4.5	55	−34	0.67	+0.13	5	11	8	12	nw.
1923...	22.2	+9.2	62	−36	0.32	−0.22	3	16	8	7	nw.
1924...	2.9	−10.1	58	46	0.43	−0.11	4	12	7	12	nw.
1925...	16.5	+3.5	67	38	0.28	−0.26	3	12	8	11	nw.
1926...	9.2	3.8	55	−36	0.57	+0.03	3	14	8	9	nw.
1927...	−1.8	−14.8	43	−38	0.75	+0.21	5	14	7	10	nw.
1928...	20.7	+7.7	57	−30	0.28	−0.26	3	14	7	10	nw.

Climatological Data for December, 1928

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		2								0.08		0.05	0.8	2					H. A. Bury.
Amenia	Cass	954	32	22.3	+9.6	52	11	-20	21	41	0.38	-0.13	0.16	4.0	4	14	13	4	nw.	E. T. Carley.
Amidon	Slope		14																	F. A. Garfoot.
Arnegard (near)	McKenzie		13	21.8	+9.3	45	8†	-21	4	31	0.35	0.10	0.20	3.5	4	20	7	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	32	23.4	+10.0	51	10	-10	20	39	0.16	-0.35	0.09	3.0	3	21	0	10	nw.	H. D. Piper.
Beach	Golden Valley	2,759	22	23.6	+7.1	49	10†	-19	4	31	0.10	-0.41	0.06	T.	2				nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	35	20.0	+4.3	45	8†	18	1	39	0.10	-0.30	0.10	5.0	1	5	8	18	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	53	22.5	+7.8	48	27	-12	4	36	0.24	-0.33	0.14	2.8	8	10	10	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	36	17.6	+10.9	40	12	-29	20	37	0.23	-0.26	0.06	2.3	6	17	7	7	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	14								0.05	-0.18	0.05	0.5	1	15	5	11	nw.	M. S. Byrne.
Cando	Towner	1,488	27	19.3	+12.1	42	10	-21	20	37	0.21	-0.15	0.07	2.1	6	13	5	13	w.	A. J. Swanson.
Carson	Grant	2,500	16	23.8	+7.8	57	28	-19	4	42	0.16	--0.38	0.10	1.8	4	14	5	12	nw.	J. W. Evens.
Cavalier	Pembina										0.52		0.20	3.7	4	13	3	15	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	22								0.95	+0.38	0.40	8.5	5	10	9	12	w.	S. Friswold.
Corinth	Williams	2,180	1								0.15		0.10	1.0	2					L. S. Evenson.
Crosby	Divide	1,954	21	17.8	+5.5	42	10	-24	1	42	0.32	-0.17	0.16	4.0	2	16	10	5	nw.	John Jensen.
Devils Lake	Ramsey	1,478	31	19.0	+9.5	45	10	-17	20	32	0.31	-0.08	0.08	3.5	10	11	7	13	sw.	U. S. Weather Bureau
Dickinson	Stark	2,543	36	21.3	+4.0	57	9	-18	4	57	0.39	-0.03	0.25	3.9	6	11	10	10	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	2	19.7		42	27	-17	20	32	0.30		0.18	3.2	4	9	10	12	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	29	21.9	+1.4	45	10†	-18	4†	45	0.08	-0.48	0.08	1.0	1	11	2	18	w.	W. F. Moede.
Dunseith	Rolette	1,682	32	18.0	+9.7	40	27	21	20	26	0.23	-0.18	0.10	2.3	3	12	7	12	nw	J. G. Lamont.
Eckman	Bottineau	1,500	23	17.0	+7.4	45	23	-23	31	47	0.14	-0.48	0.10	0.8	3	3	12	16	nw.	C. E. Stroeck.
Edgeley	LaMoure	1,468	27	22.8	+6.3	49	27	14	21	41	0.30	-0.09	0.20	3.0	2	0	18	13	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	29	22.2	+5.4	51	27	10	21	32	0.39	-0.09	0.21	4.7	10	12	12	7	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	16	20.6		45	8	-17	3	37	0.14	-0.21	0.14	4.0	1	11	11	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	20																	A. O. Waug.
Fairfield	Billings		1								0.20		0.05	2.0	4	15	5	11	nw.	F. R. Hecker.
Fessenden	Wells	1,610	16	20.0	+7.8	50	10	-27	20	46	0.38	-0.35	0.13	3.8	8	16	9	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	34								0.49	-0.05	0.24	5.5	5	13	9	9	nw.	O. Enger.
Fort Yates	Sioux	1,670									0.20	-0.23	0.20	2.0	1					P. J. Jacobson.
Foxholm (near)	Ward	1,657	7	20.0		42	10	15	31	36	0.33		0.18	4.5	5	7	10	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	10								0.17		0.08	2.0	3	19	5	7	nw.	Verne King.
Fullerton	Dickey	1,439	30	22.8	+9.1	50	27	-12	20	33	0.76	0.08	0.60	7.3	5	13	8	10	nw.	F. O. Alin.
Garrison	McLean	1,901	33	22.0	+8.4	45	8†	-15	4	37	0.26	-0.31	0.26	3.0	1	20	5	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	36	21.4^a	+13.7	48^a	10	-13^a	20	33^a	0.49	-0.05	0.22	4.3	5	7	7	17	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	37	20.6	+10.0	47	10	-17	21	28	0.47	-0.16	0.11	7.4	9	6	11	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	21	21.9	+9.5	47	9†	-20	20	42	0.10	-0.45	0.10	1.0	1	13	7	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	34								0.43	-0.20	0.18	4.2	3					J. Moffatt.
Hansboro	Towner	1,597	20	18.0	+10.7	46	10	-30	20	53	0.16	-0.50	0.16	2.0	1	14	9	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	21	25.2	+9.4	57	9	-13	4	37	T	-0.34	T.	T.	0	19	6	6	nw.	C. H. Plath.
Hillsboro	Traill	901	22								0.75	-0.15	0.30	8.5	6					F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	21	16.6	+4.8	42	11†	29	4	39	0.70	-0.12	0.70	7.7	1	13	10	8	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	36	21.4	+7.8	52	10	-18	21	56	0.27	-0.48	0.10	2.5	6	13	8	10	nw.	S. Caivelage.
Lamoine	Kidder	1,936	23	19.2	+8.0	42	11	-20	20	42	0.20	-0.30	0.05	2.0	4	17	3	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	32	16.8	+9.5	41	10	-23	21	47	0.80	+0.07	0.24	10.0	5	8	19	4	sw.	R. J. Burke.
Larimore	Grand Forks	1,134	34	20.8	+10.0	50	9	20	20	25	0.54	0.00	0.30	4.5	5	13	4	14	n.	Reuben Gray.
Linton	Emmons	1,711	10	22.0	-8.0	52	27	-12	5	49	0.02	-0.38	0.02	0.2	1	21	2	8	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	24	22.0	+7.9	51	27	-17	21	38	0.00	-0.41	0.00	0.0	0	16	4	11		L. B. Walker.
McClusky	Sheridan	1,943	10	18.1		46	10	-19	5†	34	0.30					15	12	4	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	31	19.2	+8.5	45	27	-17	20	48	0.08	-0.35	0.08	1.0	1	3	18	10	ne.	N. P. Swenson.
McLeod	Ransom	1,075	16	23.4	+9.1	48	11	-16	20	50	0.13	-0.32	0.08	1.3	2	24	2	5	sw.	J. G. Carlson.
Maddock	Benson	1,604	12	20.0	+10.4	49	9	--28	20	38	0.17	-0.15	0.07	1.7	3	8	12	11	nw.	A. T. Felland.
Mandan	Morton	1,644	14	20.8	+7.7	47	27	15	4	42	0.17	-0.28	0.09	3.8	5	13	2	16	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	25								0.44	-0.32	0.12	5.8	7					P. B. Anderson.
Marmarth	Slope	2,714	19	22.5	+1.8	51	9†	-20	4	38	0.03	-0.31	0.03	0.7	1	12	8	11		Wm. N. Thompson.
Mary	McKenzie		1								0.30		0.20	3.0	2	18	4	9	nw.	Fred Hartman.
Mayville	Traill	975	32	24.4	+11.3	47	10†	-18	20	39	0.30	-0.18	0.16	5.0	4	15	5	11	nw.	N. C. Burhans.
Melville	Foster	1,590	30	15.4	+3.6	41	11	-21	20	30	0.09	-0.46	0.00	0.0	1	30	0	1	nw.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		3								0.35		0.25	5.0	3	18	5	8	nw.	J. A. Thorburn.
Michigan	Nelson	1,518	1								0.32		0.12	2.0	4					Arnold Johnson.
Minot	Ward	1,557	32	20.8	+8.4	46	10	-15	20	38	0.10	-0.41	0.08	1.5	2	12	5	14	w.	W. I. Faris.
Minto	Walsh	820	35																	C. M. Evans.
Mott	Hettinger	2,424	21	19.6	+5.5	44	11	-16	31	33	0.05	0.53	0.05	0.5	1	9	12	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	36	21.8	+9.4	51	10	20	20	38	0.30	-0.18	0.20	3.0	2	17	4	10	w.	C. J. Hoof.
New England	Hettinger	2,400	37																	E. J. Freeman.
New Salem	Morton	2,163	24	22.8	+7.9	52	26	-18	4	40	0.30	-0.23	0.30	3.0	1	18	8	7	nw.	J. Christiansen.
Park River	Walsh	998	24	20.4^b	+9.3	50^b	12	-15^b	20	38^b	0.51	-0.02	0.18	8.6	6	10	9	12	nw.	C. B. Wright.
Parshall (near)	Mountrail		13								0.06	-0.33	0.05	0.5	2	22	4	5	nw.	John A. Johnson.
Pembina	Pembina	789	54	19.6	+13.6	40	8†	-18	20†	36	0.80	+0.64	0.48	10.0	2	19	9	3	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	19	20.7	+10.3	47	10	-20	20	30	0.05	-0.63	0.02	0.5	3	12	5	14	nw.	A. L. Carlson.
Power	Richland	1,020	34								0.94	+0.40	0.40	11.0	7	16	5	10	n.	Frank B. Power.
Powers Lake	Burke	2,205	14	22.8		50	25	-16	4	28	0.25	-0.38	0.09	4.4	3	20	9	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	12	22.5	+8.6	52	9	-15	4	31	T.	-0.38	T.	T.	0	16	10	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1								0.24		0.16	3.0	2	8	19	13	nw.	E. C. Erickson.
Ryder	Ward	2,108	1								0.08		0.04	1.0	2					E. M. Lomen.
Sharon	Steele	1,516	3	19.9		49	10	-17	20	31	0.30		0.09	3.1	7	13	7	11	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	4								0.30		0.20	5.0	1	15	4	12	nw.	I. H. Giffey.
Starkweather	Ramsey		1																	Geo. Rollofson.
Steele	Kidder	1,857	32	19.2	+5.6	50	9	-20	20	35	0.38	--0.15	0.08	4.8	7	14	10	7	nw.	C. D. Stiles.
Stowers‡‡	Adams		13								T.	0.54	T.	T.	0	23	4	4	w.	Chas. E. Stowers.
Tagus	Mountrail	2,179	1								0.06		0.05	0.5	2	16	6	9	sw.	J. C. Abbott.
Tioga											0.10		0.10	2.0	1					B. Bagley.
Towner	McHenry	1,482	26	16.5	+6.5	42	9†	-26	20†	41	0.20	-0.21	0.20	2.0	1	15	12	4	nw.	A. J. Nellermoe
Trotters	Golden Valley		3								0.12		0.08	2.0	2	14	3	14		A. T. Anderson.
Turtle Lake	McLean	1,899	13	19.9	+8.6	43	10†	-15	4	34	0.70	+0.14	0.40	7.0	4	4	10	17	nw.	L. C. Robertson.
Valley City	Barnes	1,245	23	23.9	+10.2	46	24†	16	20	55	0.21	-0.34	0.07	2.5	5	19	4	8	nw.	Oscar Anderson.
Velva	McHenry	1,511	2	19.8		47	10	-18	3	43	0.30		0.15	3.5	7	2	17	12	w.	W. C. Taylor.
Verona	LaMoure	1,387	34								0.06		0.06	0.6	1	19	5	7	sw.	C. G. Luick.
Wahpeton	Richland	962		24.6	+9.9	49	27	-17	21	44	0.48	+0.03	0.32	6.0	3	19	0	12	nw.	Karl Klein.
Washburn	McLean	1,731	26								0.31	-0.03	0.24	0.3	3					W. A. Meddaugh.
Westhope	Bottineau	1,508	26	20.0	+11.0	44	23	-20	31	42	T.	-0.37	T.	T.	0	15	9	7	nw.	U. S. Weather Bureau.
Williston	Williams	1,878	49	19.8	+6.0	44	10	-21	4	31	0.56	-0.02	0.43	5.6	5	12	8	11	w.	M. A. Osthy.
Willow City	Bottineau	1,471	40	18.1	+9.6	45	10	-28	20	40	0.38	-0.16	0.15	3.8	5	11	10	10	w.	L. Q. Perkins.
Wilton	McLean		1	21.0		49	10	-13	3	43	0.20		0.10	2.0	3	19	6	12		U. S. Weather Bureau
Moorhead, Minn.	Clay	935	47	22.1	+10.6	46	10	-15	21	30	0.44	-0.28	0.19	5.2	8	10	9	12	s.	
Averages				20.7	+7.7	57	9†	-30	20	57	0.28	-0.26	0.70	3.2	3	14	7	16	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for December, 1928

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri	T.	.03	.05																											T.	T.	0.08
Amenia ‖	Red		T.		T.		T.								.06					.08	T.										.08	.16	0.38
Amidon	Lit. Missouri																																
Arnegard (near)	Missouri		.05	.20																.05	.05												0.35
Ashley	Missouri		.05												.09						.02												0.16
Beach	Lit. Missouri	.04	.06																												T.	T.	0.10
Berthold Agency	Missouri		.10				T.									T.				T.											T.	T.	0.10
Bismarck ***	Missouri		.14	.01			T.								.01	T.		.02	.01	.02	.02										.01		0.24
Bottineau ‖	Mouse		.03	T.			.03									.03			.06	.04											.04		0.23
Bowman	Grand		.05																T.	T.											T.	T.	0.05
Cando	Devils Lake	.03			.02		.02	T.						T.		.07		T.	.03	T.											.04		0.21
Carson	Heart		.10																.02		.02										T.	.02	0.16
Cavalier	Red														.01	.14			.17												.20		0.52
Cooperstown	Sheyenne		T.				.20								.10	T.		.20		.05											.40		0.95
Corinth	Missouri							.10												.05													0.15
Crosby	Mouse			.16	T.													T.			T.	.16											0.32
Devils Lake ***	Devils Lake	.02	.01	T.	T.	.03	.01							T.	.08	T.	.01	.03	.05	.01		T.									.06		0.31
Dickinson ‖	Heart		.06	.04	.02														.01		.25								.01				0.39
Dogden Butte	Mouse		.18	T.			.03								T.			T.	T.	T.	.04		T.								T.	.05	0.30
Dunn Center ‖	Knife		.08																T.		T.												0.08
Dunseith	Mouse		.05	T.			.08									.10															T.		0.23
Eckman	Mouse		.10	T.			T.															.02									.02		0.14
Edgeley	James		.20															T.	T.	T.	T.	.10											0.30
Ellendale***	James	.01	.17				T.	T.						.01	.02	.01	T.	.01	.01	.02	.06	T.									.04		0.39
Energy	Missouri		.14				T.													T.	T.												0.14
Epping	Missouri																																
Fairfield	Knife	.05	.05	.05																	.05												0.20
Fessenden ‖	James		.02		.03											.02	.04			.13	.02										.07	.05	0.38
Forman	Sheyenne			.24												.05			T.	.08	.08											.04	0.49
Fort Yates	Missouri	.20																															0.20
Foxholm (near)	Mouse		.18	T.	T.		.02									T.	T.	T.	T.	.01	.10	T.									.02	T.	0.33
Fryburg	Heart	T.	.08	.04	T.	T.												.05	T.														0.17
Fullerton	James	T.	.64				T.	T.						T.	.03	T.	T.		T.	.05	.04										.04		0.76
Garrison	Missouri		.26																		T.												0.26
Grafton	Red	T.	T.		T.		.05								.22		.07	T.	.07	T.			T.									.08	0.49
Grand Forks ***	Red	T.	.02		T.		.07							T.	.05	.02	.02	T.	.10	.02			.06						T.		.11		0.47
Granville	Mouse		.10				T.								T.		T.	T.	T.	T.											T.		0.10
Hannah	Pembina		T.		.10	T.									T.	T.			.15	T.											.18		0.43
Hansboro	Devils Lake		T.				T.	T.								T.																.16	0.16
Hettinger	Grand		T.	T.															T.	T.											T.		T.
Hillsboro	Red	.30	.16	.05														T.	.01	.03											.20		0.75
Howard (near)	Missouri	T.	.70															T.													T.		0.70
Jamestown ‖	James	.08												.03	T.			.02		.02	.02							T.			.10		0.27
Lamoine	Missouri		.05												T.		.05		T.	.05	.05											T.	0.20
Langdon ‖	Pembina				.08		.08									.24			.24												.16		0.80
Larimore	Red		.02				.02								.10				.10												.30		0.54
Linton	Missouri		.02														T.		T.	T.	T.										T.		0.02
Lisbon ‖	Sheyenne																																0.60
McClusky	Missouri																																0.30
McKinney (near)	Mouse		.08				T.								T.																T.		0.08
McLeod	Sheyenne		.08																.05														0.13
Maddock	Sheyenne		T.		T.		T.	T.							T.	.07	T.	T.	.06	T.											.04		0.17
Mandan ‖	Missouri		.09	.03	.02										T.		T.	T.	T.	T.	.02	.01											0.17
Manfred	James		.08		.02		T.								T.		.02	T.	.12	.08	T.	.02									.10		0.44
Marmarth	Lit. Missouri	T.														T.			.03														0.03
Mary	Lit. Missouri	T.	T.																	.20	T.										.10		0.30
Mayville	Red							.08											.08												.16	.08	0.40
Melville	James																																0.60
Metigoshe	Mouse						.10												*	.25													0.35
Michigan	Red		.01												.12		T.	.10	T.												.09		0.32
Minot ‖	Mouse		.08	.02			T.			T.					T.		T.			T.	T.										T.		0.10
Minto	Red																																
Mott	Cannon Ball				T.																		*		.05								0.05
Napoleon ‖	Missouri		.20				T.										T.		T.		.10											T.	0.30
New England	Cannon Ball																																
New Salem	Heart		.30											T.					T.	T.											T.		0.30
Park River	Red			.01			.02									.18	.06		.16												.08		0.51
Parshall (near)	Missouri	.05																			.01												0.06
Pembina ‖	Red													.32																.48			0.80
Pettibone	James		T.	T.	T.		T.	T.							.02		T.		T.	.01	.02											T.	0.05
Power	Sheyenne		.40											.02	.04				.16	.08											.16	.08	0.94
Powers Lake	Missouri		.09	.08																		.08											0.25
Richardton	Heart																														T.	T.	T.
Rugby [near]	Mouse	T.					T.								T.		T.	T.	.08												.16		0.24
Ryder	Missouri		.04																													.04	0.08
Sharon	Red		.02		T.		.02	T.	T.					.01	.07	T.	T.	T.	.07	.02			T.						T.		.09		0.30
Stanton	Missouri		.30				T.														T.	T.									T.		0.30
Starkweather	Devils Lake																																
Steele	Missouri		.04	.02	T.			T.						T.	T.		.04	T.	.04	.08	.08	.08									T.	T.	0.38
Stowers	Cannon Ball													T.		T.	T.		T.	T.											T.	T.	T.
Tagus	Mouse	.05																			.01												0.06
Tioga			.10								T.																						0.10
Towner	Mouse		.20												T.	T.			T.	T.	T.												0.20
Trotters	Lit. Missouri	.08	.04	T.															T.	T.									T.	T.			0.12
Turtle Lake	Missouri		.40																	.15	.05	.10											0.70
Valley City	Sheyenne	T.	.02															.07	.02	T.											.07	.03	0.21
Velva	Mouse	T.	.15	T.	T.		T.							T.	T.		T.	.01	.01	.02	.01	T.									.07	.03	0.30
Verona	James		.06																T.	T.											T.		0.06
Wahpeton	Red		.32																.08		.08												0.48
Washburn	Missouri		.24													T.			.05		.02										T.		0.31
Westhope	Mouse																														T.		T.
Williston ***	Missouri	.31	.15	.06											T.	T.		T.	.01	.03											T.		0.56
Willow City	Mouse		.10	T.	.03		T.	T.							T.	T.	T.	T.	.05	.05											.15		0.38
Wilton			.10	.05															T.	.05													0.20
Moorhead, Minn ***	Red		T.	T.			.04	T.						T.	.03	.01	.01	.05	.14	.04		T.	T.						T.		.12		0.44

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December, 1928

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	36	38	15	13	22	30	38	48	47	49	52	40	38	39	37	34	32	32	32	1	18	26	40	46	42	41	47	28	41	21	3	33.1
	Minimum	13	15	2	3	-5	0	12	12	15	16	11	19	18	32	36	34	15	14	-5	-17	-20	0	12	14	17	22	17	19	13	17	-13	11.5
Amidon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Arnegard	Maximum	40	34	25	3	26	26	32	45	42	45	38	37	36	28	25	25	33	30	19	19	34	37	43	39	44	36	40	34	32	32	3	31.7
	Minimum	21	12	-8	-21	3	17	1	24	20	24	17	15	11	10	21	13	7	3	2	3	0	19	22	19	18	19	15	17	10	12	-7	12.0
Ashley	Maximum	43	30	15	6	19	28	29	41	50	51	47	43	32	35	34	31	26	32	22	22	20	37	38	42	45	41	48	44	34	39	31	34.0
	Minimum	15	15	-4	-7	-7	9	19	15	18	22	17	18	14	28	21	22	13	11	4	-16	3	14	18	23	20	31	20	25	9	19	-8	13.0
Beach	Maximum	35	32	36	12	26	24	34	40	46	49	42	43	41	29	30	38	30	38	24	32	40	42	45	46	49	40	46	30	32	35	12	31.6
	Minimum	20	14	12	-19	6	8	20	28	28	22	20	18	16	19	20	11	4	10	2	8	23	21	24	22	23	25	26	14	23	12	2	15.5
Berthold Agency	Maximum	33	30	25	5	22	30	30	45	45	42	35	35	28	34	35	35	39	30	25	18	39	30	28	30	36	40	45	37	34	30	8	31.5
	Minimum	10	5	-14	-18	-6	12	2	14	15	18	15	18	5	26	24	16	10	2	-17	-1	10	6	12	20	24	23	18	18	8	7	-11	8.6
Bismarck	Maximum	38	26	9	3	24	28	29	47	46	47	41	38	32	34	31	30	35	34	26	10	31	40	44	42	42	42	48	35	34	36	7	32.5
	Minimum	13	-2	-7	-12	3	22	20	20	16	22	20	16	8	28	24	22	13	1	0	-6	-5	20	19	25	25	26	22	22	12	7	-8	12.5
Bottineau §§	Maximum	35	25	17	9	10	25	24	39	35	38	36	40	33	34	34	26	24	29	15	8	20	33	35	38	31	37	39	35	25	24	15	28.0
	Minimum	9	8	-9	-15	-15	5	12	12	10	15	20	11	16	29	24	13	6	7	-13	29	-8	4	11	9	12	22	11	17	6	8	-20	7.2
Cando	Maximum	35	29	29	-1	10	23	24	38	40	42	39	37	33	35	35	34	34	32	12	4	18	26	31	38	39	38	39	38	25	27	23	29.2
	Minimum	11	13	-8	-12	-11	6	13	18	14	15	16	16	13	30	29	22	8	8	6	-21	-13	-11	14	10	19	29	17	18	7	12	15	9.4
Carson	Maximum	36	32	20	10	25	30	30	52	55	50	44	42	36	35	44	34	32	44	25	15	35	40	39	44	44	56	50	57	32	40	20	37.0
	Minimum	16	5	-3	-19	-5	13	7	18	24	20	18	14	16	18	16	17	9	2	-6	-2	-4	20	20	19	22	28	20	18	5	10	-9	10.5
Crosby §§	Maximum	18	18	5	18	26	31	36	40	38	42	40	31	36	32	24	26	34	18	20	13	29	32	38	41	41	38	30	22	22	22	4	27.9
	Minimum	9	9	6	-24	5	0	0	5	16	16	18	16	11	19	20	18	8	9	1	-8	-3	9	18	14	24	27	21	4	10	-10	-14	7.8
Devils Lake	Maximum	28	19	5	2	17	24	22	40	44	45	42	36	33	34	34	26	29	30	12	-4	20	33	36	40	34	37	42	32	28	23	1	27.2
	Minimum	11	3	-3	-7	-3	13	14	21	21	24	21	19	14	32	25	18	12	-2	-6	-17	-11	19	19	22	21	24	20	22	10	-3	-14	10.9
Dickinson §§	Maximum	35	13	15	16	28	27	35	55	57	53	39	41	36	30	27	30	34	23	24	29	34	40	47	44	45	42	49	29	34	32	10	34.0
	Minimum	8	9	0	-18	-17	9	-3	-2	13	15	10	14	10	15	20	18	9	8	1	11	2	12	19	20	18	21	14	18	3	6	3	8.6
Dunn Center §§	Maximum	32	14	14	15	27	27	32	43	42	45	38	42	31	31	27	27	35	25	25	18	33	40	45	43	40	40	45	33	33	21	10	31.4
	Minimum	5	8	-13	-18	-18	14	-13	16	22	20	14	22	9	15	24	22	14	15	9	9	4	22	25	29	25	31	27	28	21	21	4	12.4
Dunseith	Maximum	32	24	11	6	13	24	22	36	38	38	31	39	32	34	32	28	26	24	15	4	19	36	35	39	35	39	40	38	23	23	7	27.3
	Minimum	15	3	-10	-12	-10	5	13	15	16	31	18	19	18	19	18	15	9	0	11	-21	10	14	10	22	16	17	18	17	11	0	-15	8.7
Edgeley	Maximum	42	29	13	17	18	28	39	40	45	47	42	40	33	36	35	32	26	32	23	21	21	35	39	44	40	41	49	35	32	39	30	33.6
	Minimum	11	11	-3	-7	-10	5	10	14	23	26	17	25	16	31	26	21	16	12	4	-12	14	14	21	25	15	19	23	21	11	19	-11	12.0
Ellendale	Maximum	42	27	10	6	20	28	28	39	41	42	43	40	31	36	34	33	33	34	23	4	22	38	38	44	44	42	51	34	33	38	10	32.0
	Minimum	20	9	-1	-9	7	15	19	12	15	18	14	23	19	33	25	24	18	3	0	-6	10	11	23	18	17	27	20	21	13	10	-9	12.4
Fessenden §§	Maximum	35	18	7	4	25	30	33	48	48	50	43	40	33	36	30	30	33	20	20	6	27	40	41	44	42	44	32	31	32	32	2	30.8
	Minimum	10	14	3	-9	-11	1	19	21	17	22	15	18	13	17	27	23	16	13	-8	27	19	4	14	14	22	21	26	5	15	10	-17	9.1
Foxholm (near)	Maximum	33	26	5	5	20	26	26	41	40	42	38	36	33	35	31	25	25	32	19	10	27	37	40	40	39	39	41	34	25	26	9	29.3
	Minimum	11	4	9	-14	-9	19	10	20	22	22	14	21	6	25	22	16	6	6	-1	14	-9	23	20	29	22	29	22	19	6	7	-15	10.6
Fullerton	Maximum	39	25	17	6	18	29	28	36	40	42	42	39	35	37	36	32	27	31	22	7	21	37	37	42	41	42	50	40	32	36	22	32.0
	Minimum	18	17	1	-4	7	12	17	16	17	18	17	23	18	33	28	27	17	10	1	12	-10	10	23	18	18	29	20	22	12	25	-9	13.7
Garrison	Maximum	33	25	10	6	24	29	27	45	39	44	36	40	32	36	34	35	34	32	25	13	32	38	43	42	37	37	45	38	32	29	11	31.7
	Minimum	11	7	-11	-15	-4	19	11	21	21	21	17	18	19	26	24	18	21	4	0	-9	-5	20	20	24	25	24	22	20	8	11	-11	12.2
Grafton	Maximum	35	26	16	10	10	16	17	43	43	48	42	40	36	36	37	35	27	29	10	2	14	34	35	42	37	39	42	38	27	....	22	[a]29.6
	Minimum	19	10	0	-1	-6	5	11	15	18	25	13	23	18	33	32	24	13	9	-1	-13	-12	1	25	22	16	27	21	21	19	....	12	[a]13.3
Grand Forks	Maximum	30	26	10	10	11	17	22	43	43	47	45	40	38	38	37	31	23	30	12	2	11	34	39	41	38	38	43	34	27	24	0	28.5
	Minimum	17	10	0	0	-1	11	13	22	20	20	22	22	17	34	31	21	14	2	-7	-15	-17	10	27	20	17	28	21	22	20	2	-11	12.6
Granville	Maximum	35	19	19	10	30	30	30	45	47	46	40	42	35	38	35	30	28	35	30	22	30	38	45	45	40	35	47	36	34	28	10	33.4
	Minimum	18	-8	17	-18	10	17	18	25	20	18	15	17	18	30	24	18	8	-3	-7	-20	-12	21	18	20	22	20	20	18	20	10	-18	10.4
Hansboro	Maximum	35	25	18	10	10	30	36	40	40	46	40	37	35	35	35	30	28	30	22	23	14	35	38	38	33	35	40	35	28	21	0	29.7
	Minimum	15	3	-10	-18	-15	-2	10	15	15	20	7	15	15	26	25	15	8	10	8	-30	-22	10	4	15	10	24	10	18	12	0	-23	6.3
Hettinger	Maximum	39	32	14	12	29	37	34	50	57	53	43	44	40	33	29	32	31	29	25	36	37	45	49	48	45	44	53	35	34	32	18	36.7
	Minimum	10	12	0	-13	5	2	8	23	20	21	13	18	11	23	18	20	11	8	3	11	19	22	21	25	20	23	21	20	8	17	4	13.7
Hillsboro	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Howard (near)	Maximum	32	14	10	-5	17	25	22	22	37	36	42	32	32	30	28	25	22	23	32	29	27	35	35	46	39	35	42	38	32	28	5	27.8
	Minimum	11	4	-6	-19	22	12	-9	12	14	15	16	15	12	10	9	4	0	8	2	-4	4	17	17	18	20	20	25	15	5	5	-18	5.5
Jamestown §§	Maximum	39	23	10	9	25	26	28	46	51	52	43	39	37	35	32	35	32	21	12	28	38	40	42	40	40	43	31	31	34	24	9	32.1
	Minimum	14	14	-1	-2	8	1	17	16	21	20	21	19	16	22	31	22	16	15	6	-14	-18	-7	20	18	20	21	20	21	10	9	-14	10.8
Lamoine	Maximum	38	32	15	7	27	28	26	30	36	40	42	38	33	35	37	26	27	32	22	11	32	34	35	40	41	40	42	35	30	23	11	30.5
	Minimum	10	10	-10	-15	-15	-8	10	15	20	24	18	18	12	28	22	20	10	6	-8	-20	-10	10	15	15	15	25	16	21	3	5	-15	8.0
Langdon §§	Maximum	25	16	7	8	20	17	25	37	39	41	36	35	32	35	32	25	27	20	10	5	24	32	32	39	34	35	40	25	24	20	15	26.2
	Minimum	12	6	-3	-9	-9	7	5	9	14	14	17	17	12	16	25	20	10	10	-5	-22	-23	4	16	21	15	25	14	20	20	15	-18	7.5
Larimore §§	Maximum	23	11	11	10	10	21	25	44	50	48	43	37	34	35	35	32	30	28	12	0	14	[illegible]	37	40	37	38	40	26	28	23	2	27.7
	Minimum	15	10	-3	-5	-2	2	13	23	26	28	18	20	20	31	32	25	13	15	-5	-20	-11	14	25	27	25	23	20	20	20	18	-13	14.0
Linton	Maximum	40	33	13	4	22	29	30	42	43	47	45	41	33	35	35	33	29	34	30	15	30	40	44	45	44	43	52	38	35	41	26	34.5
	Minimum	8	12	-7	-11	-12	6	20	8	8	22	10	12	10	30	21	21	14	3	-4	-8	6	7	12	13	19	27	12	20	4	20	-6	9.6
Lisbon §§	Maximum	40	30	19	10	21	28	35	30	45	48	50	43	35	38	35	35	34	32	22	5	20	26	40	45	48	44	51	40	35	40	18	33.6
	Minimum	10	11	1	-4	9	1	11	15	11	12	14	15	21	26	29	21	16	15	2	-13	17	5	11	20	14	25	13	19	12	11	-12	10.5
McClusky	Maximum	35	12	11	26	5	26	26	41	45	46	38	44	33	34	34	30	28	32	24	12	22	32	40	42	37	36	35	31	36	30	8	30.0
	Minimum	5	-4	-16	-2	-19	11	16	18	8	17	17	14	8	29	19	16	5	-2	-10	-19	-10	12	10	18	16	23	14	0	13	0	-16	6.2
McKinney (near)	Maximum	28	25	8	5	23	27	27	42	44	44	40	36	30	35	33	25	27	27	22	8	36	37	42	37	40	36	45	35	23	25	15	29.9
	Minimum	5	-6	-12	-15	-10	22	-1	24	16	29	8	15	2	28	23	17	9	4	6	-17	-12	22	20	23	18	12	20	18	11	8	-16	8.5
Maddock	Maximum	34	28	15	7	10	26	26	44	49	46	42	41	36	35	31	34	25	32	32	9	19	35	38	37	36	44	42	37	37	25	18	31.4
	Minimum	5	8	-4	-10	-10	3	15	19	15	20	13	17	9	30	26	20	11	7	8	-28	-17	13	16	25	12	28	18	19	2	15	-20	8.7
Melville	Maximum	28	21	24	10	9	16	31	29	34	39	41	37	39	34	40	33	35	28	11	1	17	31	34	30	38	29	32	24	14	12	10	26.2
	Minimum	5	-4	-6	-6	-5	-3	7	11	15	18	21	18	12	14	17	9	12	7	-12	-21	-6	4	16	14	17	8	12	6	-6	-17	-15	4.6
Minot §§	Maximum	37	28	6	5	17	28	27	43	43	46	41	39	31	35	36	27	28	34	20	12	29	39	42	41	42	41	43	39	30	29	10	31.2
	Minimum	6	3	-14	-14	-9	15	11	24	19	20	18	19	7	28	24	19	7	5	-1	15	9	24	21	22	24	27	20	21	6	9	-12	10.5
Mott	Maximum	38	37	35	15	24	28	32	35	37	43	44	42	33	33	31	26	24	21	24	24	33	30	21	24	30	34	38	30	32	26	12	30.2
	Minimum	16	13	2	-13	-2	13	20	23	26	11	15	13	10	15	13	16	8	11	6	7	12	8	6	7	9	10	12	8	3	-6	-16	8.9
Napoleon §§	Maximum	41	20	10	5	25	28	27	40	44	51	44	40	34	36	28	30	34	27	21	10	25	32	40	42	40	41	48	30	36	37	11	31.5
	Minimum	11	18	-8	-11	-13	14	18	18	15	20	21	19	12	25	22	20	12	23	10	20	-3	15	16	23	25	26	20	25	8	25	-11	12.1
New Salem	Maximum	40	34	10	7	20	28	25	47	48	47	38	40	30	33	34	31	30	24	22	17	35	39	50	45	44	52	50	39	35	34	22	33.9
	Minimum	14	10	-10	-18	-9	15	10	22	21	23	14	18	10	24	21	20	10	10	-2	-2	-5	21	21	21	20	27	21	21	10	10	-9	11.6
Pembina §§	Maximum	30	20	3	10	5	16	12	40	40	40	32	30	28	30	30	28	24	20	15	0	18	28	38	38	30	28	28	24	30	30	24	24.8
	Minimum	14	10	0	0	-5	10	8	20	24	32	24	24	20	28	24	20	20	14	2	-18	-18	20	20	24	28	24	22	16	20	24	-5	14.4
Steele	Maximum	35	29	12	10	20	24	28	45	50	48	40	45	35	35	27	24	28	18	20	6	20	28	40	40	40	40	45	30	31	27	5	29.8
	Minimum	10	9	-10	-13	-6	0	6	10	14	14	15	20	25	20	24	19	20	10	-10	-20	-3	9	20	19	20	22	12	18	4	0	-14	8.5
Towner	Maximum	33	30	10	8	25	30	32	40	42	42	38	30	26	28	32	30	28	35	30	15	25	30	35	40	38	41	42	35	25	10	10	29.5
	Minimum	8	4	-20	-17	-16	10	8	18	12	10	10	15	12	10	16	8	8	-3	-7	-26	-15	3	10	18	24	20	18	10	8	-26	-22	3.5
Valley City	Maximum	35	26	17	16	16	25	27	43	45	44	45	42	35	37	37	31	29	34	20	16	41	37	41	46	46	43	51	45	35	36	32	34.6
	Minimum	15	16	0	2	-4	4	18	17	21	20	19	21	20	33	29	24	16	14	-4	-16	-14	12	22	24	24	15	19	25	14	16	-12	13.2
Wahpeton	Maximum	43	42	28	14	19	28	24	34	41	43	42	44	40	40	41	40	36	36	21	21	11	38	38	44	42	48	49	46	34	34	34	35.2
	Minimum	15	24	6	-9	-8	-2	6	19	17	19	25	36	29	25	34	26	16	13	-3	-14	-17	8	26	20	23	30	21	25	17	22	-10	14.1
Westhope	Maximum	30	39	30	13	18	28	26	41	36	42	34	33	32	35	32	27	32	28	28	23	28	36	44	42	35	36	42	30	26	22	16	31.1
	Minimum	7	-3	13	-16	13	10	10	17	12	20	17	16	16	32	22	23	6	-4	-5	-19	-5	9	16	17	18	24	19	19	12	2	-20	8.8
Williston	Maximum	33	22	7	7	28	27	28	40	40	44	36	31	31	29	26	25	33	31	24	20	34	36	42	39	41	36	46	31	33	30	4	29.9
	Minimum	12	-5	-12	-21	2	10	2	21	18	17	19	5	4	22	22	8	6	2	12	3	3	22	20	21	24	23	25	16	10	1	-10	9.7
Moorhead, Minn	Maximum	35	28	15	12	16	23	23	36	40	46	45	42	38	40	37	33	25	32	16	-2	11	36	40	42	41	41	46	40	30	28	8	30.4
	Minimum	19	15	4	1	-3	11	16	20	16	18	25	25	23	35	29	25	15	2	-7	-13	-15	7	25	24	22	29	21	22	20	8	-10	13.8

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 1-28-29—1000]

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UNNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

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Vol. XXXVII Bismarck, N. D., Annual, 1928 No. 13

GENERAL SUMMARY

The moisture content of the soil in the spring of 1928 was generally ample for germination of grains, due to the excess of precipitation during the fall of 1927. During the first five months of 1928, however, there was a general deficiency, averaging nearly three inches. At the close of May grains of all kinds were up to good stand and color, but both grain and pastures were in need of moisture. June opened dry and cool, with freezing temperatures quite common on the 2d and 3d and again on the 9th and 10th. The long continued drought was broken on the 4th of June, and thereafter there was an excess of moisture during June, July and August, bringing the average for the year to considerably above normal. Crop results in North Dakota were favorable from a yield standpoint, but considerable dissatisfaction was expressed over the low prices which prevailed.

The mean annual temperature for the State was 41.1°, or 2.3° above the normal, and 3.1° higher than the mean for 1927. The highest mean annual temperature reported was 44.3° at Wahpeton, Richland County; the lowest was 37.5° at Langdon, Cavalier County. The highest monthly mean temperature reported was 74.8° at Melville, Foster County in July; the lowest was 4.4° at Langdon, Cavalier County in January. The highest temperature reported was 107° at Berthold Agency, McLean County, on May 24th; the lowest was −41° at Marmarth, Slope County on January 1st, and at Linton, Emmons County, on January 2d.

The average annual precipitation for the State was 18.40 inches, or 0.46 inch above the normal, and 3.12 inches less than the average for 1927. The greatest annual precipitation reported was 30.38 inches at Edgeley, LaMoure County; the least was 10.70 inches at Howard, Williams County. The greatest monthly amount reported was 12.22 inches at Berthold Agency, McLean County, in July; there was none at several stations in January, February, March, October, November and December. The precipitation averaged above the normal in June, July and August; and below the normal during the remaining months. The average snowfall for the State was 17.3 inches. The average number of days with 0.01 inch or more of precipitation was 59. There were 177 clear days, 101 partly cloudy days and 88 cloudy days. The prevailing wind was northwest.

THE WEATHER BY MONTHS.

January.—The month opened with unusually low temperature, accompanied generally by high winds. Accumulated snow drifted badly and greatly interfered with railway and highway traffic. Higher temperature followed and only light precipitation occurred. During the latter part of the month livestock ranged freely on pastures, ranges and harvested fields.

February.—Mild temperature and deficient precipitation characterized the weather of the month. Unusually high temperature for February prevailed in all parts of the State. The average precipitation was the lowest for February ever recorded in the climatological history of the State, being equalled but once (1913).

March.—The weather during the month was mild and pleasant, and there was a deficiency in precipitation. As a result of these favorable conditions livestock ranged freely, and little yard feeding was necessary. Spring work on farms consisted mostly in burning and otherwise clearing land for seeding. Winter rye generally came through in good condition, only a few reports of winter killing being received.

April.—Frozen ground caused by temperatures below normal at the opening of the month delayed farm work during much of the first and second decades. More favorable conditions prevailed during the third decade, but at the end of the month spring work on farms was somewhat backward. Pastures and ranges were also backward, affording little feed for livestock.

May.—Weather favorable for farm work prevailed, although but little precipitation occurred during the first twelve days. As a result of the dry conditions, grain was slow in germinating. Showers were general from the 13th to the 17th, greatly improving conditions, although at the close of the month both crops and pastures were in serious condition from lack of moisture.

June.—The month opened with cool and dry weather. The temperature was generally below freezing on the 2-3d and again on the 9-10th. The drought that prevailed at the close of May continued until the 4th, when general rains began and ample precipitation continued to the close of the month. During all preceding months of 1928 the precipitation was below the normal, June being the first month to show an excess. By the close of the month crops were in good condition, and pastures ranges and meadows were nearly normal.

July.—Weather favorable for crops prevailed in all sections throughout the month. The average precipitation for the State was the highest of record for July. The heavy perecipitation during July, following the generous rains in June, caused crops to show rapid growth, and at the close of the month crop prospects were excellent. A destructive tornado in the northeast part of the State caused considerable damage. Several severe wind and hail storms were reported in other sections of the State.

[Continued on page 53]

Climatological Data for the Year 1928

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number rainy days	Sky			Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall		Number clear days	Number partly cloudy days	Number cloudy days	
Alpha	Golden Valley	...	...	...	...	...	...	...	3	13.16	5.26	June	0.03	Jan.	...	68	...	...	...	...
Amenia	Cass	954	33	41.2	97	Aug. 14	−26	Jan. 2	33	24.48	5.45	Aug.	T.	Jan. †	18.0	58	201	121	44	n.
Amidon	Slope	...	12	...	100	Aug. 11	...	...	16	...	...	...	...	...	...	...	...	...	...	...
Arnegard	McKenzie	...	16	41.8	104	Aug. 11	−36	Jan. 1	14	15.06	4.92	July	T.	Nov.	13.0	55	258	46	62	nw.
Ashley	McIntosh	2,001	33	43.0	98	Aug. 12	−29	Jan. 2	33	23.98	8.15	July	0.10	Feb.	14.5	59	232	54	80	nw.
Beach	Golden Valley	2,579	23	43.2	105	Aug. 11	−35	Jan. 1	23	13.64	4.33	June	T.	Nov.	12.4	65	190	109	67	nw.
Berthold Agency	McLean	2,082	36	42.6	107	May 24	−36	Jan. 2	36	22.92	12.22	July	T.	Nov.	14.6	45	206	43	117	nw.
Bismarck	Burleigh	1,674	54	43.2	100	Aug. 11	−34	Jan. 2	54	16.02	5.06	July	0.07	Nov.	15.7	76	152	126	88	nw.
Bottineau	Bottineau	1,638	37	38.5	96	May 23	−30	Jan. 1†	37	18.02	7.66	June	T.	Feb. †	11.1	75	191	96	79	nw.
Bowman	Bowman	2,961	14	...	...	...	...	...	15	16.09	5.35	June	0.05	Dec.	18.1	59	174	77	115	nw.
Cando	Towner	1,488	28	39.7	96	May 23	−30	Jan. 2	28	19.88	5.58	June	0.00	Oct.	50.0	58	124	133	109	nw.
Carson	Grant	2,500	17	42.9	101	Aug. 11	−35	Jan. 1†	17	15.26	3.96	June	0.10	Feb.	16.0	54	209	89	68	nw.
Cavalier	Pembina	...	...	...	...	...	...	...	1	...	5.77	June	...	...	...	...	...	...	...	n.
Cooperstown	Griggs	1,428	...	...	...	...	...	...	23	21.21	4.74	June	0.00	Feb. †	33.5	49	163	107	96	nw.
Crosby	Divide	1,954	22	39.6	94	Aug. 11	−32	Jan. 1	22	11.71	5.13	July	0.00	Nov.	11.8	54	162	118	86	nw.
Devils Lake	Ramsey	1,478	32	39.3	95	Aug. 12	−25	Jan. 1	32	18.45	5.17	June	0.01	Feb.	22.0	83	157	100	109	nw.
Dickinson	Stark	2,543	37	40.9	100	Aug. 11	−35	Jan. 1	37	15.30	3.52	July	0.08	Nov.	19.8	97	181	82	103	nw.
Dogden Butte	McLean	1,880	3	40.7	92	May 23	−31	Jan. 2	3	24.24	7.85	July	T.	Feb. †	11.9	58	174	100	92	nw.
Dunn Center	Dunn	2,191	30	40.8	100	Aug. 11	−39	Jan. 2	30	16.79	6.34	July	T.	Nov.	8.0	57	158	71	137	nw.
Dunseith	Rolette	1,682	33	40.2	96	May 23†	−27	Jan. 1	33	17.93	5.27	July	0.02	Nov.	25.4	66	193	94	79	nw.
Eckman	Bottineau	1,500	24	38.8	98	May 23	−33	Jan. 1	24	15.57	4.91	July	0.00	Feb.	8.8	56	27	218	121	nw.
Edgeley	LaMoure	1,468	28	42.6	95	Aug. 12	−28	Jan. 2	28	30.38	9.17	Aug.	0.05	Feb	13.2	47	50	200	116	nw.
Ellendale	Dickey	1,449	28	42.7	96	Aug. 12	−26	Jan. 2	28	21.64	5.63	June	0.23	Feb.	11.9	99	118	133	115	nw.
Energy	McLean	1,750	17	42.7	96	May 23†	−38	Jan. 2	17	20.72	6.43	July	T.	Oct.	19.0	54	142	180	44	nw.
Epping	Williams	2,224	21	41.1	92	May 23†	−26	Dec. 3	21	15.01	6.98	July	T.	Nov.	11.5	54	203	122	41	w.
Fessenden	Wells	1,610	17	40.7	97	May 23	−31	Jan. 1	17	19.57	7.66	June	0.00	Oct.	21.3	69	166	106	94	nw.
Forman	Sargent	1,249	...	...	...	...	...	...	35	21.88	7.21	Aug.	0.02	Jan.	13.0	61	185	109	72	nw.
Fort Yates	Sioux	1.670	...	...	...	...	...	...	29	16.65	5.49	June	0.00	Feb. †	2.6	33	...	...	...	...
Foxholm	Ward	1,657	8	40.2	97	Aug. 12	− 7	Jan. 1	8	17.33	6.68	July	0.04	Feb.	20.6	69	123	129	14	nw.
Fryburg	Billings	2,790	...	...	...	...	...	...	11	14.94	4.72	June	0.05	Nov.	14.5	55	201	100	65	nw.
Fullerton	Dickey	1,439	31	43.3	98	Aug. 12	−28	Jan. 2	31	25.72	6.65	June	0.15	Feb.	16.9	62	157	123	86	nw.
Garrison	McLean	1,901	34	42.3	93	May 23†	−32	Jan. 2	34	18.90	6.36	July	0.00	Feb.	10.8	48	251	59	56	nw.
Grafton	Walsh	827	37	41.3	96	May 23	−22	Jan. 15	37	16.71	5.17	June	T.	Feb.	18.2	64	149	117	100	nw.
Grand Forks	Grand Forks	830	38	40.6	95	May 23	−22	Jan. 2	38	19.13	5.08	June	0.03	Feb.	26.3	89	128	135	103	nw.
Granville	McHenry	1,504	22	39.1	95	May 23†	−30	Jan. 1	22	15.24	5.12	July	T.	Feb. †	10.5	52	165	138	63	nw.
Hannah	Cavalier	1,568	...	...	...	...	...	...	37	14.71	5.10	June	0.14	Oct.	20.7	49	...	...	...	...
Hansboro	Towner	1,597	21	38.4	98	May 22	−30	Jan. 1†	21	13.29	3.55	June	0.00	Feb.	27.0	51	167	120	59	nw.
Hettinger	Adams	2,675	22	42.9	98	Aug. 11	−33	Jan. 1	22	19.37	6.27	June	T.	Dec.	13.9	59	196	107	63	nw.
Hillsboro	Traill	901	23	...	94	May 23†	−22	Jan. 2	23	...	4.47	June	...	...	...	...	...	...	...	...
Howard	Williams	2,275	22	39.2	100	July 26	−35	Jan. 1	22	10.70	4.24	July	T.	Feb. †	17.2	33	162	131	73	nw.
Jamestown	Stutsman	1,390	37	41.0	97	Aug. 12	−30	Jan. 2	37	15.43	4.62	June	0.01	Oct.	14.9	68	185	72	109	nw.
Lamoine	Kidder	1,936	24	39.7	95	May 23	−34	Jan. 1	24	19.55	6.27	July	T.	Oct. †	33.0	44	212	74	80	nw.
Langdon	Cavalier	1,615	33	37.5	100	Aug. 12	−29	Jan. 2	33	16.07	5.24	June	T.	Jan.	23.5	66	210	91	65	nw.
Larimore	Grand Forks	1,134	36	40.1	96	May 23	−24	Jan. 2	36	24.54	8.40	June	0.03	Oct.	31.0	70	165	70	131	n.
Linton	Emmons	1,711	11	...	...	...	−41	Jan. 2	11	16.11	3.89	July	T.	Feb. †	...	...	...	...	...	nw.
Lisbon	Ransom	1,091	25	42.7	104	Aug. 14	−30	Jan. 1	35	17.04	5.84	July	0.00	Jan. †	T.	44	183	103	80	...
McClusky	Sheridan	1,943	11	39.8	92	Aug. 11†	−34	Jan. 2†	11	17.68	6.25	June	0.00	Feb.	18.7	51	196	106	64	nw.
McKinney	Renville	1,640	35	39.8	98	May 23	−30	Jan. 1†	35	16.37	6.99	July	0.00	Nov.	9.0	39	96	203	67	nw.
McLeod	Ransom	1,075	17	43.3	98	Aug. 13	−30	Jan. 2	17	17.42	4.66	July	0.09	Jan.	10.6	54	234	55	77	nw.
Maddock	Benson	1,604	14	40.5	95	May 23	−31	Jan. 1	14	19.03	6.32	June	T.	Feb.	11.7	54	106	156	104	nw.
Mandan	Morton	1,644	25	42.0	100	Aug. 11	−35	Jan. 2	25	16.76	6.29	July	0.06	Nov.	13.1	65	154	53	159	nw.
Manfred	Wells	1,605	26	...	...	...	−28	Jan. 1	26	19.57	7.77	June	0.05	Oct.	26.3	77	...	...	...	nw.
Marmarth	Slope	2,714	20	...	...	...	−41	Jan. 1	...	...	...	...	...	...	...	...	...	...	...	...
Mayville	Traill	975	33	42.9	98	May 24	−24	Jan. 2	33	15.50	3.31	Aug.	T.	Feb.	22.0	57	214	42	110	nw.
Melville	Foster	1,590	31	39.9	97	Aug. 13	−28	Jan. 1	31	16.95	7.67	June	0.00	Feb. †	12.7	27	281	5	80	se.
Metigoshe	Bottineau	...	...	...	...	...	...	...	3	19.73	8.14	June	0.00	Feb. †	19.0	42	273	49	44	nw.
Minot	Ward	1,557	33	...	...	...	−30	Jan. 1	...	...	...	...	...	...	...	...	...	...	...	...
Minto	Walsh	820	36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mott	Hettinger	2,424	22	42.3	100	Aug. 10	−35	Jan. 1	22	20.63	6.37	June	0.05	Dec.	28.2	57	137	117	112	nw.
Napoleon	Logan	19,55	37	41.6	99	Aug. 12	−37	Jan. 2	37	19.10	5.12	July	0.10	Jan. †	20.0	70	199	53	114	w.
New England	Hettinger	2,400	35	...	97	May 21	−29	Jan. 2	35	...	5.23	June	...	...	...	...	...	...	...	...
New Salem	Morton	2,163	25	43.4	100	Aug. 11	−32	Jan. 2	25	13.27	4.96	July	0.02	Oct.	6.1	54	190	131	45	nw.
Park River	Walsh	998	25	40.0	96	May 23	−24	Jan. 1	25	17.21	4.95	June	0.00	Feb.	25.1	47	182	81	103	nw.
Parshall	Mountrail	...	...	...	...	...	...	...	14	15.07	5.24	Aug.	0.02	Nov.	13.5	47	186	104	76	nw.
Pembina	Pembina	789	55	37.8	96	May 23	−22	Jan. 2	55	14.47	5.80	June	0.00	Feb. †	14.0	25	229	81	56	s.
Pettibone	Kidder	1,856	20	40.4	93	May 23	−34	Jan. 1	20	20.79	8.38	July	0.02	Oct.	10.5	56	153	91	122	nw.
Power	Richland	1,020	...	...	...	...	...	...	35	22.48	7.92	July	0.10	Jan.	33.3	62	186	102	78	n.
Powers Lake	Burke	2,205	15	41.4	96	July 23†	−32	Jan. 1	15	19.92	9.81	July	T.	Nov.	33.7	53	219	95	52	w.
Richardton	Stark	2,467	13	42.5	99	Aug. 11	−31	Jan. 1†	13	19.06	5.16	July	T.	Dec.	16.5	56	155	149	62	nw.
Sharon	Steele	1,516	2	40.5	95	May 23†	−25	Jan. 2	4	18.59	6.29	June	0.03	Feb.	19.1	84	179	100	87	nw.
Stanton	Mercer	1,722	...	...	...	...	...	...	5	15.92	4.71	July	T.	Feb.	22.0	40	169	112	85	nw.
Starkweather	Ramsey	...	2	...	93	May 23	−30	Jan. 2	2	...	6.59	June	...	...	...	...	...	...	...	...
Steele	Kidder	1,857	35	38.5	96	Aug. 13	−39	Jan. 2	35	23.74	6.37	June	0.08	Jan. †	23.3	69	157	139	70	nw.
Stowers	Adams	...	...	...	...	...	...	...	13	...	10.61	June	...	...	...	...	...	...	...	...
Towner	McHenry	1,482	27	40.6	98	May 23	−30	Jan. 1†	27	17.16	6.67	July	T.	Feb. †	13.0	39	233	82	51	nw.
Trotters	Golden Valley	...	...	...	...	...	...	...	3	11.45	5.67	June	0.02	Nov.	15.6	59	151	60	155	...
Turtle Lake	McLean	1,899	17	41.2	94	May 23	−31	Jan. 2	17	24.06	8.89	July	T.	Nov.	22.0	52	71	120	175	nw.
Valley City	Barnes	1,245	24	42.9	96	Aug. 12	−25	Jan. 2	24	22.37	5.54	July	0.08	Jan. †	11.3	62	211	90	65	n.
Velva	McHenry	1,511	...	41.2	95	May 23	−29	Jan. 2	3	16.37	4.96	July	T.	Nov.	12.7	67	123	148	95	w.
Verona	LaMoure	1,387	1	...	...	...	...	...	...	...	7.73	July	...	...	...	...	...	...	...	...
Wahpeton	Richland	962	37	44.3	100	Aug. 14	−30	Jan. 2	37	21.00	5.55	July	0.00	Jan.	17.0	71	240	0	126	nw.
Washburn	McLean	1,731	...	...	...	...	...	...	25	...	5.79	July	...	...	...	...	...	...	...	...
Westhope	Bottineau	1,508	23	39.9	100	May 23	−32	Jan. 1	23	16.47	6.65	July	0.00	Feb.	7.5	47	229	87	50	nw.
Williston	Williams	1,878	50	41.7	102	Aug. 11	−32	Jan. 1	50	15.26	6.07	July	T.	Nov.	16.1	178	167	123	76	n.
Willow City	Bottineau	1,471	37	39.1	96	May 23	−32	Jan. 1	37	16.82	6.56	June	T.	Nov.	19.3	62	165	123	78	nw.
Wilton	Bottineau	...	2	42.6	96	May 23	−27	Jan. 1	2	19.40	6.82	June	T.	Nov.	15.0	42	225	42	99	...
Moorhead, Minn.	Clay	935	48	42.1	96	Aug. 14	−25	Jan. 2	48	23.95	7.17	July	0.22	Jan.	23.1	86	118	109	132	n.

† Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1928, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Alpha	0.03	......	0.08	......	0.70	......	0.83	......	1.08	......	5.26	......	1.77	......	1.48	......	0.70	......	1.00	......	0.15	......	0.08	......	13.16	......
Amenia	T.	−0.50	T.	−0.40	0.70	+0.13	1.52	−0.36	0.72	−2.12	5.41	+1.54	5.33	+2.32	5.45	+2.73	3.21	+1.24	0.90	−0.39	0.86	+0.32	0.38	−0.13	24.48	+4.38
Amidon	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2.82	......	......	......	......	......	......	......	......	......	......	......
Arnegard	0.10	−0.46	0.15	−0.27	0.05	−0.74	0.60	−0.85	0.52	−1.19	4.53	+1.24	4.92	+3.32	2.99	+1.56	0.50	−1.10	0.35	−0.69	T.	−0.36	0.35	0.10	15.06	+0.36
Ashley	0.24	−0.31	0.10	−0.37	0.30	−0.89	1.56	−0.41	0.22	−2.24	4.77	+1.28	8.15	+5.49	3.32	+1.12	2.85	+1.83	0.96	−0.10	1.35	+0.81	0.16	−0.35	23.98	+5.86
Beach	0.03	−0.60	0.13	−0.38	0.26	−0.52	0.72	−0.70	0.67	−1.14	4.33	+0.85	2.41	+0.61	3.33	+1.28	0.70	−0.57	0.96	−0.03	T.	−0.54	0.10	−0.41	13.64	−3.15
Berthold Agency	0.03	−0.37	0.11	−0.44	0.19	−0.65	0.23	−0.93	1.50	−0.96	2.65	−1.23	12.22	+10.25	5.41	+3.64	0.08	−1.36	0.40	−0.46	T.	−0.48	0.10	−0.30	22.92	+6.71
Bismarck	0.23	−0.22	0.11	−0.33	0.32	−0.57	1.15	−0.37	0.58	−1.74	4.81	+1.46	5.06	+2.82	2.11	+0.29	1.15	−0.08	0.19	−0.75	0.07	−0.50	0.24	0.33	16.02	−0.32
Bottineau	0.17	−0.29	T.	−0.37	0.63	−0.17	0.30	−0.57	1.23	−0.81	7.66	+4.52	5.26	+2.98	2.19	−0.02	0.25	−1.32	0.10	−0.89	T.	−0.54	0.23	−0.26	18.02	+2.26
Bowman	0.15	−0.35	0.10	−0.21	0.60	+0.15	0.95	−0.29	0.88	−1.56	5.35	+2.14	4.08	+1.32	1.58	+0.63	0.65	−0.65	1.05	+0.28	0.65	+0.33	0.05	0.18	16.09	+1.41
Cando	1.04	+0.64	T.	−0.23	2.60	+1.97	1.18	+0.29	1.98	−0.42	5.58	+1.70	3.98	+1.45	3.06	+0.85	0.19	−1.24	0.00	−0.72	0.06	−0.45	0.21	0.15	19.88	+3.69
Carson	0.16	−0.18	0.10	−0.20	0.15	−0.51	0.97	−0.58	0.61	−2.03	3.96	+0.09	3.82	+1.88	2.61	+1.21	1.89	+0.16	0.58	−0.30	0.25	−0.31	0.16	−0.38	15.26	−1.15
Cavalier	......	......	......	......	......	......	......	......	1.30	......	5.77	......	3.30	......	2.00	......	0.19	......	0.55	......	1.34	......	0.52	......	......	......
Cooperstown	0.50	0.00	0.00	−0.31	1.40	+0.86	1.45	+0.40	2.71	+0.50	4.74	+1.10	2.98	+0.25	3.44	+0.78	1.41	−0.25	0.00	−0.87	1.63	+1.09	0.95	−0.38	21.21	+3.17
Corinth	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1.24	......	0.32	......	0.13	......	0.07	......	0.15	......	......	......
Crosby	0.05	−0.44	0.05	−0.24	0.18	−0.40	0.90	−0.29	0.60	−1.40	2.77	−0.58	5.13	+2.92	0.88	−1.22	0.70	−0.69	0.13	−0.62	0.00	−0.71	0.32	−0.17	11.71	−3.84
Devils Lake	0.10	−0.50	0.01	−0.55	0.67	+0.07	1.08	−0.33	2.41	+0.24	5.17	+1.64	3.27	−0.51	3.34	+0.58	0.27	−1.12	0.06	−1.17	1.73	+1.02	0.31	0.08	18.45	+0.40
Dickinson	0.45	+0.03	0.27	−0.16	0.37	−0.47	1.15	−0.08	1.22	−1.21	3.39	+0.35	3.52	+1.20	3.38	+1.43	0.50	−0.57	0.58	−0.20	0.08	−0.40	0.39	−0.03	15.30	−0.11
Dogden Butte	0.11	......	T.	......	0.30	......	0.99	......	3.33	......	7.25	......	7.85	......	3.76	......	0.18	......	0.21	......	T.	......	0.30	......	24.24	......
Dunn Center	0.20	−0.31	0.08	−0.48	0.67	−0.44	0.91	−0.41	1.33	−1.21	3.59	−0.71	6.34	+4.29	2.72	+1.15	0.43	−0.69	0.44	−0.19	T.	−0.62	0.08	−0.48	16.79	−0.10
Dunseith	0.32	−0.15	0.25	−0.17	0.72	−0.05	0.34	−0.49	1.95	+0.25	5.09	+2.13	5.27	+2.93	3.34	+0.93	0.33	−1.24	0.07	−0.68	0.02	−0.41	0.23	−0.18	17.93	+2.87
Eckman	0.13	−0.43	0.00	−0.35	0.38	−0.12	0.36	−0.69	1.72	−0.46	3.74	+0.98	4.91	+2.47	3.59	+1.27	0.50	−0.63	0.10	−0.75	T.	−0.54	0.14	−0.48	15.57	+0.27
Edgeley	0.30	+0.01	0.05	−0.27	0.17	−0.63	1.17	−0.71	0.67	−2.00	7.33	+3.97	6.20	+3.40	9.17	+7.03	2.79	+1.13	0.73	−0.19	1.50	+1.16	0.30	−0.09	30.38	+12.81
Ellendale	0.26	−0.14	0.23	−0.25	0.33	−0.87	1.08	−0.75	0.67	−2.34	5.63	+2.63	4.92	+2.02	3.35	+1.09	2.35	+1.00	1.42	+0.38	1.01	+0.23	0.39	−0.09	21.64	+2.91
Energy	0.25	−0.04	0.25	−0.01	0.30	−0.37	1.01	−0.13	1.50	−0.70	4.75	+1.14	6.43	+4.25	5.56	+3.61	0.48	−1.06	T.	−0.70	0.05	−0.21	0.14	−0.21	20.72	+5.57
Epping	0.20	−0.36	0.20	−0.15	0.10	−0.46	0.47	−0.68	0.61	−1.70	2.94	−0.40	6.98	+5.06	2.01	−0.14	0.28	−1.18	0.15	−0.74	T.	−0.42	1.07	+0.64	15.01	−0.53
Fairfield	......	......	......	......	......	......	......	......	......	......	......	......	......	......	4.77	......	0.10	......	0.30	......	0.00	......	0.20	......	......	......
Fessenden	0.21	−0.39	0.08	−0.25	1.06	+0.34	1.19	−0.35	2.43	+0.15	7.66	+3.61	3.03	+0.56	2.42	+0.04	0.63	−1.09	0.00	−0.78	0.48	−0.16	0.38	−0.35	19.57	+1.33
Forman	0.02	−0.51	0.26	−0.27	0.38	−0.52	1.64	−0.55	0.86	−2.12	4.14	+0.53	3.28	+0.25	7.21	+4.50	1.24	−0.58	1.62	+0.28	0.74	+0.18	0.49	−0.05	21.88	+1.14
Fort Yates	0.01	−0.52	0.00	−0.64	0.00	−1.02	0.55	−1.12	T.	−1.77	5.49	+1.83	2.95	+0.43	3.51	+1.54	2.37	+1.40	0.72	−0.07	0.85	+0.32	0.20	−0.23	16.65	+0.15
Foxholm (near)	0.26	......	0.04	......	0.78	......	0.63	......	1.85	......	2.97	......	6.68	......	3.25	......	0.25	......	0.24	......	0.05	......	0.33	......	17.33	......
Fryburg	0.13	......	0.09	......	0.19	......	1.21	......	1.03	......	4.72	......	2.22	......	3.99	......	0.64	......	0.50	......	0.05	......	0.17	......	14.94	......
Fullerton	0.46	−0.29	0.15	−0.66	0.20	−1.02	1.70	−0.30	0.60	−2.64	6.65	+3.37	5.66	+2.34	4.68	+2.15	1.82	−0.25	1.55	+0.26	1.49	+0.76	0.76	−0.08	25.72	+3.64
Garrison	0.08	−0.35	0.00	−0.53	0.06	−0.98	0.75	−0.45	1.86	−0.31	5.57	+2.25	6.36	+4.26	3.80	+1.80	0.16	−1.20	T.	−0.90	T.	−0.58	0.26	−0.31	18.90	+2.70
Grafton	0.57	−0.03	T.	−0.58	0.50	−0.19	0.68	−0.80	1.71	−0.40	5.17	+1.93	2.88	+0.40	3.06	+0.47	0.25	−1.57	0.20	−0.69	1.20	+0.54	0.49	−0.05	16.71	−0.97
Grand Forks	0.29	−0.29	0.03	−0.50	1.60	+0.89	0.59	−1.34	0.80	−1.74	5.08	+1.69	4.68	+1.93	3.05	+0.59	0.88	−0.98	0.53	−0.63	1.13	+0.43	0.47	−0.16	19.13	−0.11
Granville	0.12	−0.39	T.	−0.38	0.37	−0.20	0.47	−0.49	1.25	−0.59	4.68	+1.93	5.12	+3.05	2.93	+0.84	0.10	−1.15	0.10	−0.78	T.	−0.61	0.10	−0.45	15.24	+0.78
Hannah	0.53	−0 19	0.16	−0.40	0.60	−0.06	0.65	−0.61	1.56	−0.54	5.10	+1.66	4.13	+1.67	0.83	−1.02	0.26	−1.88	0.14	−0.82	0.32	−0.36	0.43	−0.20	14.71	−2.75
Hansboro	0.10	−0.85	0.00	−0.48	0.98	+0.32	0.69	−0.60	1.94	−0.14	3.55	+0.86	3.34	+1.36	1.85	−0.37	0.28	−1.62	0.30	−0.61	0.10	−0.36	0.16	−0.50	13.29	−2.99
Hettinger	0.14	−0.18	0.08	−0.20	0.37	−0.39	0.87	−0.29	1.25	−0.87	6.27	+3.03	3.91	+1.12	1.58	+0.33	4.35	+3.05	0.33	−0.31	0.22	−0.10	T.	−0.34	19.37	+4.85
Hillsboro	0.13	−0.61	0.00	−0.68	1.05	+0.31	0.75	−1.26	0.41	−3.11	4.47	+1.12	4.35	+1.72	3.74	+0.80	......	......	......	......	......	......	0.75	−0.15	......	......
Howard (near)	0.20	−0.55	T.	−0.69	0.05	−1.09	0.70	−0.70	0.49	−1.69	3.26	+0.67	4.24	+2.64	1.06	−0.83	T.	−1.37	T.	−0.81	T.	−0.51	0.70	−0.12	10.70	−5.05
Jamestown	0.21	−0.43	0.14	−0.44	0.36	−0.64	0.57	−1.17	0.33	−2.36	4.62	+0.84	3.84	+1.09	2.16	−0.58	1.56	+0.03	0.01	−0.92	1.36	+0.63	0.27	−0.48	15.43	−4.43
Lamoine	0.56	−0.05	0.24	−0.15	1.00	+0.23	1.91	+0.94	0.58	−1.78	6.09	+2.77	6.27	+3.72	1.86	−0.12	0.84	−0.44	T.	−0.58	T.	−0.54	0.20	−0.30	19.55	+3.70
Langdon	T.	−0.65	0.04	−0.61	1.00	+0.16	1.08	−0.25	0.96	−1.29	5.24	+1.74	3.20	+0.64	1.90	−0.75	0.25	−1.74	0.32	−0.62	1.28	+0.58	0.80	+0.07	16.07	−2.72
Larimore	0.40	−0.31	0.06	−0.41	2.50	+1.81	0.61	−1.01	0.82	−1.65	8.40	+4.90	5.36	+2.37	3.44	+0.84	0.78	−1.11	0.03	−1.20	1.60	+0.92	0.54	0.00	24.54	+5.15
Linton	0.30	−0.10	T.	−0.48	T.	−0.54	2.05	+0.63	0.62	−1.43	1.75	−1.13	3.89	+1.89	3.05	+1.23	1.59	−0.27	0.36	−0.55	2.48	+1.92	0.02	−0.38	16.11	+0.99
Lisbon	0.00	−0.70	T.	−0.73	T.	−0.56	0.62	−1.27	0.55	−2.64	3.37	−0.92	5.84	+2.31	3.29	+1.03	1.20	−0.95	1.40	+0.38	0.77	+0.15	0.00	−0.41	17.04	−4.31
McClusky	0.10	......	0.00	......	0.68	......	1.49	......	0.65	......	6.25	......	4.81	......	2.57	......	0.83	......	T.	......	T.	......	0.30	......	17.68	......
McKinney	0.05	−0.31	T.	−0.31	0.37	−0.34	0.50	−0.45	0.74	−1.21	3.29	−0.01	6.99	+4.83	3.14	+1.36	0.96	−0.57	0.25	−0.68	0.00	−0.65	0.08	−0.35	16.37	+1.31
McLeod	0.09	−0.58	0.51	−0.07	0.15	−0.48	0.43	−1.96	0.98	−2.80	2.37	−1.83	4.66	+1.23	4.00	+1.65	1.77	−0.77	1.77	+0.71	0.56	−0.03	0.13	−0.32	17.42	−5.25
Maddock	0.06	−0.25	T.	−0.43	0.34	−0.09	0.97	−0.45	1.07	−0.96	6.32	+3.12	5.43	+2.79	4.12	+1.90	0.31	−1.95	0.08	−0.71	0.16	−0.52	0.17	−0.15	19.03	+2.30
Mandan	0.20	−0.03	0.07	−0.28	0.23	−0.61	0.99	−0.56	0.55	−1.95	4.88	+1.72	6.29	+3.33	2.24	+1.02	0.89	−0.57	0.19	−0.52	0.06	−0.49	0.17	−0.28	16.76	+0.78
Manfred	0.27	−0.38	0.24	−0.19	1.37	+0.59	1.08	−0.19	1.56	−0.80	7.77	+4.19	3.19	+0.89	3.12	+0.66	0.38	−0.97	0.05	−0.76	0.10	−0.64	0.44	−0.32	19.57	+2.08
Marmarth	0.20	−0.10	0.29	−0.10	0.24	−0.21	......	......	......	......	......	......	......	......	......	......	......	......	......	......	T.	−0.33	0.03	−0.31	......	......
Mary	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	0.50	......	0.71	......	0.10	......	0.30	......	......	......
Mayville	0.15	−0.34	T.	−0.39	1.05	+0.31	0.50	−1.25	0.77	−2.20	3.01	−0.50	2.65	−0.32	3.31	+0.37	2.05	−0.23	0.54	−0.57	1.07	+0.40	0.40	−0.18	15.50	−4.87
Melville	0.08	−0.30	0.00	−0.33	0.63	−0.05	0.54	−0.57	2.40	−0.27	7.67	+4.16	3.10	+0.36	0.83	−1.16	1.10	−0.28	0.00	−0.87	0.60	+0.07	0.00	−0.46	16.95	+0.30
Metigoshe	0.14	......	0.00	......	0.50	......	0.36	......	1.30	......	8.14	......	5.37	......	3.34	......	0.22	......	0.00	......	0.00	......	0.35	......	19.73	......
Michigan	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1.32	......	0.32	......	......	......
Minot	0.10	−0.35	0.00	−0.46	0.40	−0.37	0.52	−0.80	1.58	−0.39	......	......	......	......	......	......	......	......	......	......	T.	−0.68	0.10	−0.41	......	......
Minto	......	......	......	......	......	......	......	......	......	......	......	......	4.21	+1.45	2.78	+0.37	T.	−2.00	0.15	−0.95	......	......	......	......	......	......
Mott	0.71	−0.17	0.40	−0.17	0.51	−0.53	2.30	+0.80	0.83	−1.53	6.37	+2.97	3.35	+0.98	3.76	+2.12	1.31	−0.26	0.96	−0.13	0.08	−0.38	0.05	−0.53	20.63	+3.17
Napoleon	0.10	−0.35	0.10	−0.30	0.50	−0.43	1.31	−0.36	0.50	−1.90	4.66	+1.04	5.12	+2.64	3.30	+0.91	1.63	+0.39	0.33	−0.61	1.25	+0.66	0.30	−0.18	19.10	+1.51
New England	0.66	+0.24	0.10	−0.44	0.30	−0.57	0.17	−0.85	1.93	−0.22	5.23	+2.54	3.20	+1.19	......	......	......	......	......	......	......	......	......	......	......	......
New Salem	0.13	−0.50	0.10	−0.28	0.08	−0.88	0.74	−0.49	0.60	−1.77	3.32	−0.39	4.96	+2.86	2.67	+1.00	0.30	−1.05	0.02	−0.93	0.05	−0.30	0.30	−0.23	13.27	−2.96
Park River	0.23	−0.21	0.00	−0.44	0.64	+0.09	0.43	−0.88	2.04	−0.19	4.95	+1.62	4.02	+1.64	3.29	+1.06	T.	−1.59	T.	−1.01	1.10	+0.34	0.51	−0.02	17.21	+0.41
Parshall (near)	0.20	+0.03	0.16	−0.13	0.30	+0.09	0.79	−0.57	1.40	−0.32	3.43	+0.31	3.07	+1.50	5.24	+3.70	0.13	−1.41	0.27	−0.48	0.02	−0.24	0.06	−0.33	15.07	+2.25
Pembina	0.24	−0 40	0.00	−0.71	0.00	−0.90	0.20	−1.21	1.20	−1.02	5.80	+2.52	4.93	+2.55	0.20	−1.93	T.	−1.69	0.10	−1.24	1.00	+0.32	0.80	+0.64	14.47	−3.67
Pettibone	0.22	−0.29	0.04	−0.32	0.47	−0.07	0.53	−0.87	0.85	−2.00	4.87	+1.65	8.38	+5.63	2.88	+0.59	1.46	+0.07	0.02	−0.63	1.02	+0.47	0.05	−0.63	20.79	+3.60
Power	0.10	−0.55	0.37	−0.19	0.50	−0.20	1.57	−0.26	0.41	−2.48	1.88	−2.08	7.92	+4.54	4.66	+2.19	1.84	−0.22	1.30	−0.17	0.99	+0.37	0.94	+0.40	22.48	+1.35
Powers Lake	0.20	−0.58	0.21	−0.27	0.38	−0.50	0.49	−1.07	1.03	−0.77	4.88	+2.02	9.81	+8.03	2.04	+0.45	0.20	−0.89	0.43	−0.39	T.	−0.56	0.25	−0.38	19.92	+5.09
Richardton	0.24	−0.28	0.24	−0.13	0.12	−0.40	1.59	+0.09	3.34	+1.51	4.55	+1.22	5.16	+3.15	2.92	+1.33	0.42	−1.06	0.37	−0.34	0.11	−0.40	T.	−0.38	19.06	+4.31
Rugby	......	......	......	......	......	......	......	......	......	......	......	......	......	......	3.42	......	0.11	......	0.09	......	0.14	......	0.24	......	......	......
Ryder	......	......	......	......	......	......	......	......	......	......	......	......	......	......	4.41	......	0.18	......	0.26	......	0.00	......	0.08	......	......	......
Sharon	0.09	......	0.03	......	1.21	......	0.62	......	0.73	......	6.29	......	2.99	......	3.45	......	1.25	......	0.12	......	1.51	......	0.30	......	18.59	......
Stanton	0.12	......	T.	......	0.57	......	0.78	......	1.24	......	4.13	......	4.71	......	3.25	......	0.50	......	0.22	......	0.10	......	0.30	......	15.92	......
Starkweather	0.51	......	T.	......	0.24	......	0.59	......	2.37	......	6.59	......	3.50	......	......	......	......	......	......	......	......	......	......	......	......	......
Steele	0.08	−0.44	0.08	−0.37	0.90	−0.03	1.25	+0.14	1.33	−0.16	6.37	+3.04	5.15	+2.27	4.14	+1.80	2.45	+1.21	0.41	−0.47	1.20	+0.61	0.38	−0.15	23.74	+6.45
Stowers	......	......	......	......	......	......	......	......	......	......	10.61	+7.54	3.67	+1.82	1.90	+0.25	0.77	−0.47	0.23	−0.78	0.10	−0.36	T.	−0.54	......	......
Tagus	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	0.78	......	0.10	......	0.05	......	0.06	......	......	......
Tioga	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	0.10	......	......	......
Towner	0.05	−0.44	T.	−0.38	0.80	−0.10	0.30	−0.80	1.53	−0.79	4.91	+1.83	6.67	+4.44	2.62	+0.53	0.08	−1.57	T.	−0.90	T.	−0.48	0.20	−0.21	17.16	+1.13
Trotters	0.19	......	0.09	......	0 22	......	0.50	......	0.38	......	5.67	......	1.86	......	0.97	......	0.80	......	0.63	......	0.02	......	0.12	......	11.45	......
Turtle Lake	0.15	−0.26	0.16	−0.28	0.35	−0.46	1.16	−0.04	0.48	−1.79	5.83	+2.15	8.89	+6.43	5.96	+4.08	0.20	−1.24	0.18	−0.58	T.	−0.49	0.70	+0.14	24.06	+7.66
Valley City	0.08	−0.58	0.08	−0.27	0.57	+0.07	0.64	−0.95	0.57	−2.56	4.85	+1.54	5.54	+2.70	3.56	+1.31	4.89	+3.25	0.18	−0.65	1.20	+0.58	0.21	−0.34	22.37	+4.10
Velva	0.14	......	0.01	......	0.29	......	0.79	......	1.92	......	4.79	......	4.96	......	2.88	......	0.11	......	0.18	......	T.	......	0.30	......	16.37	......
Verona	......	......	......	......	......	......	......	......	......	......	6.20	......	7.73	......	6.20	......	1.59	......	1.32	......	0.74	......	0.06	......	......	......
Wahpeton	0.00	−0.51	0.22	−0.31	0.55	−0.36	1.05	−1.18	0.96	−1.85	2.74	−1.21	5.55	+1.75	5.08	+2.18	2.08	−0.14	1.89	+0.38	0.40	−0.29	0.48	+0.03	21.00	−1.51
Washburn	......	......	......	......	......	......	......	......	1.22	−1.06	5.27	+1.72	5.79	+3.49	4.37	+3.04	0.20	−0.99	0.12	−0.82	0.06	−0.58	0.31	−0.03	......	......
Westhope	0.15	−0.41	0.00	−0.19	0.44	−0.05	0.08	−0.98	0.41	−1.63	5.30	+2.36	6.65	+4.70	2.73	+0.50	0.46	−0.73	0.22	−0.45	0.03	−0.55	T.	−0.37	16.47	+2.20
Williston	0.05	−0.49	0.22	−0.21	0.26	−0.43	0.53	−0.67	0.67	−1.39	4.56	+1.13	6.07	+4.18	1.79	+0.32	0.31	−0.78	0.24	−0.62	T.	−0.58	0.56	−0.02	15.26	+0.44
Willow City	0.21	−0.34	0.02	−0.44	0.73	0.00	0.73	−0.22	1.59	−0.33	6.56	+3.38	3.48	+1.39	2.89	+0.81	0.09	−1.46	0.11	−0.59	T.	−0.51	0.38	−0.16	16.82	+1.53
Wilton	0.20	......	0.12	......	0.40	......	1.03	......	0.56	......	6.82	......	5.88	......	3.26	......	0.73	......	0.20	......	T.	......	0.20	......	19.40	......
Zap	......	......	......	......	......	......	......	......	......	......	......	......	......	......	4.44	......	......	......	......	......	......	......	......	......	......	......
Moorhead, Minn.	0.22	−0.45	0.44	−0.27	0.71	−0.30	1.37	−0.81	0.46	−2.34	3.13	−0.92	7.17	+3.74	6.42	+3.53	2.28	+0.06	1.01	−0.68	0.30	−0.60	0.44	−0.28	23.95	+0.47

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1928, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	12.9	+ 8.4	17.7	+10.7	26.0	+2.4	35.4	-6.9	58.4	+4.3	59.9	-3.6	68.4	-0.3	65.6	-0.7	53.2	-4.1	45.0	+0.7	29.8	+2.5	22.3	+ 9.6	41.2	+1.9
Amidon	......	......	......	......	......	......	......	......	......	......	......	......	......	......	67.3	-0.6	......	......	......	......	......	......	......	......	......	......
Arnegard	14.6	+ 3.9	19.7	+ 6.5	30.6	+7.1	36.6	-4.0	59.8	+6.7	58.6	-3.4	66.6	- 2.6	64.2	-2.9	53.9	-2.9	43.3	+1.2	32.2	+3.4	21.8	+ 9.3	41.8	+1.8
Ashley	15.4	+ 7.9	20.9	+13.1	32.0	+10.0	37.2	-5.3	58.8	+6.1	59.2	-2.8	69.0	+0.6	66.4	+0.5	55.4	-1.9	45.3	+1.6	32.9	+5.2	23.5	+10.0	43.0	+3.8
Beach	16.6	+ 7.3	21.9	+ 8.3	34.0	+7.5	37.4	-5.1	60.0	+9.9	56.8	-4.3	67.7	+0.4	66.5	+1.5	56.0	-0.3	44.5	+0.5	33.9	+2.5	23.6	+ 7.1	43.2	+2.9
Berthold Agency	15.4	+ 7.9	21.2	+11.8	31.4	+6.7	38.6	-5.1	63.2	+9.5	58.5	-4.1	67.2	-1.7	67.4	-0.3	[a]53.6	-3.4	44.2	-0.5	30.0	+1.2	20.0	+ 4.3	42.6	+2.2
Bismarck	15.2	+ 7.4	21.0	+10.7	32.0	+7.8	37.0	-5.1	60.4	+5.9	59.4	-4.3	69.4	-0.4	66.7	-0.6	56.2	-1.9	45.4	+0.5	32.6	+4.1	22.5	+ 7.8	43.2	+2.7
Bottineau	7.7	+ 8.4	15.0	+13.2	25.4	+7.7	33.5	-5.9	56.5	+5.2	57.1	-3.9	64.4	-1.4	62.1	-1.5	51.4	-4.1	41.7	+0.1	29.2	+5.6	17.6	+10.9	38.5	+2.9
Cando	8.8	+10.3	17.6	+14.8	24.0	+3.5	35.4	-5.2	57.5	+6.0	58.7	-2.5	66.9	+0.8	63.6	-0.3	52.6	-3.0	42.8	-0.9	29.2	+2.7	19.3	+12.1	39.7	+3.2
Carson	13.8	+ 3.9	19.6	+ 5.9	32.2	+7.7	37.0	-5.0	61.0	+8.7	59.6	-3.4	68.1	0.0	67.0	-0.6	55.4	-1.0	44.4	+0.9	33.3	+2.6	23.8	+ 7.8	42.9	+2.3
Crosby	10.8	+ 9.1	18.0	+ 9.9	28.2	+6.2	33.4	-7.2	57.2	+6.8	57.6	-3.0	65.0	-0.9	62.2	-1.5	52.0	-1.7	[a]42.2	+0.7	30.2	+2.4	17.8	+ 5.5	39.6	+2.3
Devils Lake	11.0	+10.7	16.8	+12.3	22.7	+4.2	33.8	-4.4	57.0	+4.3	57.6	-5.0	66.0	-2.1	63.8	-1.3	52.8	-3.1	41.4	-1.0	30.0	+7.4	19.0	+ 9.5	39.3	+2.9
Dickinson	12.6	+ 2.3	17.2	+ 5.4	31.7	+7.3	37.0	-5.9	58.4	+6.2	57.1	-4.2	66.8	-1.2	64.0	-2.3	53.2	-3.3	42.1	-1.8	29.9	+1.3	21.3	+ 4.0	40.9	+0.6
Dogden Butte	14.4	......	19.6	......	28.1	......	35.5	......	58.4	......	56.2	......	[g]65.2	......	62.8	......	53.4	......	43.1	......	31.6	......	19.7	......	40.7	......
Dunn Center	14.7	+ 0.9	19.3	+ 6.3	30.2	+6.1	35.1	-7.5	59.4	+6.1	60.1	-1.8	63.6	-4.4	[b]62.0	-4.6	51.0	-6.1	[a]41.4	-4.2	30.6	+2.2	21.9	+ 1.4	40.8	-0.4
Dunseith	11.8	+10.3	16.9	+13.5	25.4	+6.6	36.6	-3.8	59.4	+7.5	58.3	-2.9	66.3	+1.9	62.9	-0.7	53.8	-1.0	42.4	+1.3	30.4	+4.2	18.0	+ 9.7	40.2	+3.9
Eckman	11.7	+11.1	18.0	+11.6	25.6	+3.5	33.9	-7.7	54.6	+4.0	57.0	-4.3	64.4	-1.4	60.8	-2.5	52.4	-3.1	41.4	-1.3	28.2	+1.9	17.0	+ 7.4	38.8	+1.6
Edgeley	15.4	+ 7.6	21.6	+10.7	30.7	+4.2	37.2	-6.0	58.1	+4.6	57.5	-5.3	68.4	-0.1	65.6	-0.8	54.7	-2.8	45.8	-0.1	34.0	+3.6	22.8	+ 6.3	42.6	+1.8
Ellendale	16.0	+ 5.3	21.2	+10.5	31.0	+5.4	37.0	-6.6	58.1	+2.4	59.2	-6.8	69.2	-1.5	66.2	-2.6	54.6	-3.8	45.0	-0.6	32.6	+6.5	22.2	+ 5.4	42.7	+1.1
Energy	14.6	......	21.6	......	31.8	......	37.6	......	59.8	......	59.4	......	69.0	......	64.8	......	54.7	......	45.4	......	32.8	......	20.6	......	42.7	......
Epping	[k]16.1	......	19.4	......	32.5	......	37.0	......	56.8	......	57.2	......	65.6	......	62.8	......	51.0	......	[f]41.9	......	31.7	......	17.4	......	41.1	......
Fessenden	12.3	+ 9.1	19.0	+11.1	25.8	+4.4	34.8	-5.4	57.9	+6.4	58.8	-2.2	66.3	-0.8	65.1	+0.1	53.9	-1.2	43.6	+1.6	30.6	+3.6	20.0	+ 7.8	40.7	+2.9
Foxholm (near)	14.0	......	21.2	......	26.6	......	34.8	......	57.6	......	57.1	......	64.8	......	62.4	......	53.1	......	41.9	......	30.8	......	20.0	......	40.2	......
Fullerton	15.9	+ 8.1	21.2	+11.9	32.6	+7.4	37.8	-5.0	59.2	+5.9	59.8	-2.9	70.2	+1.8	66.4	+0.1	51.4	-2.3	45.6	+1.3	33.3	+3.6	22.8	+ 9.1	43.3	+3.5
Garrison	15.2	+ 8.7	22.6	+14.2	31.1	+9.4	37.2	-5.4	58.2	+5.6	57.1	-5.1	69.3	+1.2	63.8	-1.9	54.0	-2.8	44.5	+0.7	32.6	+5.6	22.0	+ 8.4	42.3	+3.2
Grafton	[h]12.0	+11.1	17.9	+13.0	26.2	+7.0	37.6	-2.7	57.5	+4.6	60.2	-2.3	68.0	+0.5	64.7	+0.2	54.9	-1.0	44.0	+1.3	31.5	+7.5	[a]21.4	+13.7	41.3	+4.4
Grand Forks	11.8	+ 8.2	17.8	+11.3	24.6	+2.2	36.1	-5.9	57.4	+4.0	59.2	-3.7	68.0	+0.6	64.8	-0.1	53.2	-3.0	43.2	-0.3	31.0	+4.9	20.6	+10.0	40.6	+2.8
Granville	12.0	+10.3	14.6	+ 6.2	21.3	-2.4	28.8	-13.7	55.2	+3.8	57.8	-5.3	66.0	-1.1	63.4	-0.5	53.1	-1.3	43.4	-0.7	31.2	+5.1	21.9	+ 9.5	39.1	+0.9
Hansboro	10.0	+12.3	17.1	+13.4	23.5	+2.2	35.0	-4.9	55.0	+4.7	58.1	-2.2	63.7	-1.7	61.4	-1.4	49.6	-4.5	41.2	-0.1	28.3	+2.4	18.0	+10.7	38.4	+2.6
Hettinger	18.1	+ 5.6	22.8	+ 9.6	34.0	+6.4	36.0	-8.8	57.9	+5.1	57.0	-5.1	67.6	-1.9	65.1	-1.9	53.4	- 4.6	44.4	-2.0	33.8	+0.4	25.2	+ 9.4	42.9	+1.0
Hillsboro	12.8	+ 8.9	19.5	+11.0	27.5	+2.8	38.2	-5.4	59.7	+6.5	61.0	-3.4	69.8	+0.3	67.4	+0.5	......	......	......	......	......	......	......	......	......	......
Howard (near)	10.8	+ 9.3	16.4	+10.4	27.2	+6.4	34.5	-5.3	55.8	+6.4	55.4	-4.3	67.1	+1.6	65.1	+1.6	52.0	-1.8	40.8	-0.6	29.0	+1.3	16.6	+ 4.8	39.2	+2.5
Jamestown	12.6	+ 6.1	17.4	+ 9.5	26.8	+4.2	35.7	-6.8	57.7	+4.2	59.2	-3.9	67.8	-0.7	65.6	-0.6	53.6	-3.1	43.1	-1.7	30.6	+3.0	21.4	+ 7.8	41.0	+1.5
Lamoine	10.2	+ 6.2	15.8	+ 8.1	24.3	+1.3	35.0	-7.6	56.5	+5.8	57.0	-3.5	66.6	+0.7	64.0	+0.1	53.5	-3.1	43.4	+0.3	30.6	+3.6	19.2	+ 8.0	39.7	+1.7
Langdon	4.4	+ 7.1	12.0	+ 9.0	21.2	+2.2	34.6	-3.5	55.0	+4.2	57.2	-2.5	65.2	+0.7	63.0	+1.3	53.2	-0.3	40.1	-0.3	27.1	+1.4	16.8	+ 9.5	37.5	+2.4
Larimore	11.3	+ 8.7	16.8	+11.6	24.4	+3.4	35.2	-5.2	56.6	+4.2	58.7	-8.4	67.0	+0.3	64.2	-0.1	53.4	-1.8	42.9	-0.4	30.4	+4.6	20.8	+10.0	40.1	+2.6
Linton	12.7	+ 2.0	19.8	+ 6.2	33.2	+7.0	[a]38.0	-4.2	[a]61.1	+7.0	......	......	......	......	......	......	......	......	44.0	-0.5	31.6	+2.2	22.0	+ 8.0	......	......
Lisbon	20.3	+14.4	22.2	+12.6	27.9	+1.3	36.6	-6.1	58.1	+5.3	59.6	-3.5	69.4	+1.2	66.4	-0.1	54.2	-3.5	44.2	-1.1	31.8	+1.6	22.0	+ 7.9	42.7	+2.5
McClusky	10.9	......	18.8	......	26.6	......	35.2	......	57.6	......	57.2	......	66.4	......	63.6	......	52.2	......	42.0	......	29.2	......	18.1	......	39.8	......
McKinney	12.5	+ 9.3	19.4	+14.3	26.0	+6.8	[d]36.4	-4.6	56.9	+5.6	57.0	-3.7	65.8	-0.2	62.2	-1.3	52.4	-1.7	40.6	-1.1	29.0	+4.4	19.2	+ 8.5	39.8	+3.0
McLeod	14.9	+ 7.2	19.6	+ 8.2	31.6	+5.7	39.6	-3.7	59.6	+5.5	60.5	-4.5	68.8	-1.4	67.2	-0.4	55.0	-1.9	47.0	+1.5	32.6	+2.9	23.4	+ 9.1	43.3	+2.3
Maddock	12.9	+ 7.6	19.0	+ 9.2	24.8	+1.3	35.9	-5.2	58.0	+4.8	57.8	-3.6	66.4	-1.4	64.2	-1.5	54.0	-2.2	42.4	-0.2	30.7	+3.7	20.0	+10.4	40.5	+1.9
Mandan	12.8	+ 4.3	19.0	+ 8.5	31.1	+5.9	36.0	-6.1	59.5	+5.6	59.1	-5.1	68.2	-2.6	66.2	-1.6	55.6	-2.5	44.6	-0.3	31.3	+1.4	20.8	+ 7.7	42.0	+1.2
Manfred	13.2	+ 9.2	19.6	+12.8	26.4	+3.3	36.4	-5.4	57.6	+6.0	57.6	-3.9	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Marmarth	20.2	+ 9.9	20.9	+ 7.8	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	32.2	-1.8	22.5	+ 4.8	......	......
Mayville	13.8	+ 7.7	19.9	+12.2	27.0	+3.8	38.8	-4.4	59.2	+4.7	60.0	-4.5	69.4	0.0	67.0	+0.7	56.2	-1.2	46.2	+1.3	32.7	+3.4	24.4	+11.3	42.9	+2.9
Melville	13.3	+ 7.7	14.8	+ 8.2	21.8	-0.5	27.8	-12.3	52.3	-0.2	58.0	-4.9	74.8	+6.9	73.0	+6.6	59.0	+2.6	44.4	+0.8	24.0	-5.0	15.4	+ 3.6	39.9	+1.1
Minot	13.8	+ 8.8	19.3	+11.4	27.7	+6.3	35.2	-6.5	59.0	+5.6	......	......	......	......	......	......	......	......	......	......	31.8	+2.1	20.8	+ 8.4	......	......
Mott	14.5	+ 7.0	19.8	+ 8.0	33.2	+6.6	37.6	-5.0	58.6	+7.0	57.6	-5.4	69.4	+0.3	65.0	-0.9	56.7	+0.4	42.4	-0.6	32.9	+1.7	19.6	+ 5.5	42.3	+2.1
Napoleon	12.3	+ 6.4	17.6	+10.8	30.2	+8.9	36.5	-5.0	58.2	+5.8	58.2	-4.0	68.0	-0.3	65.8	-0.2	54.2	- 2.7	43.8	+1.9	32.8	+6.2	21.8	+ 9.4	41.6	+3.1
New England	14.2	+ 0.9	[b]20.8	+ 8.7	33.2	+8.8	37.7	-5.4	58.8	+7.2	[f]56.6	-5.4	69.2	+0.7	......	......	......	......	......	......	......	......	......	......	......	......
New Salem	15.5	+ 7.8	20.9	+10.3	31.8	+7.3	37.0	-5.5	61.3	+10.0	59.8	-3.0	68.6	-0.7	67.6	+1.2	56.6	-0.6	44.9	+0.6	34.0	+3.3	22.8	+ 7.9	43.4	+3.2
Park River	10.6	+ 8.8	[a]16.5	+10.8	24.4	+2.3	35.8	-5.7	57.1	+4.9	58.4	-4.8	66.8	-1.0	63.2	-2.8	53.6	-3.3	42.6	-0.6	33.8	+2.8	[a]20.4	+ 9.3	40.0	+1.7
Pembina	8.1	+11.0	15.5	+14.1	24.0	+8.0	32.2	-5.7	56.2	+3.7	61.2	-1.4	63.6	-4.1	60.1	-4.0	46.4	-7.4	40.4	-0.5	26.9	+4.2	19.6	+13.6	37.8	+2.6
Pettibone	10.2	+10.2	15.6	+11.0	27.4	+3.6	34.0	-7.9	57.8	+7.8	57.8	-2.4	68.6	+2.8	61.5	+2.1	54.6	+0.9	42.8	+1.6	30.8	+3.9	20.7	+10.3	40.4	+3.6
Powers Lake	14.1	......	19.4	......	28.0	......	35.8	......	[a]58.4	......	56.4	......	68.8	......	61.2	......	53.0	......	44.9	......	34.2	......	22.8	......	41.4	......
Richardton	[a]15.0	+ 4.4	20.2	+ 5.5	32.4	+6.1	37.0	-3.8	59.6	+6.7	57.2	-5.4	67.9	-2.1	65.8	-2.0	55.1	-1.7	[a]44.4	+1.7	32.6	+4.1	22.5	+ 8.6	42.5	+1.8
Sharon	10.9	......	17.9	......	24.9	......	36.2	......	58.2	......	58.7	......	67.8	......	65.4	......	53.2	......	41.9	......	[c]30.7	......	19.9	......	40.5	......
Starkweather	8.9	......	16.7	......	23.0	......	33.8	......	55.4	......	57.0	......	65.6	......	......	......	......	......	......	......	......	......	......	......	......	......
Steele	9.8	+ 2.2	17.6	+10.5	26.2	+4.1	34.8	-9.6	56.7	+2.9	54.2	-8.2	64.4	-5.0	60.8	-6.0	52.2	-5.6	40.6	-3.4	26.0	-2.4	19.2	+ 5.6	38.5	+1.8
Towner	10.4	+ 7.8	19.0	+13.8	26.2	+7.0	35.2	-6.2	58.4	+6.1	58.8	-3.4	68.0	+0.9	65.0	+0.6	55.0	-0.8	44.1	+1.7	30.6	+5.6	16.5	+ 6.5	40.6	+3.3
Turtle Lake	12.4	+ 3.6	19.6	+ 8.4	30.0	+7.2	35.4	-6.7	58.6	+5.5	57.5	-4.6	66.2	-2.4	63.9	-2.8	54.4	-2.6	44.4	+1.7	31.8	+3.6	19.9	+ 8.6	41.2	+1.6
Valley City	13.0	+ 8.2	20.0	+10.4	27.8	+1.7	38.1	-5.7	59.6	+7.0	60.2	-3.0	70.1	+2.1	67.6	+2.0	55.9	-2.3	45.8	+0.6	32.6	+2.9	23.9	+10.2	42.9	+2.9
Velva	15.2	......	20.3	......	27.8	......	36.7	......	59.0	......	57.8	......	66.6	......	63.9	......	53.3	......	43.2	......	30.6	......	19.8	......	41.2	......
Wahpeton	14.0	+ 6.2	21.0	+11.1	31.0	+4.8	39.4	-4.9	60.0	+4.7	[c]60.8	-4.0	71.0	+1.7	69.4	+2.5	57.8	-0.8	48.5	+2.6	34.6	+6.3	24.6	+ 9.9	44.3	+3.3
Westhope	11.5	+12.9	16.3	+13.0	24.6	+3.7	34.0	-5.7	57.8	+6.4	59.0	-2.6	66.8	+0.7	[d]62.4	-1.7	52.6	-2.2	41.7	+0.3	30.2	+3.4	20.0	+11.0	39.9	+3.4
Williston	14.6	+ 8.2	20.2	+11.9	31.1	+8.2	36.4	-5.6	59.6	+5.6	58.4	-4.3	67.3	-1.6	64.2	-1.9	53.7	-2.9	42.8	-0.6	32.4	+5.2	19.8	+ 6.0	41.7	+2.4
Willow City	11.5	+11.2	16.0	+13.3	24.6	+6.3	35.1	-5.1	55.7	+4.2	57.6	-8.4	[a]65.2	-0.2	63.3	-0.2	52.4	-1.9	41.2	-0.5	28.8	+6.7	18.1	+ 9.6	39.1	+3.3
Wilton	[a]13.2	......	18.8	......	30.1	......	37.7	......	60.5	......	60.4	......	69.4	......	66.9	......	56.6	......	[b]44.4	......	[a]32.0	......	21.0	......	42.6	......
Moorhead, Minn.	12.6	+ 8.8	18.9	+10.8	27.2	+4.5	36.6	-4.0	59.1	+4.0	60.2	-4.2	69.3	+1.2	67.2	+1.1	54.8	-3.4	45.7	+1.2	32.0	+4.9	22.1	+10.6	42.1	+2.9

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing. [b], 2 days missing, etc.

[Continued from page 49]

AUGUST.—The favorable weather conditions of the two preceding months continued through August, being the third consecutive month with precipitation above the normal. The precipitation was well distributed both geographically and throughout the month. At the close of the month grains and grasses were excellent.

SEPTEMBER.—There was less than the normal precipitation, but due to ample subsoil mosture, no harm resulted. Threshing and other farm work made rapid progress. Frosts damaged some late flax and corn. By the close of the month fall plowing and the seeding of winter rye were well advanced, but in some sections soil conditions were too dry for best results.

OCTOBER.—Under favorable weather conditions farming operations and other outdoor work made rapid progress. Occasional high winds delayed threshing somewhat, and too dry ground made fall plowing and seeding somewhat difficult. However, more than the usual acreage of fall plowing was accomplished. There was much marketing of grain and livestock, threshing was completed, and corn harvesting well advanced. Due to abundant feed on harvested fields and on pastures and ranges, livestock ranged freely and were in excellent condition at the close of the month.

NOVEMBER.—Mostly mild and pleasant weather prevailed throughout November, and to those engaged in outdoor activities was one of the most agreeable of record. As a result of these favorable conditions outdoor work of all kinds made rapid progress. Fall plowing continued in many parts of the State until near the end of the month. Practically all farm work, including corn husking, was completed. Winter rye was generally up to good stand and color.

DECEMBER.—The month opened with somewhat cloudy and stormy weather, with temperature below normal. A similar condition prevailed from the 17th to the 20th, otherwise the weather of the month was mild and pleasant. Farm activities consisted of the marketing of grain and livestock. Cattle, horses and sheep ranged freely on pastures, ranges and harvested fields, saving much feed, and at the close of the month were in excellent condition. Highways were generally excellent.

Climatological Summary, 1928

Month	Temperature in degrees Fahrenheit				Precipitation, in inches				Sky			Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Number of rainy days	Clear	Pt. cloudy	Cloudy	
January	13.0	+8.1	50	−41	0.21	−0.33	2.3	3	14	9	8	nw.
February	18.8	+10.9	59	−19	0.10	−0.39	1.2	2	14	8	7	nw.
March	28.1	+5.5	85	−17	0.54	−0.29	4.8	3	15	8	8	nw.
April	35.9	−5.8	84	− 6	0.88	−0.50	5.0	5	12	10	8	nw.
May	58.2	+5.6	107	16	1.15	−1.40	0	5	18	7	6	nw.
June	58.2	−4.6	92	24	5.07	+1.57	0	12	10	10	10	nw.
July	67.4	−0.1	96	38	5.05	+2.44	0	10	16	10	5	nw.
August	64.8	−0.6	105	25	3.30	+1.02	0	8	17	9	5	nw.
September	53.9	−2.5	95	12	0.93	−0.71	T.	5	17	7	6	nw.
October	43.5	−0.3	85	3	0.41	−0.59	0.6	2	15	8	8	nw.
November	31.0	+4.4	70	−11	0.48	−0.10	0.2	1	15	8	7	nw.
December	20.7	+7.7	57	−30	0.28	−0.26	3.2	3	14	7	10	nw.
Annual	41.1	+2.3	107	−41	18.40	+0.46	17.3	59	177	101	88	nw.

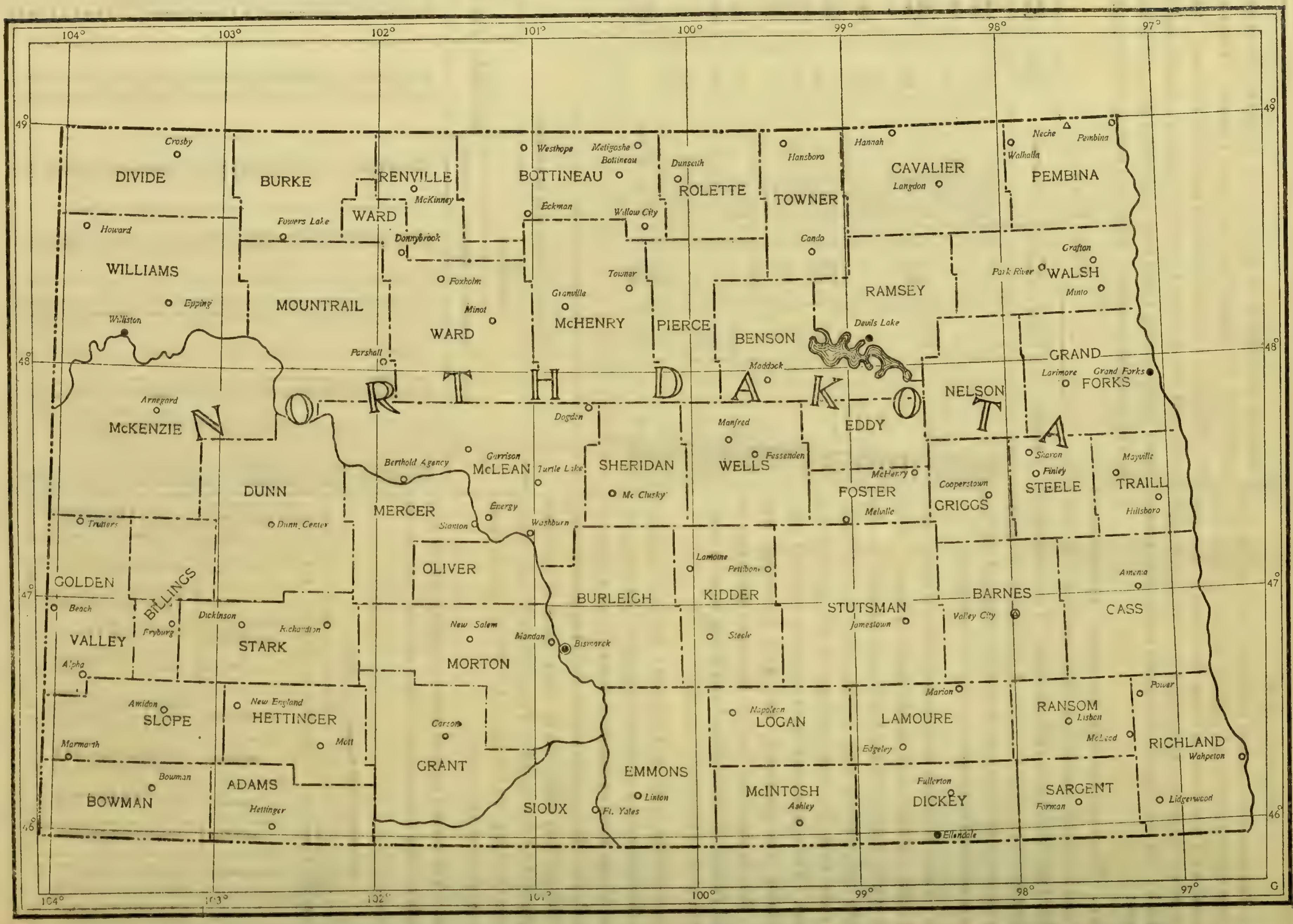
Killing Frosts

STATIONS	Last in Spring	First in Autumn	STATIONS	Last in Spring	First in Autumn
Amenia	June 3	Sept. 23	Langdon	June 3	Aug. 23
Arnegard	May 11	" 24	Larimore	May 27	Sept. 23
Ashley	" 28	" 23	Lisbon	" 21	" 23
Beach	" 3	" 24	McClusky	" 28	Aug. 23
Berthold Agency	" 3	" 18	McKinney	June 3	" 24
Bismarck	Apr. 27	" 23	McLeod	" 4	Sept. 23
Bottineau	May 11	Aug. 23	Maddock	" 4	Aug. 23
Cando	" 20	Sept. 23	Mandan	May 3	Sept. 23
Carson	" 3	" 21	Mayville	June 3	" 23
Crosby	" 11	" 20	Melville	" 8	" 23
Devils Lake	" 27	" 23	Minot	May 12	....
Dickinson	" 3	" 23	Mott	Apr. 26	Sept. 25
Dogden Butte	" 11	" 23	Napoleon	May 29	" 23
Dunn Center	" 11	Aug. 23	New England	" 11	....
Dunseith	" 11	Sept. 23	New Salem	" 11	Sept. 23
Eckman	June 9	Aug. 23	Park River	June 2	" 17
Edgeley	" 2	Sept. 23	Pembina	" 2	Aug. 30
Ellendale	May 27	" 23	Pettibone	May 28	Sept. 23
Energy	" 12	Aug. 23	Powers Lake	" 12	Aug. 22
Epping	" 3	" 23	Richardton	" 11	Sept. 23
Fessenden	" 12	" 23	Sharon	" 11	" 23
Foxholm	" 11	Sept. 23	Starkweather	" 28	....
Fryburg	....	" 24	Steele	June 9	Aug. 23
Fullerton	May 12	" 23	Towner	" 1	" 23
Garrison	" 12	" 23	Turtle Lake	May 12	Sept. 23
Grafton	June 3	" 23	Valley City	" 27	" 22
Grand Forks	Apr. 27	" 26	Velva	" 12	" 23
Granville	May 12	" 24	Wahpeton	June 3	" 23
Hansboro	June 3	Aug. 23	Westhope	May 20	" 22
Hettinger	" 10	Sept. 23	Williston	" 11	" 17
Howard	" 10	Aug. 25	Willow City	" 28	Aug. 24
Jamestown	May 12	Sept. 23	Moorhead, Minn.	" 5	Sept. 23
Lamoine	June 2	Aug. 23			

Comparative Annual State Data

Year	Temperature				Average precipitation	Departure
	Mean	Departure	Highest	Lowest		
1892	37.8	−1.0	108	−52	18.34	+0.40
1893	35.8	−3.0	112	−54	15.91	−2.03
1894	40.4	+1.6	107	−47	15.64	−2.30
1895	37.8	−1.0	104	−50	17.32	−0.62
1896	37.3	−1.5	107	−42	23.57	+5.63
1897	37.8	−1.0	109	−48	15.88	−2.06
1898	39.1	+0.3	106	−38	15.17	−2.77
1899	36.3	−2.5	109	−48	17.67	−0.27
1900	41.0	+2.2	114	−48	18.96	+1.02
1901	40.4	+1.6	110	−43	19.48	+1.54
1902	39.6	+0.8	106	−39	19.34	+1.40
1903	38.4	−0.4	108	−49	19.25	+1.31
1904	38.0	−0.8	103	−52	19.02	+1.08
1905	39.3	+0.5	107	−46	19.96	+2.02
1906	39.5	+0.7	109	−40	19.72	+1.78
1907	37.0	−1.8	104	−49	14.41	−3.53
1908	40.6	+1.8	104	−41	18.64	+0.70
1909	38.2	−0.6	109	−48	17.73	−0.21
1910	41.0	+2.2	114	−50	12.19	−5.75
1911	38.3	−0.5	108	−43	19.40	+1.46
1912	38.2	−0.6	124	−52	20.34	+2.40
1913	40.1	+1.3	106	−54	14.69	−3.25
1914	40.0	+1.2	109	−47	19.16	+1.22
1915	39.6	+0.8	104	−48	19.42	+1.48
1916	36.0	−2.8	105	−56	20.50	+2.56
1917	36.3	−2.5	114	−48	10.92	−7.02
1918	39.9	+1.1	102	−44	16.02	−1.92
1919	38.6	−0.2	108	−44	15.76	−2.18
1920	39.5	+0.7	108	−44	15.34	−2.60
1921	42.0	+3.2	110	−33	19.59	+1.65
1922	39.7	+0.9	115	−46	19.75	+1.81
1923	40.7	+1.9	103	−40	17.76	−0.18
1924	38.2	−0.6	105	−46	17.55	−0.39
1925	40.6	+1.8	111	−39	16.81	−1.13
1926	40.7	+1.9	108	−36	15.70	−2.24
1927	38.0	−0.8	101	−44	21.52	+3.58
1928	41.1	+2.3	107	−41	18.40	+0.46

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

[WBO, Minneapolis, 2-28-29—1450]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVIII   BISMARCK, N. D., JANUARY, 1929   No. 1

GENERAL SUMMARY

January, 1929, was the third coldest of record in the climatological history of North Dakota, the two colder being 1907 and 1916. There was more than the normal snowfall, which combined with the low mean temperature and occasional high winds made the weather for the month unfavorable for livestock and outdoor work. The snowfall was quite well distributed geographically and throughout the month, the stormiest period extending from the 9th to the 18th inclusive. Most main highways remained open, but many smaller trails and cross-roads were blocked.

TEMPERATURE

The mean temperature for the State was -4.8°, or 9.7° below the normal, and 17.8° lower than the average for January, 1928. The highest mean reported was 1.9° at Marmarth, Slope County; the lowest was -12.8° at Hansboro, Towner County. The highest temperature reported was 42° at Hettinger, Adams County, on the 8th; the lowest was -42° at Eckman, Bottineau County, on the 25th and at Willow City, Bottineau County, on the 25th and 26th. The greatest monthly range of temperature was 79° at Dickinson, Stark County; the least was 51° at Grafton, Walsh County. The greatest daily range in temperature was 62° at Fessenden, Wells County on the 11th and at Jamestown, Stutsman County on the 8th

PRECIPITATION

The average precipitation for the State was 0.63 inch, or 0.09 inch above the normal, and 0.42 inch more than the average for January, 1928. The greatest monthly amount reported was 1.82 inches at Dickinson, Stark County; the least was a trace at Tioga, Williams County. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Maddock, Benson County on the 10th. The average snowfall was 9.2 inches. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Rugby on the 2d; at Foxholm and Sharon on the 3d; at Rugby on the 6th; at Oakes on the 8th; at Devils Lake, Foxholm and Rugby on the 10th; at Grand Forks on the 11th; at Howard on the 12th; at Foxholm on the 13th; and at Bottineau on the 14th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.20	30.67	29	29.48	17	57	4,935	6.6	40§	nw.	10
Devi's Lake	30.20	30.63	1	29.36	10	44	5,590	7.5	35§	n.	10
Ellendale	30.19	30.61	1	29.42	10	56	8,274	11.1	46§	nw.	10†
Grand Forks	30.18	30.62	29	29.50	17	90	....	......	36	n.	10
Williston	30.20	30.73	31	29.37	17	48	4,689	6.3	36§	nw.	10
Moorhead, Minn	30.21	30.70	29	29.35	10	58	5,076	6.8	28§	n.	22
Av'ges and extremes	30.20	30.73	31	29.35	10	.....	....	7.7	46§	nw.	10†

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	122.1	279.2	44	− 9	89	64	84	31	28
Devils Lake	168.9	275.8	61	+ 9	94	90	92	69	21
Ellendale	172.8	282.9	61	+ 8	81	77	....	60	13
Grand Forks	......	......	......	......	72	....	75	......	....
Williston	136.8	275.8	50	− 3	84	71	74	53	21
Moorhead, Minn	158.4	279.2	57	+ 4	93	73	83	30	7
Averages and extremes	151.7	278.6	55	+ 2	86	75	82	30	7

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY

Year	Temperature				Precipitation			Sky			Wind Dir
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893	0.8	−4.1	52	−48	0.98	+0.44	7	11	11	9	nw.
1894	0.6	−4.3	60	−47	0.39	−0.15	4	13	9	9	nw.
1895	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896	5.3	+0.4	58	−42	0.70	+0.16	6	9	9	13	nw.
1897	3.6	−1.3	49	−38	0.79	+0.25	5	11	9	11	nw.
1898	14.6	+9.7	69	−32	0.11	−0.43	2	15	8	8	nw.
1899	5.2	+0.3	55	−41	0.25	−0.29	3	13	9	9	nw.
1900	15.4	+10.5	70	−30	0.22	−0.32	3	15	9	7	nw.
1901	7.7	+2.8	68	−39	0.28	−0.26	4	14	8	9	nw.
1902	12.7	+7.8	51	−40	0.14	−0.40	2	17	7	7	nw.
1903	9.4	+4.5	56	−37	0.66	+0.12	5	13	8	10	nw.
1904	3.6	−1.3	50	−52	0.37	−0.17	5	15	6	10	nw.
1905	0.9	−4.0	48	−40	0.30	−0.24	3	15	8	8	nw.
1906	12.2	+7.3	60	−38	0.69	+0.15	4	14	6	11	nw.
1907	−6.2	−11.1	45	−45	1.40	+0.86	8	12	8	11	nw.
1908	17.0	+12.1	70	−44	0.18	−0.36	2	17	8	6	nw.
1909	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914	14.8	+9.9	62	−38	0.50	−0.04	4	12	8	11	nw.
1915	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921	15.9	+11.0	58	−31	0.24	−0.30	2	13	9	9	nw.
1922	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.
1923	10.1	+5.2	56	−35	0.53	−0.01	5	9	9	13	nw.
1924	2.6	−2.3	61	−42	0.23	−0.31	3	14	9	8	nw.
1925	8.6	+3.7	52	−35	0.22	−0.32	3	11	10	10	nw.
1926	16.3	+11.4	55	−30	0.38	−0.16	4	13	8	10	nw.
1927	10.1	+5.2	60	−44	0.41	−0.13	4	14	8	9	nw.
1928	13.0	+8.1	50	−41	0.21	−0.33	3	14	9	8	nw.
1929	−4.8	−9.7	42	−42	0.63	+0.09	6	13	8	10	nw.

Climatological Data for January, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		3								0.56		0.13	5.6	9					H. A. Bury.
Amenia	Cass	954	33	-8.2	-12.7	28	10	-31	13†	49	0.88	+0.38	0.32	11.0	4	16	9	6	n.	E. T. Carley.
Arnegard (near)	McKenzie		14	-3.8	-14.5	36	10	-37	29	56	0.75	+0.19	0.20	7.5	8	17	7	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	-1.4	-8.9	37	10	-28	29	45	0.72	+0.17	0.22	21.8	10	11	7	13	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	-0.4	-9.7	36	10	-32	29	45	0.65	+0.02	0.15	7.5	8	7	16	8	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	-3.2	-10.7	37	8	-34	29	46	0.37	-0.03	0.15	6.0	6	14	4	13	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	-2.9	-10.7	38	10	-33	29	45	0.69	+0.24	0.15	8.8	11	9	12	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	-8.4	-7.7	27	8	-37	13	39	0.61	+0.15	0.34	9.1	8	22	4	5	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	15								0.26	-0.24	0.12	3.0	3	5	6	20	nw.	M. S. Byrne.
Cando	Towner	1,488	28	-7.7	-6.2	19	21	-33	13	35	0.55	+0.15	0.29	6.0	6	18	4	9	w.	A. J. Swanson.
Carson	Grant	2,500	17	-3.4	-13.3	40	8	-35	29	48	1.00	+0.66	0.32	11.8	10	13	4	11	nw.	J. W. Evens.
Cavalier	Pembina										0.85		0.60	8.5	2	18	3	10	nw.	E. W. Kibler.
Cooperstown	Griggs	1,128	23																	S. Friswold.
Corinth	Williams	2,180	2								0.19		0.05	2.5	6					L. S. Evenson.
Crosby	Divide	1,954	23	-4.9	-6.6	37	10	-35	30	54	0.24	-0.25	0.08	3.0	6	18	10	3	nw.	John Jensen.
Devils Lake	Ramsey	1,478	32	-7.1	-8.9	29	8	-32	13	47	0.41	-0.06	0.16	5.5	8	14	7	10	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	-4.6	-14.9	40	10	-39	25	54	1.82	+1.39	0.30	18.2	19	11	10	10	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	-5.3		32	8	-36	29	37	0.27		0.12	2.9	4	16	3	12	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	30	-4.0^{c}	-17.8	39^{a}	8†	-36^{e}	25	58^{g}	0.92	+0.41	0.32	9.0	6	11	6	14	w.	W. F. Meade.
Dunseith	Rolette	1,682	33																	J. G. Lamont.
Eckman	Bottineau	1,500	24	-8.5	-9.1	33	8	-42	25	42	0.26	-0.30	0.05	2.8	11	5	12	14	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	28	-2.0	-9.8	37	10	-29	29	34	0.80	+0.51	0.30	8.0	3	1	13	17	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	-2.2	-12.9	39	8	-26	29	44	0.74	+0.26	0.23	10.9	14	9	10	12	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	17	-3.0		38	10	-36	29	43	0.35	+0.06	0.18	6.0	4	11	11	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	21	-4.2		32	10	-37	29	46	0.63	+0.07	0.25	2.8	6	17	8	6	nw.	A. O. Wang.
Fairfield	Billings		2								0.70		0.24	8.8	6	16	5	10	nw.	F. R. Hecker.
Fessenden	Wells	1,610	17	-4.6	-7.8	33	10	-38	29	62	0.42	-0.18	0.15	5.1	6	17	6	8	nw.	T. D. Monsen.
Forman	Sargent	1,219	35								0.92	+0.39	0.24	11.5	5	13	10	8	nw	O. Enger.
Fort Yates	Sioux	1,670		-1.4^{b}	-11.4	38^{d}	8	-33	29	45^{d}	1.01	+0.48	0.36	11.0	4					P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	-5.4		33	8	-35	29	42	0.09		0.03	1.0	4	9	13	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11								1.67	+1.34	0.10	[illegible]	8	12	6	13	nw.	Verne King.
Fullerton	Dickey	1,439	31	-1.0	-8.8	38	8†	-27	29	35	2.27	+1.52	0.46	22.7	10	8	13	10	nw.	F. O. Alin.
Garrison	McLean	1,901	34	-2.2	-8.7	38	10	-32	29	37	0.09	0.33	0.09	1.0	1	15	7	9	nw.	Wm. H. Robinson.
Grafton	Walsh	827	38	-8.6	-9.5	17	8	-34	13	32	0.77	+0.17	0.43	11.1	5	18	6	7	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	38	-7.0	-10.6	23	8	-32	13	33	0.74	+0.16	0.37	11.1	7	13	11	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	-6.6	-8.3	37	10	-35	25	50	0.06	-0.45	0.03	1.0	2	16	8	7	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	35	-11.6	-9.9	32	8	-37	13†	32	0.44	-0.28	0.38	4.4	2					James Meier.
Hansboro	Towner	1,597	21	-12.8	-10.5	32	8	-40	29	33	0.90	-0.05	0.65	10.0	2	23	5	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	1.2	-11.3	42	8	-33	29	45	0.55	+0.23	0.17	7.0	7	11	10	10	nw.	C. H. Plath.
Hillsboro	Traill	901	23	-5.3	-9.2	28	8	-30	13	33	1.15	+0.41	0.30	11.5	7	10	16	5	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	22	6.2	-7.7	34	8†	-38	29	52	0.34	-0.41	0.16	4.1	3	12	8	11	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	37	-5.7	-12.2	34	8	-32	27†	62	0.51	-0.13	0.15	6.2	7	4	21	6	nw.	S. Calvelage.
Lamoine	Kidder	1,936	24	-5.2	-9.2	35	8	-35	29	45	0.65	+0.04	0.25	7.7	4	17	6	8	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	-7.8	-5.1	27	21	-39	13	60	0.95	+0.30	0.50	9.5	4	19	11	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	-7.0	-9.6	25	8†	-33	13	30	0.96	+0.25	0.50	14.0	4	15	9	7	nw.	Reuben Gray.
Linton	Emmons	1,711	11	-2.6	-13.3	40	8	-37	25†	34	0.99	+0.59	0.75	12.0	4	12	5	14	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	-4.1	-10.0	35	8†	-32	29	57						17	2	12		L. B. Walker.
McClusky	Sheridan	1,943	11	-5.6		35	8	-35	29	42						13	12	6	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	35	-5.8	-9.0	34	8	-40	25	45	0.21	-0.12		3.0		4	21	6	nw.	E. A. Kaatz.
McLeod	Ransom	1,075	17	-1.8	-9.5	40	1	-32	7†	55	1.11	+0.41	0.28	11.1	5	19	5	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	13	-6.4	-11.7	31	8†	-34	25†	37	0.80	+0.49	0.80	8.0	1	12	13	6	nw.	A. T. Felland.
Mandan	Morton	1,614	15	-4.7	-13.2	39	11	-33	29	61	0.80	+0.57	0.17	10.0	11	8	3	20	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26								0.47	-0.18	0.15	6.7	8					P. B. Anderson.
Marmarth	Slope	2,714	20	1.9	-8.4	41	10	-33	23	49	0.69	+0.39	0.20	8.6	14	8	5	18		S. P. Grane.
Mary	McKenzie		2																	Fred Hartman.
Mayville	Traill	975	33	-5.1	-11.2	27	8	-31	13†	38	0.42	-0.07	0.18	5.5	3	20	0	11	nw.	N. C. Burhans.
Melville	Foster	1,590	31	-2.8	-8.4	26	8	-31	14	41	0.50	+0.12	0.40	6.0	2	25	0	6	n.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		4								1.05		0.65	10.0	2	22	3	6	nw.	J. A. Thorburn.
Michigan	Nelson	1,518	1								0.24		0.22	2.6	2	10	11	10	nw.	Arnold Johnson.
Minot	Ward	1,557	33	-3.1	-8.1	34	8†	-34	25	42	0.10	-0.35	0.06	1.0	2	18	5	8	nw.	Julia B. Rue.
Mott	Hettinger	2,424	22	-3.0	-10.5	37	8	-34	29	40	1.57	+0.69	0.48	17.5	9	10	9	12	w.	O. H. Opland.
Napoleon	Logan	1,955	37	-5.4	-11.3	41	8	-35	19	42	0.87	+0.42	0.30	10.0	7	13	4	14	w.	C. J. Hoof.
New England	Hettinger	2,400	38																	E. J. Freeman.
New Salem	Morton	2,163	25	-2.8	-10.5	36	10	-34	29	44	0.64	+0.01	0.25	8.0	11	9	11	11	nw.	J. Christiansen.
Oakes				-1.9		39	10	-28	13	33	1.12		0.50	14.7	7	9	12	10	nw.	Eugene Naylor.
Park River	Walsh	998	25	-7.4	-9.2	26	21	-31	13	34	0.74	+0.30	0.56	11.0	3	16	7	8	nw.	C. B. Wright.
Parshall (near)	Mountrail		14								0.21	+0.04	0.06	3.5	4	11	8	9	nw.	John A. Johnson.
Pembina	Pembina	789	55	-8.1	-5.2	20	8	-30	7†	31	0.95	+0.31	0.48	12.0	3				n.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	-5.6	-5.6	34	8†	-36	29	39	0.18	-0.33	0.08	2.2	5	10	5	16	nw.	A. L. Carlson.
Portal	Burke	1,954	15	-5.5		37	11	-34	29	52	0.24		0.08	3.0	6	14	3	14	nw.	C. T. Holmes.
Power	Richland	1,020	35								1.00	-0.35	0.32	13.0	6	12	9	10	nw.	Frank B. Power.
Powers Lake	Burke	2,205	15	-3.2		26	4	-32	25†	33	0.22	-0.56	0.13	5.0	2	13	10	8	nw.	Geo. B. [illegible]
Richardton	Stark	2,467	13	-3.7	-15.3	36	10	-35	25	55	0.23	-0.29	0.12	3.7	4	16	11	4	nw	John Muggli.
Rugby (near)	Pierce	1,562	1								0.25		0.25	5.0	1	14	10	7	nw.	E. C. Erickson.
Ryder	Ward	2.108	1								0.09		0.05	0.9	2					E. M. Lomen.
Sharon	Steele	1,516	4	-6.4		28	8†	-32	13	36	0.44		0.17	4.5	8	15	12	4	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	5								0.35		0.15	8.0	3	14	2	15	nw.	J. H. Gilley
Starkweather	Ramsey		2																	Geo. Relofson.
Steele	Kidder	1,857	33	-9.7	-17.3	35	8	-36	22	46	1.00	+0.48	0.24	11.5	15	10	7	14	nw.	C. P. Stiles.
Stowers‡‡	Adams	2.325	14								0.37	+0.03	0.20	8.0	4	13	9	9		Chas. E. Stowers.
Tagus	Mountrail	2.179	2								0.05		0.03		2	9	10	12	nw.	J. C. Abbott.
Tioga	Williams	2,279	3								T.		T.	T.	0	3	8	20	nw.	Anton Carlson.
Towner	McHenry	1,482	27	-6.1	-8.7	33	8†	-36	13	42	0.80	+0.31	0.24	10.0	6	19	6	6	nw.	B. Bagley.
Trotters	Golden Valley		4								0.74		0.24	9.8	6	4	7	20		A. J. Nellermoe
Turtle Lake	McLean	1,899	14	-3.4	-12.2	35	2	-31	29	39	0.48	+0.07	0.16	6.0	3	2	9	20	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	-2.4	-7.2	34	10	-30	7	43	0.67	+0.01	0.20	8.5	9	16	10	5	w.	I. C. Robertson.
Velva	McHenry	1,511	3	-3.9		35	10	-28	25	49	0.30		0.05	3.4	10	7	12	12	w.	Oscar Anderson.
Verona	LaMoure	1,387	35								0.65		0.33	5.5	6	10	13	8	sw.	W. C. Taylor.
Wahpeton	Richland	962		-1.6	-9.4	36	8†	-31	13	40	0.11	-0.40	0.04	1.6	5	14	0	17	nw.	C. G. Luick.
Washburn	McLean	1,731	27								0.49	+0.10	0.14		7					Karl Klein.
Westhope	Bottineau	1,508	27	-9.0	-7.6	30	8	-37	25†	47	0.10	-0.46	0.10	1.0	1	15	11	5	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	-2.8	-9.2	38	10	-34	29	48	0.90	+0.36	0.16	10.9	15	9	9	13	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	-9.4	-9.7	29	8	-42	25†	42	0.76	+0.18	0.25	7.6	9	15	7	9	nw.	M. A. Ostby.
Wilton	McLean		1	-3.4		35	8	-28	28	49						16	0	15		L. Q. Perkins.
Moorhead, Minn.	Clay	935	48	-4.6	-8.4	29	10	-28	13	39	1.36	+0.69	0.49	18.1	11	11	7	13	n.	U. S. Weather Bureau.
Averages				-4.8	-9.7	42	8	-42	25†	62	0.63	+0.09	0.80	9.2	6	13	8	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for January, 1929

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri		.08		T.		.06			.01	T.	T.	.03	.01	T.	T.	.05						.13	T.					.01		.09		0.56
Amenia ‖	Red				T.	.24	T.				.16				T.			.32						.16			T.						0.88
Amidon	Lit. Missouri																																......
Arnegard (near)	Missouri		.20	.05	.05					T.	T.	T.	.20	.10			T.						.05						.05		.05		0.75
Ashley	Missouri			.03	.10	.03					.02				.09			.06					.01						.05	.06	.22		0.72
Beach	Lit. Missouri		.10	.07	T.	T.		T.		.02	T.	T.	.15	.05		T.	.06	T.	T.			T.					.13	.07	T.				0.65
Berthold Agency	Missouri	T.	.05		.02			T.			T.		.08	.02			.15	T.						T.				.05			T.		0.37
Bismarck ***	Missouri	T.	.05	T.	.03			T.		T.	.01	.06	.05	.14		T.	.12	.01	T.				.01	T.			T.		.03	T.	.15		0.69
Bottineau ‖	Mouse				.01				.03	.34	.15		.03					.02	.01	T.	.02		T.						T.				0.61
Bowman	Grand	T.	.05	T.							T.		.12	T.	T.	T.	.05										T.						0.26
Cando	Devils Lake				T.	.01			.29	.03	.19							.02	T.	T.			.01	T.						T.			0.55
Carson	Heart	.02	.18		.08						.02		.10	.04			.32						.08				.04				.12		1.00
Cavalier	Red									.60	.25																						0.85
Cooperstown	Sheyenne																																......
Corinth	Missouri			.02						.04			.05	.02												.01			.05				0.19
Crosby	Mouse		.02							.08		T.	.04							.01			.04					.02					0.24
Devils Lake ***	Devils Lake				.02			T.	.06	.09	.16	.01					.04	.01		T.			.02						T.			T.	0.41
Dickinson ‖	Heart	T.	.10	.15	.05			.04		.03	.01	.03	.25	.10	.25			.30	.03	.01			.03				.01	.05	.08		.25	.05	1.82
Dogden Butte	Mouse				.01					T.	T.	.10	.04		T.		T.	.12	T.	T.			T.						T.		T.		0.27
Dunn Center ‖	Knife		.10	.10	T.									.32	.20				.10										.10				0.92
Dunseith	Mouse																																......
Eckman	Mouse				.02				.01	.02	.05	.01	.01		.01			.05	.03				.02						.03				0.26
Edgeley	James					.20									.30																.30		0.80
Ellendale***	James	.01	.03	T.	.07		T.			T.	.02	T.	T.	.10	T.	T.	.06	.03	.01	.02			.06	T.	.02			T.	.05	.04	.20		0.74
Energy	Missouri		.05		.08						T.	T.	T.	T.	.18		T.	.04													T.		0.35
Epping	Missouri	T.	.10	T.		T.			T.	T.		.05			.25		.08	.05			T.						T.				.10		0.63
Fairfield	Knife		.06	.08						.12	.16			.24			.04																0.70
Fessenden ‖	James					.04						.15	.02		.05			.08					.08										0.42
Forman	Sheyenne				.12						T.				.16			.24					.16						T.		.24		0.92
Fort Yates	Missouri				.25									.20				.20												.36			1.01
Foxholm (near)	Mouse			T.	T.					T.	.03	T.		T.	.02		T.	.03		T.	T.		T.					T.	.01				0.09
Fryburg	Heart				.20					.10	.35	.15	.40		.07								.30								.10		1.67
Fullerton	James		T.	.02	.40					T.	.04	T.	T.	T.	.46	T.	.12			.19			.30						.13	.23	.38		2.27
Garrison	Missouri											.09																					0.09
Grafton	Red				.02				T.	.43		.19						.06	T.				.07										0.77
Grand Forks ***	Red				.04				.15	.22	.16	.03					.10						.04						T.		T.		0.74
Granville	Mouse				.03			T.		T.	.03							T.		T.													0.06
Hannah	Pembina					T.			T.		.39	.05	T.				T.		T.				T.										0.44
Hansboro	Devils Lake									.65	.25																						0.90
Hettinger	Grand	T.	T.	T.	T.					T.			.13	.03		T.	.06		.17	.06			.05				T.				.05		0.55
Hillsboro	Red				.20					.30	.10	.20	.05					.10					.20										1.15
Howard (near)	Missouri			.10						T.	T.		.16	.08				T.		T.							T.	T.					0.34
Jamestown ‖	James										.04	.08		.10				.15							.02	.02					.10		0.51
Lamoine	Missouri	T.								.05		T.						.10											.25		.25		0.65
Langdon ‖	Pembina								.15	.20		.50	.10																				0.95
Larimore	Red									.50	.30							.08					.08										0.96
Linton	Missouri	T.	.04	T.	.16							T.	T.	T.		.75															.04		0.99
Lisbon ‖	Sheyenne																																......
McClusky	Missouri							T.		T.		T.																					T.
McKinney (near)	Mouse																					T.		T.									0.24
McLeod	Sheyenne					.23					T.				.20		.24						.28	T.						.16			1.11
Maddock	Sheyenne	T.			T.					T.	.80		T.		T.			T.	T.				T.						T.		T.		0.80
Mandan ‖	Missouri		T.	.09	T.	.03				T.	T.		.09	T.	.16	.16	T.	T.					.03		.01		T.	.02	.03		.17	.01	0.80
Manfred	James				.03					.03	.15				.04		T.	.07	T.	T.		.10							.02		.03		0.47
Marmarth	Lit. Missouri	.05			.04		.01				.04	.03	.03	.01		.04	.01	.01								.09	.05	.02		.20			0.69
Mary	Lit. Missouri																																......
Mayville	Red				.16					.08	.18																						0.42
Melville	James				.10							.40																					0.50
Metigoshe	Mouse									.65	.40																						1.05
Michigan	Red				T.		T.		T.	.22	T.												.02					T.					0.24
Minot ‖	Mouse				T.				T.			.04				T.		.06				T.				T.							0.10
Mott	Cannon Ball	T.	.20		.09			.08			.04	T.	T.			T.	.38	T.					.09				.11	T.	.10		.48		1.57
Napoleon ‖	Missouri			.10		.10						.10			.15			.30											.02		.10		0.87
New England	Cannon Ball																																......
New Salem	Heart		.15	T.	.01			T.			.01	.02	.01	.01	.03		.01						.03				T.	T.	.01		.25		0.64
Oakes	James				.24					T.	T.	.11			.10		T.	.10		T.			.04		T.				.03		.50		1.12
Park River	Red				.06				T.	.56	.12																		T.			T.	0.74
Parshall (near)	Missouri																			.06			T.				.03		.06		.06		0.21
Pembina ‖	Red									.15								.48					.32										0.95
Pettibone	James										.02			.02			.04	T.					T.		T.				.02		.08		0.18
Portal	Mouse		.02							.08		T.	.04							.04			.04					.02					0.24
Power	Sheyenne				.37						.32		.03	.08									.16								.04		1.00
Powers Lake	Missouri										.09	.13																					0.22
Richardton	Heart		.12						T.		T.						.03	.05													.03		0.23
Rugby [near]	Mouse							T.		.25							T.		T.	T.			T.						T.				0.25
Ryder	Missouri						.05																						.04				0.09
Sharon	Red				.03				.01	.17	.09	T.			.03		.01	T.					.09		T.				.01			T.	0.44
Stanton	Missouri													.10		.10													T.		.15		0.35
Steele	Missouri	.04	.04	T.	.04	.04			T.	T.	.04	.04	.08	.08	.16	.01	.04	.04	.04	T.	.04										.21		1.00
Stowers	Cannon Ball	T.	T.	T.	T.					T.			T.						.20			.06					T.	T.	T.	T.	.06	.05	0.37
Tagus	Mouse										.03							.02															0.05
Tioga	Missouri			T.						T.	T.	T.	T.		T.			T.	T.		T.	T.	T.			T.							T.
Towner	Mouse									.16	.21	.08						.16		.08			.08										0.80
Trotters	Lit. Missouri	T.	.12	T.							T.	T.	.24	.15		T.			.12								T.		.04		.07		0.74
Turtle Lake	Missouri							.16						.13			.16																0.48
Valley City	Sheyenne				.21					.02	.06				.04		.11						.20		.01				.01		.01		0.67
Veiva	Mouse			T.	.03					.03	.02	.05		T.	.05		.04	.02	.02	T.			.02					T.	T.		.02		0.30
Verona	James				.20					T.	T.				.10		T.	.02					T.						*	*	.33		0.65
Wahpeton	Red				.04						.02				.01			.02					.02										0.11
Washburn	Missouri		.05		.08					T.	.06	.14		.04		.02															.10		0.49
Westhope	Mouse								.10																								0.10
Williston ***	Missouri	.01	.09	.01	.03			.03	.01	.01	T.	T.	.12	.16		T.	.08	.06				.10					.05	.02	T.		.12		0.90
Willow City	Mouse				.03				T.	.15	.25	.10	.05					.05	.05	.05	T.								.03				0.76
Wilton																																	......
Moorhead, Minn ***	Red				.21		T.	T.	T.	.12	.25	.02	.01		.03	T.	.41	.08		T.			.18		.03				.02		T.	T.	1.36

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	6	12	-6	-1	-5	-7	0	10	20	28	13	-3	-4	-5	-5	-4	0	8	20	23	10	-2	-4	-5	-6	-9	-7	2	-4	-4	-4	2.2
	Minimum	-16	-14	-11	-20	-20	-10	-29	-16	-15	-21	-25	-18	-31	-15	-27	-20	-19	-21	-10	-5	-4	-14	-24	-17	-24	-31	-22	-18	-30	-18	-15	-18.7
Amidon	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Arnegard	Maximum	14	14	16	10	7	12	32	32	34	36	36	26	-6	-4	4	0	17	3	10	15	21	-1	-9	-3	-10	-9	-9	-10	-12	-7	-14	7.9
	Minimum	-13	-3	3	-15	-16	-21	-24	21	6	-5	-6	-12	-21	-17	-17	-13	-14	-17	-18	0	-1	-27	-27	-29	-33	-26	-27	-31	-37	-14	-29	-15.6
Ashley	Maximum	10	17	15	20	13	8	2	36	28	37	30	23	1	-5	9	4	10	5	1	16	26	20	-8	-5	-8	-8	-6	-3	-5	-4	-5	8.8
	Minimum	-9	3	-3	6	-17	-11	-27	2	6	5	-15	1	-21	-14	-15	-16	-3	-12	-15	-3	-4	-14	-25	-20	-25	-27	-14	-18	-28	-14	-16	-11.7
Beach	Maximum	22	22	16	12	15	13	32	35	32	36	33	32	6	-3	10	3	15	15	7	12	20	3	-10	-10	-14	-10	-8	-16	-10	-7	-8	9.5
	Minimum	2	6	7	-2	-20	-5	-5	23	10	10	-12	4	-7	-18	-10	-10	-11	-10	-28	3	3	-20	-27	-29	-31	-20	-17	-26	-32	-15	-29	-10.2
Berthold Agency	Maximum	12	22	25	14	5	12	22	37	32	35	33	28	6	-3	2	0	8	6	10	8	25	16	-10	-12	10	-12	5	-8	-10	-4	-5	9.3
	Minimum	-12	4	0	-6	-23	-17	-24	22	2	2	-13	-2	-23	-23	-21	-23	-23	-16	-31	-29	-6	-16	-27	-32	-32	-10	-18	-22	-34	-15	-21	-15.8
Bismarck	Maximum	10	18	17	16	3	11	21	38	27	38	24	23	-6	-5	2	0	3	0	7	18	20	13	-9	-2	-9	-6	-6	-8	-8	-4	-7	7.7
	Minimum	-10	7	10	-10	-17	-20	-24	21	5	-7	-12	-12	-21	-16	-15	-19	-19	-10	-18	2	-3	-24	-24	-21	-31	-28	-14	-26	-33	-9	-19	-13.5
Bottineau §§	Maximum	3	10	12	12	3	2	4	27	20	25	4	10	-3	-10	-6	-7	0	1	4	18	19	6	5	0	-8	-11	-7	-8	-11	-2	-3	3.5
	Minimum	-20	-6	-7	1	-21	-19	-32	3	-5	-5	-27	-14	-37	25	-33	-32	-12	-22	-30	-13	-9	-19	-34	-35	-32	-35	-22	-22	-35	-19	-15	-20.4
Cando	Maximum	12	9	11	15	5	-4	8	11	16	18	7	8	-12	-11	-3	-4	3	2	1	18	19	18	13	-13	-6	6	-10	-7	-4	-10	-1	2.5
	Minimum	-19	-11	-6	-2	-18	-14	-10	-8	-5	-6	-28	-16	-33	-23	-26	-27	-16	-21	-24	-11	-4	-15	-15	29	-23	-28	-31	-24	-24	-20	-17	-17.9
Carson	Maximum	12	15	15	10	5	15	23	40	32	36	30	28	15	-1	5	-1	5	14	5	15	25	14	-10	0	-10	-5	-8	-8	-12	-8	-8	9.8
	Minimum	-12	3	0	-9	-23	-10	-25	18	4	0	-17	-10	-21	-22	-12	-22	-14	-14	-21	-4	-2	-26	-30	-22	-34	-25	-18	-30	-35	-16	-26	-16.1
Crosby §§	Maximum	15	13	17	5	10	-7	35	33	35	37	22	0	23	-3	0	-2	10	6	11	15	20	-11	-10	-3	-10	-10	-7	-21	-10	-7	-8	6.4
	Minimum	-13	3	1	3	-10	-17	-19	-7	3	5	-15	-5	-25	-3	-23	-18	-16	-20	-20	-10	2	-23	-27	-25	-32	-32	-25	-27	-34	-35	-22	-16.2
Devils Lake	Maximum	2	10	14	15	0	-4	21	29	8	26	9	-2	-10	-10	1	-3	4	0	6	19	21	7	-13	-6	-10	-9	-8	-3	-11	-9	-1	3.1
	Minimum	-15	-7	-3	-10	-14	-24	-26	7	0	-15	-26	23	-32	-19	-21	-21	-16	-18	-18	-3	1	-20	-27	-21	-28	-28	-24	-22	-28	-19	-15	-17.1
Dickinson §§	Maximum	18	15	14	13	16	4	32	36	34	40	32	12	0	-2	1	1	11	-1	7	14	22	-14	-9	-8	-7	-10	-10	-18	-10	-4	-14	6.9
	Minimum	-10	4	4	0	-21	-11	-22	-4	15	8	-16	-7	-16	-23	-23	-19	-19	-9	-21	-12	-3	-16	-31	-31	-39	-33	-21	-25	-37	-30	-26	-16.0
Dunn Center §§	Maximum	14	15	24	16	15	-4	32	39	39	37	30	3	13	-3	-3	1	8	0	8	25	....	-13	-8	-7	-4	-9	-8	-18	-8	-4	-8	* 7.1
	Minimum	-15	-1	2	0	-17	-14	-26	20	14	14	-10	....	....	....	....	....	-25	-10	-18	-13	-15	....	-28	-32	36	-31	-20	-24	-39	-35	-22	-[f]15.2
Dunseith	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...	....	....	....	....	.....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Edgeley	Maximum	13	16	18	19	10	7	0	31	31	37	17	21	-2	12	13	7	10	8	1	15	23	16	-6	-3	-9	-9	-4	-2	-11	-10	-4	8.7
	Minimum	-9	2	-4	1	-17	-11	-27	-1	5	4	-17	-3	-25	-10	-19	-10	-8	-19	-14	-1	-1	-11	-24	-16	-24	-25	-26	-21	-29	-17	-13	-12.6
Ellendale	Maximum	10	16	19	20	4	9	13	39	25	39	22	21	-5	-4	10	0	11	5	8	19	18	12	-7	-5	-6	-10	-6	-2	-8	-3	-2	10.9
	Minimum	-6	1	-2	-2	-14	-18	-25	13	6	-5	-14	-11	20	-16	-20	-17	-8	9	-8	-2	0	-17	-23	-20	-21	-21	-17	-20	-26	-11	-14	-15.8
Fessenden §§	Maximum	5	15	19	16	7	-9	30	32	24	33	15	0	-6	-3	4	1	8	-3	8	31	26	0	-5	1	-5	-6	2	-2	-6	-3	2	8.4
	Minimum	-18	-12	-2	4	-20	-17	30	22	8	4	-29	-15	-31	-30	-27	-25	-18	-21	17	-14	-2	-14	-27	-18	-31	-32	-31	-18	-33	-32	-13	-17.5
Foxholm (near)	Maximum	7	8	17	15	6	7	16	33	28	32	12	18	-9	-8	-2	-1	7	7	7	16	23	20	-10	-7	-9	-12	-8	-11	-16	-8	-3	5.6
	Minimum	-10	-7	-4	-3	-11	-16	-26	14	-6	-4	-19	10	-30	-25	-18	-23	-15	-18	-19	0	3	-20	-28	-27	-31	-33	-21	-21	-35	-25	-17	-16.3
Fullerton	Maximum	12	16	18	21	10	7	3	38	32	38	13	4	-1	-1	10	7	6	7	8	20	20	10	-6	-4	-8	-8	-5	-3	-9	-2	-2	8.1
	Minimum	-7	5	-1	4	-18	-10	-25	3	7	6	-15	-6	-22	-13	-16	-2	-8	-11	-10	0	1	-12	-21	-13	-21	-23	-15	-18	-27	-11	-13	-10.1
Garrison	Maximum	12	18	23	15	5	3	17	34	28	38	16	22	-5	-5	5	0	6	5	9	19	28	14	-4	1	0	-7	0	-7	-6	-3	-4	8.9
	Minimum	-12	0	7	0	-11	-12	-20	16	1	1	-14	-7	-25	-22	-14	-22	-18	-16	-18	0	1	-16	-24	-24	-30	-28	-17	-18	-32	-14	-20	-13.2
Grafton	Maximum	2	0	7	11	5	1	-1	17	13	9	3	5	-14	-14	2	-1	0	-2	1	15	16	14	-11	-9	-8	-10	-9	-1	-1	-8	4	1.2
	Minimum	-10	-12	-9	-6	-14	-27	-24	-3	-2	-2	-29	-18	-34	-23	-30	-30	-20	-11	-21	-5	-8	-14	-28	-21	-26	-30	-24	-24	-28	-24	-15	-18.5
Grand Forks	Maximum	4	9	13	14	4	-1	8	23	16	14	10	3	-10	-9	5	-2	3	-1	4	20	16	10	-8	-4	-9	-10	-9	2	-9	-7	5	3.4
	Minimum	-13	-14	-4	-7	-15	-23	-34	8	-3	-10	-23	-25	-32	-22	-28	-25	-14	-13	-16	-7	-1	-20	-24	-17	-22	-30	-24	-23	-26	-22	-16	-17.8
Granville	Maximum	10	15	20	18	-5	-18	20	32	35	37	15	15	10	10	-2	0	6	7	10	22	23	-15	-10	-5	-10	-2	-10	-2	-11	-18	0	6.3
	Minimum	-20	-10	0	-12	-17	-24	-30	15	-5	-12	-24	-22	-32	-28	-26	-27	-20	-25	-20	-2	-5	-15	-26	-31	-35	-23	-28	-30	-35	-22	-15	-19.5
Hansboro	Maximum	0	8	10	11	5	-5	-10	32	21	20	0	-5	-10	-5	-8	-10	2	-5	2	15	15	-3	-15	-15	-15	-18	-15	-8	-20	-15	4	-1.2
	Minimum	-22	-18	-15	-10	-18	-22	-33	-10	-10	-7	-32	-24	-35	-27	-32	-32	-22	-22	-31	-15	-6	-25	-35	-36	-33	-38	-30	-27	-10	-30	-20	-24.4
Hettinger	Maximum	23	21	16	15	16	20	34	42	33	39	35	35	6	0	12	3	15	13	3	17	32	16	-6	-4	0	-7	-10	-10	-11	-4	-8	12.5
	Minimum	1	9	6	-7	-19	-7	-11	20	12	6	-8	5	-6	-12	-7	-5	-15	-12	-13	-5	-7	-16	-21	-32	-32	-21	-18	-27	-33	-25	-15	-10.2
Hillsboro	Maximum	6	10	15	11	8	-1	-4	28	20	22	10	10	-11	-8	8	1	4	-2	2	22	14	12	-7	-1	-7	-9	-9	1	-1	-6	5	4.6
	Minimum	-12	-11	-8	-3	-14	-18	-26	-5	0	-2	-22	-16	-30	-12	-25	-19	-14	-11	-19	-6	-2	-10	-24	-16	-19	-27	-22	-21	-28	-17	-12	-15.2
Howard (near)	Maximum	10	17	22	15	3	15	28	34	30	34	22	20	5	4	5	-4	10	10	10	16	10	-10	-10	-16	-11	-11	-9	-16	-22	-18	-20	5.6
	Minimum	-12	-3	-5	-8	-18	-20	-24	18	3	-3	-8	-12	-18	-25	-28	-15	-10	-25	-12	-12	-10	-28	-32	-33	-36	-27	-19	-36	-38	-32	-32	-18.1
Jamestown §§	Maximum	15	14	19	17	5	0	32	34	21	27	18	-1	-4	-5	5	0	7	-2	6	22	33	0	-6	-4	-6	-6	-4	-6	-10	-3	-2	7.0
	Minimum	-18	-15	-7	-2	-16	-18	-29	-28	16	4	-21	-21	-28	-22	-20	-21	-11	-18	-18	-2	-5	-28	-26	-25	-31	-31	-32	-31	-32	-22	-14	-18.4
Lamoine	Maximum	10	16	18	13	12	10	15	35	29	34	9	19	-9	-7	-3	-3	-3	0	2	15	15	13	-9	-5	-8	-6	-6	-6	-9	-7	0	6.5
	Minimum	-17	-2	-3	-17	-18	-15	-30	3	-1	6	-23	-10	-32	-25	-22	-22	-15	-10	-19	-2	-5	-17	-29	-23	-32	-30	-19	-19	-35	-15	-11	-16.8
Langdon §§	Maximum	5	10	22	14	8	8	21	21	15	10	5	0	-4	-5	2	0	3	0	0	15	27	5	25	-3	-5	4	-7	2	4	5	1	6.5
	Minimum	-20	-17	-11	-7	-21	-19	-15	15	-5	-4	-32	-20	-39	-35	-32	-32	-30	-18	-27	-25	-9	-13	-35	-15	-32	-38	-32	-30	-34	-33	-23	-22.2
Larimore §§	Maximum	6	8	11	14	3	-12	3	25	12	18	2	-6	-8	-8	4	0	2	-5	6	18	25	10	-8	-4	-8	-9	-7	1	-8	-8	4	2.6
	Minimum	-15	-10	-5	0	-18	-18	-27	5	0	0	-25	-14	-33	-15	-23	-23	-20	-16	-18	-10	0	-15	-26	-18	-27	-31	-25	-20	-28	-23	-16	-16.6
Linton	Maximum	10	19	16	14	5	11	10	40	28	38	16	26	-6	-5	7	8	3	8	12	20	28	8	-8	-2	-2	-7	-4	-3	-5	-5	-7	8.8
	Minimum	-14	6	-4	4	-28	-17	-31	8	7	8	-17	-7	-27	-21	-17	-16	-19	-16	-11	4	-3	-3	-19	-21	-37	-37	-15	-20	-36	-12	-17	-13.9
Lisbon §§	Maximum	11	17	20	22	-8	-2	27	35	26	35	16	-5	-4	-7	-6	2	13	-2	5	22	25	8	-3	20	-5	-8	-6	6	-5	-7	-1	8.1
	Minimum	-14	-11	-8	0	-16	-11	-30	-9	-20	2	-22	-7	-31	-12	-25	-18	-14	-11	-17	-15	-8	-5	-28	-18	-24	-29	-26	-24	-32	-15	-14	-16.3
McClusky	Maximum	8	15	20	15	8	7	11	35	26	34	20	18	10	5	1	-1	5	0	7	15	20	14	6	0	-5	-8	-15	-13	-6	-7	-8	7.3
	Minimum	-16	-3	-1	-8	-19	-17	-29	5	-3	-4	-21	-16	-32	-25	-23	-25	-18	-18	-23	-4	-6	-22	-30	-25	-34	-33	-22	-25	-35	17	-20	-18.4
McKinney (near)	Maximum	8	9	22	16	8	8	18	34	25	32	18	18	18	-10	0	-2	10	8	8	18	22	0	-11	-5	-10	0	-9	-13	-15	-8	-8	6.7
	Minimum	-13	-8	-8	-8	-12	-16	-27	-8	-5	-2	-21	-8	-31	-25	-24	-26	-20	-20	-18	2	0	-20	-27	-37	-40	-28	-18	-23	-35	-25	-18	-18.4
Maddock	Maximum	6	10	15	14	8	0	5	31	28	31	8	11	-5	-9	-1	-3	4	0	5	20	23	20	-9	-2	0	-6	-1	-3	-6	-3	0	6.1
	Minimum	-21	-9	-11	-1	-20	-17	-31	2	-1	2	-27	-12	-32	-23	-28	-29	-19	-22	-20	-3	-4	-17	-29	-27	-34	-34	-25	-24	-33	-18	-16	-18.8
Melville	Maximum	12	14	15	11	10	11	12	26	21	12	18	11	8	10	15	20	21	12	10	12	15	12	10	1	2	6	8	6	8	5	8	11.9
	Minimum	-14	-6	-8	-12	-14	-24	-27	-2	-3	-10	-6	-23	-29	-31	-17	-12	-17	-21	-16	-14	-12	-26	16	-14	-29	-20	-14	-18	-31	-27	-19	-17.4
Minot §§	Maximum	10	12	20	17	8	10	18	31	31	34	18	20	-6	-6	0	0	9	2	9	19	24	22	-8	0	-4	-8	-5	-7	-8	-7	-1	8.3
	Minimum	-12	-4	0	-1	-11	-12	-24	17	-3	-1	-16	-7	-29	-24	-23	-22	-19	-19	-18	6	2	-16	-23	-28	-34	-30	-18	-18	-33	-19	-12	-14.5
Mott	Maximum	15	18	24	12	16	8	5	37	25	36	16	10	18	12	-3	2	15	0	15	14	15	9	-5	-9	-13	-16	-12	-14	-10	-6	-9	7.5
	Minimum	-6	5	7	-7	-21	-5	-16	11	6	-4	-12	-6	-3	-21	-20	-15	-13	-12	-15	-12	-10	-14	-25	-31	-33	-24	-23	-25	-34	-17	-23	-13.6
Napoleon §§	Maximum	10	18	16	17	4	-1	32	41	20	36	21	4	-7	-4	4	2	8	-5	-5	15	21	-6	-8	-8	-7	-10	-7	-8	-5	-5	-9	5.6
	Minimum	-12	0	-7	5	-22	-18	-34	0	17	4	-21	1	-28	-27	-16	-25	-18	-18	-22	-19	-7	-12	-31	-19	-34	-32	-20	-24	-35	-17	-20	-16.5
New Salem	Maximum	11	16	18	15	5	10	20	32	30	36	22	11	-1	-4	0	0	21	15	5	17	21	15	-10	4	-5	-4	-5	-7	12	-6	-8	8.5
	Minimum	-11	-3	3	-5	-16	-15	-24	-2	3	0	-18	5	-27	-20	-13	-16	-9	-15	-18	0	2	-15	-26	-26	-31	-27	-17	-20	-34	-20	-23	-14.1
Pembina §§	Maximum	5	6	5	-8	-10	-15	12	20	10	-5	-16	-10	-18	-5	-10	2	-5	-10	8	18	-8	-15	-6	-2	-24	-15	-12	-12	-8	8	10	3.5
	Minimum	-16	-28	-16	-16	-17	-14	-30	10	10	-10	-16	-20	-30	-24	-20	-22	-20	-24	-25	-15	-10	-15	-24	-20	-28	-30	-30	-26	-30	-25	-30	-19.7
Steele	Maximum	10	10	16	-2	6	-13	-6	35	5	0	0	-10	-10	-10	0	0	-2	-10	-10	22	15	-12	2	-10	-18	-18	-8	-9	-12	-8	0	1.5
	Minimum	-15	0	-2	-6	-24	-15	-30	10	-9	-30	-23	-31	-30	-26	-23	-18	-20	-22	-22	-24	-22	-26	-32	-30	-34	-32	-19	-21	-34	-18	-19	-20.9
Towner	Maximum	5	8	11	10	10	3	5	33	28	33	11	11	-8	-8	-4	-4	5	4	10	18	22	15	-10	2	-8	-8	-2	-2	0	2	0	6.2
	Minimum	-26	-11	-10	-4	-19	-19	-34	5	-4	-3	-31	-13	-36	-32	-31	-31	-19	-19	-19	0	15	-15	-26	-30	-33	-33	-19	-20	-13	-11	-30	-18.4
Valley City	Maximum	12	12	16	19	9	-4	2	38	23	34	18	13	-8	-7	7	4	5	3	-2	20	26	18	19	-3	-5	-8	-5	-1	-5	-2	4	8.8
	Minimum	-15	-1	-7	-3	-14	-11	-30	-1	3	2	-21	-9	-28	-12	-24	-21	-10	-12	-14	1	-1	-12	-24	-14	-23	-28	-19	-22	-26	-14	-12	-13.6
Wahpeton	Maximum	12	17	20	20	20	7	-1	36	36	35	27	14	-5	-6	6	7	10	7	3	19	22	21	-5	-3	-3	-5	-6	0	0	2	5	10.1
	Minimum	-12	-9	-6	4	-16	-15	-35	-4	10	-2	-18	-10	-31	-10	-20	-20	6	-10	-20	-19	-6	-8	-25	-8	-19	-25	-17	-22	-29	-10	-16	-13.2
Westhope	Maximum	5	10	19	9	9	3	21	30	20	22	9	8	-5	-8	-8	-6	5	-2	6	20	23	-8	-8	-8	-9	-11	-3	-9	-8	-9	-2	3.7
	Minimum	-16	-9	-12	-16	-18	-22	-26	-16	-8	-10	-27	-8	-35	-30	-23	-34	-17	-24	-24	-6	-7	-22	-29	-32	-37	-37	-23	-34	-24	-34	-14	-21.7
Williston	Maximum	13	17	20	15	14	13	34	35	31	38	30	20	-4	-2	3	3	11	-1	11	17	22	-9	-8	-6	-10	-7	-6	-7	-12	-2	-16	8.3
	Minimum	-5	-2	-1	-13	-13	-18	-14	25	7	-10	-11	-13	-17	-17	-16	-8	-13	-14	-15	2	-9	-20	-25	-28	-33	-26	-11	-31	-34	-18	-29	-13.9
Moorhead, Minn	Maximum	4	13	15	19	3	-2	8	28	27	29	13	13	-8	-6	4	3	3	-2	7	19	16	13	-6	-6	-8	-13	-10	-2	-8	-5	6	5.4
	Minimum	-11	-5	-7	-4	-14	-18	-26	7	-2	-10	-19	-22	-28	-19	-22	-17	-11	-12	-13	-5	-7	-17	-23	-12	-19	-25	-20	-19	-23	-12	-14	-14.5

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 3-12-29—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVIII   BISMARCK, N. D., FEBRUARY, 1929   No. 2

GENERAL SUMMARY

The weather of the month was cold and generally more or less stormy, and unfavorable for outdoor work and for livestock. As a result of these unfavorable conditions marketing of grain on farms was delayed and much yard feeding of livestock, particularly cattle and sheep, was necessary, with slight losses in some sections. Ice harvest was delayed by too cold weather and was only completed near the close of the month. Moderately heavy snows occurred from the 10th to the 17th, inclusive, and light snows occurred on the 3-4th, 21-23d, and 27-28th. The main highways were mostly open to auto traffic, but many crossroads were impassable.

TEMPERATURE

The mean temperature for the State was 2.8°, or 5.1° below the normal, and 16.0° lower than the average for February, 1928. The highest mean reported was 10.0° at Marmarth, Slope County; the lowest was -3.0° at Hansboro, Towner County. The highest temperature reported was 44° at Carson, Grant County, on the 25th; the lowest was -44° at Eckman, Bottineau County, Oakes, Dickey County and Velva, McHenry County, on the 19th. The greatest monthly range of temperature was 84° at Willow City, Bottineau County; the least was 59° at Park River, Walsh County. The greatest daily range in temperature was 73° at Dunn Center, Dunn County on the 20th.

PRECIPITATION

The average precipitation for the State was 0.29 inch, or 0.20 inch below the normal, and 0.19 inch more than the average for February, 1928. The greatest monthly amount reported was 0.80 inch at Langdon, Cavalier County, Linton, Emmons County and Power, Richland County; the least was a trace at four stations. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Linton, Emmons County on the 9th. The average snowfall was 3.3 inches. The average number of days with 0.01 inch or more of precipitation was 4.

AURORAS

Auroras were observed at Bottineau on the 5th; at Bottineau, Foxholm and Rugby on the 6th; at Devils Lake and McLeod on the 7th; at Foxholm on the 8th; at Bottineau on the 9th; at Rugby on the 11th and 16th; at Arnegard on the 17th; at Bottineau on the 18th and 19th; at Oakes on the 21st; at Rugby on the 26th; at Foxholm, Grand Forks, Metigoshe, Napoleon, Rugby, Sharon, Stanton and Velva on the 27th; and at Sharon on the 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.15	30.57	6	29.46	15	57	4,231	6.8	24§	nw.	13
Devils Lake	30.14	30.57	6	29.42	20	44	4,887	7.3	22§	nw.	20
Ellendale	30.15	30.53	1	29.50	20	56	7,331	10.9	35§	n.	16
Grand Forks	30.12	30.50	1	29.46	16	90	....	......	20	se.	3
Williston	30.14	30.63	6	29.40	15	48	3,961	5.9	25§	e.	15
Moorhead, Minn	30.17	30.59	1	29.49	20	58	4,552	6.8	20§	s.	20
Av'ges and extremes	30.14	30.63	6	29.40	15	.....	....	7.4	35§	n.	16

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	155.6	288.7	54	− 4	89	67	79	43	5
Devils Lake	186.3	286.9	65	+ 8	91	87	89	76	25
Ellendale	191.5	290.8	66	+ 8	86	79	....	66	11
Grand Forks	....	....	......	......	70	.....	82	......	....
Williston	151.5	297.9	53	0	86	73	78	42	19
Moorhead, Minn	165.7	288.7	57	− 1	94	76	87	51	19
Averages and extremes	170.1	290.5	59	+ 2	86	76	83	42	19

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	10.0	+2.1	62	−54	0.58	+0.09	4	14	7	8	nw.
1893	− 0.3	−8.2	52	−40	0.59	+0.10	4	12	7	9	nw.
1894	8.0	+0.1	55	−50	0.22	−0.27	2	14	9	5	nw.
1895	5.9	−2.0	65	−29	0.36	−0.13	4	13	7	8	nw.
1896	14.3	+6.4	64	−40	0.44	−0.05	3	12	9	8	nw.
1897	6.1	−1.8	52	−34	1.15	+0.66	7	12	7	9	nw.
1898	13.3	+5.4	65	−48	0.46	−0.03	3	13	8	7	nw.
1899	0.4	−7.5	60	−48	0.20	−0.29	3	14	8	6	nw.
1900	1.3	−6.6	46	−31	0.47	−0.02	4	12	9	7	nw.
1901	7.1	−0.8	60	−33	0.31	−0.18	3	15	7	6	nw.
1902	12.1	+4.2	51	−49	0.98	+0.49	6	10	6	12	nw.
1903	3.1	−4.8	46	−42	0.38	−0.11	3	19	4	5	nw.
1904	− 2.2	−10.1	52	−46	0.54	+0.05	5	13	6	10	nw.
1905	8.2	+0.3	64	−38	0.30	−0.19	2	19	4	5	nw.
1906	9.8	+1.9	57	−49	0.13	−0.36	2	13	8	7	nw.
1907	10.7	+2.8	58	−34	0.27	−0.22	3	15	7	6	nw.
1908	13.8	+5.9	62	−34	1.07	+0.58	5	12	7	10	nw.
1909	9.6	+1.7	56	−50	0.34	−0.15	4	11	7	10	nw.
1910	3.4	−4.5	56	−38	0.50	+0.01	4	14	7	7	nw.
1911	7.3	−0.6	55	−33	0.73	+0.24	3	15	8	5	nw.
1912	11.8	+3.9	48	−44	0.15	−0.34	2	10	9	10	nw.
1913	8.5	+0.6	64	−47	0.10	−0.39	2	12	9	7	nw.
1914	1.0	−6.9	57	−20	0.34	−0.15	3	12	8	8	nw.
1915	17.4	+9.5	50	−39	0.62	+0.13	3	9	5	14	nw
1916	6.4	−1.5	55	−48	0.46	−0.03	4	14	8	7	nw.
1917	− 0.7	−8.6	61	−41	0.66	+0.17	5	10	8	10	nw.
1918	10.8	+2.9	60	−40	0.19	−0.30	3	13	9	6	nw.
1919	7.7	−0.2	58	−36	0.66	+0.17	5	10	8	10	nw.
1920	12.5	+4.6	53	−33	0.30	−0.19	3	11	9	9	nw.
1921	19.9	+12.0	64	−39	0.39	−0.10	3	11	10	7	nw.
1922	0.7	−7.2	45	−40	1.21	+0.72	5	13	6	9	nw.
1923	4.1	−3.8	48	−27	0.65	+0.16	4	13	7	8	nw.
1924	20.3	+12.4	67	−39	0.41	−0.08	3	14	6	9	nw.
1925	16.5	+8.6	62	−19	0.31	−0.18	3	10	9	9	nw.
1926	22.3	+14.4	58	−31	0.41	−0.08	4	9	9	10	nw.
1927	13.3	+5.4	50	−41	0.36	−0.13	4	12	7	9	nw.
1928	18.8	+10.9	59	−19	0.10	−0.39	2	14	8	7	nw.
1929	2.8	−5.1	44	−44	0.29	−0.20	4	12	8	8	nw.

Climatological Data for February, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	3	...	...	...	...	...	...	...	0.13	...	0.04	1.3	5	...	...	...	...	H. A. Bury.
Amenia	Cass	954	33	1.4	−5.6	30	27	−30	20	36	0.20	−0.20	0.10	2.0	2	10	17	1	n.	E. T. Carley.
Arnegard (near)	McKenzie	...	14	4.9	−8.3	37	25	−35	19	51	0.45	+0.03	0.30	4.5	3	15	4	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	3.6	−4.2	36	25	−35	19	43	0.26	−0.21	0.16	6.0	5	14	7	7	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	7.2	−6.4	35	25	−32	18	47	0.15	−0.36	0.04	2.0	5	14	11	3	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	4.6	−4.8	36	27	−43	18	43	0.10	−0.45	0.10	1.0	1	13	1	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	4.6	−5.7	33	23	−43	19	41	0.32	−0.12	0.18	3.1	7	9	12	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	−1.2	−3.0	38	25	−42	19	41	0.23	−0.14	0.04	2.3	9	13	3	12	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	15	...	...	...	...	...	...	...	0.20	−0.11	0.15	0.9	2	7	5	16	nw.	M. S. Byrne.
Cando	Towner	1,488	28	3.0	+0.2	36	25	−33	19	36	0.09	−0.14	0.03	0.9	4	13	7	8	nw.	A. J. Swanson.
Carson	Grant	2,500	17	4.7	−9.0	44	25	−32	18	38	0.18	−0.12	0.08	2.0	4	9	7	12	nw.	J. W. Evens.
Cavalier	Pembina	...	...	...	...	...	...	...	...	...	0.30	...	0.20	3.0	2	18	4	6	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	S. Friswold.
Corinth	Williams	2,180	2	...	...	...	...	...	...	...	0.38	...	0.20	3.8	4	...	...	...	...	L. S. Evenson.
Crosby	Divide	1,954	23	0.2	−6.9	34	27	−35	19	55	0.12	−0.17	0.05	1.2	3	16	2	10	nw.	John Jensen.
Devils Lake	Ramsey	1,478	32	1.4	−3.7	33	25	−29	19	30	0.12	−0.38	0.03	1.9	7	7	9	12	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	2.8	−9.0	34	25	−40	19	67	0.39	−0.04	0.15	3.9	8	9	11	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	5.0	...	34	25†	−30	18	33	0.34	...	0.18	4.8	3	10	7	11	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	30	3.2	−9.8	32	15†	−43	19	73	0.15	−0.41	0.10	3.0	2	11	6	11	nw.	W. F. Moede.
Dunseith	Rolette	1,682	33	1.2	−2.2	36	25	−33	19	35	0.10	−0.32	0.05	1.0	4	18	8	2	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	24	−1.4	−7.8	37	25	−44	19	47	0.20	−0.15	0.07	4.0	7	4	15	9	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	28	5.0	−5.9	30	20†	−32	19	43	0.55	+0.23	0.20	5.5	4	1	19	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	3.9	−6.8	31	20	−36	19	36	0.32	−0.26	0.12	4.1	10	5	10	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	17	4.5	...	33	25	−42	19	36	0.07	−0.19	0.07	1.0	1	7	18	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	21	2.2	...	37	25	−37	19	37	0.39	+0.04	0.25	3.2	3	17	7	4	w.	A. O. Wang.
Fairfield	Billings	...	2	...	...	...	...	...	...	...	0.25	...	0.10	2.5	3	12	6	10	nw.	F. R. Hecker.
Fessenden	Wells	1,610	17	3.5	−4.4	39	25	−37	19	64	0.28	−0.05	0.18	3.0	2	13	9	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	35	...	...	...	...	...	...	...	0.40	−0.13	0.30	4.0	2	7	10	11	nw.	O. Enger.
Fort Yates	Sioux	1,670	...	4.8	−6.6	35	23	−41	19	45	0.30	−0.34	0.25	3.0	2	16	1	11	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	2.7	...	34	25	−33	19	31	0.68	...	0.35	7.8	8	7	11	10	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11	...	...	...	...	...	...	...	0.67	+0.19	0.20	7.0	7	10	7	11	nw.	Verne King.
Fullerton	Dickey	1,439	31	5.0	−4.3	31	20	−36	19	42	0.76	−0.05	0.27	7.6	9	7	12	9	nw.	F. O. Alin.
Garrison	McLean	1,901	34	6.0	−2.4	39	25	−36	19	34	0.12	−0.41	0.12	1.2	1	22	5	1	nw.	Wm. H. Robinson.
Grafton	Walsh	827	38	0.6	−4.3	34	26	−36	18	37	0.17	−0.41	0.17	1.7	1	17	7	4	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	38	1.6	−4.9	33	27	−28	19	35	0.18	−0.35	0.09	2.6	6	9	10	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	1.6	−6.8	39	25	−41	19	45	0.05	−0.33	0.05	0.5	1	12	2	14	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	35	...	...	...	...	...	...	...	0.02	−0.54	0.02	0.2	1	...	...	...	...	James Meier.
Hansboro	Towner	1,597	21	−3.0	−6.7	35	25	−38	19	40	0.40	−0.08	0.20	4.0	2	17	7	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	7.8	−5.4	36	25	−36	19	37	0.04	−0.24	0.04	0.5	1	14	2	12	nw.	C. H. Plath.
Hillsboro	Traill	901	23	4.4	−4.1	31	27	−29	19	42	0.25	−0.43	0.10	2.5	3	4	19	5	s.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	22	0.7	−5.3	40	27	−37	6†	37	0.51	−0.18	0.20	5.1	3	3	12	13	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	1.1	−6.8	32	27	−36	19	56	0.58	0.00	0.15	6.0	7	10	9	9	nw.	S. Calvelage.
Lamoine	Kidder	1,936	24	4.8	−2.9	31	27	−36	19	35	0.38	−0.01	0.20	3.8	5	10	11	7	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	−1.1	−4.1	36	27	−38	19	64	0.80	+0.15	0.40	8.0	3	17	7	4	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	1.6	−3.6	33	26†	−29	19	40	0.40	−0.07	0.10	4.0	5	14	7	7	nw.	Reuben Gray.
Linton	Emmons	1,711	11	4.0	−9.6	33	20†	−42	19	46	0.80	+0.32	0.80	8.0	1	14	7	7	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	3.2	−6.4	35	23†	−35	19	53	0.05	−0.68	0.02	0.5	4	20	3	5	...	L. B. Walker.
McClusky	Sheridan	1,943	11	0.7	...	33	27	−39	20	34	0.67	...	0.25	6.8	6	14	8	6	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	35	−0.2	−5.3	34	25	−40	19	40	0.45	+0.14	0.30	4.5	2	5	12	11	nw.	E. A. Kaatz.
McLeod	Ransom	1,075	17	4.7	−6.7	32	26	−39	19	44	0.19	−0.39	0.09	1.9	3	20	0	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	13	3.2	−6.6	39	25	−38	19	40	0.02	−0.41	0.02	0.2	1	10	12	6	nw.	A. T. Felland.
Mandan	Morton	1,641	15	2.5	−8.0	33	3	−41	19	66	0.31	−0.04	0.13	5.8	8	8	2	18.	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26	...	...	...	...	...	...	...	0.46	+0.03	0.20	6.0	6	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	20	10.0ᵃ	−3.4	41ᵇ	20	−38ᵃ	18	49	0.59	+0.20	0.15	6.8	9	10	3	15	...	S. P. Grane.
Mary	McKenzie	...	2	...	...	...	...	...	...	...	0.17	...	0.07	1.8	4	7	12	9	nw.	Fred Hartman.
Mayville	Traill	975	33	3.6	−4.1	34	26	−30	19	45	0.10	−0.29	0.10	1.0	1	11	2	15	nw.	N. C. Burhans.
Melville	Foster	1,590	31	5.6	−1.0	35	26	−32	18	41	0.06	−0.27	0.06	0.6	1	21	0	7	ne.	J. P. Fischer.
Metigoshe ‡‡	Bottineau	...	4	...	...	...	...	...	...	...	T.	...	T.	T.	0	22	3	5	nw.	J. A. Thorburn.
Michigan	Nelson	1,518	1	...	...	...	...	...	...	...	T.	...	T.	T.	0	10	12	6	nw.	Arnold Johnson.
Minot	Ward	1,557	33	4.1	−3.8	38	25	−36	19	37	0.14	−0.32	0.08	3.5	2	16	2	10	w.	Julia B. Rue.
Mott	Hettinger	2,424	22	2.2	−9.6	35	25	−41	19	40	0.70	+0.13	0.20	7.5	7	11	11	6	nw.	O. H. Opland.
Napoleon	Logan	1,955	37	1.7	−5.1	30	20†	−38	19	40	0.27	−0.13	0.12	3.5	4	11	4	13	nw.	C. J. Hoof.
New England	Hettinger	2,400	38	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. J. Freeman.
New Salem	Morton	2,163	25	5.8	−4.8	35	25	−34	19	40	0.37	−0.01	0.22	4.0	6	15	9	4	nw.	J. Christiansen.
Oakes	...	...	...	4.2	...	35	20	−44	19	48	0.26	...	0.15	2.6	3	7	17	4	sw.	Eugene Naylor.
Park River	Walsh	998	25	2.1	−3.6	32	20†	−27	7	42	0.18	−0.26	0.12	2.5	2	17	6	5	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	14	...	...	...	...	...	...	...	0.18	−0.11	0.10	1.8	2	12	12	4	nw.	John A. Johnson.
Pembina	Pembina	789	55	1.2	−0.2	32	26	−30	7†	46	0.02	−0.69	0.02	0.2	1	14	11	3	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	−0.4	−5.0	29	26	−42	19	40	0.51	+0.15	0.36	5.2	4	11	10	7	nw.	A. L. Carlson.
Portal	Burke	1,954	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. T. Holmes.
Power	Richland	1,020	35	...	...	...	...	...	...	...	0.80	+0.24	0.20	8.0	5	15	7	6	sw.	Frank B. Power.
Powers Lake	Burke	2,205	15	−0.7	...	34	28	−39	19	46	0.61	+0.13	0.37	7.7	3	17	7	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	4.9	−9.8	33	25	−31	19	45	T.	−0.37	T.	T.	0	9	5	14	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1	...	...	...	...	...	...	...	0.20	...	0.10	2.0	2	7	13	8	nw.	E. C. Erickson.
Ryder	Ward	2,108	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. M. Lonen.
Sharon	Steele	1,516	4	1.9	...	34	26	−32	19	45	0.11	...	0.05	1.5	6	14	5	9	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	5	...	...	...	...	...	...	...	0.50	...	0.30	5.0	2	12	10	6	nw.	J. H. Giffey.
Steele	Kidder	1,857	33	−0.2	−7.3	31	27	−40	19	40	0.30	−0.15	0.20	3.0	3	10	15	3	nw.	C. D. Stiles.
Stowers‡‡	Adams	2,325	14	...	...	...	...	...	...	...	0.05	−0.55	0.05	2.0	1	15	2	11	...	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	...	...	...	...	...	...	...	0.05	...	0.02	0.5	3	12	5	11	nw.	J. C. Abbott.
Tioga	Williams	2,279	3	...	...	...	...	...	...	...	0.20	...	0.20	2.0	1	3	5	20	nw.	Anton Carlson.
Towner	McHenry	1,482	27	−0.8	−6.0	41	25	−41	19	45	0.20	−0.18	0.10	2.0	2	17	4	7	nw.	B. Bagley.
Trotters	Golden Valley	...	4	...	...	...	...	...	...	...	0.43	...	0.14	6.0	6	8	8	12	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	14	1.8	−9.4	32	27	−35	19	32	0.30	−0.14	0.20	3.0	2	3	14	11	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	5.2	−4.4	35	26	−32	19	47	0.48	+0.13	0.19	7.0	7	12	8	8	w.	I. C. Robertson.
Velva	McHenry	1,511	3	4.4	...	38	25	−44	19	45	0.19	...	0.07	2.2	6	5	13	10	w.	Oscar Anderson.
Verona	LaMoure	1,387	35	...	...	...	...	...	...	...	0.20	...	0.06	2.0	6	14	11	3	sw.	W. C. Taylor.
Wahpeton	Richland	962	...	5.8	−4.1	32	27	−32	19	45	0.08	−0.45	0.04	0.8	4	18	0	10	nw.	C. G. Luick.
Washburn	McLean	1,731	27	...	...	...	...	...	...	...	0.60	+0.21	0.36	6.0	4	...	...	...	...	Karl Klein.
Westhope	Bottineau	1,508	27	−0.2	−3.5	35	25	−40	19	46	T.	−0.19	T.	T.	0	17	6	5	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	3.8	−4.3	33	25	−38	19	58	0.46	+0.05	0.23	5.1	6	9	7	12	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	0.2	−2.5	41	27	−43	19	46	0.36	−0.10	0.10	3.6	7	13	8	7	nw.	M. A. Ostby.
Wilton	McLean	...	1	2.4	...	32	27	−40	19	42	0.50	...	0.20	3.0	3	15	0	13	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	48	3.6	−4.5	33	26	−29	19	35	0.47	−0.22	0.12	6.5	11	5	8	15	s.	U. S. Weather Bureau.
Averages	...	...	...	2.8	−5.1	44	25	−44	19	73	0.29	−0.20	0.80	3.3	4	12	8	8	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard, N. D.; McKinney, Tolley, N. D.; Howard, Grenora, N. D.; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for February, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			T			T.		T.	.03				.02		.03						.01						.04	T.				0.13
Amenia ‖‖	Red					T.	.10						T.			T.		.10				T.		T.									0.20
Arnegard (near)	Missouri			T.	T.					.05		T.		.10		.30	T.	T.			T.												0.45
Ashley	Missouri			T.		.03							.03	.03			.16	.01											T.				0.26
Beach	Lit. Missouri				.04					T.	T.			.02	.04			.03										T.	.02				0.15
Berthold Agency	Missouri				T.							T.				.10	T.																0.10
Bismarck ***	Missouri		T.	T.	T.	T.				T.		.01	.01	.03	T.	.14	.10				.01				T.			.02					0.32
Bottineau‖‖	Mouse		T.	.02	.04						.04			.02	.01	.04	.02					.01	T.	.03									0.23
Bowman	Grand					T.				T.				.15	T.	T.	.05											T	T.				0.20
Cando	Devils Lake		.02		.02						T.	T.	.02	T.		T.	T.				T		T.	.03									0.09
Carson	Heart															.04		.04										.02	.08				0.18
Cavalier	Red			.20																				.10									0.30
Cooperstown	Sheyenne																																.....
Corinth	Missouri		.01		.20										.10	.07																	0.38
Crosby	Mouse						.05				.02						.05																0.12
Devils Lake ***	Devils Lake		T.	.03	.03						T.	.01		.01	T.	.01	T.				.01	T.	T.	.02					T.				0.12
Dickinson‖‖	Heart				T.	.02					T.	T.	.01	.03	T.	.03	.10	.15				T.	T.					.01	.04				0.39
Dogden Butte	Mouse			T.	.09	T.					T.	T.	.07	T.	T.	T.	.18					T.	T.					T.	T.				0.34
Dunn Center ‖‖	Knife												T.	T.		.10	.05	T.															0.15
Dunseith	Mouse											.02			.05									.02			.01						0.10
Eckman	Mouse				.07					T.	.04			.02		T.	.02					.02	.01	.02									0.20
Edgeley	James				.20					.05							.20	.10															0.55
Ellendale***	James			.06	.03	.01	.01				T.	T.	T.	.01	T.	.07	.07	.04			.01	T.			T.			.01					0.32
Energy	Missouri										T.		T.	.07	T.																		0.67
Epping	Missouri				.05					T.			.09			.25																	0.39
Fairfield	Knife													.10	.10		.05																0.25
Fessenden‖‖	James												.10				.18																0.28
Forman	Sheyenne				.10	T.	T.											.30															0.40
Fort Yates	Missouri			T.												.25													.05				0.30
Foxholm (near)	Mouse				.07					T.	.02	T.		.15	.02	T.	.35					.01	.04	.02					T.				0.68
Fryburg	Heart				.04					.05				.04	.20		.10	.20											.04				0.67
Fullerton	James			.08	.12		T.				.02	T.	.07	.06	T.		.27	.09			.03				.02								0.76
Garrison	Missouri															.12																	0.12
Grafton	Red			.17		T.						T.		T.		T.							T.										0.17
Grand Forks ***	Red			.09		.02					T.	T.		.02				T.					.01	.02					.02				0.18
Granville	Mouse		T.		.05						T.	T.		T.	T.	T.	T.																0.05
Hannah	Pembina				.02	T.				T.			T.	T.		T.					T.				T.								0.02
Hansboro	Devils Lake			T.	.20											T.								.20	T.								0.40
Hettinger	Grand				T		T.			T.		T.		T.	T.		.04	T.															0.04
Hillsboro	Red			T.		.10							.10	.05									T.	T.					T.				0.25
Howard (near)	Missouri				.11					.20	T.	T.	T.	.20	T.						T.						T.						0.51
Jamestown‖‖	James		.05	.07								.02		.10	.12	.15					.07												0.58
Lamoine	Missouri											T.	.10	.02	.01		.20								T.			.05					0.38
Langdon‖‖	Pembina				.20												.20											.40					0.80
Larimore	Red			.10	.10	.10							.05				.05																0.40
Linton	Missouri									.80						T.					T.												0.80
Lisbon ‖‖	Sheyenne														.01		.02	.01			.01												0.05
McClusky	Missouri			.05	T.						.05	.08	.22	.25				T.										.02					0.67
McKinney (near)	Mouse				.30					T.				T.			.15						T.	T.									0.45
McLeod	Sheyenne			T.	T.	.03									.07						.09		T.										0.19
Maddock	Sheyenne		T.	T.							.02	T.		T.	T.		T.					T.	T.										0.02
Mandan‖‖	Missouri				T.	.01					.02		.02	.02	T.		.13	.07			.01	T.			T.			T.	.03				0.31
Manfred	James			.02	T.						.08		.02	.10		.04	.20					T.			T.				T.				0.46
Marmarth	Lit. Missouri					T.				.05	T.	.02		.03	.10	.10	.15				.02							.05	.07				0.59
Mary	Lit. Missouri									T.				.07	T.	.06					.03							.01					0.17
Mayville	Red			T.		.10																											0.10
Melville	James																.06																0.06
Metigoshe	Mouse				T.																												T.
Michigan	Red			T.										T.		T.													T.				T.
Minot‖‖	Mouse				.08						T.	T.	T.	T.	T.	T.	.06					T.											0.14
Mott	Cannon Ball		.10	.10	.08			.04	T.		T.		T.	T.		.20												.08	.10				0.70
Napoleon ‖‖	Missouri				.03										.12		.10					.02											0.27
New England	Cannon Ball																																.....
New Salem	Heart	T.									T.		.01	T.	T.	.08	.22	.01				T.						.04	.01				0.37
Oakes	James			T.	.07	T.							T.	.04			.15				T.												0.26
Park River	Red			.12	T.							T.		.06																			0.18
Parshall (near)	Missouri				.10								.08	T.	T.	T.																	0.18
Pembina‖‖	Red			.02																													0.02
Pettibone	James			T.		.02								.17			.30				.02	T	T.										0.51
Portal	Mouse																																.....
Power	Sheyenne			.10										.20			.20				.10		.20										0.80
Powers Lake	Missouri				.21							.03				.37																	0.61
Richardton	Heart									T.						T.	T.												T.				T.
Rugby [near]	Mouse		T.	T.	.10				.10			T.			T.	T.													T.				0.20
Ryder	Missouri		T.	.05	T.	.01					T.	.01	.01	.02	T.	T.					T.		T.	.01					T.				0.11
Sharon	Red																																.....
Stanton	Missouri												.20			.30																	0.50
Steele	Missouri			T.	.05	T					T.	T.	.05	T.	T.	T.	.20	T.	T.	T.	T.			T.	T	T.							0.30
Stowers	Cannon Ball				T.		T.					T.		T	T.		.05	T.											T.				0.05
Tagus	Mouse				.02							.02				.01																	0.05
Tioga	Missouri				T.					T.		T.	T.			.20																	0.20
Towner	Mouse		.10														.10																0.20
Trotters	Lit. Missouri					T.	T			.08				.14	.08	.04	.07				T						.02						0.43
Turtle Lake	Missouri										T.			.10		.20																	0.30
Valley City	Sheyenne			.19		.04					.02		.02	.04	T.	T.	.12				.05												0.48
Velva	Mouse		T.	T.	.03						.04		.02	.02	T.	T.	.07					.01	T.	T.				T.					0.19
Verona	James			.03	.03									.03		.03	.06	.02															0.20
Wahpeton	Red					.02								.01	.01		.04																0.08
Washburn	Missouri					T.					.04			.14	.06		.36																0.60
Westhope	Mouse											T.																					T.
Williston ***	Missouri			T.	.05		T.			.04		.01	T.	.11	T.	.23	.02				T.						T.	T.	T.				0.46
Willow City	Mouse		.03	T.	.05						.05	T.	T.	.05	.03	T.	T					.03	T.	.10	T.				T.				0.36
Wilton																.30	.10	.10															0.50
Moorhead, Minn ***	Red			.05	.07	.05	T.			T.	T.	.02	.01	.03	.02	T.	.12	.01			.08		.01					T.	T.				0.47

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for February, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	0	16	25	18	-6	3	0	8	0	20	22	20	18	22	10	0	-6	-4	0	-4	-2	15	23	22	24	28	30	33	....	....	....	12.0
	Minimum...	-15	-10	6	18	-10	-15	-26	-24	-12	-16	-1	-14	-10	-4	10	-12	-13	-24	-22	-30	-24	-14	-12	-5	-2	0	10	15	....	....	....	-9.1
Amidon	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Arnegard	Maximum...	7	16	16	2	-1	-16	-7	-5	15	14	28	14	16	21	28	19	-3	-16	10	29	5	18	25	30	37	34	35	26	....	....	....	14.4
	Minimum...	-22	0	-3	-12	-23	-25	-25	-23	-18	0	0	-7	-8	15	16	-6	-18	-33	-35	5	16	-8	15	10	11	16	11	15	....	....	....	-4.6
Ashley	Maximum...	5	19	23	24	15	4	-3	0	5	6	17	14	14	23	28	27	1	-8	-3	33	28	18	27	23	36	29	27	26	....	....	....	12.8
	Minimum...	-22	-3	17	14	-3	-7	-25	-24	-19	-3	3	-5	-22	3	5	-8	-10	-26	35	-10	-9	-13	5	7	3	5	12	11	....	....	....	-5.7
Beach	Maximum...	3	13	13	10	8	-2	-15	-2	15	15	15	9	18	20	32	30	12	-10	18	30	18	22	30	30	35	30	29	25	....	....	....	16.1
	Minimum...	-24	0	6	-5	-17	-24	-20	-19	-14	2	1	2	-1	12	12	12	-18	-32	-29	18	12	0	17	5	12	10	17	17	....	....	....	-1.7
Berthold Agency	Maximum...	0	16	24	15	3	2	0	0	12	15	20	10	16	25	28	22	4	0	0	22	10	18	30	28	35	30	36	30	....	....	....	16.1
	Minimum...	-25	0	15	-11	-14	-25	-30	-25	[illegible]	0	0	-13	-5	12	12	-4	-29	-43	-22	-2	-12	-22	12	2	7	10	20	20	....	....	....	-6.8
Bismarck	Maximum...	6	21	27	15	2	-3	-4	4	9	14	18	10	18	25	29	23	3	-12	1	32	10	19	33	23	26	31	32	23	....	....	....	15.5
	Minimum...	-25	6	15	2	-14	-22	-24	-22	-21	-4	9	-13	-13	11	12	-4	-17	-30	-43	1	-8	-19	6	2	-5	3	20	19	....	....	....	-6.4
Bottineau §§	Maximum...	-2	15	22	21	-10	-5	-12	-5	1	12	13	10	8	23	24	13	6	-13	-4	16	8	12	22	22	38	29	35	31	....	....	....	11.4
	Minimum...	-21	-5	9	-9	-25	-31	-36	-25	-24	-10	-15	-12	-16	-4	-2	-18	-25	-36	-42	-7	-20	-21	-8	-11	-3	5	15	11	....	....	....	-13.8
Cando	Maximum...	17	15	14	16	8	-1	-7	0	8	12	4	10	9	24	23	9	14	-6	3	24	10	9	21	19	36	33	34	32	....	....	....	13.9
	Minimum...	10	6	7	-4	-22	-23	-30	-24	-16	-9	-2	-15	-21	-5	8	-18	-10	-30	-33	-6	-13	-15	-5	-4	10	7	23	12	....	....	....	-7.9
Carson	Maximum...	-2	20	24	15	6	7	-6	2	12	15	17	10	18	22	30	25	18	-15	5	32	25	25	25	34	25	44	28	20	....	....	....	17.5
	Minimum...	-30	-3	13	3	-12	-22	-28	-27	-22	-7	2	-16	-14	0	5	0	-17	-32	-30	-5	-13	-10	-5	10	5	3	14	13	....	....	....	-8.1
Crosby §§	Maximum...	-8	9	20	10	-3	-4	-12	-2	-4	12	15	14	10	18	25	22	-3	-18	-14	20	20	5	20	20	25	29	31	34	....	....	....	10.8
	Minimum...	-26	-18	9	-11	-26	-30	-29	-24	-21	-8	-7	-5	-7	8	15	-12	-23	-30	-35	-30	-19	-16	3	8	16	15	16	3	....	....	....	-10.5
Devils Lake	Maximum...	3	15	24	15	4	-5	-2	6	7	7	12	-2	7	24	21	-1	-6	-13	0	25	0	9	20	19	[illegible]	29	31	21	....	....	....	10.8
	Minimum...	-18	2	13	-2	-16	-19	-25	-20	-12	-5	-2	-15	-17	-5	-3	-16	-17	-26	-29	-5	-12	-12	-3	-4	6	10	21	9	....	....	....	-7.9
Dickinson §§	Maximum...	5	20	20	12	1	-8	-4	0	15	14	16	16	18	26	33	10	-6	-13	27	30	10	24	31	30	34	28	29	25	....	....	....	15.8
	Minimum...	-30	-20	0	-4	-23	-21	-20	-22	-22	-15	-3	-1	-10	-8	8	4	-15	-30	-40	-26	-12	-12	-5	10	8	0	10	17	....	....	....	-10.3
Dunn Center §§	Maximum...	8	20	8	6	-7	0	4	15	15	11	20	15	18	26	32	12	-8	-11	26	31	8	24	32	31	32	30	30	30	....	....	....	16.4
	Minimum...	-29	-16	-8	-23	-22	-28	-19	-20	-9	-9	-6	-3	-6	12	11	0	-20	-30	-43	-42	-12	-13	4	14	7	16	7	8	....	....	....	-10.0
Dunseith	Maximum...	22	15	18	22	5	-15	5	10	8	11	12	2	9	23	22	6	4	-12	-4	22	2	10	18	19	36	30	31	27	....	....	....	12.8
	Minimum...	-10	-8	-5	-10	-12	-30	-20	-12	-14	-18	-2	-17	-17	-2	-6	-18	-22	-32	-33	-8	-15	-15	-17	3	9	15	19	7	....	....	....	-10.4
Edgeley	Maximum...	0	19	25	26	14	3	0	4	12	10	17	15	13	24	26	24	0	-8	-5	30	22	15	30	24	28	29	27	25	....	....	....	16.0
	Minimum...	-18	-4	14	13	-6	-7	-24	-21	-17	-7	2	-6	-24	2	10	-9	-16	-30	-32	-13	-9	-15	0	7	3	1	18	16	....	....	....	-6.1
Ellendale	Maximum...	-1	21	26	28	7	1	-1	3	1	11	17	7	11	24	27	10	-1	-11	-4	31	5	18	25	21	26	31	28	26	....	....	....	13.6
	Minimum...	-20	-1	21	7	0	-16	-22	-19	-16	-7	6	-18	-20	7	10	-6	-18	-27	-30	-5	-10	6	5	6	-4	9	16	11	....	....	....	-5.8
Fessenden §§	Maximum...	8	21	25	-1	-4	-6	6	11	12	21	20	4	12	29	27	7	-6	-12	17	31	[illegible]	30	29	32	39	33	32	25	....	....	....	16.7
	Minimum...	-18	-14	11	-6	-17	-18	-28	-25	-21	-17	-12	-7	-25	3	12	-11	-16	-29	37	-33	-9	-2	0	-3	9	14	18	15	....	....	....	-9.7
Foxholm (near)	Maximum...	0	15	24	13	2	-6	-2	2	10	14	13	8	11	26	21	18	-2	-11	-3	22	9	16	21	23	34	31	[illegible]	28	....	....	....	13.3
	Minimum...	-20	-1	11	-8	-20	-25	-29	-18	-21	-8	-1	-10	-13	8	12	-12	-22	-30	-33	-5	-17	-10	2	-3	13	12	16	12	....	....	....	-7.9
Fullerton	Maximum...	1	21	26	27	12	3	0	4	2	6	20	10	8	25	27	24	0	-10	-7	31	20	16	25	22	[illegible]	29	30	26	....	....	....	15.1
	Minimum...	-17	-4	18	12	-1	-8	-24	-25	-15	-7	1	-7	-23	5	10	-8	-10	-26	-30	-11	-7	-14	3	10	-2	8	18	18	....	....	....	-5.1
Garrison	Maximum...	6	21	27	22	7	-2	5	6	11	15	24	13	14	28	29	20	1	6	-2	29	12	21	31	20	39	33	38	32	....	....	....	17.9
	Minimum...	-19	3	16	11	-22	-20	-26	-18	-19	-6	7	-6	-11	11	12	-7	-17	27	-36	-4	-12	-12	9	1	7	7	19	12	....	....	....	-6.0
Grafton	Maximum...	4	15	23	23	9	-3	-6	8	5	8	15	10	5	25	25	4	-5	-11	-1	2	5	10	14	15	23	34	32	31	....	....	....	12.0
	Minimum...	-16	-2	14	11	-15	-24	-29	-25	-4	-10	-1	-21	-30	-11	2	-18	-16	-36	-33	-11	-10	-13	-13	-14	-5	-3	20	13	....	....	....	-10.7
Grand Forks	Maximum...	1	18	25	22	8	-2	-3	8	7	6	17	0	9	26	21	1	-1	-4	0	26	3	12	18	19	16	30	33	22	....	....	....	12.4
	Minimum...	-15	-1	17	8	-12	-17	-27	-25	-7	-8	0	-23	-26	-8	-3	-17	-16	-24	28	-8	-14	-14	-10	-8	-1	3	20	6	....	....	....	-9.2
Granville	Maximum...	2	2	25	16	2	-5	-3	5	18	14	20	14	12	25	25	15	-10	-15	-4	22	10	15	14	25	39	30	32	25	....	....	....	13.2
	Minimum...	-22	-18	15	-7	-28	-30	-34	-28	-27	-10	4	-7	-20	-2	13	-10	-20	30	-41	-5	-17	-15	0	-5	2	3	12	10	....	....	....	-10.0
Hansboro	Maximum...	3	20	25	22	-5	-10	-10	-8	0	10	10	5	8	25	25	0	-10	-14	-5	20	-3	5	15	25	35	32	33	30	....	....	....	10.1
	Minimum...	-27	-6	6	-7	-27	-28	-37	-37	-25	-15	-10	-30	-28	-11	0	-27	-20	-31	-38	-10	-22	-21	-12	-1	0	7	18	5	....	....	....	-16.2
Hettinger	Maximum...	-1	13	18	18	8	3	-1	3	16	15	19	12	21	22	32	33	7	-6	1	33	23	28	34	32	36	31	29	26	....	....	....	16.0
	Minimum...	-24	-2	11	8	-3	-16	-22	-20	-16	3	2	1	-7	9	10	6	-15	-22	-30	3	-9	1	13	10	8	10	14	18	....	....	....	-2.3
Hillsboro	Maximum...	5	17	24	24	13	0	-2	9	9	6	19	17	9	27	26	7	0	-6	-1	27	22	12	20	21	27	29	31	29	....	....	....	15.0
	Minimum...	-18	1	16	12	-5	-7	-24	-20	-8	-8	-4	-12	-25	-4	7	-15	-9	-23	-29	-15	-9	-16	-5	-2	-2	15	22	15	....	....	....	-6.1
Howard (near)	Maximum...	-8	16	18	10	-5	-10	-6	-18	10	12	14	11	17	19	16	3	-3	-15	0	20	4	17	21	27	35	30	40	38	....	....	....	11.2
	Minimum...	-30	-5	-5	-26	-30	-37	-32	-36	-22	-12	-8	-16	-11	9	-4	-17	-25	-36	-30	-5	20	13	7	[illegible]	9	5	11	5	....	....	....	-9.8
Jamestown §§	Maximum...	5	19	28	14	9	-2	0	5	9	10	19	0	13	26	27	10	-5	-10	8	21	3	15	28	20	27	31	32	24	....	....	....	13.8
	Minimum...	-19	-15	2	9	-7	-18	-27	-27	-25	-22	-2	-6	-31	-17	10	-9	-12	-26	-36	[illegible]	-9	-17	-14	5	-4	-3	7	18	....	....	....	-11.6
Lamoine	Maximum...	6	17	23	24	6	5	-2	2	5	13	17	17	12	20	25	23	6	-5	-6	26	24	13	29	20	27	27	31	25	....	....	....	15.4
	Minimum...	-12	15	15	-3	-14	-14	-24	-26	-17	-3	13	-4	-18	0	9	-8	-12	-27	-36	0	-11	-14	1	[illegible]	1	3	14	13	....	....	....	-5.9
Langdon §§	Maximum...	4	12	[illegible]	20	12	4	0	6	5	10	12	6	10	26	15	7	5	0	5	27	10	25	15	18	33	31	36	26	....	....	....	14.4
	Minimum...	-20	-18	0	3	-17	-26	-35	-35	-21	-20	-9	-26	-15	-12	5	-27	-27	-30	-38	-37	-18	-20	-12	-12	-10	0	4	9	....	....	....	-16.6
Larimore §§	Maximum...	1	20	25	15	4	1	-1	-2	12	9	18	6	3	26	20	1	-6	-7	2	30	4	10	17	20	30	33	33	20	....	....	....	12.5
	Minimum...	-12	-2	5	13	-13	-14	-26	-21	-15	-12	-3	-17	-28	-8	8	-20	-20	-27	-29	-10	-12	-7	-6	-5	0	-3	15	5	....	....	....	-9.4
Linton	Maximum...	7	21	25	23	8	1	-3	-1	2	10	18	17	17	24	29	31	5	-10	-4	33	[illegible]	18	33	23	24	30	32	27	....	....	....	16.5
	Minimum...	-29	6	2	7	-9	-14	-33	-33	-31	-3	9	-12	-21	4	4	-4	-11	-30	-42	-6	-7	-14	6	-2	0	-2	12	12	....	....	....	-8.6
Lisbon §§	Maximum...	12	25	30	18	5	25	-5	-4	5	10	22	5	5	25	28	10	-5	-10	-8	33	4	20	35	[illegible]	30	35	33	25	....	....	....	15.4
	Minimum...	-17	0	10	15	2	-7	-28	-25	-16	-15	-3	-8	-30	-10	9	-10	-12	-29	-35	-20	-9	-18	-3	-2	-4	-2	5	14	....	....	....	-8.9
McClusky	Maximum...	18	20	25	10	-3	-12	-8	2	15	12	18	8	12	24	23	23	7	0	-8	-6	-5	14	25	19	28	20	33	22	....	....	....	12.4
	Minimum...	-2	0	0	-10	-19	-20	-30	-25	-4	-6	4	-17	-19	-7	-5	-6	-10	-19	[illegible]	-39	-25	-20	-2	-9	-6	-1	14	7	....	....	....	-11.0
McKinney (near)	Maximum...	0	16	22	10	1	-5	-4	-2	10	-15	12	5	11	22	22	18	-5	-8	0	20	16	10	20	28	34	22	33	20	....	....	....	11.0
	Minimum...	-19	-19	10	-8	-22	-28	-34	-20	-30	-9	-18	-8	-20	11	12	-20	-25	-30	-40	-3	-20	-12	0	-8	5	10	12	14	....	....	....	-11.4
Maddock	Maximum...	5	18	25	23	7	7	-3	2	11	13	20	17	11	26	26	20	5	-7	0	29	15	11	26	26	39	36	31	29	....	....	....	16.7
	Minimum...	-21	2	11	-8	-22	-22	-28	-24	-21	-10	-3	-13	-23	-4	11	-18	-21	-30	-38	-6	-17	-15	-2	-4	-1	8	19	12	....	....	....	-10.3
Melville	Maximum...	12	10	14	17	18	14	21	13	19	15	18	24	16	18	19	18	8	9	26	18	15	22	31	27	34	35	34	21	....	....	....	19.9
	Minimum...	-17	-14	-9	-13	-11	-13	-10	-8	-12	-7	-3	-14	-18	-12	-15	-17	-26	-32	-1	-11	-12	-1	0	-3	-1	11	8	16	....	....	....	-8.8
Minot §§	Maximum...	4	19	21	15	5	2	0	4	12	15	17	9	12	25	25	19	0	-9	1	23	13	12	25	27	38	34	35	35	....	....	....	15.8
	Minimum...	-19	2	-15	-6	-25	-23	-29	-20	-24	-5	1	-5	-11	9	14	-11	-18	-26	-30	-2	-13	-10	5	[illegible]	14	9	15	14	....	....	....	-7.6
Mott	Maximum...	-5	-2	17	10	8	-2	-7	-6	4	10	12	10	15	23	23	11	-10	-12	-1	32	21	26	23	34	35	30	33	28	....	....	....	13.2
	Minimum...	-24	-14	-5	-10	-12	-18	-21	-23	-16	-11	-7	-8	-2	2	-12	-18	-28	-32	-41	-4	-10	-2	5	12	14	8	16	13	....	....	....	-8.9
Napoleon §§	Maximum...	10	21	25	16	4	-6	-1	-3	5	11	16	0	15	23	25	-3	-8	-14	-3	30	-2	13	27	18	30	28	29	24	....	....	....	11.8
	Minimum...	-24	-1	7	9	-14	-12	-30	-29	-26	0	5	-9	-25	-5	5	-7	-13	-34	-38	-10	-13	-15	2	-5	2	-3	13	11	....	....	....	-8.4
New Salem	Maximum...	-1	18	29	26	10	1	-2	4	10	15	20	15	18	25	30	20	8	-4	[illegible]	30	21	20	32	25	35	30	31	23	....	....	....	17.2
	Minimum...	-20	-3	18	-4	-15	-14	-24	-21	-20	-5	5	-10	-12	8	8	-4	-16	-26	-34	-10	-12	-10	7	0	10	10	20	15	....	....	....	-5.7
Pembina §§	Maximum...	10	28	22	5	-10	-2	10	20	5	10	-4	-8	25	-5	10	0	5	6	4	-5	10	20	18	24	24	32	24	24	....	....	....	10.8
	Minimum...	-10	-18	10	15	-10	-25	-30	-10	-2	-5	-5	-25	-24	6	-12	-24	-15	-25	-30	2	-10	-8	5	-6	-5	10	10	15	....	....	....	-8.4
Steele	Maximum...	-10	20	25	10	3	-10	0	4	4	0	20	4	6	25	25	20	-5	-14	-18	28	8	8	27	22	27	28	31	26	....	....	....	11.2
	Minimum...	-25	-10	-3	3	-10	-32	-24	-22	-15	-20	4	-10	-20	0	2	-10	-18	-30	-40	-12	-20	-15	-2	-5	-3	-4	10	9	....	....	....	-11.6
Towner	Maximum...	3	0	20	-3	0	-6	-6	1	9	13	15	10	15	25	20	10	-3	-10	1	24	10	25	31	33	41	31	33	32	....	....	....	13.4
	Minimum...	-12	-20	-18	-18	-30	-29	-37	-30	-28	-11	-10	-10	-6	-5	-10	-18	-22	-31	-41	-6	-17	-10	-6	-12	6	3	3	8	....	....	....	-14.9
Valley City	Maximum...	5	15	24	23	12	10	-1	9	9	10	20	16	9	27	27	12	-1	-6	-1	34	25	13	24	25	26	35	32	29	....	....	....	16.5
	Minimum...	-15	0	14	10	-11	-12	-25	-21	-15	-5	2	-2	-30	0	10	-10	-10	-24	-32	-13	-10	-13	-1	3	-2	2	20	16	....	....	....	-6.2
Wahpeton	Maximum...	7	20	26	27	24	7	4	0	7	10	22	21	11	25	30	25	0	0	-6	30	30	15	23	23	27	31	32	31	....	....	....	17.9
	Minimum...	-17	3	17	20	4	-4	-25	-24	-17	-17	-10	-4	-24	-1	12	-6	-19	-29	-32	-15	-5	-18	-8	-2	-3	10	22	15	....	....	....	-6.3
Westhope	Maximum...	-6	16	25	11	-2	-9	-10	0	4	10	15	15	15	15	24	18	6	10	6	22	15	15	22	20	35	29	33	34	....	....	....	13.9
	Minimum...	-20	-4	11	-18	-30	-34	-37	-27	-27	-14	-15	-12	-21	-4	-16	-23	-27	-31	-40	-6	-18	-11	-12	-10	14	15	6	10	....	....	....	-14.3
Williston	Maximum...	4	19	21	2	-3	-6	-5	-4	17	15	17	7	19	23	27	12	-5	-14	20	27	4	19	24	28	33	30	32	25	....	....	....	13.9
	Minimum...	-24	4	-4	-19	-25	-23	-24	-22	-19	1	-1	-3	1	17	12	-6	-25	-32	-38	-3	-11	-8	15	15	9	10	15	14	....	....	....	-6.2
Moorhead, Minn	Maximum...	7	18	25	23	10	0	-3	5	7	5	18	9	9	26	25	4	-3	-7	-5	28	2	10	20	19	26	33	30	24	....	....	....	13.0
	Minimum...	-15	6	18	10	-7	-13	-22	-21	-10	-5	-1	-14	-23	-3	3	-10	-16	-21	-29	-7	-8	-14	-3	-3	-1	9	22	13	....	....	....	-5.9

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

[WBO, Minneapolis, 4-3-29—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVIII BISMARCK, N. D., MARCH, 1929 No. 3

GENERAL SUMMARY

The weather during the month was mild and pleasant, there having been but four higher mean temperatures for March in the climatological history of the State. The precipitation was nearly the normal, was fairly well distributed both geographically and throughout the month. Livestock ranged freely throughout the month, saving much feed. Spring work on farms was begun during the last decade

TEMPERATURE

The mean temperature for the State was 30.5°, or 7.9° above the normal, and 2.4° higher than the average for March, 1928. The highest mean reported was 35.8° at Fort Yates, Sioux County; the lowest was 25.7° at Hansboro, Towner County. The highest temperature reported was 79° at Carson, Grant County, on the 29th; the lowest was −15° at Hansboro, Towner County, on the 7th, and at Steele, Kidder County, on the 8th. The greatest monthly range of temperature was 87° at Hansboro, Towner County; the least was 45° at Beach, Golden Valley County. The greatest daily range in temperature was 54° at Jamestown, Stutsman County on the 10th.

PRECIPITATION

The average precipitation for the State was 0.78 inch, or 0.05 inch below the normal, and 0.24 inch more than the average for March, 1928. The greatest monthly amount reported was 3.00 inches at Mott, Hettinger County; there was none at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 1.40 inches at Jamestown, Stutsman County on the 13th. The average snowfall was 5.3 inches. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS

Auroras were observed at Linton on the 4th; at Bismarck, Carson, Devils Lake, Ellendale, Foxholm, Velva and Willow City on the 7th; at Devils Lake, Dogden Butte, Ellendale, Foxholm and Stanton on the 8th; at Linton on the 9th; at Bottineau, McKinney and Willow City on the 11th; at Bottineau and Westhope on the 12th; at Arnegard, Berthold Agency, Bottineau, Carson, Ellendale, Foxholm, Grand Forks, Hettinger, Howard, Lamoine, McKinney, Metigoshe, Minot, Napoleon, Oakes, Rugby, Sharon, Stanton, Steele, Veva, Williston, Willow City and Moorhead, Minn. on the 15th; at Arnegard, Bismarck, Bottineau, Carson, Dogden Butte, Ellendale, Foxholm, Grand Forks, Lamoine, McLeod, Oakes, Pettibone, Rugby, Westhope, Williston and Willow City on the 16th; at McLeod, Westhope and Williston on the 17th; at Foxholm, Sharon and Willow City on the 20th; at Devils Lake on the 21st; at Rugby and Towner on the 27th; at Carson, Ellendale, Grand Forks and Richardton on the 28th; and at Bottineau and Devils Lake on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.86	30.50	9	29.13	2	57	6,721	9.0	34§	w.	29
Devils Lake	29.86	30.53	9	29.07	2	44	6,983	9.4	32§	nw.	29
Ellendale	29.86	30.56	9	29.17	2	56	10,062	13.5	49§	nw.	6
Grand Forks	29.83	30.55	9	29.14	2	90	....	......	42	s.	28
Williston	29.86	30.41	8	29.14	2	48	6,012	8.1	37§	w.	29
Moorhead, Minn	29.87	30.63	9	29.14	2	58	6,210	8.3	26§	nw.	6
Av'ges and extremes	29.86	30.63	9	29.07	2	.....	....	9.7	49§	nw.	6

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c t.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	176.9	369.9	48	− 8	82	67	71	26	27
Devils Lake	249.0	369.7	67	+ 9	86	71	80	38	8
Ellendale	206.1	370.0	56	0	89	68	....	38	27
Grand Forks	......	......	.....	.....	88	.....	74	.....	....
Williston	219.2	369.7	59	+ 7	82	70	67	33	27
Moorhead, Minn	214.3	369.9	58	+ 2	88	68	72	38	28
Averages and extremes	213.1	369.8	58	+ 2	86	69	72	26	27

† And other dates.

COMPARATIVE STATE DATA FOR MARCH

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898	21.2	−1.4	79	−24	0.79	−0.04	5	13	8	10	nw.
1899	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905	32.5	+9.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915	22.9	+0.3	63	−23	0.22	−0.71	2	16	6	9	nw.
1916	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920	22.4	− 0.2	67	−32	0.79	− 0.04	4	15	8	8	nw.
1921	25.2	+2.6	75	−22	1.00	+0.17	6	9	12	10	nw.
1922	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.
1923	18.3	−4.3	65	−35	0.41	−0.42	4	10	10	11	nw.
1924	25.5	+2.9	58	−20	0.45	−0.28	4	10	9	12	nw.
1925	27.4	+4.8	75	−26	0.67	−0.16	4	14	9	8	nw.
1926	25.8	+3.2	83	−23	0.24	−0.59	3	13	10	8	nw.
1927	30.4	+7.8	77	−10	0.74	−0.09	5	13	8	10	nw.
1928	28.1	+5.5	85	−17	0.54	−0.29	3	15	8	8	nw.
1929	30.5	+7.9	77	−15	0.78	−0.05	5	12	8	11	nw.

Climatological Data for March, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.: Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Precipitation, in inches: Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	Number of days: With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Alpha	Golden Valley	...	3	...	...	...	...	...	...	...	0.91	...	0.31	...	9	...	...	...	...	H. A. Bury.
Amenia	Cass	954	33	29.6	+ 6.0	65	28	8	7	16	0.40	−0.17	0.20	4.0	3	18	10	3	s.	E. T. Carey.
Arnegard (near)	McKenzie	...	14	31.1	+ 7.6	71	28	− 2	6	36	1.40	+0.61	0.50	12.0	6	17	2	12	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	32.1	+10.1	66	28	2	7	35	0.65	−0.51	0.32	7.2	8	14	7	10	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	30.8	+ 4.3	55	27†	10	6†	32	1.26	+0.48	0.51	5.0	10	13	8	10	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	31.8	+ 7.1	70	29	5	6†	38	0.75	−0.09	0.40	5.5	3	15	5	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	32.2	+ 8.0	67	28	5	7	33	1.61	+0.72	0.94	6.2	10	7	11	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	28.8	+11.1	70	28	−11	7	42	0.31	−0.49	0.14	...	7	11	11	9	nw.	N. A. Eckberg.
Bowman	Bowman	2.961	15	...	...	...	...	...	...	...	1.30	+0.85	0.24	11.0	9	9	11	11	nw.	M. S. Byrne.
Cando	Towner	1,488	28	29.9	+ 9.4	68	28	− 5	7	45	0.47	−0.16	0.36	1.0	5	5	16	10	nw.	A. J. Swanson.
Carson	Grant	2,500	17	29.7	+ 5.2	77	29	0	7	44	1.38	+0.72	0.45	11.4	12	15	5	11	nw.	J. W. Evens.
Cavalier	Pembina	...	...	...	...	...	...	...	...	...	0.77	...	0.52	2.0	4	10	3	18	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	S. Friswold.
Corinth	Williams	2,180	2	...	...	...	...	...	...	...	0.29	...	0.10	2.9	4	...	...	...	...	L. S. Evenson.
Crosby	Divide	1,954	23	29.1	+ 7.1	71	28	− 3	6†	37	0.17	−0.41	0.15	1.7	2	16	5	10	nw.	John Jensen.
Devils Lake	Ramsey	1,478	32	28.6	+ 8.8	66	28	− 2	7	35	0.76	−0.02	0.38	6.5	11	8	11	12	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	27.6	+ 3.2	69	28	2	7	38	2.12	+1.28	0.60	18.9	14	14	8	9	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	30.6	...	69	28	− 8	7	41	0.62	...	0.40	2.5	3	7	8	16	nw.	R. L. Williams.
Dunn Center	Dunn	2,191	30	30.0	+ 5.9	68	28	0	1	38	0.65	−0.46	0.40	4.0	4	7	12	12	sw.	W. F. Moede.
Dunseith	Rolette	1,682	33	28.7	+ 9.9	67	28	10	9	40	T.	−0.77	T.	T.	0	7	11	13	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	24	29.0	+ 6.9	75	28	8	7	50	0.44	−0.06	0.16	5.0	7	0	20	11	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	28	33.1	+ 6.6	66	28	− 1	7	45	0.82	+0.02	0.47	1.5	4	3	14	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	32.7	+ 7.1	66	28	0	9	38	0.78	+0.05	0.40	3.8	11	6	12	13	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	17	32.4	...	70	28	1	7	42	0.64	−0.03	0.15	1.5	6	11	13	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	21	31.4	...	69	28	− 5	7	42	1.32	+0.76	0.40	10.0	6	17	8	6	nw.	A. O. Wang.
Fairfield	Billings	...	2	...	...	...	...	...	...	...	1.03	...	0.40	10.0	6	12	8	11	nw.	F. R. Hecker.
Fessenden	Wells	1,610	17	31.4	+10.0	69	28	− 2	9	40	0.89	+0.17	0.55	4.0	3	9	7	15	ne.	F. D. Monsen.
Forman	Sargent	1,249	35	...	...	...	...	...	...	...	0.46	0.11	0.23	1.5	5	10	11	10	sw.	O. Enger.
Fort Yates	Sioux	1,670	...	35.8	+10.0	73	28	6	7†	43	2.00	+0.98	1.05	11.0	4	15	6	10	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	29.2	...	70	28	− 5	7	52	0.76	...	0.56	4.5	7	7	11	13	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11	...	...	...	...	...	...	...	2.01	+1.35	0.50	18.5	10	11	10	10	nw.	Verne King.
Fullerton	Dickey	1,439	31	33.4	+ 8.2	66	28	0	9	36	1.21	−0.01	0.68	3.3	7	8	11	12	nw.	F. O. Alin.
Garrison	McLean	1,901	34	32.8	+11.1	63	28	1	7	39	0.24	−0.80	0.14	...	3	17	3	11	...	Wm. H. Robinson.
Grafton	Walsh	827	38	28.5	+ 9.3	63	28	−10	7	46	0.72	+0.03	0.56	1.0	4	6	16	9	s.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	38	29.0	+ 6.6	63	28	− 6	7	42	0.85	+0.14	0.64	1.5	8	5	7	19	s.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	31.2	+ 7.5	70	28	− 3	7	42	0.62	+0.05	0.42	4.0	4	9	9	13	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	35	...	...	...	...	...	...	...	0.03	−0.63	0.02	3.0	2	...	...	...	...	James Meier.
Hansboro	Towner	1,597	21	25.7	+ 4.1	72	28	−15	7	48	0.50	−0.16	0.50	...	1	8	22	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	32.2	+ 4.6	67	28	4	25	38	1.55	+0.79	0.56	11.0	10	15	4	12	w.	C. H. Plath.
Hillsboro	Traill	901	23	31.8^{a}	+ 7.1	63^{a}	28	− 6^{a}	7	39^{a}	0.30	−0.44	0.20	T.	2	10	11	10	nw.	F. E. Mayall.
Howard‡‡ (near)	Williams	2,275	22	28.0	+ 7.2	50	18†	− 6	6	41	0.40	−0.74	0.20	4.0	3	13	10	8	nw	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	30.4	+ 7.8	67	27	− 2	10	54	1.82	+0.82	1.40	4.2	5	8	15	8	nw.	S. Calvelage.
Lamoine	Kidder	1,936	24	29.8	+ 6.8	62	28	− 9	7	31	0.86	+0.09	0.30	8.0	7	10	12	9	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	25.9	+ 6.9	63	28	0	6	33	0.65	−0.19	0.60	2.0	2	14	11	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	29.0	+ 8.0	62	28	− 6	7	32	1.07	+0.38	0.30	7.0	7	10	5	16	n.	Reuben Gray.
Linton	Emmons	1,711	11	33.5^{d}	+ 7.3	68^{d}	28	− 3^{d}	9	43^{d}	0.71	+0.17	0.65	0.6	2	17	1	12	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	31.0	+ 4.4	68	28	0	8†	45	0.75	+0.19	...	...	...	13	10	8	...	L. B. Walker.
McClusky	Sheridan	1,943	11	29.3	...	66	28	− 2	9	35	0.90	+0.11	0.61	...	4	15	9	7	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	35	29.6	+10.4	71	28	− 8	7	48	0.45	−0.26	0.30	4.5	2	6	13	12	nw.	E. A. Kaatz.
McLeod	Ransom	1,075	17	34.2	+ 8.3	65	28	− 5	8†	37	0.54	−0.09	0.29	2.5	3	19	2	10	nw.	J. G. Carlson.
Maddock	Benson	1,604	13	31.1	+ 7.6	69	28	− 5	7	50	0.53	+0.10	0.29	...	4	6	10	15	nw.	A. T. Felland.
Mandan	Morton	1,644	15	30.9	+ 5.7	68	28	6	6†	36	1.47	+0.63	0.66	7.5	9	9	1	21	sw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26	...	...	...	...	...	...	...	0.78	...	0.42	...	9	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	20	33.5	+ 7.5	64	28	6	24	38	1.91	+1.46	0.56	19.8	10	14	5	12	...	S. P. Grane.
Mary	McKenzie	...	2	...	...	...	...	...	...	...	0.71	...	0.38	7.5	6	11	11	9	sw.	Fred Hartman.
Mayville	Traill	975	33	31.9	+ 8.7	65	29	− 9	9	46	0.71	0.00	0.59	3.7	5	13	4	14	nw.	N. C. Burhans.
Melville	Foster	1,590	31	28.3	+ 6.0	64	27	− 1	11	37	0.38	−0.30	0.38	...	1	21	0	10	se.	J. P. Fischer.
Metigoshe‡‡	Bottineau	...	4	...	...	...	...	...	...	...	0.20	...	0.20	1.0	1	23	4	4	nw.	J. A. Thorburn.
Michigan	Nelson	1,518	1	...	...	...	...	...	...	...	T.	...	T.	T.	0	15	7	9	sw.	Arnold Johnson.
Minot	Ward	1,557	33	31.6	+10.2	73	28	1	7†	45	0.29	−0.48	0.18	5.8	4	12	9	10	w.	Julia B. Rue.
Mott	Hettinger	2,424	22	29.6	+ 3.0	52	19	0	23	33	3.00	+1.96	0.86	21.5	7	7	10	14	nw.	O. H. Opland.
Napoleon	Logan	1,955	37	30.1	+ 8.8	67	28	− 7	9	38	1.05	+0.12	0.50	4.0	7	11	4	16	s.	C. J. Hoof.
New England	Hettinger	2,400	38	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. J. Freeman.
New Salem	Morton	2,163	25	31.7	+ 7.2	68	28	3	6	33	1.48	+0.52	0.50	12.0	8	18	6	7	sw.	J. Christiansen.
Oakes	...	...	...	33.2	...	65	28	− 3	9	36	0.54	...	0.34	2.1	4	9	13	9	nw.	Eugene Naylor.
Park River	Walsh	998	25	28.0	+ 5.9	63	28	− 9	7	41	0.77	+0.22	0.65	2.0	3	12	7	12	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	14	...	...	...	...	...	...	...	0.70	+0.49	0.30	7.0	5	13	10	8	nw.	John A. Johnson.
Pembina	Pembina	789	55	27.2	+11.2	50	17†	− 2	1	30	0.00	−0.90	0.00	0.0	0	14	12	5	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	29.8	+ 6.0	65	28	−10	7	35	0.52	−0.02	0.28	2.2	5	13	5	13	s.	A. L. Carlson.
Portal	Burke	1,954	15	30.0	...	74	28	2	9	51	0.70	...	0.40	7.0	3	24	0	7	nw.	C. T. Holmes.
Power	Richland	1,020	35	...	...	...	...	...	...	...	1.00	+0.30	0.50	5.0	4	8	16	7	s.	Frank B. Power.
Powers Lake	Burke	2,205	15	28.4	...	57	22	− 4	7	32	1.25	+0.37	0.65	6.9	2	27	3	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	29.0	+ 2.7	62	28	0	7	36	1.69	+1.17	0.65	16.8	10	11	9	11	sw.	John Muggli.
Rugby (near)	Pierce	1,562	1	...	...	...	...	...	...	...	0.20	...	0.10	2.0	2	12	10	9	nw.	E. C. Erickson.
Ryder	Ward	2.108	1	...	...	...	...	...	...	...	T.	...	T.	T.	0	...	...	...	...	E. M. Lomen.
Sharon	Steele	1,516	4	29.2	...	63	28	− 4	7†	35	0.48	...	0.34	1.3	9	10	7	14	sw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	5	...	...	...	...	...	...	...	0.72	...	0.57	3.0	3	10	9	12	nw.	J. H. Giffey.
Steele	Kidder	1,857	33	28.0	+ 5.9	64	28	−15	8	36	0.45	−0.48	0.30	4.5	4	18	0	13	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14	...	...	...	...	...	...	...	0.74	−0.15	0.20	11.0	8	16	3	12	...	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	...	...	...	...	...	...	...	0.08	...	0.07	0.8	2	12	6	13	nw.	J. C. Abbott.
Tioga	Williams	2,279	3	...	...	...	...	...	...	...	0.20	...	0.20	2.0	1	9	3	19	nw.	Anton Carlson.
Towner	McHenry	1,482	27	34.3	+15.1	72	28	3	6	39	0.40	−0.50	0.30	5.0	2	11	13	7	nw.	B. Bagley.
Trotters	Golden Valley	...	4	...	...	...	...	...	...	...	1.57	...	0.70	12.5	9	10	3	18	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	14	30.4^{a}	+ 7.6	67^{a}	28	− 4^{a}	8	40^{a}	0.75	−0.06	...	...	...	5	11	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	32.0	+ 5.9	66	28	− 5	7†	41	0.58	+0.08	0.16	4.0	7	15	9	7	w.	L. C. Robertson.
Velva	McHenry	1,511	3	31.8	...	71	28	0	7	41	0.63	...	0.41	4.8	7	7	11	13	nw.	Oscar Anderson.
Verona	LaMoure	1,387	35	...	...	...	...	...	...	...	0.23	...	0.14	2.0	2	17	6	8	nw.	W. C. Taylor.
Wahpeton	Richland	962	...	34.7	+ 8.5	65	29	− 3	7†	36	0.47	−0.44	0.31	...	4	17	0	14	se.	C. G. Luick.
Washburn	McLean	1,731	27	...	...	...	...	...	...	...	0.75	+0.10	0.19	5.0	16	...	...	...	...	Karl Klein.
Westhope	Bottineau	1,508	27	29.0	+ 8.1	73	28	−10	8	43	T.	−0.49	T.	T.	0	22	7	2	ne.	W. A. Meddaugh.
Williston	Williams	1,878	50	30.8	+ 7.9	67	28	3	6	38	1.32	+0.63	0.79	11.8	7	10	10	11	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	30.0	+11.7	73	28	−12	7	47	0.47	−0.26	0.10	3.3	8	10	11	10	nw.	M. A. Ostby.
Wilton	McLean	...	1	30.5	...	64	28	0	8	42	0.35	...	0.20	3.5	2	14	3	14	...	L. Q. Perkins.
Moorhead, Minn.	Clay	935	48	30.9	+ 8.2	64	28	− 5	7	39	1.01	0.60	0.35	7.1	7	7	9	15	n.	U. S. Weather Bureau.
Averages	...	...	...	30.5	+ 7.9	77	29	−15	7†	51	0.78	−0.05	1.40	5.3	5	12	8	11	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; **Energy**, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; **McKinney**, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for March, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.13	.03	.03		.09							.31	.12							.06	.05								.09		0.91
Amenia ‖‖	Red						.10	.20													T.			.10							T.		0.40
Arnegard (near)	Missouri	.05	.15	.30			.10							.50	.30															T.			1.40
Ashley	Missouri		.03	.02	.03								.01	.32									.13	.05	.06								0.65
Beach	Lit. Missouri	.09	.11	.03			.04							.51					T.			.02		.23	.05					T.	.01	.17	1.26
Berthold Agency	Missouri		T.											.40	T.				T.				T.								.05	.30	0.75
Bismarck ***	Missouri	.01	.04	.07			.10						.68	.27	T.				T.	T.			.29	.06	.08					T.	T.	.01	1.61
Bottineau ‖‖	Mouse	T.	.06	T.	T.		T.							.14	.01					.01	.06				.02		.01				T.		0.31
Bowman	Grand	T.	.20	.01			.06						.10	.20	T.							T.	.11	.18	.20					T.	T.	.24	1.30
Cando	Devils Lake	T.	T.	T.			T.							.36	T.					.03	.02				.01		.02						0.47
Carson	Heart		.05		.10		.02						.25	.10	.05					.01		.05	.45	.05	.20							.05	1.38
Cavalier	Red		.10											.52	.03										.12								0.77
Cooperstown	Sheyenne																																
Corinth	Missouri		.10	.05		.04								.10																			0.29
Crosby	Mouse		.02											T		.15														T			0.17
Devils Lake ***	Devils Lake	.01	.01		T.		T.		T.				.20	.18	.01				.02	.01	.02				.18	.10				.02			0.76
Dickinson ‖‖	Heart	.02	.20	.08	.03		.05							.60	.10	.03				.02		.01	T.	.20	.43		T.				.10	.25	2.12
Dogden Butte	Mouse		.09	T			T.							.40	T.				T		T.				.13					T.	T	T.	0.62
Dunn Center ‖‖	Knife			.05	.05									.40	T.									.15							T.		0.65
Dunseith	Mouse		T.																T.						T.					T.			T.
Eckman	Mouse		.08	T.			T.							.16	.02				T.		T.				.02		.09			.02		.05	0.44
Edgeley	James		.05										.20	.47						T		.10			T								0.82
Ellendale ***	James	.01	.02	T.	.02		.02		T.			T.	.40	.13	.01	.01				.01	T.	T.	.13	T.	.02								0.78
Energy	Missouri		T.				.04						.10	.15	.10								T.		.10						T.	.15	0.64
Epping	Missouri		.12	.12			.03							.35	.40															T.	T.	.30	1.32
Fairfield	Knife		.40	.20										.40									.01		.01						.01	T.	1.03
Fessenden ‖‖	James													.55							.08				.26								0.89
Forman	Sheyenne						.05							.23	.02						.06		.10										0.46
Fort Yates	Missouri	T.	T.	T	.02	T.							1.05		T.								.80	.13									2.00
Foxholm (near)	Mouse	T.	.09	.01			T.							.56	.04				T.	T.	.01	T.			.02	T.				T.		.03	0.76
Fryburg	Heart	T.	.40	.30			.10					T.	T.	.50	.10				.05	T.		.05	T.	.05	.26					T.	T	.20	2.01
Fullerton	James		T.	.02			.10		T.				.20	.68	T.					.03			.12		.06								1.21
Garrison	Missouri																													.04	.06	.14	0.24
Grafton	Red	T.	.10				T.							.56											.03		.03				T.		0.72
Grand Forks ***	Red	T.	.03			.01	T.		T.				.13	.54	.02				T.	T.	T.				.07	.03				.02			0.85
Granville	Mouse		T.				T.							.42	.02				T.		.08				.10	T.						T.	0.62
Hannah	Pembina	T.	.01											T.	T.						T.				.02	T.					T.		0.03
Hansboro	Devils Lake													.50																			0.50
Hettinger	Grand		.09	.03									.29	.56	.09				T.			.03	.08	.13	.09						T.	.16	1.55
Hillsboro	Red	T	T.				T.							.20							T.				.10			T.			T.		0.30
Howard (near)	Missouri	.20	.10				.10							T	T.				T.				T.										0.40
Jamestown ‖‖	James													1.40	T.						.05		.25		.10						.02		1.82
Lamoure	Missouri		.05				.20						T.		.10					T	.01		.10	.10	.30					T.		T.	0.86
Langdon ‖‖	Pembina					T.								.05							T.					.60				T.			0.65
Larimore	Red	.05					.05						.30	.07											.20		.30				.10		1.07
Linton	Missouri												.65	T.									.06										0.71
Lisbon ‖‖	Sheyenne																																0.75
McClusky	Missouri													.61						.03					.18						.08	T.	0.90
McKinney (near)	Mouse		T.											.30	.15										T.	T.			T.		T.		0.45
McLeod	Sheyenne			T.	T.									.29						T.	.05			.20	T.					T.	T.		0.54
Maddock	Sheyenne	T.	T.				T.		T.					.23						T.	.05				.14		.05			T.			0.53
Mandan ‖‖	Missouri		.04	.02	.07		.06							.66	.06	T.							.02	.39	.15							T.	1.47
Manfred	James		.04	.01			.02							.42	.03				T.	.02	.06				.15					T.	.03		0.78
Marmarth	Lit. Missouri	.10	.14										.56	.12	.03								.13	.44	.01						.18	.20	1.91
Mary	Lit. Missouri	.04	.10	.09			T.						.38		.05							T.	T.	T.		T.						.05	0.71
Mayville	Red		.05											.59							.02				.03			.02					0.71
Melville	James														.38																		0.38
Metigoshe	Mouse		.20																													T.	0.20
Michigan	Red																								T.					T.			T.
Minot ‖‖	Mouse		T.											.18	.05										.04	T.	.02						0.29
Mott	Cannon Ball	T.	.10	.21				T.						.86	.18							.82	.21	T.								.62	3.00
Napoleon ‖‖	Missouri		.02		.03			.10						.50	.05						T.			.25	.10								1.05
New England	Cannon Ball																																
New Salem	Heart	T.	.08	T.	.05		.06						.50	.06					T	T.			.40		.30						T.	.03	1.48
Oakes	James		T.				T.						.34			T.				T.	.05		.12		.03								0.54
Park River	Red		.06				T.							.65											.06								0.77
Parshall (near)	Missouri													.30	.10				.10						T.	T.					.10	.10	0.70
Pembina ‖‖	Red																																0.00
Pettibone	James		T.				.02						.28	.02						T.	.10			T.	.10								0.52
Portal	Mouse													.40												T.				.10		.20	1.00
Power	Sheyenne		T.	T.			.30						.50							.10	.10												1.00
Powers Lake	Missouri															.65										.60							1.25
Richardton	Heart		.20	.10									.10	.65	.02								.19	.10	.09						.05	.20	1.69
Rugby [near]	Mouse																			T.				.10	T.	.10							0.20
Ryder	Missouri																																T.
Sharon	Red	T.	.01				T.	T.	T.				.01	.34	.01				.01	T.	.02			T	.06	T.	.01			T.	.01		0.48
Stanton	Missouri		.05				T.							T.	.57								T.									.10	0.72
Steele	Missouri												.05	.05								.30	T	.05									0.45
Stowers	Cannon Ball	T.	T.	T.	.07	.03							.09	.20	.08				T.				.06	.10	.11							T.	0.74
Tagus	Mouse																									.07						.01	0.08
Tioga	Missouri		T.	T.										.20																		T.	0.20
Towner	Mouse		T.	T.										.10													.30					T.	0.40
Trotters	Lit. Missouri	.02	.70	.08										.46	.08									.08	.04	T					.03	.08	1.57
Turtle Lake	Missouri																																0.75
Valley City	Sheyenne		.04				.16		T.				.04							.02	.10		.10		.12								0.58
Velva	Mouse		.06	T.			.01							.41	.01						T.				.11	.01	T.			T.	T.	.02	0.63
Verona	James		T.				T.						.09	.14								T.	T.										0.23
Wahpeton	Red												.02	.31							.08		.06										0.47
Washburn	Missouri		.14	.02			.03					.02	.04	.18					.05			.02	.19		.06					T.		T.	0.75
Westhope	Mouse													T.																		T.	T.
Williston ***	Missouri	.06	.07	.15		.07	T.							.75	.04				T.				T.		T	T.	T.			T.	T.	.18	1.32
Willow City	Mouse	T.	.08		.03		T.							.10	.04			T.		.02	.05				.05	T.	.10			T.	T.		0.47
Wilton			T				T.						T	T.	T.				T.				.15		.20								0.35
Moorhead, Minn ***	Red	T.	.05			T.	.20		T.				.34	.01	T.	T.			T.	T.	.07	T.	.32		.02			T		T.	T.		1.01

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation.   ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.   ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight.   * Precipitation included in the next following measurement.   T. Trace or less than 0.01 inch.

Daily Temperatures for March, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	33	36	38	35	43	13	26	13	30	42	53	37	40	44	47	54	58	52	33	46	33	32	33	35	41	55	57	65	60	30	38	40.4
	Minimum	12	14	10	7	18	12	-8	-5	-6	-4	30	33	34	32	33	28	27	33	18	19	20	20	13	20	23	24	26	28	32	20	17	18.7
Arnegard	Maximum	33	39	35	36	43	34	42	35	35	52	42	38	32	36	43	49	48	42	47	47	37	32	32	31	39	52	55	71	53	28	32	40.8
	Minimum	3	27	20	26	33	-2	3	3	7	20	28	25	26	22	16	18	20	33	27	34	27	26	17	23	19	27	33	36	28	18	21	21.4
Ashley	Maximum	27	37	33	35	41	39	24	27	28	42	48	44	38	37	43	51	58	54	44	52	46	28	34	35	36	45	55	66	62	49	33	41.6
	Minimum	9	12	16	21	28	6	-2	10	7	18	36	30	32	31	28	28	29	33	26	27	24	23	21	26	20	24	34	31	39	21	18	22.6
Beach	Maximum	35	35	34	37	43	22	42	35	35	46	43	33	2	35	37	42	45	45	42	47	42	32	28	28	40	45	55	55	47	32	32	38.5
	Minimum	20	23	22	20	22	10	10	20	22	30	33	26	23	23	14	22	26	32	27	34	26	25	18	20	13	28	34	35	29	23	20	23.2
Berthold Agency	Maximum	30	37	35	38	50	40	35	35	35	50	49	40	35	36	45	52	53	45	45	50	42	36	31	36	45	52	50	46	70	35	30	42.3
	Minimum	14	23	20	25	26	5	5	6	6	19	25	28	28	27	16	22	25	33	24	32	27	18	12	25	20	22	28	30	32	18	22	21.4
Bismarck	Maximum	33	37	30	35	51	36	30	33	33	48	53	33	35	34	44	52	53	48	43	52	36	30	34	36	37	46	57	67	54	31	31	41.0
	Minimum	12	22	20	23	32	5	5	8	6	22	31	30	31	28	21	26	28	34	27	31	27	25	18	26	18	26	37	34	29	21	21	23.4
Bottineau §§	Maximum	24	32	26	33	48	28	22	25	35	45	47	38	38	39	44	54	51	53	43	42	42	37	38	37	35	52	54	70	65	30	29	40.7
	Minimum	5	18	12	14	23	-2	-11	0	-7	19	30	23	29	26	16	25	21	29	18	21	10	15	18	24	17	20	29	28	27	8	9	16.9
Cando	Maximum	25	26	36	34	46	45	17	20	37	39	41	40	37	37	49	52	50	61	42	44	42	34	38	38	36	49	54	68	62	51	47	41.8
	Minimum	6	19	9	11	29	0	-5	5	-2	12	16	22	31	28	23	29	27	27	13	20	13	16	17	14	16	15	32	28	34	28	26	18.0
Carson	Maximum	28	35	30	35	42	45	33	30	34	44	45	32	35	34	35	42	44	44	40	50	44	30	40	30	36	44	54	68	77	35	32	40.2
	Minimum	4	15	16	17	28	5	0	5	3	20	30	25	28	24	9	17	28	28	20	25	27	22	20	16	8	22	33	32	33	18	17	19.2
Crosby §§	Maximum	36	33	30	38	42	10	34	18	34	47	38	40	28	40	45	43	48	45	44	45	31	36	38	30	38	50	56	71	45	32	30	38.6
	Minimum	4	10	25	24	28	-3	-3	-2	-1	21	29	21	23	12	17	28	28	32	24	25	24	29	23	22	20	22	26	34	39	14	14	19.6
Devils Lake	Maximum	27	31	28	36	48	27	22	22	33	47	52	34	36	35	46	51	56	46	25	43	30	32	47	32	33	56	53	66	55	27	31	38.4
	Minimum	9	16	7	19	27	1	-2	2	0	17	30	26	31	30	26	29	28	25	15	20	14	17	18	26	19	15	34	32	24	14	11	18.7
Dickinson §§	Maximum	36	37	33	37	44	15	38	22	37	49	44	32	29	31	36	40	42	41	40	42	37	32	28	31	40	50	54	69	48	26	30	37.6
	Minimum	9	11	21	21	22	5	2	5	7	10	15	25	24	25	5	3	18	18	21	28	24	24	12	20	10	21	32	31	36	19	20	17.7
Dunn Center §§	Maximum	37	35	34	39	42	28	34	22	37	48	46	36	31	36	42	47	49	47	44	48	37	31	32	34	41	49	54	68	50	39	32	40.3
	Minimum	0	8	22	22	28	4	5	7	8	15	24	21	25	27	10	15	21	27	25	30	26	26	12	17	17	27	34	30	39	19	18	19.7
Dunseith	Maximum	38	32	36	32	31	37	42	35	19	22	34	47	45	36	42	47	51	44	25	41	37	26	37	34	48	47	52	67	61	41	41	39.7
	Minimum	28	24	22	24	18	28	26	-3	-10	2	-6	17	29	17	18	22	40	20	15	12	9	14	15	25	18	19	42	27	23	6	7	17.7
Edgeley	Maximum	28	38	30	36	43	41	26	30	29	43	49	44	39	37	54	54	57	55	42	55	46	35	36	35	39	51	56	66	63	50	53	43.9
	Minimum	0	14	14	21	13	6	-1	13	23	20	28	30	32	31	31	29	28	33	26	25	23	20	21	27	23	25	36	21	35	21	23	22.3
Ellendale	Maximum	26	39	29	33	47	40	27	31	26	43	50	35	42	37	45	55	58	51	38	55	35	28	33	33	36	49	57	66	59	35	34	41.1
	Minimum	11	24	18	23	30	9	3	6	0	22	30	32	35	33	32	31	31	36	26	26	25	26	23	25	26	25	36	28	31	23	19	24.3
Fessenden §§	Maximum	35	39	31	32	53	15	29	18	38	53	59	37	48	42	48	54	60	50	36	48	31	33	38	40	40	54	55	69	60	31	32	42.2
	Minimum	14	22	15	21	22	3	3	8	-2	8	29	28	26	30	20	25	27	33	22	24	20	19	18	26	20	22	31	30	43	17	16	20.6
Foxholm (near)	Maximum	28	35	30	34	46	40	28	30	33	52	45	40	34	36	44	51	51	46	40	45	37	32	36	35	37	50	54	70	60	30	27	40.6
	Minimum	15	18	15	22	22	0	-5	-1	0	0	25	20	25	23	18	29	25	32	23	25	17	15	17	22	21	20	32	33	25	11	10	17.9
Fullerton	Maximum	27	38	32	34	45	38	28	33	28	43	50	40	41	39	45	56	57	50	43	54	45	29	35	36	39	50	56	66	60	48	35	42.6
	Minimum	7	21	16	22	30	4	3	15	0	21	30	32	34	33	32	29	26	35	30	27	26	25	23	28	24	25	36	30	38	23	14	24.2
Garrison	Maximum	29	37	31	39	52	42	30	32	34	51	51	38	34	37	49	60	55	49	43	50	39	33	38	34	52	57	60	63	62	31	29	43.3
	Minimum	14	23	21	25	31	3	1	3	3	18	27	24	29	26	19	26	27	32	22	30	24	23	20	27	26	34	30	33	31	17	20	22.2
Grafton	Maximum	25	29	29	31	40	40	13	14	29	37	50	38	39	37	48	46	56	51	38	44	33	36	42	39	35	50	54	63	61	35	33	39.2
	Minimum	-7	12	6	9	23	-6	-10	4	10	16	29	28	28	32	31	32	27	34	10	19	14	18	21	30	29	9	37	29	34	12	12	17.8
Grand Forks	Maximum	27	29	24	35	47	31	19	22	28	41	50	38	42	37	45	53	54	47	26	46	29	34	41	33	36	52	54	63	62	22	34	38.7
	Minimum	-2	15	4	11	29	0	-6	-2	-5	18	31	33	35	33	31	32	27	26	13	21	16	22	24	30	19	26	32	31	20	15	15	19.2
Granville	Maximum	28	35	30	37	47	30	25	25	30	57	42	42	35	35	45	52	59	48	40	47	35	38	37	34	37	50	55	70	55	50	47	41.8
	Minimum	18	23	20	27	26	4	-3	1	12	17	21	23	28	27	16	27	25	28	25	22	18	18	15	23	20	18	28	28	28	22	20	20.5
Hansboro	Maximum	20	25	33	35	40	35	25	15	35	45	40	35	35	36	44	48	52	50	35	40	32	35	36	36	34	49	52	72	64	32	35	38.7
	Minimum	-3	10	-2	16	25	-11	-15	-2	-12	12	25	15	25	22	18	26	30	30	5	15	5	10	18	20	17	14	26	24	24	3	4	12.7
Hettinger	Maximum	32	35	34	38	49	44	42	37	41	62	55	41	31	30	36	41	40	38	41	45	41	30	26	30	38	46	55	67	65	42	30	41.4
	Minimum	10	28	24	27	32	12	12	11	17	24	35	28	26	25	11	13	21	32	25	31	30	26	17	15	4	26	34	33	31	24	23	23.1
Hillsboro	Maximum	27	35	28	36	49	46	18	22	28	41	51	49	42	41	46	55	56	....	....	46	44	34	40	40	28	54	53	62	61	54	37	[b]42.6
	Minimum	2	15	7	11	28	7	-6	10	5	19	30	33	35	32	34	30	37	...	15	20	17	30	21	30	23	24	36	28	38	18	15	[a]21.1
Howard (near)	Maximum	25	26	28	38	48	35	37	32	45	47	42	40	28	48	40	42	43	50	47	48	48	36	34	50	50	48	40	38	34	32	30	39.6
	Minimum	5	3	12	17	25	-6	11	6	10	20	25	20	14	14	14	20	21	20	21	22	21	19	14	22	20	26	18	18	17	17	13	16.5
Jamestown §§	Maximum	38	30	37	48	28	29	20	32	44	52	36	43	37	46	55	60	51	34	41	30	29	35	36	41	53	56	67	62	41	34	51	41.8
	Minimum	2	10	13	15	22	7	-1	-1	-1	-2	19	31	29	31	30	28	29	30	24	23	20	21	22	23	19	22	26	30	34	19	15	19.0
Lamoine	Maximum	23	34	27	33	45	42	24	27	29	42	56	34	35	35	43	54	54	50	39	48	39	28	33	36	38	49	55	62	55	31	32	39.7
	Minimum	13	13	18	16	27	4	-9	6	8	17	32	27	30	28	28	25	28	30	23	23	21	21	13	27	17	21	30	28	22	14	16	19.9
Langdon §§	Maximum	26	26	30	32	40	15	22	20	32	40	35	36	36	35	45	48	53	45	28	15	28	35	40	35	36	45	51	63	57	30	32	35.8
	Minimum	4	10	4	10	12	0	15	15	10	18	29	22	20	31	23	24	24	31	8	10	8	8	16	16	15	16	20	30	34	7	7	16.0
Larimore §§	Maximum	27	29	30	39	50	25	20	27	37	42	55	35	39	37	45	58	56	43	25	36	28	33	42	32	35	52	55	62	60	29	35	39.1
	Minimum	-5	7	3	15	25	0	-6	9	18	21	29	29	29	32	28	35	30	23	10	20	14	20	20	23	26	22	31	33	29	14	11	19.0
Linton	Maximum	27	37	29	....	45	....	....	29	30	48	52	42	40	36	46	54	58	50	43	54	47	30	34	....	47	47	58	68	66	43	40	[d]44.4
	Minimum	5	22	19	....	19	....	....	-1	-3	35	39	30	32	31	21	21	24	31	24	24	27	25	15	....	1..	21	32	25	39	17	20	[d]22.6
Lisbon §§	Maximum	35	38	44	40	45	22	29	27	35	41	54	39	44	57	48	55	61	52	35	51	30	31	35	39	40	55	58	68	62	45	38	43.0
	Minimum	2	8	10	16	23	11	-5	0	-7	0	28	33	31	30	32	25	27	36	21	21	22	20	22	25	26	20	25	23	25	20	15	18.9
McClusky	Maximum	24	35	35	34	43	37	45	29	30	46	52	31	33	34	44	54	53	47	37	38	34	30	36	36	40	53	56	66	45	30	31	39.9
	Minimum	13	13	16	18	25	2	5	1	-2	22	29	25	26	25	17	31	26	30	28	18	18	17	15	23	17	23	28	31	14	12	14	18.7
McKinney (near)	Maximum	31	35	30	36	45	40	28	30	34	53	44	40	33	40	42	50	50	45	40	45	40	40	38	36	35	50	55	71	66	31	27	41.3
	Minimum	12	14	17	20	24	-2	-8	-1	-1	14	22	21	26	27	12	27	23	32	23	27	18	18	21	19	18	14	33	23	29	12	10	17.9
Maddock	Maximum	27	31	28	37	51	50	23	29	38	51	55	37	38	36	47	56	59	56	46	47	43	32	37	40	36	51	55	69	66	60	33	44.1
	Minimum	7	20	9	9	28	0	-5	5	-4	16	28	24	31	28	20	26	25	32	16	21	15	17	13	24	18	18	33	26	36	14	10	18.1
Marmarth	Maximum	37	36	40	41	52	27	44	31	46	58	53	29	31	33	43	46	46	46	49	53	33	31	28	37	44	53	61	61	54	53	35	43.0
	Minimum	25	25	21	34	14	17	20	21	22	31	26	25	26	16	13	20	33	27	31	33	27	18	10	6	25	35	34	37	21	25	22	24.0
Melville	Maximum	34	38	33	31	30	39	35	34	33	36	31	29	41	48	39	45	37	34	36	44	48	53	58	52	48	59	64	53	45	39	44	41.6
	Minimum	8	12	4	14	2	12	8	11	6	4	-1	8	18	21	17	22	19	12	15	21	18	24	29	18	20	24	27	21	12	17	21	15.0
Minot §§	Maximum	30	36	30	37	50	48	29	33	35	54	45	41	37	37	48	53	56	57	47	47	47	43	36	35	36	51	56	73	68	31	28	43.7
	Minimum	19	22	19	24	32	5	1	3	1	18	12	12	28	26	11	23	26	33	26	27	19	19	15	24	21	15	37	28	29	14	14	19.5
Mott	Maximum	33	33	34	35	25	23	36	46	51	48	34	31	32	31	39	46	42	40	52	40	36	32	33	36	33	37	43	42	48	46	33	37.7
	Minimum	15	18	21	18	5	5	16	26	33	30	26	27	22	22	9	11	16	22	32	33	23	11	0	23	24	30	30	31	29	33	22	21.4
Napoleon §§	Maximum	35	36	32	35	42	12	30	15	30	46	51	30	38	35	41	53	56	50	40	51	31	29	35	35	37	50	57	67	60	32	35	39.6
	Minimum	10	17	14	15	27	7	-6	10	-7	21	33	29	28	29	19	24	28	32	21	26	29	20	17	25	20	20	33	29	36	17	17	20.6
New Salem	Maximum	29	34	32	36	48	28	33	32	40	44	49	40	34	36	40	44	49	42	43	57	32	34	38	35	35	45	56	68	66	57	30	41.5
	Minimum	10	18	19	22	33	3	13	15	18	20	27	25	14	12	13	21	27	31	26	29	26	22	21	22	11	24	34	35	43	24	20	21.9
Pembina §§	Maximum	21	26	34	36	20	20	24	28	24	44	38	40	38	38	46	50	46	28	30	34	38	38	36	30	32	42	56	38	30	25	34	37.3
	Minimum	-2	20	5	20	20	2	10	10	10	15	20	20	20	20	20	20	30	28	5	20	20	20	20	20	18	20	25	20	25	20	10	17.1
Steele	Maximum	28	32	34	34	35	10	24	8	30	44	47	40	36	44	44	51	55	54	38	50	30	30	34	35	34	48	54	64	62	36	36	38.8
	Minimum	5	10	12	15	10	0	-8	-15	-3	26	26	24	18	32	26	13	26	30	20	24	20	26	13	20	15	20	30	32	36	15	15	17.2
Towner	Maximum	30	35	30	36	47	42	30	32	35	38	40	38	34	48	62	58	61	50	52	48	50	52	50	45	43	28	58	72	65	50	48	45.7
	Minimum	10	15	15	8	28	3	10	15	18	13	20	25	18	25	30	22	25	30	28	30	28	20	32	28	29	26	33	40	28	15	30	22.9
Valley City	Maximum	29	40	29	35	46	43	25	28	31	44	51	47	42	38	47	55	57	49	45	50	53	37	36	35	41	53	56	66	64	33	35	43.2
	Minimum	-1	12	11	19	30	6	-5	12	-5	19	29	31	33	32	32	25	23	35	20	23	21	24	22	29	22	22	35	25	25	19	16	20.7
Wahpeton	Maximum	31	39	40	34	45	45	23	27	29	44	52	52	48	49	47	55	57	59	50	55	49	36	40	40	40	53	58	64	65	59	39	45.9
	Minimum	4	16	11	18	27	11	-3	14	-3	21	33	35	37	34	32	28	28	34	20	24	25	26	24	29	23	28	37	31	39	23	21	23.5
Westhope	Maximum	33	34	34	36	48	25	28	25	37	48	44	39	38	37	47	49	55	47	44	40	35	37	42	40	36	49	55	73	40	32	30	40.5
	Minimum	10	20	10	12	26	0	10	-10	-5	18	18	19	23	22	14	27	28	30	28	23	15	18	18	23	18	18	32	30	26	10	10	17.5
Williston	Maximum	35	37	32	40	45	12	41	20	36	53	39	39	30	40	43	48	50	45	45	47	39	34	35	30	40	52	55	67	50	27	34	40.0
	Minimum	5	22	22	28	10	3	3	4	13	25	28	25	26	19	16	24	27	30	25	31	26	27	24	22	21	29	33	38	28	17	20	21.5
Moorhead, Minn	Maximum	26	38	28	32	46	38	19	25	27	41	50	39	47	38	46	54	56	48	32	46	32	29	38	34	39	54	55	64	66	26	35	40.1
	Minimum	8	16	9	18	27	4	-5	6	-4	20	33	34	38	33	33	30	29	32	18	22	20	25	21	31	26	28	37	31	21	20	19	21.7

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 5 11-29—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVIII BISMARCK, N. D., APRIL, 1929 No. 4

GENERAL SUMMARY

The month opened with temperatures considerably above the normal, but after the 5th readings averaged near or slightly below normal. The coldest period at almost all stations occurred between the 6th and 12th. For the month as a whole temperatures averaged above normal in the extreme eastern and southern sections of the State and below normal over the central and western districts. The precipitation was well distributed throughout the month, there being no prolonged wet or dry periods. Amounts were below normal in the western and southeastern sections and slightly above normal from the south-central section northward and northeastward to the Canadian Line. Snowfall was light and very little fell after the 10th. Except for some slight delay, due to wet ground in the eastern part of the State, farm work made good progress. The seeding of spring wheat was well advanced by the close of the month and grasses and foliage made fair to good growth. F.J.B.

TEMPERATURE

The mean temperature for the State was 41.5°, or 0.2° below the normal, and 5.6° higher than the average for April, 1928. The highest mean reported was 49.6° at Fort Yates, Sioux County; the lowest was 32.8° at Melville, Foster County. The highest temperature reported was 85° at Hankinson, Richland County, on the 3d; the lowest was -9° at Epping, Williams County, on the 1st. The greatest monthly range of temperature was 77° at Epping, Williams County; the least was 53° at Mott, Hettinger County. The greatest daily range in temperature was 54° at Lisbon, Ransom County on the 4th.

PRECIPITATION

The average precipitation for the State was 1.31 inches, or 0.07 inch below the normal, and 0.43 inch more than the average for April, 1928. The greatest monthly amount reported was 3.03 inches at Fullerton, Dickey County; the least was 0.04 at Fairfield, Billings County. The greatest amount recorded in any 24 consecutive hours was 2.00 inches at Crosby, Divide County on the 7th. The average snowfall was 3.4 inches. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Carson and Howard on the 1st; at Willow City on the 3d; at Fessenden and Metigoshe on the 15th; and at Bottineau, Carson, Grand Forks and Williston on the 27th..

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.89	30.25	8	29.19	5	57	5,952	8.3	26§	ne.	24
Devils Lake	29.90	30.32	9	29.09	5	44	6,634	9.2	35§	ne.	5
Ellendale	29.91	30.23	9	29.02	5	56	8,747	12.2	35§	nw.	6
Grand Forks	29.88	30.32	9	29.03	5	90	......	......	26	nw.	1†
Williston	29.90	30.23	8	29.29	5	48	5,410	7.5	32§	w.	15
Moorhead, Minn	29.89	30.31	9	28.92	5	58	5,695	7.9	23§	w.	1
Av'ges and extremes	29.90	30.32	9	28.92	5	.....	....	9.0	35§	ne. †	5†

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Station	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p'c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	204.1	408.5	50	− 9	80	45	50	16	26
Devils Lake	269.0	410.5	66	+ 8	84	56	58	18	26
Ellendale	249.2	407.2	61	+ 3	87	55	....	24	26
Grand Forks	....	....	....	.....	81	.....	55	.....	....
Williston	258.7	410.5	63	+ 5	82	51	52	20	26
Moorhead, Minn.	261.1	408.5	64	+ 5	81	53	54	22	26
Averages and extremes	248.4	409.0	61	+ 2	82	52	54	16	26

† And other dates.

COMPARATIVE STATE DATA FOR APRIL

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893 ..	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894...	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895...	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896...	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897...	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898...	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899...	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900...	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901...	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902...	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903...	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904...	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905...	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906...	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907...	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908...	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909...	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910...	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911...	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912...	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913...	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914...	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915...	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916...	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917...	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918...	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919...	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920...	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921...	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922...	42.3	+0.6	89	− 2	0.92	−0.46	6	10	9	11	se.
1923...	38.7	−3.0	89	−15	1.45	+0.07	5	13	8	9	nw.
1924...	39.3	−2.4	84	6	2.55	+1.19	9	8	9	13	nw.
1925...	47.8	+6.1	85	10	1.64	+0.26	6	11	10	9	se.
1926..	42.8	+1.1	98	− 4	0.28	−1.10	3	17	8	5	nw.
1927...	41.4	−0.3	95	7	1.70	+0.32	7	10	8	12	se.
1928...	35.9	−5.8	84	− 6	0.88	−0.50	5	12	10	8	nw.
1929...	41.5	−0.2	85	− 9	1.31	−0.07	6	12	9	9	nw.

Climatological Data for April, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr. Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Precipitation, in inches Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	Number of days With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Amenia	Cass	954	33	42.9	+0.6	82	3	19	9	53	1.55	−0.33	0.50	2.0	7	8	16	6	ne.	E. T. Carley.
Arnegard (near)	McKenzie		14	40.4	0.2	77	3	11	7†	44	0.62	−0.83	0.50	5.5	4	19	6	5	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	43.6	+1.1	78	4	18	9	41	1.40	−0.57	0.64	6.5	6	17	9	4	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	41.8	−0.7	71	28†	15	1†	41	0.47	−0.95	0.14	1.0	7	13	12	5	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	42.1	−1.6	72	4†	12	1	45	0.20	−0.96	0.20	T.	1	15	5	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	43.2	+1.1	74	3	20	8	44	1.87	+0.35	0.68	1.8	11	10	10	10	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	37.7	−1.7	69	26	10	8	45	1.38	+0.51	0.65		9	10	14	6	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	15								0.78	−0.46	0.45	T.	4	7	8	15	nw.	M. S. Byrne.
Cando	Towner	1,488	28	41.1	+0.5	71	26	7	1	49	1.58	+0.69	0.68		7	10	7	13	w.	A. J. Swanson.
Carson	Grant	2,500	17	41.9	−0.1	77	29	15	1	48	2.07	+0.52	0.90	2.0	7	14	10	6	ne.	J. W. Evens.
Cooperstown	Griggs	1,428	23								1.52	+0.47	0.50	4.0	6	14	9	7	nw.	S. Friswold.
Crosby	Divide	1,954	23	38.4	−2.2	72	27	11	7	42	2.03	+0.84	2.00	2.0	2	15	9	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	32	39.8	+1.0	71	3	16	8	40	1.54	+0.02	0.47	1.9	11	9	12	9	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	40.0	−2.9	72	29	13	1	47	0.60	−0.63	0.29	0.8	8	8	13	9	n.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	41.4		70	3†	12	9	42	1.93		0.60	2.0	7	12	12	6	nw.	R. L. Williams.
Drake	McHenry	1,634		41.0^{a}		71^{b}	26	13	9	41^{b}	2.54		1.88	4.0	8	16	5	9	nw.	J. Rindt.
Dunn Center	Dunn	2,191	30	40.0^{i}	−2.6	69^{i}	29	5^{b}	1	48	0.83	−0.49	0.56	1.0	4	6	10	14	e.	W. F. Moede.
Dunseith	Rolette	1,682	33	38.8	−1.6	67	3†	7	1	36	0.18	−0.65	0.05	0.0	4	5	11	14	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	24	39.4	−2.2	72	26†	10	9	52	0.58	0.47	0.25	3.0	6	0	24	6	se.	C. E. Strock.
Edgeley	LaMoure	1,468	28	42.7	−0.5	79	4	16	1	41	1.40	0.48	0.70	2.7	5	1	11	15	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	42.7	0.9	80	4	19	12	45	2.51	+0.41	0.44	8.3	10	8	9	13	ne.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	17	42.0		72	3†	17	8	44	1.33	+0.19	0.85	T.	6	10	17	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	21	39.2		68	3†	−9	1	48	1.66	+0.51	0.90	12.0	7	12	12	6	nw.	A. O. Wang.
Fairfield	Billings		2								0.04		0.01	T.	4	10	13	7	w.	F. R. Hecker.
Fessenden	Wells	1,610	17	40.8	+0.6	75	3	15	8	45	1.13	−0.41	0.33		7	16	5	9	nw.	T. D. Monsen.
Forman	Sargent	1,249	35								1.53	−0.66	0.54		6	12	11	7	ne.	O. Enger.
Fort Yates	Sioux	1,670	29	49.6	+5.2	89	25†	21	12	54	2.07	+0.40	0.46	10.0	8	14	8	8		P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	39.5		69	26	11	8	36	1.28		0.55	4.2	6	7	12	11	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11								0.33	−1.11	0.12	0.5	4	13	6	11	nw.	Verne King.
Fullerton	Dickey	1,439	31	43.1	+0.3	79	4	19	12	44	3.03	+1.63	0.72	12.2	7	12	9	9	ne.	F. O. Alin.
Garrison	McLean	1,901	34	42.9	+0.3	74	3	16	1†	43	1.72	+0.52	1.01	2.0	7	15	8	7	nw.	Wm. H. Robinson.
Grafton	Walsh	827	38	42.6	+2.3	72	26	18	9	48	1.46	−0.02	0.85		4	9	17	4	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	38	42.0	0.0	71	26	19	9	43	1.70	−0.23	0.60	2.3	7	14	9	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	40.2	−2.3	70	3†	15	1†	45	1.89	+0.93	0.72	T.	6	11	16	3	se.	W. A. Christianson.
Hankinson	Richland	1,068		48.0^{i}		85^{b}	3	22^{b}	7	47^{i}	1.77		0.60	6.0	8	14	8	8	w.	R. G. Stock.
Hannah	Cavalier	1,568	35								1.36	+0.10	0.60		4					James Meier.
Hansboro	Towner	1,597	21	37.2	−2.7	68	26	8	8†	45	2.61	+1.32	0.66	4.0	9	4	19	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	40.9	−3.9	74	29	14	1	45	0.55	−0.61	0.18	2.0	4	12	14	7	nw.	C. H. Plath.
Hillsboro	Traill	901	23	43.0	0.6	74	3	19	9	42	2.12	+0.11	0.59	1.0	8	14	7	9	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	22	37.0	−2.8	68	3	6	8†	38	0.70	−0.70	0.70	7.0	1	7	15	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	41.2	1.3	75	3	15	1	46	1.98	+0.24	0.69	5.8	7	13	8	9	sw.	S. Calvelage.
Lamoine	Kidder	1,936	24	40.9	1.7	73	3	15	8	43	0.71	−0.26		2.0	4	11	15	4	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	34.6	−3.5	66	27	10	9	46	1.86	−0.17	0.80		5	20	8	2	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	40.8	+0.4	71	3†	16	9	47	2.13	+0.51	0.90	3.0	7	12	4	14	n.	Reuben Gray.
Linton	Emmons	1,711	11	45.1	+2.9	77	29	20	9†	50	1.61	+0.19	0.80	1.2	5	12	10	8	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	42.2	−0.5	84	4	12	9	54	0.67^{c}	−1.22	0.25		6	10	8	12		L. B. Walker.
McClusky	Sheridan	1,943	11	38.8		70	3	12	8	46	1.29	0.14	0.42		6	13	10	7	ne.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	35	39.0	−2.0	70	26	11	8	41	1.59	+0.64	1.00	7.0	8	6	15	9	nw.	E. A. Kaatz.
McLeod	Ransom	1,075	17	46.3	+3.0	80	4	16	9	41	1.25	1.14	0.62	4.2	7	17	3	10	sw.	J. G. Carlson.
Maddock	Benson	1,604	13	40.6	0.5	72	3	13	9	49	1.82	+0.40	1.10		6	3	17	10	nw.	A. T. Felland.
Mandan	Morton	1,644	15	42.6	+0.5	73	3†	19	8†	46	1.63	+0.08	0.60	1.5	8	4	9	17	nw	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26								1.07	−0.20	0.36	3.0	10					P. B. Anderson.
Marmarth	Slope	2,714	20	45.4	+2.6	77^{i}	29	20	6	41	0.26	−0.87	0.16	0.08	4	7	9	11		S. P. Grane.
Mary	McKenzie		2								0.22		0.11	1.0	3	7	15	8	sw.	Fred Hartman.
Max	McLean	2,093		43.2^{i}		72^{i}	29	10^{i}	13	46^{i}										A. W. Rice.
Mayville	Traill	975	33	43.2	0.0	74	4	19	28	48	2.66	+0.91	0.89		6	18	2	10	nw.	N. C. Burhans.
Melville	Foster	1,590	31	32.8	−7.3	58	20	1	5	39	1.20	−0.09	0.62	5.0	3	17	0	13	se.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		4								0.87		0.50	1.0	2	23	2	5	ne.	J. A. Thorburn.
Michigan	Nelson	1,518	1								2.06		0.56	T.	7	11	10	9	n.	Arnold Johnson.
Minot	Ward	1,557	33	39.8	1.9	70	26	14	8	45	0.23	−1.09	0.20		2	15	9	6	nw.	Julia B. Rue.
Mott	Hettinger	2,424	22	43.8	+1.2	75	29	22	7†	36	0.76	−0.74	0.26	2.0	5	10	10	10	se.	O. H. Opland.
Napoleon	Logan	1,955	37	42.3	+0.8	75	3†	16	9	43	1.99	−0.32	0.60	9.0	11	12	4	14	e.	C. J. Hoof.
New England	Hettinger	2,400	38																	E. J. Freeman.
New Salem	Morton	2,163	25	41.2	−1.3	73	3†	16	8	42	1.11	−0.12	0.67		7	11	13	6	nw.	J. Christianson.
Oakes	Dickey	1,318	1	44.2		81	4	20	9	44	1.80		0.50	5.0	11	8	15	7	ne.	Eugene Naylor.
Park River	Walsh	998	25	40.8^{e}	−0.7	72^{e}	21	12^{e}	9	45	1.57	+0.26	0.61	3.0	4				nw.	C. B. Wright.
Parshall (near)	Mountrail		14								1.00	−0.26	0.60	4.0	2	14	11	5	nw.	John A. Johnson.
Pembina	Pembina	789	55	43.1	+5.2	68	3†	15	9†	36	1.20	−0.21	1.10		2	21	5	4	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	41.3^{a}	−0.6	72^{a}	3	15^{a}	8†	41^{a}	0.55	−0.85	0.40	0.2	5	10	5	15	ne.	A. L. Carlson.
Portal	Burke	1,954	15	38.7^{i}		71^{i}	3	11^{i}	7†	47	0.71		0.40	6.0	4	20	1	9	e.	C. T. Holmes.
Power	Richland	1,020	35								1.36	−0.47	0.30	7.0	8	13	8	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	15	41.2		68	28	13	1	30	1.58	+0.02	1.31	3.0	2	20	8	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	41.0	+0.2	75	29	14	8	39	0.42	−1.08	0.19	0.0	3	8	13	9	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1																	E. C. Erickson.
Sanish	Mountrail	1,835																		H. W. Monson.
Sharon	Steele	1,516	4	41.2		75	3	17	9	43	1.77		0.69	2.6	9	12	9	9	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	5								1.31		1.02		3	12	13	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	33	42.1	−2.3	73	3	14	9	43	1.62	+0.51	1.00	3.0	4	11	0	16	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14								0.90	−0.25	0.45	2.0	3	16	8	6		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.57		0.14		7	13	6	11	ne.	J. C. Abbott.
Tioga	Williams	2,279	3								0.50		0.20	2.0	2	8	17	5	nw.	Anton Carlson.
Towner	McHenry	1,482	27	40.7		72	3	13	1†	39	1.30	+0.20	0.40	4.0	6	17	7	6	nw.	B. Bagley.
Trotters	Golden Valley		4								0.80		0.41	4.0	5	7	10	13		A. J. Nellermoe
Turtle Lake	McLean	1,899	14	41.2	−0.9	70	3†	15	1†	40	1.95	+0.75	1.35		5	6	9	15	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	44.9	+1.1	77	4†	19	10	45	0.87	−0.72	0.68		5	18	5	7	w.	I. C. Robertson.
Velva	McHenry	1,511	3	41.2		73	26	14	9	40	1.99		0.85	3.0	6	9	11	10	w.	Oscar Anderson.
Verona	LaMoure	1,387	35								1.46		0.77	2.8	6	17	3	10	ne.	W. C. Taylor.
Wahpeton	Richland	962	37	46.5	+2.2	84	4	20	9	43	1.24	−0.99	0.36		8	18	0	12	se.	C. C. Luick.
Westhope	Bottineau	1,508	27	40.0	+0.3	79	3	12	8†	51	1.01	−0.05	0.66	2.0	8	17	10	3	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	40.4	−1.6	68	26	12	8	35	1.84	+0.61	0.95	12.5	6	12	11	7	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	40.4	+0.2	70	3†	14	8†	45	1.75	+0.80	0.41	4.3	9	9	16	5	nw.	M. A. Ostby.
Wilton	McLean		1	42.6^{b}		74^{b}	3	16^{i}	7	40	1.68		0.75		4	16	1	13		L. Q. Perkins.
Wishek	McIntosh	2,010	9	41.8^{c}		76^{a}	4	18^{d}	9	48^{d}	1.19		0.49	2.2	7	11	11	8	nw.	E. W. Davis.
Zap	Mercer	1,838	1								0.56	−0.52	0.20		6					Grayce M. Joyce.
Moorhead, Minn.	Clay	935	48	43.1	+2.5	80	4	22	9	38	1.99	−0.19	0.69	5.7	7	9	8	13	s.	U. S. Weather Bureau.
Averages				41.5	−0.2	85	3	−9	1	54	1.31	−0.07	2.00	3.4	6	12	9	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for April, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri					.09				.02						.03							T								.30		0.11
Amenia ‖‖	Red						.33	.10				.10				.50	.24	T.	T.					T					T	.18	.10		1.55
Arnegard (near)	Missouri	T.				.25	.30			.05				.02																	T.		0.62
Ashley	Missouri							.10			.01	.18			.42	.05	T														.64		1.40
Beach	Lit. Missouri					.14	.18			.05	.07					T.	.04	.06				T	T	T						T	.03		0.47
Berthold Agency	Missouri					.20	T.											T					T.								T.		0.20
Bismarck ***	Missouri					.68	.10	.10						T.	.09	.15	.01	T	.04				.10					.04	T	.37	.19		1.87
Bottineau ‖‖	Mouse	.02					.65	T.	.02						.02		.25	.02	.10											.10	.20		1.38
Bowman	Grand	T				T.	T.	T.		T.	T		T.	.12		.03							T.					T		.15	.18		0.78
Cando	Devils Lake	T.				.07	.34									.13	.23		.12				.01					T.			.68		1.58
Carson	Heart					.90	.10	.20							.07	.07														.18	.25		2.07
Cavalier	Red					.61	.70	.04									.20		.08														1.63
Cooperstown	Sheyenne					.22		.25				T.				.27			.03											.25	.50		1.52
Corinth	Missouri					.30																			.07								0.37
Crosby	Mouse	T.						2.00								T.								.03						T.			2.02
Devils Lake ***	Devils Lake	.02				.13	.01	.04		T.			T		T	.29	.06	T.	.05				.01					.12		.25	.23		1.54
Dickinson ‖‖	Heart						.14				T				.02	.03	.04		T.					.03					.02	.03	.29		0.60
Dogden Butte	Mouse	T				.50	.50	T.								.32	.01	T.	.10											.05	.35		1.93
Dunn Center ‖‖	Knife	.16					.36											.06													.25		0.83
Dunseith	Mouse															.03	.05									.05					.05		0.18
Eckman	Mouse					.11	.25									.02	.03		.06										.11				0.58
Edgeley	James							.12				.15			.40	.03	T.														.70		1.40
Ellendale ***	James					T.	T	.26			.14	.22			.39	.02	T.		.14					.30	.31			T.		.17	.26		2.51
Energy	Missouri					.85	.10	T.								.12	.05	T										T.		.03	.18		1.33
Epping	Missouri	T.	T.			.05	.90			.30			T.		T.		T.						.15	.03						.03	.20		1.66
Fairfield	Knife					.01	.01									.01							.01								T.		0.04
Fessenden ‖‖	James						.30	.15									.18	.01						.08					.08		.33		1.13
Forman	Sheyenne											.27			.24	.16	.07								.25						.54		1.53
Fort Yates	Missouri					.20	.46								.37	.05		.15						.24						.53	.07		2.07
Foxholm (near)	Mouse	T.				.12	.55							T.		.28	T.	.02	.09				T.					T		.22	T.		1.28
Fryburg	Heart			T.	.12	T.					.05			T		.10							T.							T.	.06		0.33
Fullerton	James					T		.50			.12	.60			.52	T	T.		.32					T.	.25						.72		3.03
Garrison	Missouri					1.01	.19									.20		.08					.04					T.	T.	.12	.08		1.72
Grafton	Red						.85	.15							T.	T	.41	T							T.			.02					1.46
Grand Forks ***	Red					.46		.10				.11				.30	.30		.14									T.			.29		1.70
Granville	Mouse	T.					.72	.11								.27		.14					T.					T.		.34	.31		1.89
Hannah	Pembina						.60						T.			.10	.60		.06	T.											T		1.36
Hansboro	Devils Lake					.60	.44								.01	.40	.30		.20					.05						.16	.45		2.61
Hettinger	Grand							.18							.18		.04														.15		0.55
Hillsboro	Red					.52		.10				.27				.06	.38			.07				.13							.59		2.12
Howard (near)	Missouri					T.		T		.70						T.		T.	T						T				T	T	T.		0.70
Jamestown ‖‖	James						.69	.32	.12			.12	T.				.27		.03												.43		1.98
Lamoine	Missouri					T.	.10	.10							T	T.	.38						.13							T.	T.		0.71
Langdon ‖‖	Pembina						.80									.26	.53		.10					T.							.11		1.80
Larimore	Red						.90	.16									.50	.20	.10											.02	.25		2.13
Linton	Missouri					.06		.10				.02			.80	T	T.		.08				.05	T				T.			.50		1.61
Lisbon ‖‖	Sheyenne						.15	.10					T.			.10			.04											.03	.25		0.67
McClusky	Missouri					.42	.39									.24	.02	.03												.19	T.		1.29
McKinney (near)	Mouse	.10					1.00							T.		.20	.05	.10	.04				.06						.04	T.	T.		1.59
McLeod	Sheyenne					.02		.06				.22				.09	.05		T.						T.					.19	.62		1.25
Maddock	Sheyenne					.20	.17								T.	.23	T		.05									T.		.07	1.10		1.82
Mandan ‖‖	Missouri	T.					.60	.21							.11	.02	.12		.03					.03						T.	.51		1.63
Manfred	James					.18	.22	.03								.16	.01		.03				.03					.02		.03	.36		1.07
Marmarth	Lit. Missouri					T.				.08				.01				T					.01							.16			0.26
Mary	Lit. Missouri					.11								.02		T															.09		0.22
Mayville	Red					.19	.60	.10				.80					.27														.70		2.66
Melville	James					.62			.20																						.38		1.20
Metigoshe	Mouse						.50	T.								.37																	0.87
Michigan	Red					.56	.31		T						T	.50								.10				.04	T.	.35	.20		2.06
Minot ‖‖	Mouse	T.				.20																									.03		0.23
Mott	Cannon Ball					.04		.20							.16	.10												T.		.26			0.76
Napoleon ‖‖	Missouri						.10	.60	.05			.20			.26	.02	.04	.08	.10					.01							.53		1.99
New England	Cannon Ball																																
New Salem	Heart					.67	.03	.04							.02	.06												T.		.02	.27		1.11
Oakes	James					.01		.13			T.	.50			.36	.07	.01		.05					.09	.12					.02	.44		1.80
Park River	Red					.48	.61	.03								T.			.45														1.57
Parshall (near)	Missouri					.60	.40																										1.00
Pembina ‖‖	Red	T.					1.10	T.								T	T.		.10														1.20
Pettibone	James					.07	T	.02				T.				.04												.02			.40		0.55
Portal	Mouse					.40				.20									.10											.01			0.71
Power	Sheyenne					.16		.30			.30	.10			.06	.03														.15	.26		1.36
Powers Lake	Missouri					1.31												.27															1.58
Richardton	Heart					.19																	.04								.19		0.42
Rugby [near]	Mouse																																
Ryder	Missouri					.51										.12	.01										.04			.03	.07		0.81
Sharon	Red					.69	.02	.15				.09	T		T	.21	.03		.05									.01		T.	.49		1.77
Stanton	Missouri					1.02							.05																		.24		1.31
Steele	Missouri					.25										.25							.12							1.00	T.		1.62
Stowers	Cannon Ball							.45						T.	.25																.20		0.90
Tagus	Mouse					.03	.13									.08		.05					.12							.14	.02		0.57
Tioga	Missouri						.20																							.10			0.30
Towner	Mouse					.40										.20			.05										.05	.20	.40		1.30
Trotters	Lit. Missouri					T	.08			.41				.02									.17								.12		0.80
Turtle Lake	Missouri					1.35	.10	T								.22														.01	.27		1.95
Valley City	Sheyenne					T.	T.	.01				.12					.02			.04									T		.68		0.87
Velva	Mouse	T.				.85	.28	T								.28	T	T.	.03				T.					T.		.18	.37		1.99
Verona	James							.13			.15				.30	.10			.01												.77		1.46
Wahpeton	Red					.15	.06					.12				.20	.13								.36					.12	.10		1.24
Washburn	Missouri					.60	.32									.14	.05											T.			.12		1.23
Westhope	Mouse	.02					.66	.01	.03							.18	.02	.02													.07		1.01
Williston ***	Missouri					.95		T.		.34	T.				T.	.02		T.					.13		T.			T.	T.	.27	.13		1.84
Willow City	Mouse		.03			.31	.41								T	.23	.04	T.	.22				.05					T		.12	.34		1.75
Wilton						.75											.46						.20					T.			.27		1.68
Zap	Knife						.06							.02		.10		.05												.20	.13		0.56
Moorhead, Minn ***	Red					.32	T.	.22				.33							T					T.	T.			.01		.09	.69		1.99

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning: amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	42	61	82	80	52	47	49	36	41	42	37	44	56	54	53	46	54	63	65	54	61	67	68	53	64	71	59	55	64	54	..	55.8
	Minimum	23	24	29	31	35	33	29	25	19	21	27	28	25	27	39	31	32	32	33	33	33	31	37	39	30	27	31	23	36	38	..	30.0
Arnegard	Maximum	40	60	77	59	45	30	45	32	33	44	46	47	52	56	55	57	55	50	62	61	60	60	54	46	57	70	58	59	60	60	..	53.0
	Minimum	12	24	33	33	30	18	11	11	19	24	23	23	25	27	35	36	37	31	27	30	30	33	32	37	28	34	36	33	28	35	..	27.8
Ashley	Maximum	40	65	74	78	55	47	43	42	40	39	38	54	57	52	52	51	50	60	64	60	59	66	60	52	59	60	66	59	71	66	..	56.0
	Minimum	24	24	39	41	39	32	21	24	18	25	28	22	27	37	37	33	32	33	30	31	28	37	40	36	29	33	31	25	34	42	..	31.1
Beach	Maximum	39	60	69	69	47	34	45	39	34	34	41	47	47	55	55	55	64	62	61	62	61	47	44	55	55	65	58	71	71	49	..	53.2
	Minimum	15	30	34	36	34	18	20	15	21	24	21	27	27	35	40	33	37	42	35	33	37	34	35	32	32	29	36	30	40	37	..	30.4
Berthold Agency	Maximum	38	64	66	72	45	35	47	44	45	50	52	52	56	55	60	55	54	60	67	65	60	62	60	50	72	70	60	60	65	68	..	57.0
	Minimum	12	23	25	24	30	24	23	16	20	27	20	28	20	28	38	36	32	32	26	28	30	26	32	40	27	30	28	25	32	34	..	27.2
Bismarck	Maximum	38	65	74	69	45	37	44	37	40	41	48	53	56	45	56	51	52	59	65	56	60	67	62	49	59	68	53	60	73	53	..	54.5
	Minimum	23	30	30	39	33	24	24	20	20	24	29	24	29	38	40	37	32	37	35	35	26	43	39	40	30	38	32	26	39	39	..	31.8
Bottineau §§	Maximum	26	59	68	56	40	29	40	27	28	43	46	48	54	55	44	53	50	58	59	53	57	65	56	57	60	69	55	55	65	51	..	50.9
	Minimum	19	18	20	30	27	25	18	10	12	15	20	28	22	24	30	30	32	29	24	28	30	34	30	30	34	25	21	12	20	38	..	24.5
Cando	Maximum	56	60	69	65	56	34	38	39	30	41	41	46	56	55	56	53	51	56	60	61	65	68	61	51	61	71	65	52	64	58	..	54.6
	Minimum	7	18	28	32	29	27	28	15	16	21	28	31	29	33	31	34	30	33	30	28	31	26	40	35	24	27	22	32	21	41	..	27.6
Carson	Maximum	36	72	75	72	55	36	44	40	40	40	48	52	55	45	58	54	55	60	68	60	56	60	68	55	50	66	70	66	77	56	..	56.3
	Minimum	15	28	30	50	32	22	20	19	18	22	22	24	24	35	34	28	28	30	30	28	26	32	33	33	24	18	26	20	35	40	..	27.5
Crosby §§	Maximum	37	58	65	49	42	28	39	30	25	37	42	45	53	55	61	52	60	58	57	53	58	62	64	45	60	67	72	55	60	45	..	51.1
	Minimum	12	18	23	32	26	19	11	13	14	15	19	25	26	20	39	30	32	32	30	25	17	36	36	35	30	32	37	24	29	33	..	25.7
Devils Lake	Maximum	34	62	71	59	38	31	39	33	32	40	39	44	53	56	47	52	49	56	62	50	58	67	61	52	61	70	52	52	62	51	..	51.1
	Minimum	23	22	36	33	29	25	23	16	16	22	30	29	28	30	33	32	27	37	34	28	28	36	37	34	25	30	21	22	36	32	..	28.6
Dickinson §§	Maximum	40	60	69	67	59	34	47	37	39	40	46	51	52	53	57	54	61	58	63	59	58	62	54	44	55	65	59	67	72	54	..	53.9
	Minimum	13	15	25	33	29	21	20	16	15	19	21	19	18	28	35	32	31	26	25	29	28	36	30	36	31	27	31	20	29	44	..	26.1
Dunn Center §§	Maximum	38	60	63	60	38	31	45	35	37	41	50	51	55	57	57	61	58	62	59	60	61	55	46	67	58	65	..	..	69	54	..	ᵇ53.5
	Minimum	5	12	27	30	30	23	22	15	15	21	22	20	20	30	37	34	30	26	29	25	39	33	38	29	30	22	30	..	..	45	..	ᵇ26.4
Dunseith	Maximum	30	58	67	59	51	28	22	24	23	32	38	44	52	55	43	52	58	60	65	58	52	48	53	57	54	62	67	55	64	48	..	49.3
	Minimum	7	25	31	32	22	14	12	10	10	18	26	32	34	38	30	31	32	38	29	36	30	31	38	46	25	30	36	32	36	36	..	28.2
Edgeley	Maximum	46	50	75	79	67	47	48	41	41	40	33	52	58	53	50	50	49	49	65	60	60	65	60	54	61	68	63	62	69	63	..	55.9
	Minimum	16	33	34	40	30	21	22	21	18	25	27	17	24	38	37	32	29	33	33	30	34	35	26	37	29	33	28	37	35	32	..	29.5
Ellendale	Maximum	42	65	77	80	55	48	38	38	42	36	33	44	56	45	51	50	48	57	64	54	59	64	58	47	60	67	54	57	70	49	..	53.6
	Minimum	24	25	32	35	38	30	25	26	20	27	24	19	29	46	36	37	36	33	32	33	30	35	39	38	31	39	34	28	39	40	..	31.8
Fessenden §§	Maximum	37	65	75	66	43	38	43	34	37	44	42	53	58	56	47	56	51	62	66	56	60	67	64	51	62	72	58	60	70	58	..	55.0
	Minimum	21	22	30	32	30	29	22	15	17	20	28	22	24	26	31	33	28	33	27	26	22	29	31	36	24	32	20	19	31	42	..	26.7
Foxholm (near)	Maximum	38	58	66	62	47	31	41	38	30	41	45	50	54	55	54	50	53	57	57	53	57	61	56	55	59	69	56	59	62	52	..	52.2
	Minimum	15	22	37	26	25	23	14	11	13	17	24	23	21	28	33	35	31	32	25	25	22	37	35	35	29	38	28	23	32	39	..	26.8
Fullerton	Maximum	42	64	75	79	55	47	39	37	41	38	34	48	55	50	52	49	49	59	63	57	59	67	65	54	61	68	60	60	69	50	..	54.9
	Minimum	23	25	31	34	39	33	24	27	20	26	28	19	28	27	38	34	38	34	33	34	29	33	41	38	32	36	31	27	40	37	..	31.3
Garrison	Maximum	39	65	74	62	58	34	46	43	37	43	49	59	56	53	58	52	54	63	66	57	60	62	59	54	61	73	57	66	71	52	..	56.1
	Minimum	16	26	48	32	31	26	23	16	19	22	27	28	26	31	32	37	34	32	30	29	26	39	35	34	29	34	28	23	36	42	..	29.7
Grafton	Maximum	38	60	70	69	68	39	36	35	35	45	44	45	55	58	51	56	55	58	58	62	60	66	65	61	63	72	56	51	60	59	..	50.0
	Minimum	25	23	29	32	33	29	24	20	18	25	32	33	30	30	31	39	33	36	35	33	29	33	38	38	29	24	27	24	35	41	..	30.8
Grand Forks	Maximum	39	60	70	68	41	42	35	33	36	42	40	45	54	57	52	51	52	58	62	52	59	66	65	54	63	71	56	49	61	54	..	53.0
	Minimum	26	25	32	34	33	32	25	28	19	26	30	29	30	32	35	35	33	36	33	33	28	34	42	38	30	28	28	24	36	40	..	31.0
Granville	Maximum	37	62	70	48	60	45	33	45	32	42	45	50	55	55	50	53	52	60	60	52	62	65	60	59	65	70	55	58	67	55	..	54.1
	Minimum	15	18	29	23	30	28	25	20	15	18	28	18	22	30	35	35	30	32	26	24	22	38	33	29	35	25	20	19	36	30	..	26.3
Hansboro	Maximum	35	60	67	60	40	40	37	28	27	40	42	47	53	57	50	52	45	56	58	50	60	67	56	56	60	68	50	54	62	58	..	51.2
	Minimum	15	15	27	27	22	22	16	8	8	15	23	25	23	30	25	30	22	30	25	23	30	30	32	30	22	25	17	14	32	35	..	23.8
Hettinger	Maximum	36	60	70	73	45	35	41	40	38	37	46	51	52	52	57	54	59	58	62	59	57	65	59	43	56	64	58	67	74	50	..	53.9
	Minimum	14	19	29	35	33	23	19	21	23	23	22	22	23	24	36	32	32	31	27	29	31	36	34	37	30	28	30	22	34	38	..	27.9
Hillsboro	Maximum	40	61	74	73	68	44	41	36	39	41	40	42	55	58	51	47	54	60	63	54	60	59	65	65	64	70	69	53	64	51	..	55.7
	Minimum	23	24	30	33	33	33	25	25	19	25	29	31	27	32	35	35	30	33	34	32	28	34	33	39	30	28	29	24	35	40	..	30.3
Howard (near)	Maximum	40	55	68	55	45	30	38	32	27	39	42	30	38	52	57	52	63	51	57	62	58	63	53	49	60	66	60	58	57	47	..	50.1
	Minimum	12	23	30	30	20	14	10	6	14	20	14	6	8	24	26	32	36	29	27	25	26	35	31	35	23	31	29	29	30	38	..	23.8
Jamestown §§	Maximum	42	65	75	73	41	45	41	34	38	41	34	49	56	50	48	50	50	65	35	54	60	66	63	47	63	69	56	57	70	45	..	53.6
	Minimum	15	25	29	32	34	31	22	21	16	18	24	26	25	28	38	30	32	34	32	31	37	33	40	38	28	32	28	20	27	40	..	28.9
Lamoine	Maximum	37	62	73	64	56	37	38	38	37	39	43	51	54	51	51	50	51	57	63	53	58	57	60	57	59	68	65	58	68	52	..	53.6
	Minimum	21	19	32	37	32	28	21	15	17	20	27	27	22	22	35	32	27	32	32	28	25	37	37	37	24	36	30	17	34	42	..	28.2
Langdon §§	Maximum	36	58	59	56	34	37	34	29	30	40	41	48	40	38	38	38	42	35	36	34	40	46	37	50	61	41	66	50	58	55	..	43.6
	Minimum	19	20	29	30	30	24	21	12	10	15	23	28	27	30	31	37	30	35	30	19	28	36	30	22	20	24	20	19	34	34	..	25.6
Larimore §§	Maximum	60	71	68	40	40	36	30	36	41	40	44	50	57	48	53	54	58	64	54	60	66	68	50	63	71	56	52	65	63	43	..	53.4
	Minimum	25	24	30	31	32	30	23	20	16	20	26	30	27	25	32	34	30	31	35	31	26	20	30	38	28	24	25	21	35	35	..	28.1
Linton	Maximum	41	68	76	75	69	67	43	40	41	37	45	56	58	56	56	55	50	68	68	63	60	65	61	63	67	74	55	62	77	68	..	59.5
	Minimum	24	24	26	41	34	31	21	21	20	24	23	20	20	36	40	32	28	37	28	36	29	40	39	37	34	39	31	21	40	45	..	30.7
Lisbon §§	Maximum	45	65	75	84	52	58	45	38	44	40	35	48	56	61	53	48	53	62	67	58	65	68	67	57	66	69	55	58	69	44	..	56.8
	Minimum	16	18	27	30	35	32	23	24	12	18	25	26	26	27	33	28	29	30	30	33	27	25	38	36	26	32	30	20	35	40	..	27.7
McClusky	Maximum	35	62	70	63	43	32	38	32	35	42	44	50	55	53	52	51	52	54	62	54	58	65	60	52	58	63	67	58	50	69	..	52.6
	Minimum	14	21	29	28	26	20	19	12	14	17	25	19	21	33	32	32	28	28	26	23	31	35	26	32	20	25	21	17	38	35	..	24.9
McKinney (near)	Maximum	38	58	66	54	42	32	41	39	27	38	45	49	55	55	55	50	54	57	58	50	58	63	55	55	63	70	57	60	55	58	..	51.9
	Minimum	15	18	33	32	27	23	12	11	13	19	24	21	21	29	36	33	32	32	28	22	20	22	36	32	26	40	25	23	32	40	..	26.0
Maddock	Maximum	36	62	72	71	61	35	40	40	34	42	42	50	55	55	48	51	51	56	61	61	60	71	63	60	61	70	70	55	66	67	..	55.5
	Minimum	19	23	23	30	19	26	22	14	13	20	27	24	26	30	27	31	26	34	27	25	23	33	29	35	21	33	22	17	34	41	..	25.8
Marmarth	Maximum	44	62	67	70	61	46	53	43	40	41	46	56	52	58	58	57	63	66	67	61	61	68	..	61	..	66	65	70	77	61	..	ᵇ58.6
	Minimum	24	28	38	41	35	20	40	21	34	28	21	24	24	37	40	31	38	33	28	39	35	42	..	37	..	29	36	29	41	41	..	ᵇ32.3
Melville	Maximum	49	53	44	49	38	34	47	42	51	44	39	44	51	48	43	56	45	48	54	58	55	52	45	52	43	47	51	48	45	44	..	47.3
	Minimum	18	21	16	19	1	8	17	12	24	19	16	20	18	22	16	23	18	21	23	25	19	21	12	22	19	22	17	24	20	18	..	18.3
Minot §§	Maximum	38	62	69	58	40	30	46	29	33	43	47	52	55	55	55	52	54	59	60	53	59	61	58	51	60	70	56	59	67	52	..	52.8
	Minimum	17	17	25	30	28	28	20	14	16	20	21	24	22	30	35	38	34	34	25	19	22	36	32	37	27	38	26	22	24	39	..	26.7
Mott	Maximum	41	60	72	65	48	41	46	39	39	44	47	48	50	54	56	54	56	58	64	62	60	66	60	47	58	66	62	64	75	58	..	55.3
	Minimum	24	44	47	42	37	30	22	22	24	25	23	29	33	32	35	36	34	32	42	35	30	36	36	30	34	31	25	29	39	33	..	32.4
Napoleon §§	Maximum	41	65	75	71	50	44	39	37	40	36	43	54	59	42	54	51	51	60	67	55	60	66	62	48	60	68	51	60	75	48	..	54.4
	Minimum	24	23	35	43	36	30	19	22	16	24	27	19	25	35	39	35	29	36	34	30	24	37	41	36	24	33	28	22	36	45	..	30.2
New Salem	Maximum	36	62	73	66	52	36	45	33	38	41	47	57	57	47	52	50	57	60	66	52	56	68	58	45	60	61	62	59	73	53	..	54.1
	Minimum	20	24	33	37	30	25	22	16	18	21	25	20	24	37	36	30	29	31	35	29	23	38	33	34	28	31	26	22	31	43	..	28.4
Pembina §§	Maximum	28	45	68	51	46	40	42	32	36	42	45	52	50	61	65	64	68	62	64	62	64	68	64	56	66	66	58	62	64	62	..	55.4
	Minimum	20	18	35	38	33	31	25	20	15	15	18	32	31	28	38	38	34	41	38	30	34	38	41	36	30	36	38	28	31	34	..	30.8
Steele	Maximum	42	63	73	70	65	55	65	36	38	38	44	50	56	52	52	50	51	59	64	55	55	65	63	57	60	66	60	58	72	65	..	56.6
	Minimum	23	22	30	35	36	30	20	15	14	22	25	18	23	34	35	29	25	32	33	27	22	37	34	34	25	29	22	20	36	40	..	27.6
Towner	Maximum	38	62	72	62	48	35	45	35	35	45	48	52	62	58	52	48	59	60	61	57	60	59	62	60	62	60	59	60	48	50	..	53.8
	Minimum	13	30	36	32	30	20	25	13	13	20	25	25	28	30	30	34	30	31	33	23	32	30	30	33	23	28	32	35	28	35	..	27.6
Valley City	Maximum	41	64	74	77	77	58	52	52	45	40	46	48	62	57	54	49	52	62	64	60	63	67	68	63	61	68	68	56	65	65	..	59.3
	Minimum	21	22	29	39	35	32	24	22	25	19	28	30	23	35	39	30	35	32	31	29	33	32	42	38	29	33	30	23	36	40	..	30.5
Wahpeton	Maximum	46	62	77	84	82	79	54	41	41	46	43	46	56	56	54	57	54	56	64	63	60	68	68	61	63	69	69	59	63	64	..	60.2
	Minimum	24	24	34	44	42	36	28	28	20	27	27	29	27	40	41	33	35	34	37	37	27	36	39	40	33	32	31	26	37	37	..	32.8
Westhope	Maximum	36	62	79	58	46	44	30	29	28	42	46	50	58	58	47	52	52	52	59	53	59	64	59	56	64	69	57	59	66	48	..	52.7
	Minimum	18	20	28	30	36	26	15	12	12	24	27	32	32	30	33	32	30	32	33	26	24	37	34	36	30	29	26	26	29	30	..	27.3
Williston	Maximum	41	59	68	53	44	30	43	32	32	38	42	46	52	55	55	56	62	57	59	57	58	61	54	48	58	68	57	55	55	49	..	51.5
	Minimum	13	26	33	34	30	19	14	12	20	24	19	25	28	31	39	34	38	32	28	34	36	40	35	35	30	37	37	30	32	35	..	29.3
Moorhead, Minn	Maximum	42	60	71	80	58	47	36	34	42	42	36	44	53	52	52	45	52	58	65	52	59	65	67	55	62	69	57	52	62	47	..	53.9
	Minimum	25	25	33	42	37	32	26	24	22	27	27	30	29	39	39	35	32	33	32	35	31	35	43	39	32	33	32	27	36	38	..	32.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing. ᵇ 2 days, etc

[WBO, Minneapolis, 5-5-29—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVIII Bismarck, N. D., May, 1929 No. 5

GENERAL SUMMARY

The month opened with temperatures, particularly at night, too low for best germination of spring wheat and other grains. Field work was delayed in some sections during the first decade by frozen ground. The temperature during second decade was rather low, but small grains stooled heavily and made fair progress. The third decade was the warmest, but the average was generally below normal. The precipitation was nearly the normal, and was fairly well distributed geographically. Periods of marked precipitation were as follows, 10th, 15th, 19th and 25th to 30th, inclusive. Pastures were somewhat short in some sections, but livestock was generally in excellent condition. Much highway construction was begun during the month and made good progress.

TEMPERATURE

The mean temperature for the State was 49.1°, or 3.5° below the normal, and 9.1° lower than the average for May, 1928. The highest mean reported was 49.6° at Hankinson, Richland County; the lowest was 40.2° at Melville, Foster County. The highest temperature reported was 92° at McKinney, Renville County, on the 13th; the lowest was 8° at McKinney, Renville County, on the 5th. The greatest monthly range of temperature was 84° at McKinney, Renville County; the least was 56° at Wilton, McLean County. The greatest daily range in temperature was 60° at Larimore, Grand Forks County on the 24th.

PRECIPITATION

The average precipitation for the State was 2.99 inches, or 0.44 inch above the normal, and 1.84 inches more than the average for May, 1928. The greatest monthly amount reported was 7.29 inches at Marmarth, Slope County; the least was 0.65 inch at Mellville, Foster County. The greatest amount recorded in any 24 consecutive hours was 3.08 inches at Alpha and Beach, both in Golden Valley County on the 26th. The average snowfall was 0.4 inches. The average number of days with 0.01 inch or more of precipitation was 7.

AURORAS

Auroras were observed at Foxholm on the first; at Carson on the 2d; at Howard on the 12th; at Rugby on the 15th; at Epping on the 24th; and at Rugby on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	29.99	30.48	8	29.36	26	57	6,942	9.3	32§	n.	29
Devils Lake	30.02	30.49	8	29.45	29	44	7,407	10.0	28§	n.	15
Ellendale	30.04	30.46	8	29.47	26	56	10,384	14.0	49§	sw.	29
Grand Forks	29.99	30.44	8	29.55	29	90	....	......	42	s.	13
Williston	30.01	30.49	8	29.40	26	48	5,831	7.8	27§	se.	9
Moorhead, Minn	30.02	30.49	8	28.58	14	58	6,920	9.3	25§	sw.	29
Av'ges and extremes	30.01	30.49	8	28.36	26	.....	....	10.1	49§	sw.	29

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	299.6	467.3	64	+ 6	78	44	41	13	5
Devils Lake	350.7	471.0	74	+16	75	46	44	18	8†
Ellendale	350.1	463.8	75	+17	78	46	....	19	9
Grand Forks	......	......	......	......	69	.....	45	.....	....
Williston	333.6	471.0	71	+23	74	40	41	14	5†
Moorhead, Minn	361.6	467.3	77	+20	75	43	40	13	5†
Averages and extremes	339.1	468.1	72	+14	75	44	42	13	5†

† And other dates.

COMPARATIVE STATE DATA FOR MAY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921	53.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.
1923	54.1	+1.5	100	13	1.77	−0.78	6	15	10	6	nw.
1924	46.9	−5.7	84	15	0.79	−1.76	5	12	10	9	nw.
1925	53.6	+1.0	111	10	1.44	−1.11	4	17	9	5	nw.
1926	58.5	+5.9	105	10	2.18	−0.37	7	13	11	7	nw.
1927	48.0	−4.6	87	13	5.62	+3.07	14	6	8	17	nw.
1928	58.2	+5.6	107	16	1.15	−1.40	5	18	7	6	nw.
1929	49.1	−3.5	92	8	2.99	+0.44	7	16	9	6	nw.

Climatological Data for May, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	3	......	......	......	......	......	......	......	6.27	......	3.08	......	8	......	......	......	......	H. A. Bury.
Amenia	Cass	954	33	50.2	−3.9	88	25	19	5	45	2.15	−0.71	0.55	T.	9	18	11	2	nw.	E. T. Carley.
Arnegard (near)	McKenzie	......	14	49.8	−3.3	88	24	19	5†	46	5.82	+4.11	3.05	1.0	9	21	5	5	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	50.8	−1.9	87	25	19	5	42	1.83	−0.63	0.52	......	5	20	9	2	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	49.0	−1.1	90	24	18	6	45	5.53	+2.72	3.08	......	7	18	9	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	51.1	−2.6	88	13†	16	6	48	4.17	+1.71	1.75	T.	5	22	2	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	51.8	−2.7	81	13	23	5	37	2.37	+0.05	0.78	1.0	9	12	14	5	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	46.1	−5.2	87	13	14	5	54	2.66	+0.62	1.25	0	8	18	10	3	se.	N. A. Eckberg.
Bowman	Bowman	2,961	15	......	......	......	......	......	......	......	5.21	+2.97	2.65	T	4	11	11	9	nw.	M. S. Byrne.
Cando	Towner	1,488	28	49.4	−2.1	84	13	18	5	48	2.24	0.16	0.94	0	7	7	18	6	nw.	A. J. Swanson.
Carson	Grant	2,500	17	50.4	−1.9ᵃ	86	24	15	6†	48	1.39	1.25	0.42	1.0	6	16	13	2	ne.	J. W. Evens.
Cavalier	Pembina	......	2	......	......	......	......	......	......	......	1.47	......	0.65	0	4	13	4	14	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	23	......	......	......	......	......	......	......	2.12	−0.09	0.80	......	5	16	14	1	nw.	S. Friswold.
Corinth	Williams	2,180	2	......	......	......	......	......	......	......	3.17	......	1.23	1.0	7	......	......	......	......	L. S. Evenson.
Crosby	Divide	1,954	23	46.2	−4.2	86	24	14	5	48	3.74	+1.74	1.40	......	7	17	5	9	se.	John Jensen.
Devils Lake	Ramsey	1,478	32	47.2	−5.4	87	25	17	5	41	2.17	+0.14	0.61	T.	8	16	10	5	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	47.7	−4.5	87	24	14	6†	45	3.48	+1.05	1.52	1.3	11	12	12	7	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	48.8	......	85	13	11	5	46	2.98	......	1.02	0.5	7	18	8	5	n.	R. L. Williams.
Drake	McHenry	1,634	......	47.4	......	83	13	12	5	41	3.41	......	1.07	0	7	17	6	8	se.	J. Rindt.
Dunn Center	Dunn	2,191	30	47.6	−5.7	87	13	15	6	47	4.29	+1.75	1.76	1.0	7	9	13	9	s.	W. F. Moede.
Dunseith	Rolette	1,682	33	46.0	−5.9	80	14	19	2†	52	1.47	−0.23	0.45	......	6	11	17	3	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	24	47.0	−3.6	89	13	11	5	56	3.15	+0.97	0.75	0	8	3	25	3	nw.	C. E. Strock.
Edgeley	LaMoure	1,468	28	50.2	−3.3	86	25	19	5†	46	1.49	−1.18	0.13	......	5	5	18	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	50.8	−4.9	85	25	22	6	42	1.42	−1.66	0.66	0.5	11	12	12	7	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	17	50.2	......	85	13	15	6	54	3.18	+0.98	1.05	5	9	12	16	3	se.	H. S. Solenberger.
Epping	Williams	2,224	21	48.8	......	85	13†	15	6	44	3.31	+1.00	1.25	T.	9	21	4	6	nw.	A. O. Wang.
Fairfield	Billings	......	2	......	......	......	......	......	......	......	4.72	......	2.70	0.1	4	19	8	4	nw.	F. R. Hecker.
Fessenden	Wells	1,610	17	47.8	−3.7	80	13†	16	6	43	2.00	−0.28	0.63	0.5	11	14	10	7	se.	T. D. Monsen.
Forman	Sargent	1,249	35	......	......	......	......	......	......	......	2.08	−0.90	0.77	......	4	23	1	7	nw.	O. Enger.
Fort Yates	Sioux	1,670	29	54.8	−1.4	90	21†	17	5†	58	1.71	−0.06	0.77	0	4	19	6	6	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	48.0	......	87	13	15	5	47	2.97	......	1.56	0.2	8	8	18	5	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11	......	......	......	......	......	......	......	4.22	+2.11	2.00	0.5	7	15	12	4	nw.	Verne King.
Fullerton	Dickey	1,439	31	51.7	−1.6	89	25	20	5	42	2.37	−0.87	1.30	1.0	6	23	6	2	nw.	F. O. Alin.
Garrison	McLean	1,901	34	49.8	−2.8	86	13	15	5	46	3.39	+1.22	1.85	0	9	21	5	5	nw.	Wm. H. Robinson.
Grafton	Walsh	827	38	50.1	−2.8	90	25	18	3	46	1.78	−0.33	0.67	0	6	18	12	1	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	38	49.2	−4.2	89	25	20	5	41	2.31	0.23	1.25	T.	5	19	7	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	47.6	−3.5	85	13	16	5	45	2.72	+0.88	0.88	0	5	12	14	5	nw.	W. A. Christianson.
Hankinson	Richland	1,068	......	54.8	......	88	24	25	5†	49	3.68	......	1.40	0.4	6	23	2	6	nw.	R. G. Stock.
Hannah	Cavalier	1,568	35	......	......	......	......	......	......	......	1.89	−0.21	0.51	T.	6	......	......	......	......	James Meier.
Hansboro	Towner	1,597	21	45.4	−4.9	85	13	13	3	51	2.16	+0.08	0.80	T.	7	10	14	7	nw	C. E. Blackorby.
Hettinger	Adams	2,675	22	49.3	−3.5	86	24	19	5†	47	4.30	+2.18	2.11	T.	5	19	4	8	nw.	C. H. Plath.
Hillsboro	Traill	901	23	51.7	−1.5	88	25	22	3	41	2.27	−1.25	0.86	T.	4	16	14	1	nw.	F. E. Mayall.
Howard ‡‡ (near)	Williams	2,275	22	46.2	−3.2	82	13	14	7	45	4.52	+2.34	1.31	2.8	6	13	11	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	51.1	−2.4	89	25	20	5†	47	2.69	0.00	0.68	......	7	16	7	8	nw.	S. Calveiage.
Lamoine	Kidder	1,936	24	47.2	−3.5	82	26	14	5	55	2.47	+0.11	1.09	1.0	6	17	8	6	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	46.5	−4.3	83	13	10	2	44	2.03	−0.22	0.75	0	6	21	7	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	48.8	−3.6	90	24	18	3†	60	3.14	+0.67	1.30	......	10	18	3	10	n.	Reuben Gray.
Linton	Emmons	1,711	11	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Rev. O. Weber.
Lisbon	Ransom	1,091	25	50.6	−2.3	90	26	18	6	44	1.75	−1.44	0.50	0	7	13	6	2	......	L. B. Walker.
McClusky	Sheridan	1,943	11	47.3	......	81	13	11	5	45	2.32	−0.37	0.73	0.2	7	15	13	3	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	35	47.8	−4.2	92	13	8	5	53	4.30	+2.35	2.00	0	5	11	13	7	nw.	E. A. Kaatz.
McLeod	Ransom	1,075	17	50.0	−4.1	86	25†	17	5	59	1.90	−1.88	0.90	0.3	4	23	2	6	nw.	J. G. Carlson.
Maddock	Benson	1,604	13	48.8	−4.4	83	13	17	7	46	2.16	+0.13	1.00	0	7	4	22	5	nw.	A. T. Felland.
Mandan	Morton	1,644	15	50.4	−3.5	81	13	20	6	45	2.80	+0.30	0.97	0	9	15	8	8	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26	......	......	......	......	......	......	......	1.80	−0.56	0.63	T.	7	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	20	52.2ᵈ	+2.2	90ᵈ	25	17ᵈ	6	50ᵈ	7.29	+5.01	2.03	0.2	10	9	12	10	......	S. P. Grane.
Mary	McKenzie	......	2	......	......	......	......	......	......	......	5.35	......	3.00	1.0	4	19	6	6	nw.	Fred Hartman.
Max	McLean	2,093	......	48.8ᵃ	......	89ᵃ	14	17ᵃ	4	51ᵃ	3.27	......	1.25	T.	6	18	3	10	......	A. W. Rice.
Mayville	Traill	975	33	50.8	−3.7	89	25	17	3†	46	1.90	−1.07	0.79	......	5	21	3	7	nw.	N. C. Burhans.
Melville	Foster	1,590	31	40.2	−12.3	71	31	14	20	42	0.65	−2.02	0.45	......	2	22	0	9	se.	J. P. Fischer.
Metigoshe ‡‡	Bottineau	......	4	......	......	......	......	......	......	......	2.59	......	0.70	1.0	5	26	1	4	nw.	J. A. Thorburn.
Michigan	Nelson	1,518	1	......	......	......	......	......	......	......	1.94	......	1.04	......	3	18	9	4	n.	Arnold Johnson.
Minot	Ward	1,557	33	47.8	−4.5	86	13	13	5	55	3.19	+1.22	1.70	0	7	18	6	7	ne.	Julia B. Rue.
Mott	Hettinger	2,424	22	50.0	−1.6	85	24	19	6	45	3.95	+1.59	2.30	0	5	11	9	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	37	50.0	−2.4	86	26	17	6†	43	2.59	+0.19	0.72	0.5	11	17	0	14	s.	C. J. Hoof.
New England	Hettinger	2,400	38	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. J. Freeman.
New Salem	Morton	2,163	25	50.3	−1.0	83	13	19	6	54	3.04	+0.67	0.89	......	9	19	8	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	1	51.8	......	87	25	18	5	42	1.97	......	0.62	0	8	17	9	5	sw.	Eugene Naylor.
Park River	Walsh	998	25	49.3	−2.9	90	25	20	3†	45	1.39	−0.84	0.60	T.	4	15	11	5	nw.	C. B. Wright.
Parshall (near)	Mountrail	......	14	......	......	......	......	......	......	......	4.56	+2.84	1.97	2.0	6	15	13	3	nw.	John A. Johnson.
Pembina	Pembina	789	55	49.4	−3.1	85	25	25	4†	43	2.10	−0.12	1.00	......	4	15	8	8	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	49.9	−0.6	82	25	16	5	44	2.20	−0.65	0.72	T.	6	14	7	10	nw.	A. L. Carlson.
Portal	Burke	1,954	15	47.4	......	87	13	14	4	54	4.57	......	2.00	0	7	14	9	8	nw.	C. T. Holmes.
Power	Richland	1,020	35	......	......	......	......	......	......	......	1.35	−1.54	0.81	2.0	4	19	8	4	s.	Frank B. Power.
Powers Lake	Burke	2,205	15	48.1	......	78	13	19	4	38	4.87	+3.07	2.35	2.3	4	17	11	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	49.6	−3.3	84	13	17	6	46	3.76	+1.93	1.83	......	8	10	13	8	ne.	John Muggli.
Rugby (near)	Pierce	1,562	1	......	......	......	......	......	......	......	1.63	......	0.40	T.	6	18	7	6	nw.	E. C. Erickson.
Ryder	Ward	2,108	1	......	......	......	......	......	......	......	4.77	......	2.71	......	5	......	......	......	......	E. M. Loven.
Sanish	Mountrail	1,835	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. W. Monson.
Sharon	Steele	1,516	4	48.7	......	87	25	17	5	40	2.82	......	0.94	T.	5	17	10	4	n.	Nels O. Greisheim.
Stanton	Mercer	1,722	5	......	......	......	......	......	......	......	2.45	......	0.85	0.2	7	18	7	6	nw.	J. H. Giffey.
Steele	Kidder	1,857	33	49.4	−4.4	82	25	13	5	46	3.90	+1.41	1.25	0	9	20	2	9	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14	......	......	......	......	......	......	......	2.60	+0.22	1.60	......	4	18	9	4	......	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	......	......	......	......	......	......	......	3.80	......	1.52	......	6	19	5	7	ne.	J. C. Abbott.
Tioga	Williams	2,279	3	......	......	......	......	......	......	......	4.39	......	1.52	......	6	8	12	11	nw.	Anton Carlson.
Towner	McHenry	1,482	27	48.9	−3.4	87	13	14	5	52	1.90	−0.42	0.48	......	6	22	7	2	nw.	B. Bagley.
Trotters	Golden Valley	......	4	......	......	......	......	......	......	......	4.93	......	2.66	1.5	6	16	7	8	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	14	50.3	−2.8	82	13	18	5	48	3.65	+1.38	1.52	......	6	5	10	16	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	51.2	−1.4	88	25	19	6	49	2.12	−1.01	0.73	......	6	24	6	1	w.	I. C. Robertson.
Velva	McHenry	1,511	3	49.0	......	85	13	14	5	52	2.83	......	1.11	0.5	7	13	12	6	nw.	Oscar Anderson.
Verona	LaMoure	1,387	35	......	......	......	......	......	......	......	1.63	......	0.33	0	11	13	11	7	nw.	W. C. Taylor.
Wahpeton	Richland	962	37	53.1	−2.2	87	25	19	5	43	2.94	+0.13	1.05	......	6	24	0	7	nw.	C. G. Luick.
Washburn	McLean	1,731	27	......	......	......	......	......	......	......	3.74	+1.36	0.95	......	14	......	......	......	......	Karl Klein.
Westhope	Bottineau	1,508	27	48.0	−3.4	87	13	15	5	47	4.33	+2.29	1.02	0	6	18	9	4	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	48.8	−5.2	86	24	20	6	41	3.64	+1.58	1.61	0.7	9	17	8	6	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	48.2	−3.3	87	13	17	5†	45	1.82	−0.10	0.66	0	6	15	13	3	nw.	M. A. Ostby.
Wilton	McLean	......	1	50.7	......	80	13	24	4	47	2.70	......	1.48	T.	5	24	2	5	......	L. Q. Perkins.
Wishek	McIntosh	2,010	9	49.2ᵈ	......	89ᵈ	27	18ᵈ	6†	47ᵈ	1.39	......	0.34	......	10	......	......	......	nw.	E. W. Davis.
Zap	Mercer	1,838	1	......	......	......	......	......	......	......	3.56	+1.18	1.87	0.2	7	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	48	50.6	−4.5	87	25	23	5	42	1.13	−1.76	0.59	T.	6	14	12	5	n.	U. S. Weather Bureau.
Averages	......	......	......	49.1	−3.5	92	13	8	5	60	2.99	+0.44	3.08	0.4	7	16	9	6	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; **Energy**, Underwood; **Grand Forks**, University; **Lamoine**, Tuttle; Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for May, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
lpha	Lit. Missouri									T.	.06				.34	.17			.02							.01	3.08	.04		2.55			6.27
menia ||	Red	.05									.41	.28				T.				.47	.24							.04	.52	.02	.10		2.13
rnegard (near)	Missouri									.15	.05					.10		.02	.03						T.		2.00	.37		3.05	.05		5.82
shley	Missouri										.52					.32				.06								.48		.45			1.83
each	Lit. Missouri									.01	.17				T.	.11		T.	.01	T.							3.08	.04	T	2.08			5.53
erthold Agency	Missouri										.70							.22									.30	1.75		1.20			4.17
ismarck ***	Missouri									.23	.45					.11		.17	.01	.07						.02	.53			.78			2.37
ottineau ||	Mouse	.08									.17	.25				.02				1.25							.19	.15			.55		2.66
owman	Grand														.81		T.	T.									2.63	.02	T	1.75			5.21
ando	Devils Lake										.65									.91							.33	.02	.05	.20	.02		2.24
arson	Heart									.10	.25					.12											.20	.30		.42			1.39
avalier	Red										.65															.23			.29	.30			1.47
ooperstown	Sheyenne										.80									.55								.18	.42	.17			2.12
orinth	Missouri									.09					.20	.10											.95	.50		1.23		.10	3.17
rosby ||	Mouse										.05				.21	.09			T.	.22							.52	1.25		T.	1.40		3.74
evils Lake ***	Devils Lake	.01								T.	.61				T.	T.				.53						.52	T.	.12	.01	.35	.02		2.17
ickinson ||	Heart							.01			.14	.20				.26			.01		.01						.49	1.52	.01	.59	.24		3.48
ogden Butte	Mouse										.39					.05				.48						T	.22	.68		1.02	.14		2.98
rake ||	Mouse	.11									.66									.46							.23	.65		.23	1.07		3.41
unn Center ||	Knife										.22					.17										.40	1.76		.48	.73	.53		4.29
unseith	Mouse										.18									.18							.20	.10		.36	.45		1.47
ckman	Mouse										.17			.02					.02	.62							.75	.24		.72	.61		3.15
dgeley	James										.43					.13												.36	.27	.30			1.49
llendale***	James									.47	.19				.07	.25			.02	.16		T.	.01				.02	.08	.10	.05			1.42
nergy	Missouri									.19	.04					.10		.15	.10	.10						T.	.99	.46		1.05			3.18
pping	Missouri									T.	.33				.02	.10			.06	.03							.85	.55		1.25	.12		3.31
airfield	Knife									.01						.01											2.70			2.00			4.72
essenden|| ||	James	.27	.01								.63	.02				.07				.25							.13	.12	.10	.25	.15		2.00
orman	Sheyenne										.77					.15				.60									.56				2.08
ort Yates	Missouri										.60					.11			T								.77		.23				1.71
oxholm (near)	Mouse										.25		T.		T.	.03			.01	.21						T.	1.56	.28		.37	.26		2.97
ryburg	Heart									.05	.20					.08									T.	T.	2.00	.39	T.	1.48	.02		4.22
ullerton	James										1.30					.26							T.				.10	.40		.11			2.37
arrison	Missouri									.19	.15					.03			.16	.06						T.	1.85	.12	T.	.75	.08		3.39
rafton	Red		.08								.59															T.	.22	.02	.67	.20			1.78
rand Forks ***	Red	T.	T.								.86					T.										.03		.84	.41	.17			2.31
ranville	Mouse										.20				T.	T.				.63							.88	.16		.85			2.72
ankinson|| ||	Red										.50	.29				.08				1.40							T.		1.00	.50			3.68
annah	Pembina	.14									.38	.40				T.										T.	.37	T.	.09	T.	.51		1.89
ansboro	Devils Lake										.80				.05					T.						.15	.60	.30		.20	.06		2.16
ettinger	Grand	T.														.53				T.							.80	2.11		.70	.16		4.30
illsboro	Red										.86					T.				.19									.70	.52			2.27
oward (near)	Missouri									1.00	.33		T.		T.	.28	T.	T.						T	T.	T.	1.12	.48		1.31			4.52
amestown|| ||	James	.47									.68									.28								.56	.28	.21	.21		2.69
amoine	Missouri										1.09					.10	.15			T.								.41		.62	.10		2.47
angdon|| ||	Pembina	.20									.45	.31															.75	.10			.22		2.03
arimore|| ||	Red	.12	.02								1.00	.15								.05								.20	1.30	.20	.07	.03	3.14
inton	Missouri																																
isbon || ||	Sheyenne	.50									.15	.18				T.				.20	.45								.23	.04			1.75
cClusky	Missouri									T	.73					.03				.24						T.	.03	.51		.56	.20		2.32
cKinney (near)	Mouse										.41				.04			T.		.80						T.		2.00			1.05		4.30
cLeod	Sheyenne	T.									.67					.03				.90									.30				1.90
addock	Sheyenne										1.00					T.				.26						T.	.50	.07	.07	.21	.05		2.16
andan|| ||	Missouri	.12									.60	T.				.21			.17	.09							.01	.97		.10	.53		2.80
anfred	James										.63					.05				.25						T.	.29	.21		.34	.03		1.80
armarth	Lit. Missouri										T.				.45	.39		.01	.05						T.	2.03	1.10		1.44	1.67	.10	.05	7.29
ary	Lit. Missouri									.17	T.					.08			T.						T.	T.	3.00			2.10			5.35
ax ||	Missouri										.25					T.				.38							.28	1.25		.29	.82		3.27
ayville	Red										.79									.24								.10	.64	.13			1.90
elville	James										.45																	.20					0.65
etigoshe	Mouse										.70									.66							.31			.50	.42		2.59
ichigan	Red									1.04																			.76	.14			1.94
inot|| ||	Mouse	.03									.02									.50							.12	1.70		.10		.72	3.19
ott	Cannon Ball		.21							.16						.63										T.	2.30		T.	T.	.62		3.95
apoleon || ||	Missouri	.16									.60					.05	.02		.05	.03							.72	.48	.15	.26	.07		2.59
ew England	Cannon Ball																																
ew Salem	Heart									.14	.16					.24		.01	.06								.81	.65		.89	.08		3.04
akes	James	.01									.55					.21				.29							.14	.62	.10	.05			1.97
ark River	Red	T.	T.								.60															.13			.52	.14			1.39
arshall (near)	Missouri										.27					.20									T.	T.	1.97	.29		1.75	.08		4.56
embina || ||	Red	T.									T.															.20		1.00	.70		.20		2.10
ettibone	James	.07									.72					T.			.05							.71		.60		.05			2.20
ortal|| ||	Mouse									.50				.01					.04							.02	1.60			2.00		.40	4.57
ower	Sheyenne										.12									.81									.26	.16			1.35
owers Lake	Missouri									.31					.53												2.35			1.68			4.87
ichardton	Heart									.09	.08	.11				.24										1.83	*	.71		.70			3.76
ugby [near]	Mouse										.33					T.				.36							.15	.40		.30	.09		1.63
yder	Missouri										.36										.21					.42	2.71			1.07			4.77
anish|| ||	Missouri																																
haron	Red	T.									.94					T.				.60								.16	.80	.32	T.		2.82
tanton	Missouri									.20					.04			.28	.10							.15	.83		.85				2.45
teele	Missouri	.25									1.25					.25			.25	.20						.56		.50		.52	.12		3.90
towers	Cannon Ball										T.					.40											1.60		.43	.17			2.60
agus	Mouse										.23									.28							1.52	.40		1.10	.27		3.80
ioga	Missouri										.45				.05												1.31	.99		1.52	.07		4.39
owner	Mouse										.38									.48							.15	.15		.47	.27		1.90
rotters	Lit. Missouri									.38	.07					.13									.14		2.66			1.55			4.93
urtle Lake	Missouri									.05	.36							T.									1.52	.67		.75	.30		3.65
alley City	Sheyenne										.55									.73			.45					.20	.13	.06			2.12
elva	Mouse	T									.19					.05				.50						T.	1.11	.18		.59	.21		2.83
erona	James	13								.12	.33	.04				.15			T.	.16	.12	T.	T.				.04	.25	.18	.11			1.63
ahpeton	Red	.10									.75					.16				.78									1.05	.10			2.94
ashburn	Missouri	.05	.08							.10	.82				.10			.06	.02						.08	.07	.55	.66	.34	.95	.36		3.74
esthope	Mouse										.25									1.02							.37	.93		1.02	.74		4.33
illiston ***	Missouri									.22					.06	.03		.06	.04						T.	.19	1.46			1.44		.14	3.64
illow City	Mouse										.33									.66						T.	.07	.19		.39	.18		1.82
ilton										.40					T.			.10		.20							1.48		.52				2.70
ishek|| ||	Missouri	.13									.34	.05				.04	T.			.08		.04	.04					.30		.34	.03		1.39
ap	Knife										.15					.02		.22	.03							.51	1.87			.76			3.56
oorhead, Minn ***	Red	T.									.59					T.				.26			.06				.01	T.	.18	.03		T.	1.13

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. || || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum...	52	47	48	51	52	51	53	59	66	56	70	63	82	79	52	68	66	57	48	61	72	71	65	73	88	80	82	72	81	75	69	64
	Minimum ...	34	27	21	24	19	22	22	23	26	34	37	36	41	48	29	22	35	38	34	30	34	42	31	34	43	56	63	55	55	51	39	35.
Arnegard	Maximum...	55	59	54	50	51	50	51	62	58	48	66	77	87	62	51	74	60	64	57	72	84	76	77	88	75	74	65	68	60	67	68	64
	Minimum ...	25	32	29	20	19	20	19	21	32	34	33	33	51	34	26	36	35	34	37	26	52	46	38	47	49	46	43	38	44	40	44	34.
Ashley	Maximum...	45	46	51	49	51	52	53	58	57	59	68	68	77	70	51	70	67	64	57	60	75	74	67	75	87	80	79	71	72	75	71	64.
	Minimum ...	31	29	25	23	19	20	22	32	31	39	35	38	49	49	26	28	44	33	36	23	38	48	34	38	55	55	56	48	53	44	45	37.
Beach	Maximum...	51	59	56	50	49	51	51	60	51	53	66	76	85	68	49	73	59	66	57	72	81	79	81	90	74	50	61	63	50	71	69	63.
	Minimum ...	24	26	35	23	20	18	20	21	32	38	33	35	48	35	24	30	31	32	34	33	40	48	41	47	47	45	42	37	40	45	46	34.
Berthold Agency	Maximum...	54	55	55	50	55	50	62	60	60	57	68	78	88	88	56	75	73	64	64	67	80	75	76	83	76	70	60	80	70	70	65	67.
	Minimum ...	26	28	22	18	18	16	20	18	35	40	30	32	52	40	23	30	42	36	38	28	40	40	33	45	53	50	40	60	50	40	42	35.
Bismarck	Maximum...	51	52	53	47	52	52	53	60	59	55	71	71	81	63	51	75	65	60	51	60	78	75	68	80	73	80	70	70	71	71	67	64.
	Minimum ...	33	32	28	26	23	24	25	30	36	40	36	39	52	33	28	31	43	38	35	30	42	49	37	43	59	56	53	50	53	46	45	38.
Bottineau §§	Maximum...	50	51	52	50	49	50	52	59	64	46	65	63	87	40	53	70	53	57	59	60	75	70	65	75	76	77	70	77	60	57	60	61.
	Minimum ...	27	20	16	22	14	17	19	22	29	36	30	30	33	32	28	23	29	30	31	31	34	40	30	35	39	53	55	36	42	45	38	31.
Cando	Maximum...	61	53	50	49	48	49	60	61	65	63	66	64	84	81	51	69	69	58	55	61	76	76	70	74	83	75	74	70	71	65	60	64.
	Minimum ...	29	24	20	27	18	22	22	23	27	36	33	29	45	33	27	25	38	25	33	31	37	43	29	31	54	56	57	42	53	47	34	33.
Carson	Maximum...	60	58	56	50	50	52	55	60	60	56	60	62	80	70	54	75	68	60	53	67	80	78	74	86	78	68	78	70	80	74	80	66.
	Minimum ...	28	24	28	20	18	15	20	15	34	36	33	35	32	38	34	27	42	30	35	28	38	45	36	46	54	54	57	42	42	38	44	34.
Crosby §§	Maximum...	53	54	52	48	49	48	53	60	60	46	66	74	84	35	49	68	50	59	57	68	80	70	68	86	71	52	64	67	50	62	59	60.
	Minimum ...	23	26	20	18	14	19	18	19	27	38	35	40	45	34	26	29	35	35	29	28	35	45	30	38	51	36	47	39	44	42	40	32.
Devils Lake	Maximum...	43	43	47	47	47	47	51	57	65	51	65	62	81	48	48	68	55	56	52	61	76	69	63	74	87	77	72	69	68	60	60	60.
	Minimum ...	29	26	22	25	17	25	20	22	31	36	34	31	48	27	26	32	36	30	32	32	40	37	30	33	55	57	55	45	51	42	35	34.
Dickinson §§	Maximum...	51	56	54	50	52	50	51	59	51	53	66	74	83	60	47	75	62	63	50	67	80	77	74	87	68	55	64	65	57	67	67	62.
	Minimum ...	28	27	31	22	16	14	14	16	31	39	32	29	40	36	25	25	38	28	35	24	35	46	34	45	56	46	47	37	45	38	44	33.
Dunn Center §§	Maximum...	52	54	54	50	51	50	54	62	58	53	64	77	87	55	48	74	61	65	50	68	72	67	65	68	55	66	67	56	66	68	66	61.
	Minimum ...	27	28	28	20	18	15	16	18	31	40	34	30	47	35	26	28	40	31	37	26	35	42	35	44	50	46	38	50	40	53	43	33.
Dunseith	Maximum...	46	49	47	46	45	46	48	57	64	57	65	63	80	80	50	69	68	56	59	61	75	74	64	60	77	75	70	70	69	59	58	61.
	Minimum ...	26	19	20	27	19	20	22	21	28	26	29	28	28	28	26	24	25	23	31	31	36	44	32	28	34	52	55	40	49	45	33	30.
Edgeley	Maximum...	55	49	51	46	52	54	53	59	60	61	69	68	77	74	53	70	70	61	56	60	75	72	67	75	86	81	76	71	75	73	72	65.
	Minimum ...	36	27	22	22	19	19	22	29	26	41	35	34	35	47	26	24	44	31	35	24	32	48	31	35	51	53	55	51	54	45	42	35.
Ellendale	Maximum...	44	48	49	43	51	52	53	58	61	61	69	65	77	76	50	69	67	56	45	60	73	74	64	75	85	82	79	69	76	74	68	63.
	Minimum ...	30	29	26	26	23	22	25	37	29	43	39	40	45	34	28	29	45	36	32	28	37	48	35	41	59	57	60	52	52	47	46	38.
Fessenden §§	Maximum...	47	47	51	47	50	52	53	60	67	53	62	70	80	59	50	69	59	56	43	58	69	69	66	74	72	80	72	72	68	65	70	61.
	Minimum ...	31	27	20	21	17	16	20	21	24	39	33	32	40	39	25	27	35	36	36	26	34	43	32	34	47	54	57	55	51	48	32	33.
Foxholm (near)	Maximum...	52	49	51	48	49	48	50	57	63	49	66	71	87	61	51	72	70	59	55	62	79	75	64	79	77	72	68	65	65	59	60	62.
	Minimum ...	23	25	17	19	15	18	17	21	32	36	36	34	50	33	25	25	35	31	34	30	40	46	32	38	57	48	51	40	50	44	35	33.
Fullerton	Maximum...	43	47	49	43	52	53	55	60	63	60	71	68	78	80	50	70	57	73	64	64	75	72	68	72	89	82	80	78	72	75	67	65.
	Minimum ...	33	30	25	25	20	23	22	31	29	44	35	38	47	42	27	28	46	33	36	28	34	49	34	38	62	58	59	55	52	47	45	37.
Garrison	Maximum...	54	53	53	49	51	52	52	63	60	52	69	73	86	73	53	75	63	62	55	63	80	76	69	80	77	73	68	70	64	66	67	64.
	Minimum ...	28	26	21	19	15	19	20	25	31	38	34	35	54	36	27	29	42	36	37	29	39	44	33	34	57	49	52	44	50	44	41	35.
Grafton	Maximum...	59	45	47	46	47	47	54	59	61	58	68	65	85	81	50	66	66	56	60	65	74	72	65	72	90	82	81	79	73	72	62	64.
	Minimum ...	32	25	18	27	21	26	23	20	21	41	37	29	39	36	27	25	42	25	37	36	34	52	28	30	54	59	60	54	54	51	37	35.
Grand Forks	Maximum...	44	45	47	47	48	47	53	57	65	55	67	59	82	59	51	66	61	56	55	63	72	70	60	73	89	82	83	73	79	65	61	62.
	Minimum ...	33	28	22	26	20	25	22	22	26	41	37	31	45	33	29	26	38	27	39	34	35	38	30	32	56	64	62	54	55	44	39	35.
Granville	Maximum...	50	50	50	49	50	50	52	57	65	45	50	70	85	57	52	72	70	60	55	62	77	70	62	80	75	79	71	70	65	60	62	62.
	Minimum ...	29	26	18	23	16	17	18	19	28	34	35	35	40	33	28	27	37	33	34	30	37	38	30	37	55	50	53	40	52	45	35	33.
Hansboro	Maximum...	50	47	47	48	48	50	53	68	66	52	65	62	85	58	46	67	62	50	61	70	76	67	62	73	83	74	71	72	60	55	56	61.
	Minimum ...	22	15	13	22	15	16	14	14	22	30	29	23	38	26	23	32	30	15	30	40	45	42	24	24	49	52	52	40	47	40	30	29.
Hettinger	Maximum...	51	59	51	51	53	53	51	57	46	62	69	74	82	69	45	75	63	63	49	64	79	80	74	86	71	59	63	64	66	74	61	63
	Minimum ...	31	27	32	26	19	19	19	26	31	39	31	32	48	39	28	28	36	31	37	36	37	41	41	47	51	47	47	42	46	31	46	35.
Hillsboro	Maximum...	45	46	47	48	49	53	56	58	65	63	68	64	80	78	52	66	66	62	57	63	70	70	70	73	88	87	85	81	83	73	73	65.
	Minimum ...	33	29	22	25	26	23	23	26	24	43	36	33	44	49	29	25	41	33	34	30	45	50	31	33	54	63	61	54	55	52	40	37.
Howard (near)	Maximum...	57	52	50	55	54	48	56	61	57	42	62	70	82	55	47	69	60	53	54	61	72	72	70	72	68	60	65	68	60	61	64	60.
	Minimum ...	20	18	18	17	15	15	14	16	24	35	35	40	55	30	22	29	37	33	35	26	38	45	35	45	42	42	42	37	45	42	41	31.
Jamestown §§	Maximum...	44	46	49	46	51	52	53	57	63	58	70	67	78	68	51	71	65	58	43	63	76	72	64	77	89	80	76	70	75	70	68	67.
	Minimum ...	32	29	23	25	20	20	21	24	29	36	33	34	37	50	26	24	34	32	35	27	31	43	31	34	42	59	57	49	49	47	41	34.
Lamoine	Maximum...	49	48	48	48	48	48	50	57	53	52	68	72	80	64	48	70	70	68	50	61	76	72	76	78	78	82	75	70	68	66	63	63.
	Minimum ...	29	25	18	17	14	15	18	25	30	38	33	34	32	33	26	26	40	31	37	24	33	41	38	26	26	27	55	43	51	46	38	31,
Langdon §§	Maximum...	58	48	47	44	45	49	52	59	65	62	41	52	83	40	47	66	51	56	63	64	70	68	57	67	65	80	70	70	71	71	67	61.
	Minimum ...	15	10	16	22	15	20	18	19	21	34	31	26	40	32	24	47	38	19	34	29	38	40	22	30	50	57	58	44	50	44	32	31
Larimore §§	Maximum...	43	48	48	50	46	54	58	67	55	66	66	82	51	50	67	58	55	57	63	73	70	63	74	90	81	85	72	75	64	64	67	63.
	Minimum ...	32	28	18	25	18	22	20	20	27	40	35	30	35	37	21	30	40	28	31	34	38	50	28	30	34	56	58	56	53	55	37	34
Linton	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Lisbon §§	Maximum...	42	46	52	50	55	54	56	60	67	62	65	72	80	79	55	70	70	60	50	65	75	72	65	78	82	90	86	72	79	76	72	66.
	Minimum ...	32	23	24	22	20	18	20	28	20	33	33	32	44	52	26	19	41	32	31	25	32	50	32	34	43	59	59	59	52	49	38	34.
McClusky	Maximum...	49	50	50	47	50	51	51	59	62	48	66	69	81	65	50	70	66	58	49	60	75	72	65	77	75	80	69	69	68	64	64	62.
	Minimum ...	27	22	20	18	11	16	14	20	30	37	32	29	49	32	23	25	37	31	34	24	34	38	25	39	56	65	52	41	47	40	35	32.
McKinney (near)	Maximum...	55	54	52	50	50	51	57	65	66	47	67	71	92	50	54	74	59	59	63	69	84	71	67	80	75	70	70	71	60	68	61	63.
	Minimum ...	22	23	9	14	8	17	11	12	17	37	38	35	50	31	30	25	34	34	34	30	32	41	29	40	52	48	52	40	52	45	38	31.
Maddock	Maximum...	51	47	51	50	50	50	53	59	67	64	65	66	83	80	52	69	69	67	58	63	77	77	68	77	81	76	75	69	69	66	63	64.
	Minimum ...	29	25	20	22	18	18	17	19	25	36	33	32	46	35	25	23	37	32	22	28	36	40	26	32	50	51	55	42	51	45	33	32.
Marmarth	Maximum...	72	65	65	53	..	58	53	58	50	65	69	78	83	74	50	73	67	66	59	69	78	78	80	89	90	64	68	67	..	..	..	[d]68.
	Minimum ...	30	30	40	20	..	17	21	35	43	40	31	37	37	43	29	32	41	32	39	30	37	45	30	56	56	45	46	37	..	..	..	[d]36.
Melville	Maximum...	54	62	55	60	64	52	48	52	56	59	48	44	51	58	62	55	51	49	57	61	56	57	60	56	52	59	64	58	64	67	71	56.
	Minimum ...	26	24	28	19	22	27	16	21	19	24	20	17	22	24	27	25	28	22	17	14	21	19	26	22	18	28	31	27	34	36	29	28.
Minot §§	Maximum...	52	50	51	49	50	49	52	60	62	48	67	72	86	41	52	79	55	60	55	63	79	72	62	79	76	74	70	78	56	61	62	62.
	Minimum ...	30	26	19	21	13	20	17	19	24	37	41	34	45	35	27	24	38	35	36	33	40	45	30	37	44	50	52	41	45	45	39	33.
Mott	Maximum...	48	50	52	52	53	51	50	60	59	61	68	72	82	80	60	74	66	64	48	61	70	77	79	85	80	67	65	68	67	71	67	64.
	Minimum ...	28	31	26	30	22	19	29	25	36	35	40	36	43	45	26	30	38	31	35	32	37	42	37	40	47	45	47	42	43	40	39	35.
Napoleon §§	Maximum...	48	49	52	46	52	53	55	61	61	57	70	72	80	61	51	73	68	61	54	62	81	73	67	76	86	79	72	69	72	73	66	64.
	Minimum ...	30	29	25	20	18	17	17	25	29	40	33	35	51	51	25	24	40	30	40	21	36	43	30	40	59	56	56	47	52	43	43	35.
New Salem	Maximum...	51	59	54	55	51	52	52	60	60	65	74	72	83	76	48	74	67	79	59	61	79	75	76	80	72	76	69	73	69	70	71	65.
	Minimum ...	29	29	25	20	20	19	21	27	30	31	35	33	51	36	25	20	43	36	37	25	35	47	33	40	45	46	50	57	49	43	44	34.
Pembina §§	Maximum...	52	52	52	52	43	42	54	60	68	58	67	64	68	48	58	68	58	62	68	62	64	68	61	82	85	71	78	78	74	74	65	63.
	Minimum ...	28	28	33	25	25	28	28	26	36	38	38	42	37	36	28	36	38	26	41	38	41	42	28	32	42	46	48	45	44	42	38	35.
Steele	Maximum...	55	54	55	54	52	52	53	60	60	55	69	67	79	73	51	71	72	63	56	61	76	76	73	76	82	80	76	70	70	70	66	65.
	Minimum ...	33	25	19	17	13	14	15	18	25	37	33	30	48	40	24	25	40	27	37	23	42	43	28	38	57	54	53	43	50	42	43	33.
Towner	Maximum...	62	60	56	52	48	50	54	62	58	54	65	68	87	84	55	50	73	50	50	60	78	70	65	75	74	70	75	70	61	60	60	63.
	Minimum ...	32	28	30	18	14	25	32	30	34	38	35	36	35	34	28	24	34	36	34	35	35	30	30	28	54	50	54	40	52	45	35	34.
Valley City	Maximum...	45	48	49	43	51	52	54	59	65	58	70	65	80	78	56	69	67	59	69	62	74	72	71	75	88	82	73	70	81	72	76	65.
	Minimum ...	32	28	23	25	22	19	22	26	25	42	35	37	37	52	27	20	42	35	34	28	37	48	33	35	53	50	58	50	55	49	39	36.
Wahpeton	Maximum...	42	47	50	50	54	55	56	61	64	60	70	72	78	83	73	66	72	67	53	62	70	73	70	77	87	87	83	83	81	78	78	67.
	Minimum ...	33	25	21	24	19	20	25	32	25	40	34	39	43	50	30	25	46	37	33	30	40	54	36	37	55	61	66	59	61	50	43	38.
Westhope	Maximum...	58	60	53	50	52	51	56	63	51	52	68	68	87	60	55	71	57	60	60	62	80	60	65	76	77	76	74	69	58	60	60	62.
	Minimum ...	25	24	18	21	15	18	18	23	27	28	36	32	49	30	30	24	38	34	30	31	36	31	31	48	52	50	54	41	52	46	37	33.
Williston	Maximum...	52	56	52	50	49	50	53	60	57	47	63	76	84	45	49	72	57	63	55	71	81	74	72	86	70	52	64	68	55	64	64	61.
	Minimum ...	28	32	30	24	21	20	21	22	35	36	34	35	45	27	27	34	41	37	37	33	47	47	38	54	50	46	44	41	45	41	47	36.
Moorhead, Minn	Maximum...	40	44	46	48	50	48	52	57	63	53	70	61	79	79	49	66	66	55	46	61	70	69	63	72	87	78	83	72	81	74	65	62.
	Minimum ...	33	29	24	27	23	26	26	30	30	43	35	39	44	37	30	28	42	35	34	31	37	45	34	39	57	63	68	57	56	51	39	38.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVIII   BISMARCK, N. D., JUNE, 1929   No. 6

GENERAL SUMMARY

Soil conditions at the beginning of June were favorable in all sections of the state and crop conditions at that time were excellent. Extreme dryness, however, characterized the weather of the month except in the extreme west portion, and as a result of this dryness droughty conditions prevailed, and crops deteriorated rapidly. Corn, however, of which there is an increased acreage, progressed rapidly and an excellent crop is indicated. Pastures in all sections were badly in need of rain, and the hay crop in many sections was more or less light. Livestock, however, was in good condition at the close of the month.

TEMPERATURE

The mean temperature for the state was 61.4°, or 1.4° below the normal, and 3.2° higher than the mean for June, 1928. The highest mean reported was 66.8° at New England, Hettinger County; the lowest was 56.4° at Langdon, Cavalier County. The highest temperature reported was 98° at Pembina, Pembina County, on the 15th and 17th, at Wahpeton, Richland County on the 11th, and at three other stations on the 29th; the lowest was 21° at Hansboro, Towner County on the 12th. The greatest monthly range of temperature was 68° at Hansboro, Towner County; the least was 45° at Beach, Golden Valley County. The greatest daily range in temperature was 58° at Melville, Foster County on the 8th.

PRECIPITATION

The average precipitation for the State was 1.44 inches, or 2.06 inches below the normal, and 3.63 inches less than the average for June, 1928. The greatest monthly amount reported was 7.99 inches at Beach, Golden Valley County; the least was 0.15 inch at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 4.13 inches at Beach, Golden Valley County, on the 7th. The average number of days with 0.01 inch or more of preciptation was 7.

AURORAS

Auroras were observed at Foxholm, Sharon and Velva on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.88	30.28	3	29.26	17	57	6,178	8.6	33§	nw.	27
Devils Lake	29.88	30.34	3	29.32	17	44	5,761	8.0	28§	se.	8
Ellendale	29.92	30.29	3	29.37	17	56	8,510	11.8	39§	nw.	11
Grand Forks	29.86	30.32	3	29.42	17	90	....	......	40	se.	17
Williston	29.86	30.23	4	29.13	17	48	5,786	8.0	38§	nw.	19
Moorhead, Minn	29.89	30.33	3	28.43	17	58	5,230	7.3	24§	se.	17
Averages and extremes	29.88	30.34	3	29.13	17	.....	....	8.7	40§	se.	17

* For any five-minute period. † And other dates. § From 3-cup anemometers.

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SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-ct.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	309.0	475.1	65	+ 3	76	44	42	24	29
Devils Lake	347.3	478.7	73	+13	78	46	46	22	5
Ellendale	374.4	470.9	80	+19	77	41	....	26	19†
Grand Forks	......	......	.....	......	73	.....	46	.....	....
Williston	340.1	478.7	71	+10	77	46	47	28	15†
Moorhead, Minn	372.4	475.1	78	+15	72	42	40	12	13
Averages and extremes	348.6	475.7	73	+12	76	44	44	12	13

† And other dates.

COMPARATIVE STATE DATA FOR JUNE

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.
1922	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.
1923	66.1	+3.3	100	30	3.82	+0.32	8	13	12	5	se.
1924	58.6	−4.2	89	26	4.17	+0.67	11	10	12	8	nw.
1925	61.5	−1.3	98	30	6.07	+2.57	14	11	10	9	nw.
1926	60.7	−2.1	104	22	2.65	−0.85	9	13	9	8	nw.
1927	61.2	−1.6	99	22	2.84	−0.66	9	11	13	6	nw.
1928	58.2	−4.6	92	24	5.07	+1.57	12	10	10	10	nw.
1929	61.4	−1.4	98	21	1.44	−2.06	7	16	9	5	nw.

Climatological Data for June, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	.....	3	.....	.....		.....	.....	.....	.....	3.50	.....	1.41	0	8	.....	.....	.....	.....	H. A. Bury.
Amenia	Cass	954	33	62.5	−1.0	94	16	35	2†	41	0.48	−3.39	0.10	0	8	17	13	0	nw.	E. T. Carley.
Arnegard (near)	McKenzie	.....	14	61.8	−0.2	95	29	35	25	46	1.54	−1.75	0.47	0	9	19	7	4	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	62.4	+0.4	93	9†	33	4	38	1.18	−2.31	0.40	0	7	22	6	2	se.	H. D. Piper.
Beach	Golden Valley	2,759	23	60.8	−0.3	87	29	42	21†	42	7.99	+4.51	4.13	0	11	19	7	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	61.2	−1.4	90	16	33	24	40	1.21	−2.67	0.55	0	4	19	3	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	62.9	−0.8	90	30	16	12	35	1.09	−2.26	0.73	0	8	15	10	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	59.4	−1.6	89	16	32	12	37	1.66	−1.48	0.60	0	12	8	21	1	.....	N. A. Eckberg.
Bowman	Bowman	2,961	15	.....	.....	.....	.....	.....	.....	.....	2.33	−0.88	1.00	0	8	24	4	2	w.	M. S. Byrne.
Cando	Towner	1,488	28	60.3	−0.9	88	16	31	12	38	1.25	−2.63	0.49	0	5	9	18	3	nw.	A. J. Swanson.
Carson	Grant	2,500	17	62.4	−0.6	94	29	36	12	43	1.24	−2.63	0.84	0	3	21	9	0	se.	J. W. Evens.
Cavalier	Pembina	.....	2	.....	.....	.....	.....	.....	.....	.....	1.07	.....	0.45	0	5	19	4	7	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	23	.....	.....	.....	.....	.....	.....	.....	1.47	−2.17	0.55	0	6	21	9	0	nw.	S. Friswold.
Corinth	Williams	2,180	2	.....	.....	.....	.....	.....	.....	.....	1.08	.....	0.53	0	4	.....	.....	.....	.....	L. S. Evenson.
Crosby	Divide	1,954	23	59.4	−1.2	90	16	36	4	40	1.51	−1.84	0.95	0	4	15	8	7	se.	John Jensen.
Devils Lake	Ramsey	1,478	32	60.7	−1.2	90	16	35	3†	34	5.26	+1.70	4.08	0	11	13	12	5	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	59.4	−1.9	87	30	35	25	39	2.89	−0.15	1.01	0	11	11	13	6	.....	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	60.0	.....	89	16	28	12	35	1.17	.....	0.24	0	10	14	10	6	nw.	R. L. Williams.
Drake	McHenry	1,634	.....	59.4	.....	90	16	29	12	44	1.90	.....	0.45	0	11	13	15	2	se.	J. Rindt.
Dunn Center	Dunn	2,191	30	60.6	−1.3	89	16	35	25	43	0.93	−3.37	0.52	0	5	10	10	10	se.	W. F. Moede.
Dunseith	Rolette	1,682	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. G. Lamont.
Eckman	Bottineau	1,500	24	58.6	−2.7	90	16	29	12	41	1.45	−1.31	0.47	0	8	3	20	7	nw.	C. E. Stroek.
Edgeley	LaMoure	1,568	28	62.2	−0.6	93	9†	33	4	42	1.18	−2.18	0.45	0	4	7	18	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	62.9	−3.1	93	9	36	4	38	0.47	−4.12	0.18	0	9	8	14	8	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	17	61.6	.....	92	16	30	12	41	0.51	−3.10	0.14	0	6	14	15	1	nw.	H. S. Solenberger.
Epping	Williams	2,224	21	60.3	.....	87	16	37	3†	38	1.85	−1.49	0.82	0	7	16	11	3	nw.	A. O. Wang.
Fairfield	Billings	.....	2	.....	.....	.....	.....	.....	.....	.....	2.05	.....	1.10	0	4	12	15	3	e.	F. R. Hecker.
Fessenden	Wells	1,610	17	60.3	−0.7	94	16	30	12	43	1.16	−2.89	0.52	0	11	10	19	1	sw.	T. D. Monsen.
Forman	Sargent	1,249	35	.....	.....	.....	.....	.....	.....	.....	0.98	−2.63	0.36	0	5	11	17	2	sw.	O. Enger.
Fort Yates††	Sioux	1,670	29	65.6	−0.6	90	10†	33	17†	52	1.95	−1.71	0.70	0	6	18	4	4	.....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	59.4	.....	89	16	33	12	34	1.27	.....	0.31	0	10	9	12	9	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11	.....	.....	.....	.....	.....	.....	.....	3.39	+0.01	1.15	0	8	12	11	7	se.	Verne King.
Fullerton	Dickey	1,439	31	64.3	+1.6	96	9	35	4	46	1.13	−2.15	0.68	0	3	24	5	1	nw.	F. O. Alin.
Garrison	McLean	1,901	34	61.0	−1.2	90	16†	32	12	37	0.92	−2.40	0.44	0	7	22	1	7	nw.	Wm. H. Robinson.
Grafton	Walsh	827	38	62.8	+0.3	92	16	35	7†	39	0.96	−2.28	0.31	0	6	12	16	2	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	38	62.6	−0.3	93	16	37	12	39	1.56	−1.83	0.34	0	14	16	13	1	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	60.2	−2.9	94	16	30	12	42	1.14	−1.61	0.42	0	7	12	16	2	nw.	W. A. Christiauson.
Hankinson	Richland	1,068	.....	60.6	.....	97	29	39	13	43	1.77	.....	1.00	0	6	19	7	4	se.	R. G. Stock.
Hannah	Cavalier	1,568	35	.....	.....	.....	.....	.....	.....	.....	0.83	- 2.61	0.26	0	8	.....	.....	.....	.....	James Meier.
Hansboro	Towner	1,597	21	56.5	−3.9	89	16	21	12	48	1.60	−1.09	0.40	0	9	11	15	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	59.4	−2.7	87	17	36	25	34	2.61	−0.63	1.22	0	11	17	8	5	se.	C. H. Plath.
Hillsboro	Traill	901	23	64.4	0.0	96	16	35	3†	43	0.60	−2.75	0.10	0	6	20	6	4	n.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	22	59.4	−0.3	94	16	34	23	36	1.24	−1.35	0.58	0	6	6	22	2	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	62.1	−1.0	94	16	34	12†	45	0.95	−2.83	0.35	0	6	11	17	2	s.	S. Calvelage.
Lamoine	Kidder	1,936	24	59.8	−0.7	91	16	33	4	46	1.22	−2.10	0.51	0	4	16	9	5	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	56.4	−3.3	85	16	30	12	35	1.33	−2.17	0.58	0	6	23	3	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	61.8	−0.3	92	15	33	3	47	3.37	−0.13	0.70	0	11	19	3	8	s.	Reuben Gray.
Linton	Emmons	1,711	11	64.8^{l}	+0.3	98^{l}	29	32^{l}	5	52^{l}	0.53	−2.35	0.24	0	3	20	4	6	w.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	63.0	−0.1	98	29	33	26	50	0.83	−3.46	0.33	0	6	10	19	1	.....	L. B. Walker.
McClusky	Sheridan	1,943	11	58.4	.....	88	15	28	12	41	1.23	−2.08	0.42	0	6	13	15	2	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	35	60.0	−0.7	90	15†	29	12	51	1.39	−1.91	0.42	0	8	14	13	3	se.	E. A. Kaatz.
McLeod	Ransom	1,075	17	63.9	−1.1	95	29	36	26†	42	0.91	−3.29	0.35	0	5	23	7	0	sw.	J. G. Carlson.
Maddock	Benson	1,604	13	60.0	−1.4	92	16	29	12	41	1.37	−1.83	0.26	0	11	10	14	6	nw.	A. T. Felland.
Mandan	Morton	1,644	15	62.3	−1.9	91	16	35	12	38	0.99	−2.17	0.33	0	10	18	6	6	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26	.....	.....	.....	.....	.....	.....	.....	1.52	−2.06	0.35	0	9	.....	.....	.....	.....	P. B. Anderson.
Marmarth	Slope	2,714	20	62.4^{f}	+2.1	91^{f}	27	40^{f}	25	46^{f}	1.15	−1.96	0.53	0	7	.....	.....	.....	.....	S. P. Grane.
Mary	McKenzie	.....	2	.....	.....	.....	.....	.....	.....	.....	1.54	.....	1.14	0	4	14	9	7	sw.	Fred Hartman.
Max	McLean	2,093	.....	61.3	.....	95	16	30	12	40	0.56	.....	0.24	0	4	21	4	5	.....	A. W. Rice.
Mayville	Traill	975	33	63.1	−1.4	96	17	32	7	45	0.76	−2.75	0.36	0	3	21	6	3	s.	N. C. Burhans.
Melville	Foster	1,590	31	65.6	+2.7	91	15†	30	3	58	0.35	−3.16	0.35	0	1	17	0	13	se.	J. P. Fischer.
Metigoshe ‡‡	Bottineau	.....	4	.....	.....	.....	.....	.....	.....	.....	1.97	.....	0.49	0	7	23	3	4	se.	J. A. Thorburn.
Michigan	Nelson	1,518	1	.....	.....	.....	.....	.....	.....	.....	2.64	.....	1.60	0	8	17	9	4	nw.	Arnold Johnson.
Minot	Ward	1,557	33	59.9	−2.6	91	16	30	12	43	1.16	−2.10	0.40	0	8	19	5	6	w.	Julia B. Rue.
Mott	Hettinger	2,424	22	60.4	−2.6	87	9†	38	4†	38	2.07	−1.33	1.83	0	6	9	10	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	37	62.0	−0.2	93	15	31	4	39	0.87	−2.75	0.22	0	7	19	5	6	s.	C. J. Hoof.
New England	Hettinger	2,400	38	66.8	+4.8	98	29	35	5	49	2.32	−0.37	1.25	0	7	22	0	8	se.	E. J. Freeman.
New Salem	Morton	2,163	25	61.8	−1.0	91	16†	33	12	41	0.98	−2.73	0.63	0	4	18	8	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	1	64.5	.....	95	17†	36	4†	43	0.62	.....	0.18	0	7	13	13	4	nw.	Eugene Naylor.
Park River	Walsh	998	25	62.4	−0.8	92	16	33	3	46	0.70	−2.63	0.30	0	4	11	11	8	nw.	C. B. Wright.
Parshall (near)	Mountrail	.....	14	.....	.....	.....	.....	.....	.....	.....	1.14	−1.98	0.56	0	6	13	15	2	nw.	John A. Johnson.
Pembina	Pembina	789	55	62.2	−0.4	98	15†	33	12	57	0.15	−3.13	0.15	0	1	22	6	2	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	62.5	+2.3	90	16	35	4†	45	1.02	−2.20	0.60	0	5	15	7	8	nw.	A. L. Carlson.
Portal	Burke	1,954	15	60.9^{a}	.....	91^{a}	15	35^{a}	10	49^{a}	0.65	.....	0.45	0	2	18	9	3	w.	C. T. Holmes.
Power	Richland	1,020	35	.....	.....	.....	.....	.....	.....	.....	1.13	−2.83	0.41	0	5	25	4	1	se.	Frank B. Power.
Powers Lake	Burke	2,205	15	58.4	.....	90	15	30	3	30	1.51	−1.35	0.65	0	3	21	8	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	60.8	−1.8	91	29	37	4	39	2.24	−1.09	0.92	0	9	15	9	6	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1	.....	.....	.....	.....	.....	.....	.....	0.87	.....	0.31	0	8	13	8	9	nw.	E. C. Erickson.
Ryder	Ward	2,108	1	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.27	0	7	.....	.....	.....	.....	E. M. Lomen.
Sanish	Mountrail	1,835	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. W. Monson.
Sharon	Steele	1,516	4	61.4	.....	91	29	36	3	39	2.36	.....	0.78	0	9	18	10	2	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	5	.....	.....	.....	.....	.....	.....	.....	0.83	.....	0.31	0	5	17	9	4	se.	J. H. Giffey.
Steele	Kidder	1,857	33	60.8	−1.6	92	29	29	4†	46	0.85	−2.48	0.35	0	5	17	11	2	sw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14	.....	.....	.....	.....	.....	.....	.....	1.96	−1.11	0.75	0	5	23	4	3	.....	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	.....	.....	.....	.....	.....	.....	.....	1.32	.....	0.23	0	9	23	5	2	sw.	J. C. Abbott.
Tioga	Williams	2,279	3	.....	.....	.....	.....	.....	.....	.....	1.59	.....	0.64	0	4	8	15	7	nw.	Anton Carlson.
Towner	McHenry	1,482	27	60.4	−1.8	92	16	29	12	49	0.80	−2.28	0.56	0	3	22	7	1	se.	B. Bagley.
Trotters	Golden Valley	.....	4	.....	.....	.....	.....	.....	.....	.....	4.44	.....	2.18	0	7	14	9	7	.....	A. J. Nellermoe
Turtle Lake	McLean	1,899	14	61.7	−0.4	93	29	34	12	40	1.30	−2.38	0.41	0	7	7	10	13	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	62.5	−0.7	98	29	33	13	47	0.21	−3.10	0.20	0	2	23	6	1	w.	I. C. Robertson.
Velva	McHenry	1,511	3	61.2	.....	92	16	30	12	36	1.29	.....	0.23	0	10	12	11	7	w.	Oscar Anderson.
Verona	LaMoure	1,387	35	.....	.....	.....	.....	.....	.....	.....	1.57	.....	0.45	0	5	26	3	1	sw.	W. C. Taylor.
Wahpeton	Richland	962	37	66.0	+1.2	98	16	39	26	43	0.66	−3.29	0.17	0	6	22	0	8	se.	C. G. Luick.
Washburn	McLean	1,731	27	.....	.....	.....	.....	.....	.....	.....	1.06	−2.49	0.87	0	4	.....	.....	.....	.....	Karl Klein.
Westhope	Bottineau	1,508	27	60.6	−1.0	91	15	31	12	41	0.77	−2.17	0.55	0	5	19	11	0	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	61.6	−1.1	90	16	39	25	43	1.72	−1.71	0.68	0	11	14	10	6	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	60.8^{c}	−0.2	93^{c}	16	30^{c}	12	40^{c}	1.02	−2.16	0.33	0	7	12	13	5	sw.	M. A. Ostby.
Wilton	McLean	.....	1	63.0^{d}	.....	91^{d}	15	36^{d}	11	40^{d}	1.06	.....	0.50	0	4	23	2	5	.....	L. Q. Perkins.
Wishek	McIntosh	2,010	9	61.5^{e}	.....	91^{e}	10†	31^{e}	4	43^{e}	0.99	.....	0.25	0	7	.....	.....	.....	se.	E. W. Davis.
Zap	Mercer	1,838	1	.....	.....	.....	.....	.....	.....	.....	0.87	−2.93	0.31	0	7	.....	.....	.....	.....	R. A. Norton.
Moorhead, Minn.	Clay	935	48	64.0	−0.4	95	16	39	3	37	0.30	−3.75	0.08	0	8	8	12	10	s.	U. S. Weather Bureau.
Averages	.....			61.4	−1.4	98	15†	21	12	58	1.44	−2.06	4.13	0	7	16	9	5	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for June, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	T.	.13	.04		.05		1.41			.12	1.21				.48				.03			T.										3.50
Amenia ‖‖	Red										.04	.05	T.			.05			.08					.01		.10	.02	.10					0.48
Arnegard (near)	Missouri			.15			.05	.47	.02	.30	.35	T.		.13						.02		T.					.05						1.54
Ashley	Missouri			.38								.40		.10	.05									.18			.02	.05			T.		1.18
Beach	Lit. Missouri		.29	.05	T.	.02	.80	4.13		.26	.05	1.87				.40				.10			.02										7.99
Berthold Agency	Missouri			.10				.34			.22												T.				.55						1.21
Bismarck ***	Missouri			.01				T.			.13	.66		T.		.04		T		.02		T.	.01		.05		.17	T.			T.		1.09
Bottineau ‖‖	Mouse								.15	.08	.45				.12	.02		.08			.07	.01	.01					.60	.04		.03		1.66
Bowman	Grand		.46	.18			.12				.28	1.00				.10							.15							.04			2.33
Cando	Devils Lake								T	.42	.08			.09		.17				T.		T.		T.		T.	T	.49			T.		1.25
Carson	Heart			.25								.84											.15										1.24
Cavalier	Red									.19					.45					.20	.16							.07					1.07
Cooperstown	Sheyenne									.14				.55		.05				.05							.20				.48		1.47
Corinth	Missouri							.53		.30				.20																.05			1.08
Crosby ‖‖	Mouse	.95							.21	.07				T.						T								.28					1.51
Devils Lake ***	Devils Lake								3.69	.40	.11	.04		.09	T.					.42	.06	T.	.17				T.	.15		.01	.12		5.26
Dickinson ‖‖	Heart		.04	.19	.24			.14	.35		.03	.22	1.01			.61				T.	.03			.03		T.		T.					2.89
Dogden Butte	Mouse								.12	.18	.08					.03				.24	T.		T.	.07			.08	.12	T.	.07	.18		1.17
Drake ‖‖	Mouse								.07	.30	.45	.03			.05	.20					.20			.04				.36		.05	.15		1.90
Dunn Center ‖‖	Knife			.17			.06		.52		.13									.05													0.93
Dunseith	Mouse																																
Eckman	Mouse								.20	.36	.02									.07	T.	T.	.06				.10	.47			.17		1.45
Edgeley	James										.42	.20		.11													.45						1.18
Ellendale***	James			T.								.18		.04					.04			T.	.03	.01	.09		.01	.05			.02		0.47
Energy	Missouri			.04				T.		T.	.13	T.				.10				.05			T.				T	.05			.14		0.51
Epping	Missouri	.82	.13					.14			.50											.04	.14				.08				T.		1.85
Fairfield	Knife			.43				1.10		.27		.25																					2.05
Fessenden ‖‖	James				.01					.02	.03		.03		.03	.05		.20			.14			.05				.52			.08		1.16
Forman	Sheyenne											.36							.06						.15			.23			.18		0.98
Fort Yates	Missouri		.26	.04							.50	.05															.70				.40		1.95
Foxholm (near)	Mouse							.21		.34	T.			.03		.02	T.			.09		.02	.09		T.		.10	.18			.19		1.27
Fryburg	Heart	T.	.45	.25	T.	T.		1.15	.35		.13	.80				.20				.06													3.39
Fullerton	James			T.								T.		.68						T.			.08		T.		T	.37			T.		1.13
Garrison	Missouri			T.				.44		.10		.12								.02							.06	.12		.06			0.92
Grafton	Red									.22	.06					.19				.10	.31				T.			.08			T.		0.96
Grand Forks ***	Red								.06	.10	.05	.07				.22			.02	.34		.01	.14		.07			.15	.01	.12	.20		1.56
Granville	Mouse								.24		.02									T.	T.		.05				.18	.42	.03		.20		1.14
Hankinson ‖‖	Red							.50			1.00	.10						.10	.06					T.				.01					1.77
Hannah	Pembina									T.	.14				.06	.21			.26		.02		.05	T.				.05	.04				0.83
Hansboro	Devils Lake									.07					.40	.20		.30			.08	.03			.02			.40			.10		1.60
Hettinger	Grand		.11	.46	.10							1.22	.24			.05					.04			.07	.04			.23			.05		2.61
Hillsboro	Red								.10			.10				.10				.10							.10				.10		0.60
Howard (near)	Missouri	.58		.20				.22		T.	.02		T.					T.		T.	T.	T.	T.	T.	T.		.02	T.		.20			1.24
Jamestown ‖‖	James				.06							.06	.03	.35											T.		.22		T.		.23		0.95
Lamoine	Missouri									.27	.31	.13								T.							T.	.51			T.		1.22
Langdon ‖‖	Pembina									T.	.18				.12	.58					.32	.06		.07									1.33
Larimore ‖‖	Red						.70	.15		.70	.15	.05				.50					.40	.02		.60				.05			.05		3.37
Linton	Missouri			T.								.24											.05				.25				T.		0.53
Lisbon ‖‖	Sheyenne										.04	.15			.20	T.			.06					.05		T.		.33	T.				0.83
McClusky	Missouri									.26		.16				.06				.31					T.		T.	.42			.02		1.23
McKinney (near)	Mouse	.20						.12	.35	.12	T.										.03	.05		T.		.42		.10					1.39
McLeod	Sheyenne									.22	.06					.08				T.							.20	.35					0.91
Maddock	Sheyenne								.01	.16	.26	T.		T.		.15		.11		.15	.06	T.		.13			.13	.09			.12		1.37
Mandan ‖‖	Missouri				.01						.04	.27	.33			.07					.03			.03		.03	.03	.15					0.99
Manfred	James										.16	.05			.35		.10			.14			.12				.13	.27			.20		1.52
Marmarth	Lit. Missouri						.10	.53			.30	.05				.12				.03			.02								T.		1.15
Mary	Lit. Missouri		T.	.13			T.	1.14		.24		T.								.03													1.54
Max ‖	Missouri								.24		.05	T									.12						.15						0.56
Mayville	Red										.36	.20																			.20		0.76
Melville	James																														.35		0.35
Metigoshe	Mouse										.49			.45	.15				.25			.03					.30	.30					1.97
Michigan	Red								1.60			.32						.37		*	.07							.15		.01	.12		2.64
Minot ‖‖	Mouse								.16	.03	.04										.06			.15		.02		.40			.30		1.16
Mott	Cannon Ball	T.										1.83	T.							.03		.03		.08			.07	.03			T.		2.07
Napoleon ‖‖	Missouri				.01						.14	.18	.08		.18									.06				.22					0.87
New England	Cannon Ball		.21	.39		.28		.04				1.25				.11							.04										2.32
New Salem	Heart			.10								.63		T.						T.			.10		T.		.15						0.98
Oakes	James											.15		.12					.05					.03	.01		T.	.18			.08		0.62
Park River	Red										.11					.12					.30			.17									0.70
Parshall (near)	Missouri			T.				.56			.20									.12		.03	.02				.21						1.14
Pembina ‖‖	Red										.15										T.				T.	T.					T.		0.15
Pettibone	James										T.	.22		.05						T.				.05				.60			.10		1.02
Portal ‖‖	Mouse							.20												T.		T					.45						0.65
Power	Sheyenne									.41		.10							.19					.06		T.		.37					1.13
Powers Lake	Missouri								.65																	.56					.30		1.51
Richardton	Heart	.06		.18	.04			.44	.06		.06	.92				.44							.04										2.24
Rugby [near]	Mouse								T.	.05	.21			T.				.01		.04					.05		.09	.31			.11		0.87
Ryder	Missouri							.27			.10	.10					.06			.16			.05				.16						0.90
Sanish ‖‖	Missouri																																
Sharon	Red									.47	.78	.14		T.		.19				T.	.33			.16	T.	T.	T.	.11		.02	.16		2.36
Stanton	Missouri										.31					.19					.08						.23				.02		0.83
Steele	Missouri										.12	.35		T.										.08			.04	.26					0.85
Stowers	Cannon Ball	T.	.15	.35							.75	.48				.23							T.										1.96
Tagus	Mouse	.06						.08		.23	.05									.23			.09				.13	.22			.23		1.32
Tioga	Missouri	.64								.44	.01						.50																1.59
Towner	Mouse										.12									.12							.56				T.		0.80
Trotters	Lit. Missouri			.56			.70	2.18			.43	.41								.07			.09										4.44
Turtle Lake	Missouri										.41	.08				.35				.09				.06	.02			.29					1.30
Valley City	Sheyenne																						T.		.01			.20			T.		0.21
Velva	Mouse								.20	.19	.06									.02	.11		.07				.23	.09		.12	.20		1.29
Verona	James										.39	.45											.22				.23				.28		1.57
Wahpeton	Red										.17							.15	.06					.07		.06		.15					0.66
Washburn	Missouri										.14									.87	.03		T.				.02						1.06
Westhope	Mouse									.10	.01												.05				.55	.06					0.77
Williston ***	Missouri		.02	.11			T.	.21	.31	.27		.02	.01				T.	T.		.05		.04	.37		T.		.01						1.72
Willow City	Mouse									.09	.15			T.				.13		T.	T.		.07				.17	.33			.08		1.02
Wilton										.50		.04								.32							.20						1.06
Wishek ‖‖	Missouri				.10							.25	.06		.20								.20		.10			.08					0.99
Zap	Knife			.22	.02			.03			.10				.18	.01											.31						0.87
Moorhead, Minn ***	Red									T.	T.	.03				T.	T.	.04	.08	T.		T.	T.	.02	.03	.01	T.	.06	T.	T.	.03		0.30

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	59	68	67	75	81	74	76	82	85	91	61	65	74	84	90	94	90	82	88	81	80	76	76	73	72	75	74	77	91	80	..	78.0
	Minimum	39	35	36	45	46	47	37	46	55	55	50	40	35	49	53	60	70	55	47	46	48	45	45	40	43	38	48	53	54	50	..	47.0
Arnegard	Maximum	68	65	58	72	75	78	68	83	86	77	66	70	77	85	86	90	74	71	66	71	72	72	64	69	76	83	67	86	95	93	..	75.4
	Minimum	48	47	45	37	42	52	50	52	46	56	43	45	53	45	53	60	51	48	49	45	51	42	39	42	35	52	48	60	60	47	..	48.1
Ashley	Maximum	70	60	58	68	73	76	75	78	93	88	82	64	77	81	88	88	88	78	79	74	78	76	71	71	75	68	76	77	93	86	..	77.0
	Minimum	45	40	42	33	41	50	41	50	55	58	46	39	42	49	60	58	65	49	52	48	50	40	44	42	40	39	52	49	56	58	..	47.8
Beach	Maximum	65	56	67	57	65	71	71	80	82	76	67	68	74	81	79	85	74	69	68	69	70	69	67	74	74	84	72	84	87	86	..	72.8
	Minimum	47	45	46	47	47	49	50	55	54	53	44	45	50	56	55	60	49	45	44	43	42	42	47	45	45	53	47	42	59	60	..	48.9
Berthold Agency	Maximum	66	66	60	68	75	73	73	85	85	80	67	68	76	87	88	90	80	78	65	70	71	74	65	70	73	80	80	76	85	85	..	75.3
	Minimum	50	40	40	45	40	50	55	55	58	52	45	34	50	48	54	65	63	48	45	46	45	42	38	33	35	40	45	38	56	55	..	47.0
Bismarck	Maximum	67	56	67	68	73	78	77	82	87	86	60	66	77	85	88	90	81	77	71	73	74	75	67	70	72	72	72	78	90	90	..	75.6
	Minimum	48	43	43	39	44	47	47	56	62	58	44	36	49	50	60	65	58	50	53	51	53	47	44	44	44	48	52	47	63	60	..	50.2
Bottineau §§	Maximum	63	66	67	72	78	72	72	83	83	81	57	66	73	81	87	89	85	76	77	74	73	74	60	67	67	66	65	70	79	78	..	73.4
	Minimum	40	42	43	35	45	47	45	49	55	54	40	32	43	49	52	60	66	47	46	45	42	36	35	45	40	46	47	40	47	52	..	45.5
Cando	Maximum	64	66	69	75	79	76	70	85	79	82	80	62	73	81	87	88	86	78	74	75	74	69	67	67	69	69	67	73	83	78	..	74.8
	Minimum	38	39	35	37	46	42	38	52	58	57	42	31	40	47	60	60	68	50	43	47	44	41	42	48	42	39	38	46	54	49	..	45.8
Carson	Maximum	63	70	55	60	70	75	75	84	88	85	73	70	75	85	85	90	80	82	70	85	80	75	72	74	80	78	92	80	94	92	..	77.9
	Minimum	45	42	42	38	38	55	54	54	54	53	42	36	45	55	55	60	56	45	48	42	45	38	42	38	38	46	56	38	60	58	..	46.9
Crosby §§	Maximum	62	65	48	70	77	74	64	83	84	80	55	73	73	83	85	90	75	73	69	70	71	64	58	64	69	70	61	80	78	82	..	71.7
	Minimum	41	42	45	36	42	47	52	52	54	56	43	39	42	52	54	53	60	51	48	45	49	40	39	45	39	46	56	40	51	50	..	47.0
Devils Lake	Maximum	65	66	67	72	77	70	73	84	80	82	63	64	74	78	87	90	88	76	75	72	73	70	62	67	64	70	64	72	84	73	..	73 4
	Minimum	40	39	35	39	46	42	39	51	59	58	40	35	45	49	60	62	58	53	50	49	49	45	45	48	45	43	53	50	58	54	..	48.0
Dickinson §§	Maximum	61	53	55	62	68	73	72	82	83	79	53	65	74	83	80	84	73	71	65	68	71	70	64	69	72	81	72	79	86	87	..	71.8
	Minimum	48	46	44	36	37	46	49	47	54	53	52	41	45	46	55	60	62	44	45	42	49	41	41	41	35	49	48	38	59	58	..	47.0
Dunn Center §§	Maximum	54	60	65	71	75	71	68	84	86	78	53	68	76	86	83	89	75	72	65	71	73	76	63	68	74	81	69	82	86	87	..	73.6
	Minimum	49	47	45	39	45	51	54	49	56	52	49	42	46	45	52	60	65	48	47	44	50	39	41	36	35	49	50	39	53	55	..	47.7
Dunseith	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Edgeley	Maximum	66	67	62	65	76	76	75	79	93	89	80	69	78	82	89	91	89	81	82	76	75	74	76	74	77	76	65	74	93	86	..	77.8
	Minimum	39	39	39	33	42	47	48	47	54	57	48	36	36	57	59	56	67	52	49	48	49	42	43	39	41	38	40	49	52	53	..	46.6
Ellendale	Maximum	66	64	62	69	74	76	74	77	93	87	67	62	76	82	89	90	90	78	82	75	77	74	70	71	74	68	77	74	92	82	..	76.4
	Minimum	45	41	40	36	49	50	42	53	58	61	49	40	38	51	58	62	64	55	48	50	53	46	49	46	45	39	55	51	52	57	..	49.4
Fessenden §§	Maximum	66	61	60	64	74	67	74	84	83	84	64	68	62	86	90	94	88	67	88	77	76	77	68	72	71	70	67	76	87	87	..	75.1
	Minimum	35	40	38	34	44	47	36	50	60	56	42	30	42	45	55	57	58	52	45	47	45	43	46	38	42	38	50	45	52	52	..	45.5
Foxholm (near)	Maximum	64	64	61	67	75	72	70	81	80	79	72	66	75	81	83	89	82	72	72	71	72	67	60	65	67	67	64	73	78	78	..	72.2
	Minimum	40	40	39	36	46	47	39	51	58	56	40	33	50	49	57	55	63	48	50	48	44	42	41	39	40	43	47	41	60	55	..	46.6
Fullerton	Maximum	68	67	67	70	77	77	76	81	96	88	72	63	85	91	93	92	91	80	83	76	78	79	69	72	74	68	76	94	89	82	..	79.1
	Minimum	43	41	43	35	44	50	41	50	58	60	50	39	39	65	60	64	69	54	48	50	52	44	45	42	42	40	56	50	55	56	..	49.5
Garrison	Maximum	70	66	58	72	78	76	75	83	83	80	73	66	76	84	85	90	83	75	77	70	74	75	64	72	70	73	70	77	84	90	..	75.6
	Minimum	47	44	45	44	47	46	48	51	59	56	45	32	46	47	54	63	52	39	47	34	40	42	35	39	38	46	50	42	57	54	..	46.8
Grafton	Maximum	66	67	70	78	81	78	73	82	78	87	83	67	79	83	89	92	89	88	80	76	76	71	64	69	68	72	71	75	88	80	..	77.3
	Minimum	41	40	40	45	47	46	35	45	59	55	44	35	37	52	61	62	71	56	47	51	49	49	46	49	44	38	51	54	55	48	..	48.4
Grand Forks	Maximum	64	67	69	76	80	69	73	81	80	87	68	64	75	81	89	93	88	80	86	76	75	72	66	68	67	74	70	74	88	68	..	75.6
	Minimum	42	42	40	44	49	50	46	47	62	56	44	37	39	49	62	66	67	57	47	51	49	48	47	48	47	41	55	55	56	49	..	49.7
Granville	Maximum	67	70	65	70	78	70	70	84	85	80	65	72	78	85	89	94	85	70	65	72	74	70	62	67	65	65	63	75	80	80	..	73.8
	Minimum	40	42	40	34	44	45	39	54	60	52	39	30	54	48	59	59	54	52	48	50	44	40	43	40	37	42	48	53	57	45	..	46.7
Hansboro	Maximum	60	65	67	75	78	67	73	85	80	83	55	69	77	82	87	89	83	77	73	75	74	68	64	70	67	65	63	73	82	76	..	73.4
	Minimum	32	32	31	34	44	36	32	41	51	50	30	21	37	37	54	50	50	45	40	43	40	38	38	42	37	30	38	40	50	45	..	39.6
Hettinger	Maximum	67	61	50	50	62	67	72	72	82	85	82	61	67	74	84	84	87	73	71	65	69	72	70	74	70	74	72	73	80	78	..	71.3
	Minimum	48	45	43	37	40	44	51	52	57	52	48	44	47	50	57	60	62	45	49	44	49	39	41	44	36	45	48	40	47	62	..	47.5
Hillsboro	Maximum	67	66	72	77	88	78	77	83	86	87	85	78	77	82	93	96	94	90	82	79	78	73	76	75	76	75	71	71	95	89	..	80.5
	Minimum	40	43	35	45	48	47	36	51	58	57	42	37	35	48	60	62	70	55	48	49	50	49	45	44	44	39	54	53	56	51	..	48.4
Howard (near)	Maximum	64	62	64	68	64	68	64	84	76	78	60	60	75	77	86	94	74	80	68	71	71	65	59	65	71	76	80	82	82	83	..	72.4
	Minimum	40	44	44	35	40	45	46	48	44	48	44	36	50	54	58	60	55	50	48	44	45	43	34	36	39	48	51	52	55	55	..	46.4
Jamestown §§	Maximum	66	66	63	71	77	74	77	82	88	89	54	66	79	83	90	94	91	80	89	77	77	75	71	74	71	68	72	78	92	83	..	77.2
	Minimum	38	40	42	36	42	47	40	45	57	59	49	34	34	49	55	60	67	54	45	49	57	44	42	39	41	39	48	52	53	53	..	47.0
Lamoine	Maximum	67	64	60	68	74	74	73	84	84	81	70	57	75	83	88	91	85	75	72	73	74	75	73	68	70	64	66	75	87	86	..	74.5
	Minimum	38	39	45	33	41	41	43	52	57	35	41	31	40	61	55	63	63	47	45	46	45	43	40	37	37	43	47	47	47	47	..	45.0
Langdon §§	Maximum	58	44	47	42	61	56	67	65	70	79	55	65	73	73	82	85	79	75	73	69	70	67	62	65	62	60	64	70	81	70	..	66.3
	Minimum	32	36	40	35	42	40	65	51	59	56	39	30	40	45	58	61	67	50	44	46	47	40	45	45	39	40	42	50	55	60	..	46.6
Larimore §§	Maximum	70	72	75	80	72	76	78	82	85	60	65	80	80	91	92	88	80	82	75	76	72	65	70	66	75	69	75	90	73	76	..	76.3
	Minimum	38	37	33	42	50	45	37	35	50	47	43	36	38	50	56	60	70	55	50	50	50	49	50	48	45	40	53	54	55	50	..	47.2
Linton	Maximum	70	65	60	70	75	79	78	84	90	90	89	66	79	89	95	92	..	..	..	..	..	..	..	..	..	..	..	..	98	94	..	[l]81.3
	Minimum	48	43	47	33	32	45	47	56	60	59	45	45	42	37	62	66	..	..	..	..	..	..	..	..	..	..	..	..	38	66	..	[l]48.4
Lisbon §§	Maximum	68	72	72	75	80	77	77	83	93	91	85	70	79	83	91	96	94	85	88	80	82	78	75	75	77	72	78	76	98	84	..	81.1
	Minimum	40	38	43	34	42	45	39	45	54	54	50	37	35	46	56	60	67	52	47	46	40	41	40	35	34	33	47	50	48	50	..	44.9
McClusky	Maximum	66	69	65	68	76	75	75	84	83	82	70	65	76	87	88	82	85	75	72	70	73	73	70	68	70	65	64	68	70	85	..	74.0
	Minimum	38	42	36	29	36	39	37	50	56	52	37	28	42	46	52	52	62	43	42	41	44	36	34	36	36	48	45	45	47	51	..	42.7
McKinney (near)	Maximum	64	65	66	76	80	75	71	86	84	80	72	80	78	87	90	90	84	75	69	70	65	59	69	71	67	66	62	80	82	78	..	74.7
	Minimum	45	41	42	32	46	46	37	53	60	55	44	29	50	46	45	54	59	44	46	60	34	39	37	35	45	46	48	40	48	50	..	45.2
Maddock	Maximum	67	67	66	71	77	76	74	85	83	82	81	65	76	82	87	92	90	77	78	72	74	72	68	69	69	72	61	74	85	77	..	75.6
	Minimum	38	37	35	32	44	44	36	51	57	55	41	29	41	41	58	56	61	50	37	45	44	41	43	44	41	36	49	43	55	48	..	44.4
Marmarth	Maximum	..	..	..	..	..	..	73	82	84	82	67	66	78	85	84	86	78	72	69	69	75	76	65	74	74	82	82	82	91	85	..	[f]77.5
	Minimum	..	..	..	..	..	..	47	55	55	54	45	45	45	53	53	53	50	46	42	42	42	42	45	46	40	41	41	45	45	66	..	[f]47.4
Melville	Maximum	74	78	69	70	73	72	74	79	82	89	72	88	90	89	91	86	85	88	79	85	83	89	78	87	85	88	84	86	91	88	..	82.4
	Minimum	31	35	30	32	37	39	35	32	34	31	36	45	54	56	58	62	59	57	54	61	58	55	53	60	62	59	61	58	64	57	..	48.8
Minot §§	Maximum	66	66	62	71	77	72	72	84	85	82	58	68	77	85	88	91	84	75	69	78	74	70	60	66	70	69	63	45	81	80	..	73.9
	Minimum	42	42	42	34	43	43	44	48	59	57	44	30	40	42	55	59	68	50	46	50	45	40	42	37	39	45	47	42	51	52	..	45.9
Mott	Maximum	61	68	55	63	70	73	77	84	87	83	74	56	68	86	80	87	78	69	72	71	73	72	73	70	73	79	74	80	80	78	..	73.8
	Minimum	46	48	43	38	41	39	46	56	58	55	44	38	43	48	48	59	48	45	47	50	46	41	42	40	45	46	52	53	55	49	..	47.0
Napoleon §§	Maximum	69	66	58	70	74	79	76	81	89	86	60	64	76	84	93	90	87	78	76	72	77	78	69	73	76	70	75	80	93	89	..	76.9
	Minimum	44	39	45	31	40	47	44	51	59	57	54	35	39	48	58	60	66	47	45	47	52	40	41	37	39	43	50	47	55	55	..	47.2
New Salem	Maximum	64	63	64	67	73	76	76	85	87	85	82	64	78	85	87	91	80	75	70	73	76	74	68	71	71	75	76	79	90	91	..	76.5
	Minimum	46	43	40	37	45	48	45	50	51	54	41	33	50	45	52	64	59	45	50	43	46	43	42	41	42	46	51	43	59	58	..	47.1
Pembina §§	Maximum	72	76	76	78	79	78	84	92	88	94	65	74	82	88	98	96	98	96	88	82	78	78	60	68	78	78	74	80	78	80	..	83.2
	Minimum	41	41	38	38	42	38	35	36	40	42	36	33	38	43	41	58	48	48	44	38	43	41	36	34	38	35	42	36	42	36	..	41.2
Steele	Maximum	67	60	60	70	74	70	75	81	88	85	70	75	78	84	89	91	87	78	85	74	76	78	68	71	74	72	71	78	92	89	..	76.7
	Minimum	42	35	44	29	40	40	43	51	56	55	40	29	40	45	56	57	60	45	46	42	47	37	37	39	42	44	46	45	58	57	..	44.9
Towner	Maximum	65	60	58	74	76	80	80	81	82	84	75	73	75	87	91	92	89	82	71	75	72	73	70	68	70	68	65	75	85	80	..	75.9
	Minimum	45	42	38	40	46	45	48	50	50	55	42	29	45	49	50	52	50	51	43	45	44	40	46	43	45	40	40	45	45	45	..	44.9
Valley City	Maximum	87	67	67	73	78	77	76	81	87	89	77	67	80	85	92	83	85	75	73	76	77	75	76	73	73	70	71	78	98	78	..	78.1
	Minimum	42	39	37	37	45	45	39	50	58	57	43	37	33	49	59	60	60	54	47	50	48	44	43	42	42	38	52	54	54	50	..	46.9
Wahpeton	Maximum	70	65	70	75	79	80	77	80	89	91	89	64	77	83	90	98	92	94	91	85	84	83	79	76	77	74	78	78	95	95	..	81.9
	Minimum	44	42	43	44	43	47	44	49	59	64	55	45	40	49	58	66	58	56	52	47	47	46	49	43	41	39	55	53	54	52	..	50.0
Westhope	Maximum	62	64	67	76	81	76	73	85	87	84	58	68	78	83	91	90	89	77	71	74	75	69	61	71	74	67	67	72	82	81	..	75.1
	Minimum	39	42	41	39	40	42	44	45	60	51	42	31	47	51	54	61	62	50	46	48	49	39	37	46	39	45	50	41	53	52	..	46.2
Williston	Maximum	66	62	57	67	74	74	66	83	85	79	60	70	75	83	86	90	76	71	65	70	70	70	61	65	72	80	65	85	82	87	..	73.2
	Minimum	48	48	45	39	44	50	52	54	56	57	45	43	54	57	57	67	53	52	50	48	48	45	42	43	39	55	49	42	59	59	..	50.0
Moorhead, Minn	Maximum	65	66	67	74	78	73	73	79	89	90	70	64	75	80	89	95	91	80	88	78	77	74	71	70	69	71	74	75	91	77	..	77.1
	Minimum	41	43	39	48	48	49	43	50	60	59	50	43	39	48	60	67	69	55	51	51	53	53	51	46	48	43	56	56	55	56	..	51.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 7-30-29—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVIII BISMARCK, N. D., JULY, 1929 No. 7

GENERAL SUMMARY

From a crop standpoint, the weather during the month was very unfavorable, droughty conditions prevailing in nearly all sections of the state. The average precipitation was but 1.27 nches, and with but one exception (1894) the driest of record for July. The temperature averaged decidedly above the normal, there being but eight warmer Julys in the climatological history of the state. As a result of these unfavorable conditions crops deteriorated, especially late sown small grains, corn, flax and potatoes. Pastures suffered severely, rain being needed in all parts of the state at the close of the month.

TEMPERATURE

The mean temperature for the state was 70.6°, or 3.1° above he normal, and 3.2° higher than the mean for July, 1928. The highest mean reported was 76.6° at Melville, Foster County; the lowest was 64.2° at Hansboro, Towner County. The highest temperature reported was 109° at four stations on he 25th or 26th; the lowest was 34° at Pembina, Pembina County on the 2d. The greatest monthly range of temperature was 70° at Linton, Emmons County, and at Max, McLean County; the least was 54° at Fullerton, Dickey County, and Langdon, Cavalier County. The greatest daily range in temperature was 57° at Linton, Emmons County on the 29th.

PRECIPITATION

The average precipitation for the state was 1.27 inches, or .34 inches below the normal, and 3.78 inches less than the average for July, 1928. The greatest monthly amount reported was 3.62 inches at Grafton, Walsh County; there was none at Portal, Burke County. The greatest amount recorded in any 24 consecutive hours was 2.75 inches at Devils Lake, Ramsey County, on the 11th. The average number of days with 0.01 nch or more of preciptation was 5.

AURORAS

Auroras were observed at Bottineau, Crosby and Towner on he 1st; at Crosby on the 2d; at Foxholm on the 3d; at Crosby on the 4th; at Bottineau, Eckman, Foxholm, Rugby, Towner, Westhope and Williston on the 5th; at Devils Lake on the 0th; at Crosby on the 11th; at Bottineau and Towner on the 2th; at Towner on the 13th; at Arnegard, Eckman, Ellendale, Foxholm, Rugby and Trotters on the 14th; at Bottineau, Crosby and Rugby on the 15th; at Rugby and Sharon on the 6th; at Crosby and Foxholm on the 17th; at Crosby on the 8th; and at Howard on the 23d.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.90	30.27	14	29.42	26	57	5,418	7.3	26§	s.	20
Devils Lake	29.93	30.32	14	29.48	27	41	5,263	7.1	38§	nw.	11
Ellendale	29.96	30.28	14	29.48	27	56	7,751	10.4	46§	n.	16
Grand Forks	29.95	30.30	14	29.42	27	90	....	......	50	n.	17
Williston	29.89	39.24	14	29.41	26	48	4,564	6.1	27§	nw.	6
Moorhead, Minn	29.93	30.30	14	28.47	27	58	5,255	7.1	30§	s.	10
Av'ges and extremes	29.94	30.32	14	29.41	26	.....	....	7.6	50§	n.	17

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c t.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	368.8	479.2	77	+ 6	72	38	32	13	29
Devils Lake	396.6	483.1	82	+11	80	46	50	21	25†
Ellendale	375.4	475.2	79	+ 8	80	45	....	20	4
Grand Forks	....	....	......	......	76	.....	55	.....	....
Williston	414.0	483.1	86	+16	66	35	30	10	28
Moorhead, Minn	391.1	479.2	82	+15	76	44	46	20	28
Averages and extremes	389.2	480.0	81	+11	75	42	53	10	28

† And other dates.

COMPARATIVE STATE DATA FOR JULY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	68.7	+1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893	69.5	+2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901	70.8	+3.3	110	40	4.28	+1.67	6	18	7	6	se.
1902	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904	64.4	−3.1	102	34	2.49	−0.12	6	17	8	6	nw.
1905	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.
1923	71.2	+3.7	103	35	3.14	+0.53	8	16	11	4	se.
1924	65.5	−2.0	99	32	1.95	−0.66	6	18	9	4	nw.
1925	66.7	−0.8	106	29	1.34	−1.27	6	18	9	4	nw.
1926	70.3	+2.8	108	32	2.00	−0.61	7	18	8	5	se.
1927	65.4	−2.1	97	28	2.85	+0.24	9	15	10	6	nw.
1928	67.4	−0.1	96	38	5.05	+2.44	10	16	10	5	nw.
1929	70.6	+3.1	109	34	1.27	−1.34	5	21	8	2	nw.

Climatological Data for July, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		3								1.83		1.13	0	5					H. A. Bury.
Amenia	Cass	954	33	71.0	+2.3	105	26	42	2	47	0.98	−2.03	0.28	0	8	21	10	0	s.	E. T. Carley.
Arnegard (near)	McKenzie		14	72.5	+3.3	105	26	40	6	50	0.46	−1.14	0.26	0	5	28	3	0	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	72.2	+3.8	98	21†	43	9	42	3.08	+0.42	1.25	0	6	22	7	2	se.	H. D. Piper.
Beach	Golden Valley	2,759	23																	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	70.8	+1.9	108	26	39	5	50	0.35	−1.62	0.30	0	2	22	9	0	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	73.6	+3.8	106	26	47	5	44	1.06	−1.18	0.36	0	8	21	7	3	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	67.4	+1.6	103	25	41	9	48	1.17	−1.11	0.30	0	9	22	7	2	se.	N. A. Eckberg.
Bowman	Bowman	2,961	15								1.31	−1.45	0.45	0	4	30	0	1	se.	M. S. Byrne.
Cando	Towner	1,488	28	67.7	+1.6	98	25	42	10	41	1.75	−0.78	0.50	0	7	15	14	2	nw.	A. J. Swanson.
Carson	Grant	2,500	17	73.6	+5.5	108	26	40	9	50	0.33	−1.61	0.10	0	5	21	10	0	nw.	J. W. Evens.
Cavalier	Pembina		2								1.19		0.48	0	6	17	12	2	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	23								0.97	1.76	0.33	0	6	18	15	0	sw.	S. Friswold.
Corinth	Williams	2,180	2								1.13		0.45	0	5					L. S. Evenson.
Crosby	Divide	1,954	23	68.0	+2.1	102	26	41	5†	49	0.17	−2.04	0.10	0	2	22	5	4	se.	John Jensen.
Devils Lake	Ramsey	1,478	32	68.5	+1.1	100	25	46	5	40	3.41	+0.84	2.75	0	8	17	12	2	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	70.2	+2.2	106	26	39	5	52	0.54	−1.78	0.30	0	5	21	6	4	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	69.2		105	26	42	9	49	0.27		0.09	0	5	20	9	2	nw.	R. L. Williams.
Drake	McHenry	1,634																		J. Rindt.
Dunn Center	Dunn	2,191	30	70.5	+2.5	106	26	40	5	48	0.79	−1.26	0.25	0	5	27	1	3	s.	W. F. Moede.
Dunseith	Rolette	1,682	33	68.3	+3.9	99	16	42	9	40	1.63	−0.71	0.35	0	9	18	13	0	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	24	66.8	+1.0	102	16	39	6†	51	0.63	−1.81	0.20	0	7	9	17	5	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	28	70.7	+2.2	100	26	41	11	49	1.86	-0.84	1.20	0	5	10	14	7	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	70.7	0.0	99	26	43	9	42	2.79	−0.36	1.18	0	11	16	12	3	s.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	17	72.4^c		108^c	26	40^c		46^c	0.68	−1.50	0.26	0	4	20	10	1	se.	H. S. Solenberger.
Epping	Williams	2,224	21	70.4		104	26	45	6†	45	0.53	−1.39	0.42	0	2	20	8	3	nw.	A. O. Wang.
Fairfield	Billings		2								1.28		0.48	0	5	24	7	0	se.	F. R. Hecker.
Fessenden	Wells	1,610	17	71.7	+4.6	109	26	44	5†	51	1.10	−1.37	0.61	0	8	21	9	1	se.	T. D. Monsen.
Forman	Sargent	1,249	35								1.17	−1.86	0.33	0	4	12	16	3	s.	O. Enger.
Fort Yates††	Sioux	1,670	29																	P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	68.6		102	26	43	5	45	0.52		0.31	0	2	12	14	5	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11								0.71	- 1.57	0.27	0	4	27	2	2	s.	Verne King.
Fullerton	Dickey	1,439	31	71.0	+2.6	99	26	45	2†	44	3.19	−0.13	1.58	0	5	21	9	1	n.	F. O. Alin.
Garrison	McLean	1,901	34	72.0	+3.9	109	25	40	5	47	0.50	−1.60	0.26	0	5	20	9	2	nw.	Wm. H. Robinson.
Grafton	Walsh	827	38	69.7^c	+2.2	97^c	25	39^c	2	43^c	3.62	+1.14	1.17	0	9	18	13	0	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	38	69.1	+1.7	102	30	44	2	44	2.66	−0.09	0.78	0	10	28	2	1	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	68.6	+1.5	105	25	42	5†	47	0.21	−1.86	0.12	0	3	14	17	0	nw.	W. A. Christianson.
Hankinson	Richland	1,068		74.4		104	25	49	1	43	3.56		1.15	0	6	27	2	2	w.	R. G. Stock.
Hannah	Cavalier	1,568	35								2.22	- 0.24	0.85	0	7					James Meier.
Hansboro	Towner	1,597	21	64.2	−1.2	102	25	37	13	50	2.57	−0.59	0.70	0	8	15	15	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	71.4	+1.9	103	26	42	9†	46	1.28	−1.51	0.79	0	6	23	6	2	se.	C. H. Plath.
Hillsboro	Traill	901	23	72.4	+2.9	105	26	44	2	46	1.91	−0.72	0.91	0	9	23	5	3	n.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	22	68.6	+3.1	105	26	44	4†	47	0.78	−0.82	0.30	0	5	20	9	2	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	70.2	+1.7	104	26	44	5	47	1.94	−0.81	0.97	0	8	3	25	3		S. Calvelage.
Lamoine	Kidder	1,936	24	69.6	+3.7	106	26	41	5	50	2.91	+0.36	1.97	0	4	23	7	1	se.	E. V. Virgin.
Langdon	Cavalier	1,615	33	66.9	+2.4	98	25	44	2†	40	0.88	−1.68	0.46	0	5	30	1	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	69.3	+2.6	101	30	43	2†	46	2.44	−0.55	1.00	0	10	19	6	6	s.	Reuben Gray.
Linton	Emmons	1,711	11	74.5	+3.7	108	16†	38	1	57	1.34	0.66	0.89	0	3	27	3	1	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	71.0	+2.8	101	16†	40	7	49	1.24	−2.29	0.45	0	6	21	7	3		L. B. Walker.
McClusky	Sheridan	1,943	11	68.0		106	26	37	5†	56	1.84	−0.66	0.53	0	6	23	8	0	se.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	35	66.6	+0.6	100	20†	40	31	51	0.15	−2.01	0.05	0	3	20	10	1	se.	E. A. Kaatz.
McLeod	Ransom	1,075	17	72.8	+2.6	105	26	41	4	48	1.22	−2.21	0.74	0	5	21	6	4	sw.	J. G. Carlson.
Maddock	Benson	1,604	13	69.5	+1.7	104	25	41	5	52	0.67	−1.97	0.50	0	3	14	16	1	nw.	A. T. Felland.
Mandan	Morton	1,644	15	73.2	+2.4	108	26	46	5	44	1.20	−1.76	0.35	0	8	21	5	5	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26								1.07	−1.23	0.74	0	4					P. B. Anderson.
Marmarth	Slope	2,714	20	71.8^c	+4.0	100^d	26	43^c	8†	47^d	1.52	−0.14	0.65	0	4	16	12	3		S. P. Grane.
Mary	McKenzie		2								0.44		0.27	0	3	25	5	1	sw.	Fred Hartman.
Max	McLean	2,093		70.2		108	26	38	5	47	0.29		0.12	0	3	20	8	3	se.	A. W. Rice.
Mayville	Traill	975	33	71.2	+1.8	107	27	40	2†	54	1.99	−0.98	1.00	0	8	21	2	8	nw.	N. C. Burhans.
Melville	Foster	1,590	31	76.6	+8.7	109	26	43	5	34	1.30	−1.44	0.60	0	3	18	0	13	se.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		4								1.39		0.32	0	9	21	7	3	sw.	J. A. Thorburn.
Michigan	Nelson	1,518	1								2.98		1.83	0	6	16	12	2	nw.	Arnold Johnson.
Minot	Ward	1,557	33	69.1	+1.0	104	26	42	5	47	0.46	−1.39	0.23	0	4	23	7	1	w.	Julia B. Rue.
Mott	Hettinger	2,424	22	74.8	+5.7	107	26	48	6	44	0.22	−2.15	0.19	0	2	22	6	3	nw.	O. H. Opland.
Napoleon	Logan	1,955	37	72.4	+4.1	105	21†	42	2†	55	3.26	+0.78	1.08	0	10	25	2	4	se.	C. J. Hoof.
New England	Hettinger	2,400	38								0.32	−1.69	0.20	0	3	25	6	0	se.	E. J. Freeman.
New Salem	Morton	2,163	25	73.5	+4.2	109	26	43	5	47	0.56	−1.54	0.17	0	5	26	5	0		J. Christiansen.
Oakes	Dickey	1,318	1	71.6		101	26	44	9	44	2.21		1.20	0	7	16	13	2	nw.	Eugene Naylor.
Park River	Walsh	998	25	69.0	+1.2	97	25	41	2	42	3.22	+0.84	2.27	0	5	20	10	1	nw.	C. B. Wright.
Parshall (near)	Mountrail		14								0.71	−0.86	0.32	0	4	25	5	1	nw.	John A. Johnson.
Pembina	Pembina	789	55	66.7	−1.0	102	26	34	2	52	1.40	−0.98	0.60	0	4	19	11	1	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	72.9	+7.1	105	26†	40	28	51	1.42	−1.33	0.47	0	4	17	10	4	nw.	A. L. Carlson.
Portal	Burke	1,954	15	69.2		102	26	43	21	49	0.00		0.00	0	0	26	3	2	w.	C. T. Holmes.
Power	Richland	1,020	35								0.49	−2.89	0.38	0	2	24	6	1	s.	Frank B. Power.
Powers Lake	Burke	2,205	15	68.4		101	26	41	2	39	0.78	−1.00	0.46	0	2	22	9	0	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	72.5	+2.5	105	26	42	9	46	0.56	−1.45	0.20	0	6	24	5	2	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1								0.96		0.33	0	6	16	12	3	nw.	E. C. Erickson.
Ryder	Ward	2,108	1								0.85		0.36	0	6					E. M. Lomen.
Sanish	Mountrail	1,835																		H. W. Monson.
Sharon	Steele	1,516	4	69.8		104	26	43	9	42	1.42		0.52	0	10	21	9	1	sw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	5								0.49		0.16	0	4	26	5	0	se.	J. H. Giffey.
Steele	Kidder	1,857	33	72.0	+2.6	106	26	39	31	51	1.07	−1.81	1.01	0	4	23	8	0	se.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14								0.60	−1.25	0.40	0	2	26	5	0		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.70		0.43	0	2	22	4	5	se.	J. C. Abbott.
Tioga	Williams	2,279	3								0.28		0.10	0	3				nw.	Anton Carlson.
Towner	McHenry	1,482	27	70.8	+3.7	106	25	40	6†	46	1.30	−0.93	0.80	0	4	23	7	1	nw.	B. Bagley.
Trotters	Golden Valley		4								0.51		0.32	0	4	25	3	3		A. J. Nellermoe
Turtle Lake	McLean	1,899	14	72.8	+4.2	106	26	45	2	44	0.56	−1.90	0.26	0	4	10	14	7	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	71.9	+3.9	103	26	44	5	45	1.06	−1.78	0.49	0	5	23	6	2	w.	I. C. Robertson.
Velva	McHenry	1,511	3	69.2		105	26	44	5†	46	0.57		0.22	0	6	16	9	6	nw.	Oscar Anderson.
Verona	LaMoure	1,387	35								3.12		1.22	0	4	27	3	1	sw.	W. C. Taylor.
Wahpeton	Richland	962	37	73.8	+4.5	105	26	43	2	44	1.46	−2.34	0.55	0	8	24	0	7	se.	C. G. Luick.
Washburn	McLean	1,731	27								0.75	−1.55	0.21	0	7					Karl Klein.
Westhope	Bottineau	1,508	27	67.8	+1.7	102	25	38	5	45	1.33	−0.62	0.75	0	6	22	6	3	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	71.2	+2.3	104	26	42	5	47	0.61	−1.28	0.17	0	5	19	11	1	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	67.5	+2.1	104	25	40	1†	46	1.11	−0.98	0.66	0	8	15	16	0	nw.	M. A. Ostby.
Wilton	McLean		1	74.2		105	26	49	7	45	1.75		0.45	0	8	24	5	2		L. Q. Perkins.
Wishek	McIntosh	2 010	9	72.6^d		103^d	26	43^d	4†	44^d	1.33		0.72	0	6				n.	E. W. Davis.
Zap	Mercer	1,838	1								0.63	−1.54	0.24	0	4					R. A. Norton.
Moorhead, Minn.	Clay	935	48	71.5	+3.4	103	26	48	9	37	0.94	−2.49	0.42	0	10	15	12	4	s.	U. S. Weather Bureau.
Averages				70.6	+3.1	109	25†	34	2	57	1.27	−1.34	2.75	0	5	21	8	2	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for July, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri					.10					.23			.35					.02	1.13													1.83
Amenia ‖‖	Red	.22		.27			.08	.07	T.			.02			.02			.28						.02					T.			T.	0.98
Arnegard (near)	Missouri						T.	.26						.03						.05			.02				.10						0.46
Ashley	Missouri						T.	.28	T.		.06	.38									1.25			.78	.33								3.08
Beach	Lit. Missouri																																
Berthold Agency	Missouri			.05			.30							T									T.										0.35
Bismarck ***	Missouri						.22	.04	.11	.25	.28		.11	T.	.01					T.		T.	T.	.04			T.						1.06
Bottineau ‖‖	Mouse	.03		.02				.26				.20	.30	.02				.10			.16							.08					1.17
Bowman	Grand						.25							.33	.28				.45														1.31
Cando	Devils Lake		T					.50	.12		.07	T.	.22				.31					.34					T.	.29					1.75
Carson	Heart						.10	.05	.05				.10		.03																		0.33
Cavalier	Red								.15		.04						.08				.24	.20						.48					1.19
Cooperstown	Sheyenne		.05				.20	.22	.07								.33											.10					0.97
Corinth	Missouri	.45	.05			.32		.02	.29																								1.13
Crosby ‖‖	Mouse							.10	.07													T.											0.17
Devils Lake ***	Devils Lake		.02				.16	.03	T.	T.	.01	2.75					T.				.35	.08	T.	T.			T.	.01					3.41
Dickinson ‖‖	Heart	T.						.30		.04	T.				.14	.05				T.	T.				.01			T.					0.54
Dogden Butte	Mouse						T.	.09	.06		.03						T.				T.			.02				.07					0.27
Drake ‖‖	Mouse																																
Dunn Center ‖‖	Knife						.25		.08						.05					.20	.21												0.79
Dunseith	Mouse		.04					.30	.04		.35	.23	.01				.19				.35							.12					1.63
Eckman	Mouse	.05	.03				.16	.20			.02	T.	.06							.11													0.63
Edgeley	James							.32	.03									1.20	.16					.25									1.96
Ellendale***	James						.17	.05	.01	.02	.05	T.	T.		.01		.62	.02			.65	T.		1.18	.01			T.					2.79
Energy	Missouri			.17			.26		T.		.05			.20						T.													0.68
Epping	Missouri						.11		.42					T.									T.										0.53
Fairfield	Knife					.48	.32				.21									.19							.08						1.28
Fessenden ‖‖	James	.14	T.	.02			.02	.61		.09								.12			.09				.01								1.10
Forman	Sheyenne											.23						.32		.29				.33									1.17
Fort Yates	Missouri																																
Foxholm (near)	Mouse						.31	T.	T.		T.			T.						.21	T.		T.	T		T.	T.						0.52
Fryburg	Heart							.15	.27	.03				.26									T.								T		0.71
Fullerton	James							.29	T.						T.		1.58			T.	.52	T.		.28	.52								3.19
Garrison	Missouri			.10			.26	.05	T.		T.			.05			T.				T.							.04					0.50
Grafton	Red					.02		.42	.02	.04		1.10			.28	1.17					.51	.06											3.62
Grand Forks ***	Red	.01						.15	.66	T.		.78				.54	.33				.02	.05						.06			.06		2.66
Granville	Mouse						.12	.03	T.	T.		T.	.06	T.			T.			T.		T.		T.									0.21
Hankinson ‖‖	Red							1.15			.50		.25					.16		.50			1.00										3.56
Hannah	Pembina	.01						.05	T.			.30	.01	T.				.67			.28							.85					2.22
Hansboro	Devils Lake							.10			.60	.12	.03				.50				.42						.70	.10					2.57
Hettinger	Grand			T.			.25	.03	.02						.17	T.			.70									.02					1.28
Hillsboro	Red			.01				.14			.02		.91				.51	.02					.02					.22			.06		1.91
Howard (near)	Missouri		.10			.20	.15	.03	.30				T.	T.					T.	T.		T.	T.										0.78
Jamestown ‖‖	James						.03	.22	.28	.02		.27	T.					.97			.07		.08					T.					1.94
Lamoine	Missouri						.32			1.97				T.			.53					.09	T.										2.91
Langdon ‖‖	Pembina	T.						.08	T.	.10		.04						.20		.47													0.88
Larimore ‖‖	Red	.30							.05	.10			1.00				.70	.03			.15				.06				.03			.02	2.44
Linton	Missouri						T.	.89	.06	T.								T.			.39	T.											1.34
Lisbon ‖‖	Sheyenne	.20		T.					.07	.06		.45				T.		.24					.22									T.	1.24
McClusky	Missouri	.02					.52	.53			.18						.35	.24															1.84
McKinney (near)	Mouse						.05					.05	T.															.05					0.15
McLeod	Sheyenne			.15				T.		T.	.74							.12						.13							.08		1.22
Maddock	Sheyenne		.07					.50	T.		T.	T.								T.	.10		T.										0.67
Mandan ‖‖	Missouri							.26		.32		.35	.02		T.	T.						.05	.04	.12								.04	1.20
Manfred	James						.02	.74	.29									.02		T.					T.								1.07
Marmarth	Lit. Missouri					.62		.03	T.					.65	.22				T									T.					1.52
Mary	Lit. Missouri						.11		.27			T.		T.					T.					T			.06						0.44
Max ‖‖	Missouri							.12		T.								.11										.06					0.29
Mayville	Red							.02			.03		.04				1.00	.10					.35					.43			.03		1.99
Melville	James						.30	.40	.60																								1.30
Metigoshe	Mouse		.05				.10	.05			.32	.10	.11							.11							.30	.25					1.39
Michigan	Red		.10					.07		.28		1.83					.45			.25													2.98
Minot ‖‖	Mouse							.15	.01								.07				.23												0.46
Mott	Cannon Ball													.19			T.										.03						0.22
Napoleon ‖‖	Missouri						.03	1.08	.25	.15		.16									.37		.30	.32	.55							.05	3.26
New England	Cannon Ball												.20	.04													.08						0.32
New Salem	Heart					T.	.12		.15		.17				.04					.08		T.	T.										0.56
Oakes	James						.03	.10	.03		T							1.20			.44			.40				.01					2.21
Park River	Red							.23	.40				2.27					.11			.21	T.											3.22
Parshall (near)	Missouri							.17						.05						.17							.32						0.71
Pembina ‖‖	Red	T.				T.			T.		T.	T.						.10		T.			.30		T.			.60	.40				1.40
Pettibone	James						.47				.42				T.			.30				.23						T.					1.42
Portal ‖‖	Mouse																																0.60
Power	Sheyenne							.38										.11										T.					0.49
Powers Lake	Missouri						.46							.32																			0.78
Richardton	Heart						.20	.03	.01					.16	.03						.12												0.56
Rugby [near]	Mouse						.33		.05			.18					.18				.16	T.					.06						0.96
Ryder	Missouri						.05	.25	.05											.36			.04				.10						0.85
Sanish ‖‖	Missouri																																
Sharon	Red		.04				T.	.52	.01		T.	T.	.27	T.			.17	.32			.01	.03		T.				.03			.02		1.42
Stanton	Missouri		.15			.06	.16		.12																								0.49
Steele	Missouri					.02		1.01		.02											.02												1.07
Stowers	Cannon Ball					T.		.20							.40																		0.60
Tagus	Mouse						.43													.27													0.70
Tioga	Missouri									.09			.09	.10																			..28
Towner	Mouse		.20				T.	.80				.15								T.		T.						.15					1.30
Trotters	Lit. Missouri					T	.07		.05				.07														.32						0.51
Turtle Lake	Missouri							.26			.21			T.			.04											.05					0.56
Valley City	Sheyenne			.01			.03	.49			T.								.40											.13			1.06
Velva	Mouse			T			.22	.12	T.	.01	T.	T.					T.			.11	.03		T.					.08					0.57
Verona	James					.18					1.22							.72						1.00									3.12
Wahpeton	Red			.05					.17	.12		.55		.25				.18			.05			.09									1.46
Washburn	Missouri		.06	.18		.02	.10		.07		.11									.21													0.75
Westhope	Mouse		.23				.75			.16		.01							.06								.12						1.32
Williston ***	Missouri			.11		T.	.15	T.	.16				.17	.02						T.			T.	T.									0.61
Willow City	Mouse		.09				.66	.04		T.	.02	.19		.01			T.			.07						T.	.03						1.11
Wilton		.08				.06			.32	.09	.45			.37						.28							.10						1.75
Wishek ‖‖	Missouri								.46	.02			.08			T.					.72			.05									1.33
Zap	Knife					.24	.16		.02											.21													0.63
Moorhead, Minn ***	Red		T.	.42			T	.02	T.		.02	.14	.01	T.		.01	.24				T.	T.		.01				.01			.06		0.94

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	78	71	88	80	80	78	72	78	76	84	89	89	82	86	88	98	86	76	80	82	99	82	90	95	100	105	106	94	92	102	81	85.6
	Minimum	52	42	55	50	48	56	56	50	45	45	58	66	55	57	53	62	64	53	54	54	64	59	57	63	54	58	72	54	56	57	51	55.5
Arnegard	Maximum	93	96	76	75	74	76	78	82	92	94	96	76	78	82	101	103	92	90	80	98	83	98	101	102	104	105	88	83	95	93	90	89.5
	Minimum	62	65	57	48	43	40	51	45	55	54	65	54	52	52	60	65	55	50	67	62	47	54	55	52	67	67	59	60	52	58	47	55.5
Ashley	Maximum	87	91	90	83	81	79	71	67	78	88	92	90	81	81	90	97	90	87	84	96	98	86	87	89	92	98	92	88	96	98	82	87.4
	Minimum	46	49	61	50	47	56	53	54	43	46	57	63	55	59	58	66	63	60	50	61	63	59	57	66	55	70	71	50	58	64	54	56.9
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Berthold Agency	Maximum	84	90	92	76	72	84	72	77	80	92	97	88	79	87	99	105	92	86	87	96	99	90	92	97	106	108	100	82	90	85	82	89.2
	Minimum	50	50	55	43	39	45	51	52	41	51	60	62	48	57	60	62	51	51	60	62	60	48	48	47	65	62	64	45	40	57	40	52.5
Bismarck	Maximum	80	91	82	79	79	83	72	65	77	90	98	87	82	84	93	100	89	85	86	97	99	85	93	96	100	106	83	90	97	101	87	88.3
	Minimum	54	54	57	52	47	58	56	51	51	57	65	61	56	62	62	69	66	51	60	64	62	57	61	61	65	72	65	58	53	68	52	58.9
Bottineau §§	Maximum	73	77	78	69	72	79	70	68	75	81	93	78	75	83	92	102	83	75	77	92	90	76	91	90	103	97	86	89	98	89	88	83.2
	Minimum	47	50	53	45	45	44	47	47	41	47	53	53	50	53	57	60	60	50	50	53	60	43	47	53	61	64	60	47	50	57	50	51.5
Cando	Maximum	74	77	80	75	76	80	71	72	74	78	88	76	80	82	90	95	81	82	80	87	90	81	87	89	98	90	84	90	85	83	87	82.8
	Minimum	47	47	51	50	44	46	50	51	43	42	52	55	45	58	54	56	56	47	47	60	64	50	53	58	57	63	69	55	52	52	56	52.6
Carson	Maximum	90	95	90	90	80	90	70	66	82	82	100	90	85	85	102	103	95	95	90	100	102	88	95	100	100	108	96	92	99	104	90	92.1
	Minimum	47	45	47	54	50	52	50	45	40	56	62	60	55	56	60	60	60	58	54	60	66	56	60	50	50	70	65	46	55	66	55	55.2
Crosby §§	Maximum	75	83	78	65	74	70	76	68	75	88	88	76	80	87	91	94	85	82	80	97	89	78	93	96	96	102	79	89	89	83	86	83.7
	Minimum	48	48	55	51	41	48	41	50	49	53	56	57	47	49	63	65	56	48	58	48	60	50	60	50	56	61	62	47	48	57	43	52.4
Devils Lake	Maximum	74	75	80	70	74	81	71	66	75	83	90	82	75	82	90	98	83	71	77	88	98	72	87	88	100	94	79	86	84	98	78	82.2
	Minimum	49	50	53	50	46	49	52	51	46	54	56	58	49	58	60	63	59	50	49	61	63	53	55	60	60	67	62	54	53	60	50	54.8
Dickinson §§	Maximum	79	91	79	79	74	81	80	66	77	90	95	81	75	80	93	99	88	86	86	96	94	81	95	99	101	106	80	89	94	95	90	87.3
	Minimum	48	52	57	45	39	44	56	50	43	45	56	58	50	55	54	62	58	51	59	59	62	52	57	47	66	62	66	42	47	53	47	53.1
Dunn Center §§	Maximum	80	94	79	76	71	82	71	68	78	90	96	82	78	85	96	101	88	88	84	96	90	81	95	98	102	106	80	90	97	93	88	87.2
	Minimum	55	52	55	47	40	47	56	50	45	55	59	62	48	55	59	62	55	48	60	60	62	50	54	56	64	60	64	45	50	53	46	53.8
Dunseith	Maximum	78	78	79	75	76	80	73	73	71	82	91	83	76	83	91	99	80	79	81	89	89	86	88	89	95	96	88	84	85	86	80	83.7
	Minimum	49	47	54	45	46	46	49	44	42	52	51	50	49	56	56	61	58	47	49	59	65	46	54	58	59	67	64	54	55	58	49	52.9
Edgeley	Maximum	82	89	84	83	79	81	76	72	77	80	90	91	84	79	87	98	92	83	79	92	96	90	85	91	93	104	92	88	95	98	93	87.1
	Minimum	53	49	51	44	45	57	55	54	45	46	41	65	51	58	52	67	60	51	47	62	61	51	59	61	55	55	69	54	54	54	50	54.3
Ellendale	Maximum	80	86	90	83	79	79	71	69	76	87	88	91	83	80	84	95	84	75	82	91	95	81	86	89	90	99	87	86	92	95	80	84.9
	Minimum	53	44	54	49	50	59	53	53	48	49	63	67	56	59	55	61	62	5	51	64	66	60	59	66	57	67	58	58	51	55	54	56.5
Fessenden §§	Maximum	77	83	82	77	76	83	73	69	88	86	88	89	88	87	95	101	89	87	85	99	108	82	93	98	105	103	83	92	96	106	85	89.1
	Minimum	51	48	55	50	44	56	53	50	44	55	59	52	48	58	59	60	60	48	47	62	59	58	52	55	54	68	70	53	50	56	48	54.3
Foxholm (near)	Maximum	73	79	76	73	73	79	71	69	73	85	92	79	76	85	92	101	90	79	75	92	89	87	91	92	100	102	98	87	85	88	82	84.4
	Minimum	47	50	49	49	43	47	50	49	46	54	60	59	46	53	61	64	54	47	50	59	60	51	50	52	55	57	61	53	51	53	48	52.7
Fullerton	Maximum	80	84	91	82	81	81	72	72	78	90	89	93	84	78	67	95	86	77	81	91	96	83	90	88	91	99	87	91	93	97	82	85.5
	Minimum	53	45	53	50	58	58	53	54	45	68	60	67	55	60	54	57	63	51	53	50	65	58	60	68	58	66	58	52	53	55	52	56.6
Garrison	Maximum	77	86	89	87	76	79	72	64	76	88	95	80	78	84	95	101	88	84	90	97	94	86	98	100	109	108	95	93	94	94	86	88.5
	Minimum	47	51	54	48	40	46	52	47	45	53	58	60	51	57	61	59	55	51	59	64	62	60	65	68	62	68	65	52	61	56	49	55.5
Grafton	Maximum	75	79	86	82	78	82	79	71	76	84	90	86	80	80	88	89	....	....	....	82	91	84	85	87	97	92	90	85	86	97	83	c84.3
	Minimum	51	39	50	52	51	47	57	55	45	48	56	61	50	58	54	56	....	....	....	61	62	58	54	65	54	66	70	55	59	54	55	c55.1
Grand Forks	Maximum	74	73	86	74	77	81	71	72	76	79	87	85	75	80	88	92	82	70	79	81	94	76	88	88	96	94	85	85	84	102	76	82.3
	Minimum	52	44	54	55	51	53	55	52	45	50	58	61	52	58	55	63	61	51	48	64	63	56	59	64	56	67	64	57	57	58	51	55.9
Granville	Maximum	80	80	79	68	74	82	70	66	74	89	95	80	78	88	96	104	87	80	80	95	92	77	92	95	105	101	80	90	90	90	83	85.2
	Minimum	58	50	52	45	42	42	52	48	46	52	62	53	43	55	60	58	52	48	52	62	58	45	53	50	63	51	60	50	48	57	43	52.0
Hansboro	Maximum	78	84	80	72	78	85	73	68	75	80	78	80	75	85	94	98	82	72	82	88	90	76	80	90	102	96	78	85	87	90	78	82.7
	Minimum	38	48	45	42	40	40	42	42	40	40	47	50	37	48	48	53	48	40	42	53	58	48	45	52	52	53	50	45	45	50	43	45.8
Hettinger	Maximum	80	92	85	80	75	81	65	66	77	91	95	86	78	80	95	98	90	80	83	95	91	85	96	97	98	103	79	88	94	100	87	86.8
	Minimum	55	55	60	48	51	52	52	48	42	46	58	59	56	56	57	61	66	59	61	69	64	60	61	54	61	66	67	42	51	54	55	56.1
Hillsboro	Maximum	78	74	88	85	80	81	78	71	81	83	89	90	83	89	88	98	93	84	82	83	99	92	90	92	99	105	102	100	89	100	88	88.2
	Minimum	53	44	54	49	48	53	55	57	45	47	60	64	51	52	53	64	66	49	46	61	65	59	60	69	65	66	76	54	54	56	53	56.5
Howard (near)	Maximum	85	85	70	70	75	75	68	68	80	86	91	76	70	86	98	86	84	84	82	100	90	82	94	98	101	105	91	90	91	91	93	85.3
	Minimum	50	51	48	44	48	45	45	47	48	48	45	48	49	49	64	51	60	48	52	54	62	44	52	57	77	77	45	50	47	44	60	52.0
Jamestown §§	Maximum	78	81	87	80	80	78	67	71	78	76	89	88	82	82	90	99	85	75	79	92	100	81	89	94	96	104	89	91	95	102	83	85.8
	Minimum	50	45	51	50	44	54	52	55	45	49	60	66	53	58	54	58	65	52	50	53	53	55	57	62	55	63	72	52	55	57	51	54.7
Lamoine	Maximum	76	84	82	75	76	82	72	67	78	84	93	88	77	80	91	99	84	76	79	94	100	80	90	94	106	106	88	88	92	100	83	85.7
	Minimum	47	45	53	47	41	54	48	48	43	43	43	60	51	56	58	62	64	51	51	61	68	51	57	58	60	65	65	50	53	59	46	53.5
Langdon §§	Maximum	77	76	74	70	74	76	71	76	71	82	86	67	74	84	87	94	80	77	75	81	94	75	85	85	98	95	76	82	80	95	80	80.6
	Minimum	45	44	52	46	44	47	50	50	50	50	53	58	46	56	58	58	60	45	55	58	59	60	52	56	58	65	67	54	50	55	47	53.2
Larimore §§	Maximum	76	74	85	73	77	85	71	72	77	80	92	89	83	85	88	95	70	64	71	85	99	78	89	90	100	99	89	87	90	101	80	83.7
	Minimum	52	43	50	52	48	52	55	55	46	47	55	62	50	56	59	62	64	50	43	57	61	56	56	59	55	62	70	59	57	55	54	54.9
Linton	Maximum	90	98	92	85	90	80	76	69	79	95	105	95	88	84	93	108	105	85	89	101	105	92	94	98	107	108	101	94	100	104	97	93.6
	Minimum	38	42	58	42	44	56	52	52	52	56	62	61	56	62	62	69	58	51	52	63	58	53	53	62	54	71	75	43	43	61	55	55.4
Lisbon §§	Maximum	82	80	95	85	82	80	78	75	79	88	92	94	85	80	90	101	91	80	81	90	101	88	89	99	99	101	98	91	98	100	85	88.9
	Minimum	56	41	58	44	42	52	40	49	43	44	61	67	55	58	52	60	60	50	41	50	66	55	59	61	50	62	74	51	50	52	50	53.1
McClusky	Maximum	83	85	79	75	73	80	70	75	78	83	94	89	85	90	92	101	85	81	84	94	90	80	93	96	99	106	97	88	93	96	95	87.3
	Minimum	40	43	51	49	37	49	46	37	40	46	55	60	59	58	52	58	55	58	40	50	45	40	48	55	55	58	60	45	41	40	41	48.7
McKinney (near)	Maximum	77	80	78	64	80	78	78	71	76	92	91	84	78	90	99	97	85	78	75	100	90	80	95	94	100	97	81	90	92	85	82	85.1
	Minimum	45	46	54	45	44	42	50	44	49	44	60	58	42	42	48	59	48	41	47	58	58	45	44	43	50	56	52	52	43	42	40	48.1
Maddock	Maximum	76	80	81	80	76	81	80	69	76	85	93	85	80	87	93	103	89	82	81	94	103	89	91	94	104	101	82	89	92	102	95	87.6
	Minimum	46	44	51	48	41	49	50	50	44	45	58	56	44	53	52	56	60	49	44	60	59	49	49	52	52	62	67	54	48	55	46	51.4
Marmarth	Maximum	81	92	83	80	74	79	69	73	78	90	92	82	75	75	88	96	91	90	86	96	89	85	....	99	97	100	....	89	92	....	....	d86.0
	Minimum	57	56	62	52	49	51	56	43	43	55	58	71	61	57	59	65	61	60	65	61	65	63	....	52	72	66	..	45	50	55	....	c57.5
Melville	Maximum	86	82	79	74	77	81	78	73	72	85	90	87	85	88	97	101	93	92	97	99	105	92	94	98	102	109	94	92	94	102	94	90.1
	Minimum	58	55	48	45	43	47	51	46	48	53	62	64	60	67	69	72	64	61	66	68	77	72	74	76	75	78	72	71	73	75	62	63.1
Minot §§	Maximum	75	86	78	69	74	81	72	67	76	88	93	79	78	87	96	102	87	81	78	94	92	76	94	91	101	104	80	89	92	91	83	85.1
	Minimum	48	49	57	50	42	43	51	49	43	53	59	59	44	58	63	68	52	50	52	63	67	46	51	48	60	57	65	50	47	59	43	53.1
Mott	Maximum	82	87	82	80	87	85	84	78	73	90	98	90	82	88	98	102	89	84	89	97	92	100	90	94	100	107	88	90	97	106	97	90.3
	Minimum	58	61	59	49	51	48	52	52	49	49	54	60	52	57	62	67	61	58	63	62	60	65	64	63	66	70	60	59	67	71	67	59.2
Napoleon §§	Maximum	82	97	87	82	83	89	67	65	76	90	97	85	83	84	91	102	90	86	89	97	105	85	89	94	95	105	85	91	101	104	89	89.2
	Minimum	48	42	58	47	42	55	50	52	47	52	62	62	52	50	58	66	62	51	54	62	62	56	58	63	58	73	73	52	51	60	49	55.7
New Salem	Maximum	81	94	85	82	80	85	71	70	79	90	98	87	83	86	97	103	93	89	98	97	98	84	95	98	102	109	82	92	97	104	90	90.3
	Minimum	50	49	59	50	43	55	51	47	51	51	51	62	51	57	60	64	61	50	61	58	57	57	57	64	61	78	70	53	64	62	51	56.7
Pembina §§	Maximum	74	84	76	82	74	81	74	74	74	82	88	83	83	92	94	93	82	81	82	90	93	83	93	96	98	102	81	81	88	91	78	87.2
	Minimum	42	34	43	34	43	42	37	38	44	42	48	46	45	41	46	48	46	41	46	44	46	46	41	46	48	56	62	46	48	52	48	46.2
Steele	Maximum	83	92	84	82	81	80	78	70	75	87	96	90	86	85	93	100	90	80	86	96	103	85	91	99	100	106	86	91	95	101	84	88.9
	Minimum	42	46	46	43	42	56	52	52	42	56	69	70	72	70	78	80	75	46	47	53	55	45	52	60	54	68	58	40	46	54	39	55.1
Towner	Maximum	76	80	80	76	80	75	70	70	78	89	89	89	80	89	97	104	97	83	80	95	93	80	95	96	106	99	93	90	91	90	87	87.0
	Minimum	44	48	50	52	45	40	40	49	42	52	56	58	55	56	58	62	53	56	58	65	60	57	63	58	60	62	58	60	68	63	43	54.5
Valley City	Maximum	79	81	88	81	81	85	80	72	77	78	91	90	86	84	87	99	86	86	81	90	100	89	90	95	98	103	100	89	96	100	93	88.2
	Minimum	50	45	53	48	44	57	52	51	48	45	57	65	56	58	53	66	65	53	47	63	61	57	56	69	54	65	74	52	51	55	54	55.6
Wahpeton	Maximum	83	82	96	89	84	82	82	80	75	88	86	94	94	85	85	94	94	88	81	82	96	96	88	98	96	105	102	92	98	100	95	90.0
	Minimum	55	43	60	49	46	55	52	54	46	52	62	71	57	60	60	65	67	53	53	61	64	65	62	62	56	67	67	54	54	60	52	57.5
Westhope	Maximum	77	79	78	68	76	79	70	78	85	95	80	76	85	96	100	85	77	75	95	75	99	77	90	43	102	98	80	88	90	88	87	84.3
	Minimum	46	51	55	48	38	44	47	45	48	55	58	45	55	54	55	49	46	52	56	60	60	44	51	49	59	57	56	50	48	55	52	51.2
Williston	Maximum	78	89	77	73	72	76	71	69	77	90	89	77	76	85	97	98	88	86	87	98	91	78	94	99	98	104	79	91	91	87	87	85.5
	Minimum	50	56	58	51	42	50	52	51	48	58	65	58	56	57	65	65	56	59	68	63	63	50	63	52	68	61	62	53	54	59	55	57.0
Moorhead, Minn	Maximum	77	69	87	78	79	76	72	74	76	86	85	88	81	82	85	95	85	75	76	81	96	81	86	92	96	103	90	88	91	98	79	84.1
	Minimum	56	49	58	52	51	61	57	55	48	52	61	70	58	60	58	65	66	55	51	63	66	63	63	69	59	67	61	56	58	62	55	58.6

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. a 1 day missing, b 2 days, etc.

[WBO, Minneapolis, 8-27-29—100]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVIII BISMARCK, N. D., AUGUST, 1929 No. 8

GENERAL SUMMARY

The weather throughout North Dakota during August was unusually dry and hot. The mean temperature has been exceeded but four times, and the average precipitation was the lowest in the climatological history of the state. The rainfall during June, July and August this year is also the lowest of record for those months. As a result of these conditions late harvest and threshing made rapid progress. Yields of small grains were somewhat better then expected, but considerably below the normal. Soil conditions were unfavorable for fall plowing and pastures were dry, rain being badly needed in all sections of the state.

TEMPERATURE

The mean temperature for the state was 68.5°, or 3.1° above the normal, and 3.7° higher than the mean for August, 1928. The highest mean reported was 72.9° at Wilton, McLean County; the lowest was 62.5° at Powers Lake, Burke County. The highest temperature reported was 106° Maddock, Benson County on the 31st; the lowest was 26° at Steele, Kidder County on the 14th. The greatest monthly range of temperature was 76° at Maddock, Benson County; the least was 53° at Moorhead. The greatest daily range in temperature was 62° at Towner, McHenry County on the 16th.

PRECIPITATION

The average precipitation for the state was 0.77 inch, or 1.51 inches below the normal, and 2.53 inches less than the average for August, 1928. The greatest monthly amount reported was 2.06 inches at Stanton, Mercer County; there was only a trace at Portal, Burke County. The greatest amount recorded in any 24 consecutive hours was 1.80 inches at Carson, Grant County, on the 1st. The average number of days with 0.01 inch or more of preciptation was 4.

AURORAS

Auroras were observed at Dcgden Butte on the 2d; at Larimore on the 14th; at Howard on the 15th; at Arnegard on the 17th; and at Towner on the 18th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.96	30.25	26	29.57	15	57	5,012	6.7	31§	nw.	19
Devils Lake	29.98	30.32	26	29.58	15	44	5,241	7.0	27§	nw.	12
Ellendale	30.02	30.28	26	29.60	21	56	7,166	9.6	40§	se.	19
Grand Forks	29.95	30.29	27	29.66	15	90	....	......	38	s.	24
Williston	29.94	30.29	28	29.56	15	48	3,829	5.1	25§	n.	24
Moorhead, Minn	29.98	30.32	26	28.65	15	58	4,680	6.3	22§	n.	13
Av'ges and extremes	29.97	30.32	26	29.56	15	.....	....	6.9	40§	se.	19

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	304.9	439.4	70	+ 1	70	34	37	17	23
Devils Lake	302.0	442.0	68	+ 3	76	38	43	16	23
Ellendale	337.0	437.4	77	+12	84	44	....	27	9
Grand Forks	......	......	......	......	79	....	58	.....	....
Williston	365.4	442.0	83	+16	68	36	28	14	22
Moorhead, Minn	347.9	439.4	79	+13	77	39	38	21	9†
Averages and extremes	331.4	440.0	75	+ 8	76	38	41	14	22

† And other dates.

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COMPARATIVE STATE DATA FOR AUGUST

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893...	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894...	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895...	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896...	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897...	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898...	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899...	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900...	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901...	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902...	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903...	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904...	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905...	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906...	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907...	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908...	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909...	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910...	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911...	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912...	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913...	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914...	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915...	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916...	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917...	65.2	− 0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918...	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919...	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920...	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921...	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922...	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.
1923...	63.0	−2.4	97	28	1.90	−0.38	8	14	12	5	nw.
1924...	63.8	−1.6	102	28	1.65	−1.45	6	17	9	5	nw.
1925...	67.9	+2.5	110	29	1.07	−1.21	5	20	8	3	nw.
1926...	65.6	+0.2	105	36	2.43	+0.15	7	14	8	9	nw.
1927...	63.4	−2.0	96	28	3.23	+0.95	8	18	8	5	nw.
1928...	64.8	−0.6	105	25	3.30	+1.02	8	17	9	5	nw.
1929...	68.5	+3.1	106	26	0.77	−1.51	4	20	9	2	nw.

Climatological Data for August, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		3								0.39		0.28	0	2					H. A. Bury.
Amenia	Cass	954	33	63.5	−2.8	99	21	39	14	44	1.40	1.32	0.40	0	6	21	10	0	s.	E. T. Carley.
Arnegard (near)	McKenzie		14	70.6	+3.5	105	23	41	14	56	0.12	−1.31	0.05	0	3	29	2	0	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	69.4	+3.5	100	23	34	14	49	1.25	−0.95	0.90	0	4	20	10	1	se.	H. D. Piper.
Beach	Golden Valley	2,759	23	71.8	+6.8	105	23	45	14	49	1.36	−0.69	1.05	0	2	25	5	1	nw.	J. C. Russell.
Berthold Agency††	McLean	2,082	36	65.7	−2.0	101	30	35	16	55	0.52	−1.25	0.22	0	3	25	6	0	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	70.6	+3.3	99	23	38	14	45	0.75	−1.07	0.22	0	4	15	15	1	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	66.3	+2.7	101	23	37	16	50	0.95	−1.26	0.68	0	4	19	7	5	se.	N. A. Eckberg.
Bowman	Bowman	2,961	15								0.02	−0.93	0.02	0	1	29	0	2	s.	M. S. Byrne.
Cando	Towner	1,488	28																	A. J. Swanson.
Carson	Grant	2,500	17	71.6	+4.0	100	14†	40	13	58	2.05	+0.65	1.80	0	3	20	10	1	nw.	J. W. Evens.
Cavalier	Pembina		2								0.44		0.19	0	3	18	8	5	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	23								1.90	−0.76	0.80	0	3	10	17	4	e.	S. Friswold.
Corinth	Williams	2,180	2																	L. S. Evenson.
Crosby	Divide	1,954	23	67.2	+3.5	100	31	40	4	46	0.96	−1.11	0.56	0	5	12	10	9	se.	John Jensen.
Devils Lake	Ramsey	1,478	32	67.1	+2.3	99	23	37	14	43	1.55	−0.93	0.99	0	7	17	10	4	s.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	67.6	+1.3	102	23	38	14	52	0.09	−1.86	0.03	0	5	22	9	0	nw.	Leroy Moomaw.
Dogden Butte††	McLean	1,880	3	68.3		99	31	36	14	44	0.49		0.36	0	3	18	13	0	nw.	R. L. Williams.
Drake	McHenry	1,634																		J. Rindt.
Dunn Center	Dunn	2,191	30	67.6ᵃ	+1.0	102	23	34	14	56	0.28	−1.29	0.21	0	2	23	8	0		W. F. Moede.
Dunseith	Rolette	1,682	33	65.8	+2.2	100	24	38	14	60	1.16	−1.25	0.40	0	6	18	13	0	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	24	65.8	+2.5	102	23	31	14	57	0.11	−2.21	0.07	0	4	2	29	0	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	28	68.0	+1.6	100	23	33	14	53	0.58	−1.56	0.48	0	2	9	18	4	se.	O. A. Thompson.
Ellendale	Dickey	1,449	30	68.1	−0.7	97	23	41	15	49	1.70	−1.38	0.60	0	10	13	14	4	se.	U. S. Weather Bureau
Energy ††	McLean	1,750	17	69.0		103	31	35	14	54	0.89	−1.06	0.35	0	3	17	13	1	se.	H. S. Solenberger.
Epping	Williams	2,224	21	69.0		101	31	38	20	52	0.31	−1.84	0.23	0	2	20	11	0	se.	A. O. Wang.
Fairfield	Billings		2								0.53		0.35	0	3	26	5	0	nw.	F. R. Hecker.
Fessenden	Wells	1,610	17	69.2	+4.2	103	24	36	14	56	0.94	−1.44	0.78	0	4	17	11	3	se.	T. D. Monsen.
Forman	Sargent	1,249	35								0.96	−1.75	0.28	0	4	17	11	3	se.	O. Enger.
Fort Yates	Sioux	1,670	29	68.4	−0.8	96	4†	36	14	51	0.57	−1.40	0.57	0	1	23	7	1		P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	68.2		100	23	38	14	44	0.30		0.25	0	5	13	14	4	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11								0.05	−1.49	0.05	0	1	28	3	0	s.	Verne King.
Fullerton	Dickey	1,439	31	68.8	+2.5	98	9	37	14	50	0.90	−1.63	0.60	0	6	22	9	0	s.	F. O. Alin.
Garrison	McLean	1,901	34	71.7	+6.0	103	23	44	14	50	0.65	−1.35	0.22	0	4	7	24	0	se.	Wm. H. Robinson.
Grafton	Walsh	827	38	67.8ᵃ	+3.3	100ᵃ	30	38ᵃ	14	47ᵃ	0.64	−1.95	0.34	0	3	20	9	2	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	38	67.7	+2.8	101	23	39	14	41	1.16	−1.30	0.45	0	7	26	4	1	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	67.2	+3.3	101	23	35	14	60	0.18	−1.91	0.12	0	3	18	12	1	s.	W. A. Christianson.
Hankinson	Richland	1,068		71.3		102	24	46	14	53	1.94		1.00	0	5	20	6	5	sw.	R. G. Stock.
Hannah	Cavalier	1,568	35								1.19	−0.66	0.48	0	6					James Meier.
Hansboro	Towner	1,597	21	63.4	+0.6	100	23	28	14	55	0.70	−1.52	0.25	0	6	17	13	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	69.8	+2.8	100	15	43	14	55	0.28	−0.97	0.28	0	1	22	9	0	nw.	C. H. Plath.
Hillsboro	Traill	901	23	69.8	+2.9	97	23	40	14	46	0.94	2.00	0.53	0	4	24	4	3	s.	G. Havland.
Howard †† (near)	Williams	2,275	22	69.4	+5.9	102	30†	42	5†	48	0.02	−1.87	0.01	0	2	23	7	1	nw	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	68.2	+2.0	103	23	36	14	53	0.63	−2.11	0.25	0	5	14	15	2		S. Calvelage.
Lamoine	Kidder	1,936	24	67.2	+3.3	99	15†	34	14	57	1.55	−0.43	0.61	0	3	22	9	0	se.	E. V. Virgin.
Langdon	Cavalier	1,615	33	65.2	+3.8	101	22	35	14	58	0.90	−1.75	0.40	0	5	28	3	0	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	67.2	+2.9	100	23	37	14	49	1.04	−1.56	0.40	0	7	12	8	11	n.	Reuben Gray.
Linton	Emmons	1,711	11	72.4	+3.4	105	15	31	14	55	0.83	−0.79	0.40	0	3	17	12	2	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	69.3	+3.8	99	20	37	13	49	1.07	−1.19	0.28	0	6	23	7	1		L. B. Walker.
McClusky	Sheridan	1,943	11	66.6		99	31	28	14	51	1.87		0.77	0	4	25	5	1	nw.	Edw. Tapley.
McKinney ††	Renville	1,640	35	65.6	+2.1	100	23	35	18	69	1.11	−0.67	0.67	0	6	14	17	0	nw.	E. A. Kaatz.
McLeod	Ransom	1,075	17	67.2	−0.4	99	26	37	14	51	0.24	−2.11	0.07	0	5	19	7	5	sw.	J. G. Carlson.
Maddock	Benson	1,604	13	66.4	+0.7	106	31	30	14	54	0.93	−1.29	0.30	0	6	13	14	4	nw.	A. T. Feiland.
Mandan	Morton	1,644	15	70.6	+2.8	101	23	36	14	47	0.81	−0.41	0.41	0	3	15	7	9	s.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26								0.83	−1.63	0.63	0	3					P. B. Anderson.
Marmarth	Slope	2,714	20	71.1ᵐ	+5.5	99ⁿ	1	40ᵐ	6	47ⁿ	1.14	−0.48	0.76	0	4					S. P. Grane.
Mary	McKenzie		2								0.38		0.34	0	2	23	6	2	se.	Fred Hartman.
Max	McLean	2,093		66.8ᵈ		102ᵈ	24	38ᵈ	14	52ᵈ	0.36		0.18	0	3					A. W. Rice.
Mayville	Traill	975	33	69.2	+2.9	100	9†	34	14	47	0.95	−1.99	0.71	0	3	20	4	7	s.	N. C. Burhans.
Melville	Foster	1,590	31	69.8	+3.4	102	23	45	17†	45	1.25	−0.74	0.60	0	3	23	2	6	se.	J. P. Fischer.
Metigoshe ††	Bottineau		4								2.03		1.25	0	4	25	4	2	nw.	J. A. Thorburn.
Michigan	Nelson	1,518	1																	Arnold Johnson.
Minot	Ward	1,557	33	66.9	+1.8	102	23	35	14	53	0.17	−2.03	0.09	0	3	22	7	2	nw.	Julia B. Rue.
Mott	Hettinger	2,424	22	68.8	+2.9	98	23	31	14	55	1.18	−0.46	0.36	0	5	21	4	6	w.	O. H. Opland.
Napoleon	Logan	1,955	37	71.0	+5.0	105	23	33	14	50	0.53	−1.86	0.20	0	6	23	6	2	se.	C. J. Hoof.
New England	Hettinger	2,400	38																	F. L. Sight.
New Salem	Morton	2,163	25	72.2	+5.8	102	23	41	13	47	1.30	−0.37	0.97	0	4	23	8	0		J. Christiansen.
Oakes	Dickey	1,318	1	69.4		98	23	37	14	44	1.66		0.88	0	9	9	21	1	se.	Eugene Naylor.
Park River	Walsh	998	25	67.8	+2.3	100	31	37	13	44	0.70	−1.53	0.21	0	5	16	8	7	nw.	C. B. Wright.
Parshall (near)	Mountrail		14								0.41	−1.13	0.22	0	3	25	6	0	nw.	John A. Johnson.
Pembina	Pembina	789	55	63.8	−0.3	100	31	34	14	55	0.35	−1.78	0.30	0	2	22	6	3	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	69.4	+7.0	101	23	34	14	48	0.91	−1.38	0.55	0	5	20	5	6	se.	A. L. Carlson.
Portal	Burke	1,954	15	68.0		100	23	40	15	58	T.		T.	0	0	23	8	0	s.	C. T. Holmes.
Power	Richland	1,020	35																	Frank B. Power.
Powers Lake	Burke	2,205	15	62.5		99	31	36	26	47	0.22	−1.37	0.21	0	2	28	3	0	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	71.8ᵃ	+4.0	101ᵃ	22†	41ᵃ	14	46ᵃ	0.74	−0.85	0.41	0	4	24	6	1	se.	John Muggli.
Rugby (near)	Pierce	1,562	1								0.11		0.06	0	3	18	11	2	nw.	E. C. Erickson.
Ryder	Ward	2,108	1								0.25		0.25	0	1					E. M. Lomen.
Sanish	Mountrail	1,835		68.2ⁱ		100ⁱ	31	37ⁱ	14	47ⁱ	0.15		0.04	0	6					H. W. Monson.
Sharon	Steele	1,516	4	69.0		102	23	39	14	41	0.56		0.25	0	9	18	11	2	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	5								2.06		1.22	0	5	22	7	2	se.	J. H. Giffey.
Steele	Kidder	1,857	33	65.2	−1.6	100	15†	26	14	53	1.51	0.83	1.02	0	6	25	6	0	nw.	Paul Neubauer.
Stowers††	Adams	2,325	14								0.11	−1.54	0.11	0	1	30	1	0		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.17		0.09	0	3	21	10	0	se.	J. C. Abbott.
Tioga	Williams	2,279	3								0.41		0.20	0	3	13	12	6	nw.	Anton Carlson.
Towner	McHenry	1,482	27	70.2	+5.8	105	31	32	16	62	0.18	−1.91	0.10	0	3	27	4	0	w.	B. Bagley.
Trotters	Golden Valley		4								0.32		0.18	0	3	28	3	0		A. J. Nellermoe
Turtle Lake	McLean	1,899	14	68.8	+2.1	100	31	40	29	45	1.40	−0.48	0.75	0	4	7	17	7	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	69.8	+4.2	102	23	35	14	48	0.89	−1.36	0.19	0	8	21	8	2	e.	J. C. Robertson.
Velva	McHenry	1,511	3	67.8		100	23	32	13	58	0.37		0.21	0	5	18	10	3	w.	Oscar Anderson.
Verona	LaMoure	1,387	35								0.25		0.15	0	2	23	8	0	se.	W. C. Taylor.
Wahpeton	Richland	962	37	72.0	+5.1	100	21	42	14†	45	1.03	−1.37	0.75	0	5	22	0	9	se.	C. G. Lueck.
Washburn	McLean	1,731	27																	Karl Klein.
Westhope	Bottineau	1,508	27	66.6	+2.5	102	23	35	14	57	0.67	−1.56	0.39	0	4	27	4	0	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	69.8	+3.7	100	23	44	25	48	0.58	−0.89	0.35	0	4	23	7	1	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	65.2ᵇ	−1.3	103ᵇ	23	31ᵇ	14	60ᵇ	0.79	−1.29	0.36	0	4	18	12	1	nw.	M. A. Ostby.
Wilton	McLean		1	72.9ᵃ		100ᵃ	23	41ᵃ	13	38ᵃ	1.60		0.90	0	4	26	2	3		L. Q. Perkins.
Wishek	McIntosh	2 010	9	67.8ᵈ		101ᵉ	23	29ᵈ	14	61ᵉ	0.54		0.34	0	4				se.	E. W. Davis.
Zap	Mercer	1,838	1								0.34	−1.71	0.17	0	4					R. A. Norton.
Moorhead, Minn.	Clay	935	48	69.8	+3.7	95	21	42	14	36	0.75	−2.14	0.34	0	6	13	11	7	s.	U. S. Weather Bureau.
Averages				68.5	+3.1	106	31	26	14	62	0.77	−1.51	1.80	0	4	20	9	2	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for August, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																			.11								T.			.28		0.39
Amenia ||	Red		.10			.05					.35			.40							.10	T.							.40				1.40
Arnegard (near)	Missouri	T.	T	T.	.02							.05																.05					0.12
Ashley	Missouri							.05		.04											.90							.26					1.25
Beach	Lit. Missouri	1.05																												.31			1.36
Berthold Agency	Missouri	.15			.22															.15													0.52
Bismarck ***	Missouri	.16			.17			T.		.20		T.	T.							.22	T	T.			T.								0.75
Bottineau ||	Mouse												.03	.23											.01				.68				0.95
Bowman	Grand	T.																		.02													0.02
Cando	Devils Lake																																
Carson	Heart	1.80							.25			.02																					2.05
Cavalier	Red					.12	.13													.19													0.44
Cooperstown	Sheyenne				T.	.70		.40					T.							.80													1.90
Corinth	Missouri																																
Crosby ||	Mouse		.56			.08				.10	.14	T.													.08								0.96
Devils Lake ***	Devils Lake	.07				.07	.04			T.		.04	.17							.17								.99					1.55
Dickinson ||	Heart	.03	.01	T		T.					T.		.02	T.															.01		.02		0.09
Dogden Butte	Mouse	.36						.05				T.	T.							.08					T.								0.49
Drake ||	Mouse																																
Dunn Center ||	Knife	.21								.07											T.												0.28
Dunseith	Mouse					.01	.40					.20	.17	.10														.25					1.16
Eckman	Mouse				T.							.01	.07							.01								.02					0.11
Edgeley	James				.10							.48																					0.58
Ellendale***	James	T	T.		.05			.09		T.	.01	.60	T.			.25			.15	.28				.08				.12			.07		1.70
Energy	Missouri	.35	T.		.21					T.			T.							.33													0.89
Epping	Missouri				.08																							.23					0.31
Fairfield	Knife	.35			.15																							.03					0.53
Fessenden ||	James	.03	.12		.01																.78												0.94
Forman	Sheyenne				.24							.28													.24			.20					0.96
Fort Yates	Missouri																			.57													0.57
Foxholm (near)	Mouse	T.			.01						T.	.01	.01							.25					T.			.02					0.30
Fryburg	Heart					.05						T.		T.																			0.05
Fullerton	James		T.		.09	T.		.03		T.	T.	.04	T.			T.				.08				.60	T.			.06					0.90
Garrison	Missouri	.20	T.		.06								.17							.22													0.65
Grafton	Red				.20		T.					T.	.34															.10					0.64
Grand Forks ***	Red	.02			.02	.11		.10				.31	.45							.15								T.					1.16
Granville	Mouse	.03			T.	.12							T.							T.								T.			.03		0.18
Hankinson ||	Red							.12		.07		.50	1.00							.25													1.94
Hannah	Pembina		.02			.22	.48						.02	.40															.05				1.19
Hansboro	Devils Lake				.02	.15	.25			.03		.05	.20																				0.70
Hettinger	Grand	T.									T.																	T.	T.		.28		0.28
Hillsboro	Red					.05							.53							.32		.04											0.94
Howard (near)	Missouri				.01		T.	.01		T.	T.	T.	T.							T.					T.			T.					0.02
Jamestown ||	James				.25		.09						.06							.16				.07									0.63
Lamoine	Missouri	.50			.44					T.										.61													1.55
Langdon ||	Pembina						.13						.15	.12							.10								.40				0.90
Larimore ||	Red		.02			.12	.06						.07	.40							.25								.12				1.04
Linton	Missouri									T.		T.	.05							T.	.40							.38					0.83
Lisbon ||	Sheyenne					.25	.03			.22			.28							.05							.24						1.07
McClusky	Missouri	.65			.10	.35														.77													1.87
McKinney (near)	Mouse	.15			T.						.05	.02	.12							.10								.67					1.11
McLeod	Sheyenne									.04		.03		.07		T.			.04	.06													0.24
Maddock	Sheyenne	.25			T.	.15						.05	.09	.09						.30					T.						T.		0.93
Mandan ||	Missouri		.20			.41					T.	T.								.20		T.											0.81
Manfred	James	.13				T.		.07					T.							.63													0.83
Marmarth	Lit. Missouri	T.								.27										.06									.05		.76		1.14
Mary	Lit. Missouri	.04			.34				T.																			T.					0.38
Max ||	Missouri	.15	.03											T.							.18												0.36
Mayville	Red					.15								.09							.71												0.95
Melville	James				.60																.35							.30					1.25
Metigoshe	Mouse						1.25			T.			.03							.55								.20					2.03
Michigan	Red																																
Minot ||	Mouse		.01			.09															.07												0.17
Mott	Cannon Ball	.35								.35		.05	.07						.36														1.18
Napoleon ||	Missouri					.15					.06		.03	.01							.20								.08				0.53
New England	Cannon Ball																																
New Salem	Heart	.97			.20	.01						T.	T.							.12													1.30
Oakes	James					.03			T.	.01		.39		T			.04				.09			.04	.88			.08	.10				1.66
Park River	Red					.16						.13	.07						T.	.13								.21					0.70
Parshall (near)	Missouri	.17	.02										.22																				0.41
Pembina ||	Red					T.	T.	T.			T.			.05							T.								.30				0.35
Pettibone	James	.10			.55		.15			.03			T.							.08					T.								0.91
Portal ||	Mouse				T.								T.											T.									T.
Power	Sheyenne																																
Powers Lake	Missouri					.01																						.21					0.22
Richardton	Heart	.19			.41								.09							.05													0.74
Rugby [near]	Mouse	T.			.01							.04	.06															T.					0.11
Ryder	Missouri																			.25													0.25
Sanish ||	Missouri	.02		.02		.04							.02												.02				.03				0.15
Sharon	Red	.05			.08	.02	.02	.03				T.	.02	.03			T.			.25	.06							T.					0.56
Stanton	Missouri	1.22			.30					.14		.15								.25													2.06
Steele	Missouri	.04				1.02				.02				.01							.40							.02					1.51
Stowers	Cannon Ball	.11																															0.11
Tagus	Mouse				.04								.04							.09													0.17
Tioga	Missouri									.14			.07															.20					0.41
Towner	Mouse	.02		.06								T.	.10												T.			T.	T.				0.18
Trotters	Lit. Missouri	.06																										.18		.08			0.32
Turtle Lake	Missouri	.50			.08								.07							.75													1.40
Valley City	Sheyenne				.15	.16	.11			.04				.10						.03	.11				T.				.19				0.89
Velva	Mouse	.21			T.					.02		.01	.01							.12													0.37
Verona	James																				.10						.15						0.25
Wahpeton	Red											.75		.12									.05		.07				.04				1.03
Washburn	Missouri																																
Westhope	Mouse											.11	.16								.01							.39					0.67
Williston ***	Missouri	T			.13					T.	.03	.07								T.				T.			T.	.35					0.58
Willow City	Mouse	T			.01							T.	.06								.36				T.			.33					0.79
Wilton		.90			.12								.22							.36													1.60
Wishek ||	Missouri										.08										.34								.02			.10	0.54
Zap	Knife	.17				.05				.03										.09													0.34
Moorhead, Minn ***	Red	.03			T.	T.				T.		.05	.18			T.	T.			.04		.34		T.				.11					0.75

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning: amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mea
Amenia §§	Maximum	81	82	74	80	82	82	90	94	98	88	88	89	76	75	86	86	85	85	79	90	99	89	96	92	86	81	87	79	85	94	91	86.
	Minimum	53	60	45	53	55	53	47	53	59	59	53	52	53	39	42	49	48	46	58	60	68	51	55	59	55	49	44	49	48	52	60	40.
Arnegard	Maximum	91	82	83	85	85	80	88	95	92	90	80	94	76	89	96	88	87	95	87	85	97	92	105	87	86	92	89	83	92	100	104	89.
	Minimum	64	51	49	47	46	49	48	52	54	59	59	49	49	41	62	46	45	51	43	56	49	51	49	46	45	53	63	57	50	62	57	51.
Ashley	Maximum	75	80	79	91	85	83	87	88	97	88	91	88	80	79	99	90	86	87	85	82	95	87	100	96	90	87	88	77	83	90	92	87.
	Minimum	55	56	44	46	55	51	50	47	57	55	54	50	52	34	50	59	46	49	58	58	61	42	61	59	43	47	47	56	43	60	56	51.
Beach	Maximum	88	76	83	80	81	82	84	85	86	89	80	92	76	92	93	84	82	94	97	90	86	95	105	83	86	90	84	84	96	95	97	87.
	Minimum	57	60	49	58	62	57	56	59	68	57	60	52	50	45	60	52	56	56	65	56	54	56	56	49	50	58	53	49	55	61	62	56.
Berthold Agency	Maximum	82	72	77	80	70	87	84	78	76	78	82	85	76	84	86	87	85	75	90	80	78	98	95	98	75	82	80	84	78	101	98	83.
	Minimum	47	57	42	51	49	45	46	48	48	50	52	47	46	38	61	35	43	42	67	41	49	43	43	59	43	47	45	47	49	58	52	48.
Bismarck	Maximum	76	80	79	87	82	76	85	90	92	87	86	87	71	80	95	82	84	90	91	83	87	91	99	92	82	87	87	79	85	94	97	85.
	Minimum	62	59	50	53	54	57	53	54	61	60	55	53	50	38	59	58	50	57	63	53	60	46	60	61	50	48	60	57	45	64	63	55.
Bottineau §§	Maximum	80	77	74	68	77	71	81	94	93	83	72	84	69	78	89	81	81	87	83	82	81	91	101	91	83	79	81	81	85	93	91	82.
	Minimum	54	55	42	47	50	54	52	55	57	56	58	49	48	42	46	37	43	54	59	39	42	45	51	54	40	53	54	52	50	51	60	50.
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Carson	Maximum	80	85	92	90	85	85	90	95	88	85	90	75	82	100	86	85	93	96	85	93	95	100	99	85	95	85	82	84	95	95	97	89.
	Minimum	50	58	55	50	55	50	50	60	50	60	50	45	40	42	54	50	54	65	50	60	50	56	66	45	56	58	60	46	60	68	60	54.
Crosby §§	Maximum	90	75	74	76	78	71	83	91	88	85	75	84	70	85	87	76	80	88	96	85	79	92	98	79	80	89	84	80	90	99	100	84.
	Minimum	53	56	44	40	49	50	52	54	58	52	50	53	46	42	45	50	43	42	63	42	45	50	53	57	42	59	64	48	49	54	54	50.
Devils Lake	Maximum	72	76	73	70	72	74	81	92	95	84	76	84	67	75	92	81	80	83	69	80	87	88	99	97	84	78	86	75	82	94	99	82.
	Minimum	57	52	45	50	50	55	51	54	61	59	56	51	46	37	49	49	49	48	59	50	56	45	57	60	46	46	51	52	46	61	67	52.
Dickinson §§	Maximum	80	80	82	82	83	78	84	91	88	86	80	93	74	88	96	83	82	92	97	87	85	95	102	87	83	90	80	80	91	96	99	86.
	Minimum	59	59	42	44	49	45	46	46	47	49	45	43	42	38	44	50	49	45	55	44	43	45	44	62	41	42	63	47	48	60	60	48.
Dunn Center §§	Maximum	80	79	79	80	84	78	84	91	86	87	80	92	73	....	95	83	82	90	96	87	82	95	102	85	83	83	81	....	77	90	97	[b]85.
	Minimum	59	60	44	52	49	53	47	45	57	51	51	46	50	34	47	48	44	43	64	42	47	42	46	54	40	48	53	57	48	56	58	49.
Dunseith	Maximum	80	78	75	74	73	69	78	91	91	82	81	81	66	77	86	85	79	84	81	81	80	90	100	96	80	76	82	80	81	92	90	81.
	Minimum	55	57	44	50	49	51	49	53	55	57	58	51	47	38	49	42	52	51	57	46	54	49	40	72	45	50	42	43	41	47	46	49.
Edgeley	Maximum	79	84	80	81	77	77	87	91	97	89	90	86	78	76	94	92	81	83	90	83	98	88	100	91	86	82	90	85	83	92	90	86.
	Minimum	54	54	42	43	58	49	51	49	59	62	51	50	52	33	41	45	45	49	53	54	53	46	56	58	49	44	46	45	41	53	53	49.
Ellendale	Maximum	77	81	76	86	76	80	84	86	93	88	90	82	69	74	90	79	84	83	83	80	96	85	97	92	81	81	86	78	81	88	87	83.
	Minimum	56	58	48	48	59	52	52	55	55	60	55	52	45	38	41	54	48	51	51	61	59	48	60	63	51	47	45	54	47	55	56	52.
Fessenden §§	Maximum	75	80	78	80	81	80	89	96	101	90	86	91	70	82	101	85	86	88	78	82	88	92	103	98	85	83	96	80	88	100	102	87.
	Minimum	60	55	53	46	52	53	44	48	62	55	54	48	49	36	51	48	46	45	60	49	54	48	54	66	38	43	49	53	42	51	65	50.
Foxholm (near)	Maximum	78	75	74	71	80	79	80	91	91	85	78	87	69	81	90	79	79	87	87	86	80	93	100	99	80	85	85	77	87	98	96	84.
	Minimum	57	54	43	47	49	47	47	55	61	54	59	51	45	38	63	51	49	47	60	44	51	49	56	65	44	52	55	49	48	64	60	52.
Fullerton	Maximum	79	84	79	81	78	79	87	89	98	89	92	86	71	76	91	82	85	83	80	83	97	86	94	92	83	81	88	79	80	83	88	84.
	Minimum	59	59	46	47	60	52	52	56	57	61	57	51	56	37	41	57	48	50	55	62	64	46	59	61	49	45	45	59	56	45	56	53.
Garrison	Maximum	73	80	79	74	85	86	87	92	94	87	82	90	76	85	97	85	86	89	91	82	85	96	103	90	85	87	85	79	87	99	98	86.
	Minimum	60	57	48	51	51	56	49	49	48	64	67	62	54	44	65	54	56	55	70	50	59	55	53	70	49	60	63	56	53	63	63	56.
Grafton	Maximum	79	80	78	71	73	77	80	92	97	91	86	85	68	74	86	83	82	82	78	83	91	87	99	99	94	83	....	82	84	109	97	[a]84.
	Minimum	48	63	44	41	53	54	51	50	57	51	52	46	49	38	46	56	53	47	58	53	53	46	57	56	47	46	....	47	42	61	63	[a]51.
Grand Forks	Maximum	79	79	73	71	74	76	83	91	97	81	76	85	65	71	84	82	78	80	75	80	90	85	101	97	85	85	82	78	83	91	93	82.
	Minimum	54	56	45	45	54	55	56	54	58	62	57	50	54	39	46	54	51	50	58	55	56	47	61	62	50	44	46	50	46	58	61	52.
Granville	Maximum	77	78	75	77	80	75	83	94	93	87	82	88	70	82	90	82	85	89	84	85	82	91	101	94	84	82	85	83	88	99	99	85.
	Minimum	59	50	45	50	52	48	45	48	53	53	54	42	42	35	55	42	45	46	63	41	50	31	43	56	40	48	56	50	54	59	59	48.
Hansboro	Maximum	77	78	75	70	70	68	82	84	95	86	80	74	75	76	87	80	82	84	78	82	82	90	100	97	82	77	87	77	92	99	98	82.
	Minimum	45	40	38	40	45	48	42	45	54	54	49	43	42	28	45	38	45	38	55	48	48	38	45	53	37	40	40	47	40	50	45	44.
Hettinger	Maximum	84	80	84	94	86	76	83	90	90	89	86	92	76	86	100	81	82	95	96	87	88	94	99	90	80	85	83	82	90	89	95	87.
	Minimum	60	59	54	57	56	52	46	50	52	50	50	46	51	43	45	55	49	49	59	54	54	52	46	47	50	56	59	51	53	54	59	52.
Hillsboro	Maximum	79	82	79	75	77	79	85	91	98	90	87	87	86	77	86	85	82	77	84	85	96	87	97	95	92	82	84	83	84	95	92	85.
	Minimum	51	61	53	50	46	54	52	53	60	62	55	51	50	40	44	54	49	57	56	62	58	48	55	62	46	45	46	56	63	64	67	54.
Howard (near)	Maximum	88	80	78	75	82	75	85	94	90	91	84	87	74	80	89	90	82	85	95	87	90	84	100	90	84	91	91	83	91	102	102	87.
	Minimum	62	44	44	47	42	45	45	50	54	53	54	54	44	44	44	42	41	45	52	56	63	54	60	54	52	54	65	45	54	64	65	51.
Jamestown §§	Maximum	79	81	77	77	75	76	86	90	98	90	84	89	68	79	94	85	85	84	74	85	94	96	103	98	84	86	89	86	86	97	91	85.
	Minimum	56	58	46	46	52	53	52	50	55	58	57	50	52	36	41	55	49	47	51	57	58	45	50	61	48	50	42	50	43	45	55	50.
Lamoine	Maximum	74	77	74	74	77	76	84	90	92	88	85	87	74	78	99	86	86	84	82	81	85	86	99	94	83	81	88	86	85	98	99	85.
	Minimum	58	55	43	50	50	50	50	50	57	50	54	51	48	31	53	48	43	50	57	58	48	47	47	67	41	41	50	52	44	46	42	49.
Langdon §§	Maximum	74	77	71	70	70	77	95	93	81	73	81	64	70	82	80	76	85	75	85	85	89	101	100	78	77	80	75	82	99	99	97	82.
	Minimum	52	47	40	47	50	42	42	50	52	60	54	50	48	35	40	45	48	50	57	45	53	43	55	62	40	40	45	52	45	55	60	48.
Larimore §§	Maximum	76	77	69	71	76	80	88	93	98	86	77	87	66	75	88	82	80	84	73	83	90	88	100	97	85	77	87	76	85	96	97	83.
	Minimum	50	56	51	46	51	52	53	52	60	60	56	50	52	37	43	50	52	47	59	52	53	45	55	60	50	45	43	47	46	47	62	51.
Linton	Maximum	91	89	85	84	82	95	95	96	104	94	92	92	76	83	105	97	95	92	90	89	91	91	103	98	89	87	88	80	91	99	95	91.
	Minimum	47	51	53	42	54	48	46	56	52	52	49	48	52	31	56	60	62	59	60	57	64	45	65	67	57	45	60	55	51	44	67	53.
Lisbon §§	Maximum	80	87	81	80	80	88	94	97	98	92	89	71	71	90	89	88	88	88	88	99	89	[illegible]	88	84	88	80	87	91	93	91	95	87.
	Minimum	51	61	45	42	57	51	50	55	57	57	47	48	37	41	51	42	45	55	58	63	46	53	57	49	45	50	45	52	52	57	55	50.
McClusky	Maximum	83	76	76	74	82	75	83	90	92	87	84	88	70	79	95	87	83	85	84	80	83	88	98	93	85	83	85	78	84	98	99	84.
	Minimum	50	48	37	45	49	41	42	46	49	46	47	40	30	28	56	49	49	52	59	41	52	48	55	67	43	55	56	51	45	63	62	48.
McKinney (near)	Maximum	81	75	75	70	85	75	88	91	96	86	80	88	75	80	90	80	81	81	91	86	81	93	100	90	80	83	83	75	85	95	90	84.
	Minimum	58	52	36	48	53	48	46	45	52	50	50	46	45	39	48	45	41	35	62	[illegible]	42	36	40	56	36	52	56	48	42	50	52	47.
Maddock	Maximum	82	78	76	75	75	76	84	93	96	91	85	89	70	79	96	95	84	87	82	82	87	92	102	100	82	80	90	79	87	97	106	86.
	Minimum	57	53	40	44	50	55	46	48	47	55	55	46	47	36	49	42	47	45	58	45	52	41	48	64	40	46	47	49	39	57	61	48.
Marmarth	Maximum	99	78	89	87	....	....	....	90	....	89	87	89	....	89	95	87	82	91	....	98	98	....	....	....	80	....	....	....	....	....	92	[n]89.
	Minimum	....	64	50	50	56	40	....	....	52	50	55	48	....	45	57	57	47	57	68	51	....	....	....	....	45	....	....	....	....	55	....	[m]52.
Melville	Maximum	88	91	84	87	82	78	84	93	97	90	92	84	72	79	98	84	88	81	78	81	89	85	102	[illegible]	86	88	89	87	82	99	92	87.
	Minimum	58	55	47	52	56	54	53	58	63	52	49	48	47	[illegible]	64	52	45	55	48	52	54	58	60	48	51	48	45	48	45	54	52	52.
Minot §§	Maximum	76	77	76	77	82	76	84	94	92	87	80	87	70	82	90	81	82	87	88	84	82	95	102	86	83	85	83	77	86	99	100	84.
	Minimum	55	57	42	45	51	42	45	52	60	53	59	47	46	35	54	42	41	42	64	40	56	42	49	59	39	51	53	52	47	47	56	48.
Mott	Maximum	87	78	82	83	85	87	85	91	91	90	85	92	90	87	81	91	82	95	97	90	84	85	98	92	85	87	83	81	87	93	97	87.
	Minimum	51	47	51	50	52	55	49	54	52	52	54	55	50	34	51	52	50	45	46	35	53	48	47	52	46	45	57	52	54	51	50	49.
Napoleon §§	Maximum	80	80	81	92	80	80	88	94	100	90	89	92	72	83	103	89	90	90	89	89	92	92	105	97	88	90	92	80	89	99	100	89.
	Minimum	60	55	45	51	54	51	48	51	55	55	53	50	49	33	53	57	47	53	56	54	57	46	66	67	48	46	50	52	41	60	61	52.
New Salem	Maximum	87	79	84	87	80	79	86	92	95	90	87	90	83	98	90	89	84	94	95	84	87	94	102	94	88	90	86	80	90	98	100	89.
	Minimum	55	58	48	50	51	54	54	53	65	57	59	57	41	56	53	53	48	49	61	59	52	52	59	70	69	49	57	57	45	60	62	55.
Pembina §§	Maximum	78	77	78	82	83	72	76	92	98	85	78	78	74	72	76	80	84	81	74	78	78	86	98	98	86	81	88	81	88	98	100	83.
	Minimum	43	56	41	39	44	42	46	44	48	46	48	46	44	31	46	42	41	43	46	41	46	46	48	48	48	42	42	45	42	44	45	44.
Steele	Maximum	83	81	79	83	78	75	84	91	94	88	86	88	81	79	100	89	85	87	87	82	89	90	100	95	86	84	91	81	85	96	97	86.
	Minimum	49	42	34	41	39	45	45	42	52	46	43	43	41	26	48	45	39	41	42	43	55	39	53	61	38	38	38	45	32	50	53	43.
Towner	Maximum	78	79	75	86	86	73	84	95	98	86	88	90	85	90	95	94	93	88	84	85	90	103	100	93	85	88	90	78	89	95	105	88.
	Minimum	59	38	47	56	55	51	44	58	55	51	38	48	46	64	56	32	56	44	61	55	50	65	58	58	40	48	56	48	55	56	56	51.
Valley City	Maximum	77	81	82	84	82	86	92	93	96	89	85	88	82	78	90	88	85	84	81	85	95	90	102	96	94	83	82	88	85	101	96	87.
	Minimum	56	61	46	48	53	53	49	52	54	61	52	48	53	35	42	69	45	47	57	59	61	43	55	57	50	49	48	55	45	54	60	51.
Wahpeton	Maximum	86	84	83	81	79	80	89	90	98	92	96	89	87	76	85	85	89	86	86	87	100	95	95	98	89	86	85	84	85	95	93	88.
	Minimum	57	67	48	45	63	55	57	57	60	68	63	55	54	42	42	60	47	54	56	62	67	50	59	64	58	47	51	56	48	61	60	55.
Westhope	Maximum	79	78	78	70	80	75	84	94	95	87	77	83	72	83	84	81	84	83	81	83	82	93	102	92	85	81	81	79	86	95	98	84.
	Minimum	53	52	40	50	51	56	49	48	52	52	60	48	47	35	48	41	44	62	58	40	52	40	45	52	42	48	54	49	45	59	56	49.
Williston	Maximum	91	77	80	73	82	76	83	91	87	87	77	90	72	89	91	82	82	90	95	86	81	93	100	82	79	90	82	79	89	97	100	85.
	Minimum	67	57	48	55	54	50	49	53	56	57	59	57	48	51	59	46	45	57	57	47	52	58	52	54	44	61	60	50	55	64	55	54.
Moorhead, Minn	Maximum	80	80	74	75	77	80	86	90	95	86	86	84	65	73	84	85	81	79	74	84	95	84	95	91	84	78	84	79	83	94	91	83.
	Minimum	57	61	50	50	57	53	57	55	61	65	60	53	50	42	48	63	55	54	58	62	63	54	60	65	58	51	52	59	52	62	61	56.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

[WBO, Minneapolis, 9 30 29 1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

ol. XXXVIII Bismarck, N. D., September, 1929 No. 9

GENERAL SUMMARY

The weather during September was generally favorable for utdoor work. The temperature was decidedly below the normal, the mean for the month having been lower on but four ears in the climatological history of the state.. The precipitaion was nearly normal, but the greater portion occurred durng the last decade. During the fore part of the month pasures suffered from drought and fall plowing and the seeding of inter rye were accomplished with considerable difficulty, due o soil dryness. Conditions improved greatly during the last ecade and rapid progress was made in this activity. Liveock was in generally good condition at the close of the month.

TEMPERATURE

The mean temperature for the state was 52.7°, or 3.7° below ne normal, and 1.2° lower than the mean for September, 1928. he highest mean reported was 58.2° at Wahpeton, Richland ounty; the lowest was 47.1° at Hansboro, Towner County. he highest temperature reported was 105° Maddock, Benson ounty on the 1st; the lowest was 12° at Lisbon, Ransom ounty on the 17th. The greatest monthly range of temperature as 90° at Maddock, Benson County; the least was 59° at unseith, Rollette County. The greatest daily range in temperure was 55° at New England, Hettinger County on the 19th.

PRECIPITATION

The average precipitation for the state was 1.65 inches, or 01 inch above the normal, and 0.72 inch more than the erage for September, 1928. The greatest monthly amount ported was 4.31 inches at Hankinson, Richland County; e least was 0.21 inch at Mayville, Traill County. The greatt amount recorded in any 24 consecutive hours was 2.16 ches at Willow City, Bottineau County, on the 3d. The erage number of days with 0.01 inch or more of precipitation as 5.

AURORAS

Auroras were observed at Howard and Williston on the 7th; Foxholm, Rugby and Trotters on the 8th; at Arnegard gden Butte, Foxholm and Moorhead on the 9th; at Foxholm cLeod, Pettibone, Towner and Williston on the 10th; at Carn, Foxholm, Pettibone and Williston on the 11th; at Willisn on the 12th; at Ellendale and Rugby on the 21st; and at lendale on the 22d.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.01	30.44	29	29.40	14	57	4,859	6.7	25§	sw.	14
Devils Lake	30.00	30.44	17	29.35	14	41	5,051	7.0	24§	ne.	2
Ellendale	30.04	30.44	18	29.43	15	56	7,602	10.6	33§	nw.	3
Grand Forks	29.98	30.42	18	29.39	14	90	....	......	36	s.	15
Williston	30.01	30.44	29	29.43	14	48	3,973	5.5	24§	nw.	3
Moorhead, Minn	30.01	30.45	18	29.38	15	58	5,066	7.0	23§	s.	21
Av'ges and extremes	30.01	30.45	18	29.38	15	.....	....	7.4	36	s.	15

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	144.1	376.6	38	−24	83	56	55	24	1†
Devils Lake	133.0	377.2	35	−23	83	54	60	22	14
Ellendale	150.9	376.0	40	−22	84	56	....	25	14
Grand Forks	....	....	......	......	82	.....	60	......	....
Williston	190.6	377.2	51	− 7	81	51	50	14	1
Moorhead, Minn.	211.4	376.6	56	− 6	82	49	55	26	13†
Averages and extremes	166.0	376.7	44	−17	82	53	56	14	1

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.
1922	59.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw.
1923	60.1	+3.7	99	15	2.39	+0.75	6	14	8	8	nw.
1924	55.0	−1.4	98	20	2.31	+0.67	7	15	7	8	nw.
1925	58.1	+1.7	103	20	2.74	+1.10	8	12	8	10	nw.
1926	52.3	−4.1	95	9	2.42	+0.78	9	11	9	10	nw.
1927	56.8	+0.4	101	10	0.93	−0.71	3	16	9	5	nw.
1928	53.9	−2.5	95	12	0.93	−0.71	5	17	7	6	nw.
1929	52.7	−3.7	105	12	1.65	+0.01	5	11	9	10	nw.

Climatological Data for September, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		3								1.95		0.86	0	5					H. A. Bury.
Amenia	Cass	954	33	55.2	−2.1	95	1	17	18	53	1.56	−0.41	0.56	0	5	13	14	3	n.	E. T. Carley.
Arnegard (near)	McKenzie		14	52.7	−4.1	102	1	27	17^{d}	40	1.27	−0.33	0.55	0	5	17	4	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	53.4	−3.9	99	1	18	18	42	1.51	+0.49	0.45	0	7	12	4	14	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	54.0	−2.3	100	1	32	9†	42	1.42	+0.15	0.74	0	4	18	8	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	50.2	−6.8	92	1†	25	6†	42	0.65	−0.79	0.35	0	1	14	5	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	51	53.1	−5.0	102	1	30	18	46	1.69	+0.46	0.96	0	6	7	12	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	48.9	−6.6	97	1	23	17	52	1.54	−0.03	0.93	0	4	8	17	5		N. A. Eckberg.
Bowman	Bowman	2,961	15								1.16	−0.14	0.69	0	4	16	6	8	nw.	M. S. Byrne.
Cando	Towner	1,488	28	51.1	−4.5	87	1	20	18	51	1.53	+0.10	0.70	0	4	6	5	19	nw.	A. J. Swanson.
Carson	Grant	2,500	17	53.1	−3.3	102	1	24	6	52	1.48	−0.28	0.65	0	6	20	3	7	nw.	J. W. Evans.
Cavalier	Pembina		2								1.95		0.90	0	4	12	4	14	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	23								1.33	−0.33	0.67	0	5	7	13	10	nw.	S. Friswold.
Corinth	Williams	2,180	2																	L. S. Evenson.
Crosby	Divide	1,954	23	49.6	−4.1	93	1	29	6	42	0.84	−0.55	0.25	0	8	9	7	14	nw.	John Jensen.
Devils Lake	Ramsey	1,478	32	50.8	−5.1	100	1	23	18	38	2.73	+1.10	1.86	0	6	7	10	13	s.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	51.6	−4.9	100	1	26	8	52	1.67	+0.60	0.74	0	10	6	14	10	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	52.4		95	1	25	18	37	1.84		1.07	0	4	11	9	10	nw.	R. L. Williams.
Drake	McHenry	1,634																		J. R ndt.
Dunn Center	Dunn	2,191	30	50.7	−6.4	101	1	22	10	52	1.51	+0.39	0.60	0	7	13	8	9		W. F. Moede.
Dunseith	Rolette	1,682	33	49.2^{b}	−5.6	82^{c}	14	23	19	43^{c}	2.73	+1.16	1.16	0	6	7	15	8	nw.	J. G. Lamont.
Eckman	Bottineau	1,500	24	51.0	−4.5	99	1	16	17	51	1.68	+0.55	0.62	0	7	0	19	11	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	28	55.1	−2.4	96	1	19	18	50	0.64	−1.02	0.32	0	3	7	10	13	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	53.5	−4.9	94	1	20	18	38	1.40	−0.62	0.59	0	11	4	9	17	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	17	51.9^{e}		100^{e}	1	23^{e}	18	48^{e}	1.77	+0.23	1.24	0	4					H. S. Solenberger.
Epping	Williams	2,224	21																	A. O. Wang.
Fairfield	Billings		2								1.38	−0.08	0.77	0	5	13	9	8	nw.	F. R. Hecker.
Fessenden	Wells	1,610	17	52.0	−3.1	104	1	19	18	47	2.06	+0.34	1.05	0	7	9	10	11	nw.	T. D. Monsen.
Forman	Sargent	1,249	35								1.78	−0.04	0.89	0	6	10	14	6	n.	O. Enger.
Fort Yates	Sioux	1,670	29	54.6	−5.4	103	1	22	18	48	1.89	+0.92	0.63	0	5	15	9	6		P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	51.8		97	1	24	17	43	1.09		0.51	0	8	5	11	11	nw	E. C. Bierbaum.
Fryburg	Billings	2,790	11								1.60	−0.05	0.81	0	4	16	7	7	nw.	Verne King.
Fullerton	Dickey	1,439	31	53.8	−2.9	94	1	20	18	47	1.41	−0.66	0.64	0	7	14	8	8	nw.	F. O. Alin.
Garrison	McLean	1,901	34	53.6	−3.2	99	1	27	18	46	2.90	+1.54	1.04	0	6	7	17	6	nw.	Wm. H. Robinson.
Grafton	Walsh	827	38	55.4^{a}	−0.5	97^{a}	1	20	18	45^{b}	1.48	−0.34	0.76	0	5	5	16	9	s.	A. R. I. Wylie.
Grand Forks‡‡	Grand Forks	830	38	53.6	−2.6	95	1	18	18	40	1.49	−0.37	0.70	0	6	14	10	6	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	51.6	−2.8	99	1	21	17	44	2.05	+0.80	1.14	0	4	14	10	6	nw.	W. A. Christianson.
Hankinson	Richland	1,068		57.0		97	1	24	17	36	4.31		2.00	0	6	15	6	9		R. G. Stock.
Hannah	Cavalier	1,568	35								2.50	+0.36	1.65	0	3					James Meier.
Hansboro	Towner	1,597	21	47.1	−7.0	98	1	14	18	53	2.50	+0.60	0.95	0	4	12	11	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	51.5	−6.5	101	1	25	6†	48	2.19	+0.89	0.75	0	10	15	7	8	nw.	C. H. Plath.
Hillsboro	Traill	901	23	56.5	−2.5	94	1	19	18†	44	1.01	−1.48	0.61	0	5	11	12	7	s.	G. Havland.
Howard‡‡ (near)	Williams	2,275	22	51.0	−2.8	97	1	25	6	44	0.71	−0.66	0.18	0	6	11	3	16	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	37	51.5	−5.2	98	1	15	18	50	1.92	+0.39	0.51	0	7	12	10	8	nw.	S. Calvelage.
Lamoine	Kidder	1,936	24																	E. V. Virgin.
Langdon	Cavalier	1,615	33	51.8	−1.7	100	1	22	18†	45	2.16	+0.17	1.07	0	4	15	6	9	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	51.8	−3.4	97	1	18	18	44	1.79	−0.10	0.99	0	6	10	2	18	n.	Reuben Gray.
Linton	Emmons	1,711	11	53.6	−5.4	102	1	27	19	52	2.23	+0.37	0.80	0	6	10	5	15	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	52.1	−5.6	95	1	12	17	47	1.29	−0.86	0.74	0	9	7	10	13		L. B. Walker.
McClusky	Sheridan	1,943	11	51.8		89	2	21	17	43	2.10		1.02	0	3	12	5	13	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	35	50.2^{h}	−3.9	94^{h}	1	18^{h}	18†	42^{h}	0.80	−0.73	0.40	0	4				nw.	E. A. Kaatz.
McLeod	Ransom	1,075	17	56.0	−0.9	88	22	15	18	46	1.50	−1.04	0.88	0	4	13	3	14	nw.	J. G. Carlson.
Maddock	Benson	1,604	13	52.4	−3.8	105	1	15	18	42	2.29	+0.03	1.17	0	3	4	11	15	nw.	A. T. Felland.
Mandan	Morton	1,644	15	52.4	−5.7	103	1	25	18	40	1.56	+0.10	0.49	0	8	9	6	15	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26								2.40	+1.05	1.11	0	4					P. B. Anderson.
Marmarth	Slope	2,714	20	56.4	+0.8	96^{a}	1	28	17	47^{a}	1.12	−0.11	0.52	0	8	3	14	13		S. P. Grane.
Mary	McKenzie		2								0.86		0.47	0	4	12	8	10	nw.	Fred Hartman.
Max	McLean	2,093		51.4		103	1	24	18	44	2.47		1.26	0	4	13	2	15	nw.	A. W. Rice.
Mayville	Traill	975	33	55.1	−2.6	96	1	15	18	47	0.21	−2.07	0.12	0	3	14	6	10	nw.	N. C. Burhans.
Melville	Foster	1,590	31	51.3	−5.2	102	1	24	18	41	1.98	+0.60	1.18	0	2	21	5	4	se.	J. P. Fischer.
Metigoshe‡‡	Bottineau		4								1.56		0.85	0	3	19	5	6	nw.	J. A. Thorburn.
Michigan	Nelson	1,518	1								1.19		0.66	0	3	17	4	9	nw.	Arnold Johnson.
Minot	Ward	1,557	33	51.1	−5.6	98	1	26	17†	40	1.31	−0.27	0.80	0	7	11	9	10	w.	Julia B. Rue.
Mott	Hettinger	2,424	22	52.2	−4.1	104	1	27	8	35	1.46	−0.11	0.90	0	4	10	7	13	nw.	O. H. Opland.
Napoleon	Logan	1,955	37	53.3	−3.6	103	1	20	18	42	2.38	+1.14	1.25	0	9	7	2	21	nw.	C. J. Hoof.
New England	Hettinger	2,400	38	53.6	−2.2	100	2	27	12†	55	1.51	+0.39	0.75	0	5	18	2	10	nw.	F. L. Slight.
New Salem	Morton	2,163	25	53.8	−3.4	104	1	22	18	47	1.49	+0.14	0.53	0	7	9	8	13	nw.	I. Christiansen.
Oakes	Dickey	1,318	1	54.8		52	2	17	18	42	1.47		0.80	0	8	3	19	8	nw.	Eugene Naylor.
Park River	Walsh	998	25	53.3	−3.6	98	1	21	18	42	1.24	−0.35	0.75	0	3	8	4	18	nw.	C. B. Wright.
Parshall (near)	Mountrail		14								1.27	−0.27	0.54	0	5	8	17	5	nw.	John A. Johnson.
Pembina	Pembina	789	55	51.6	−2.2	102	1	19	18	46	1.80	+0.11	1.00	0	2	15	6	9	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	53.1	−0.6	101	1	22	18	44	1.47	+0.08	0.87	0	3	5	6	19	nw.	A. L. Carlson.
Portal	Burke	1,954	15	50.6	−3.6	99	1	31	18†	40	1.02	−0.55	0.37	0	4	11	9	10	nw.	C. T. Holmes.
Power	Richland	1,020	35								1.35	−0.71	1.26	0	2	12	11	7	s.	Frank B. Power.
Powers Lake	Burke	2,205	15	58.0		98	1	26	6	53	0.82	−0.27	0.61	0	2	26	4	0	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	53.0	−3.8	104	1	27	18	50	1.35	−0.13	0.84	0	5	5	12	13	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1								1.85		1.12	0	3	8	10	12	nw.	E. C. Erickson.
Ryder	Ward	2,108	1								1.03		0.76	0	3					E. M. Lomen.
Sanish	Mountrail	1,835																		H. W. Monson.
Sharon	Steele	1,516	4	52.7		95	1	22	18	43	1.25		0.75	0	6	12	6	12	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	5								1.78		0.96	0	4	13	4	13	nw.	J. H. Giffey.
Steele	Kidder	1,857	33	49.4	−8.4	100	1	16	6†	50	2.26	+1.02	0.97	0	8	9	19	2	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14								1.61	+0.37	0.80	0	3	15	11	4		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.84		0.33	0	6	11	14	5	nw.	J. C. Abbott.
Tioga	Williams	2,279	3								1.38		0.43	0	7	21	5	4	nw.	Anton Carlson.
Towner	McHenry	1,482	27	52.4	−3.4	99	1	20	25	46	2.52	+0.87	1.20	0	4	19	6	5	nw.	B. Bagley.
Trotters	Golden Valley		4								1.12		0.62	0	5	7	10	13		A. J. Nellermoe
Turtle Lake	McLean	1,899	14	52.6	−4.4	98	1	25	24	44	2.05	+0.61	1.11	0	5	9	5	16	nw.	A. T. Anderson.
Valley City	Barnes	1,245	24	56.5	−1.7	101	1†	16	18	52	1.77	+0.13	0.67	0	5	11	9	10	nw.	I. C. Robertson.
Velva	McHenry	1,511	3	52.8		96	1	24	19	43	2.07		0.96	0	4	4	15	11	w.	Oscar Anderson.
Verona	LaMoure	1,387	35								1.92		0.92	0	5	10	7	13	nw.	W. C. Taylor.
Wahpeton	Richland	962	37	58.2	−0.4	98	3	19	18	39	2.06	−0.16	0.60	0	9	17	0	13	se.	C. G. Luick.
Washburn	McLean	1,731	27																	Karl Klein.
Westhope	Bottineau	1,508	27	51.4	−3.4	98	1	22	17†	46	0.82	−0.37	0.30	0	5	13	9	8	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	52.2	−4.4	96	1	31	8	38	1.25	+0.16	0.55	0	9	10	13	7	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	51.4^{d}	−2.9	96^{d}	1	18^{d}	18	45^{d}	3.60	+2.05	2.16	0	5	12	13	5	nw.	M. A. Ostby.
Wilton	McLean		1	51.8^{a}		103^{a}	1	25^{a}	17	38^{a}	2.23		1.00	0	5	13	1	16		L. Q. Perkins.
Wishek	McIntosh	2,010	9	51.2^{e}		100^{e}	1	16^{e}	18	43^{e}	1.82		0.50	0	7	2	0	28	nw.	E. W. Davis.
Zap	Mercer	1,838	1								1.57	+0.36	0.74	0	6					R. A. Norton.
Moorhead, Minn.	Clay	935	48	54.8	−3.4	93	1	24	18	35	0.91	−1.31	0.48	0	9	7	7	16	s.	U. S. Weather Bureau.
Averages				52.7	−3.7	105	1	12	17	55	1.65	+0.01	2.16	0	5	11	9	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for September, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		T.	.86									.17											.73		.13	T		.06				1.95
Amenia	Red			.06	[illegible]					.03														T	.43			.18					[illegible]
Arnegard (near)	Missouri			.55		.05							T.	.02		T.	T.						T.	.40		.25							1.27
Ashley	Missouri		T	.72					T	.05														.24		.20	.15	.10			.05		1.51
Beach	Lit. Missouri		.74									T.	.14				T.						T.	.19	T.	.05	T.		T.				1.42
Berthold Agency	Missouri																							.65	T	T.							0.65
Bismarck ***	Missouri		.43	.27									T.			T.	.01					T.		.56		.32	T.	.10	T.		T		1.69
Bottineau	Mouse		.01		.43																				.95				.15				1.54
Bowman	Grand			.02																				.69	.05	.40							1.16
Cando	Devils Lake		T	.49							T											T.		.70	.21			.13					1.53
Carrington	James			.65																				.80				T.					1.45
Carson	Heart			.20										.10										.33	.65	.10			.10				1.48
Cavalier	Red		.21	.71																				.96				.10					1.98
Cooperstown	Sheyenne		T.	.14																		.04		.67			.15	.03					1.03
Corinth	Missouri																																......
Crosby	Mouse		T	.21							.05		.02	.15	T.		.09								.03			.25	.04				0.84
Devils Lake ***	Devils Lake		.02	.52																		.08	T.	1.86				.24	.01				2.73
Dickinson‖	Heart			.36	.14		T							T.	.01	T.	.02							.01	.74	.01	.20	.17		.01			1.67
Dogden Butte	Mouse			.55									T.			T.								1.07	.04	T.		.18					1.84
Drake	Mouse																																......
Dunn Center‖	Knife			.50	.06									.20			.05								.60		.06	.04					1.51
Dunseith	Mouse		.01	1.16																				.90	.53	.01			.12				2.73
Eckman	Mouse		.01	.62									.07											.55	.22	.01		.20					1.68
Edgeley	James															.04											.52	.08					0.64
Ellendale***	James		.01	.09	.01				.16	.01			T.			T.	.05				T.	T.		.27	.01	.15	.59	.05	T.		T.		1.40
Energy	Missouri			.28									T.	T.										1.24		.10		.15					1.77
Epping	Missouri																																......
Fairfield	Knife			.77										.01										.48			.08	.04					1.38
Fessenden‖	James			.02	.57																			.23	1.05	.02		.03	.14				2.06
Forman	Sheyenne				.13				.10	.26																.30	.89	.10					1.78
Fort Yates	Missouri			.48																				.37		.63	.31	.10					1.89
Foxholm (near)	Mouse		.01	.05									.01			T.	.01							.51	.12		.06	.32					1.09
Fryburg	Heart			.81			T.	T.																.53	.20	.06	T.		T.				1.60
Fullerton	James	T.		.06	T.				.04	.03												T.		.45	T.	.12	.64	.07					1.41
Garrison	Missouri			1.04													.25							.93	.49	.11		.08					2.90
Grafton	Red		.19	.41									T.									.08		.76	T.			.04	T.				1.48
Grand Forks ***	Red		.10	.45													T.				.08			.70			.06	.10					1.49
Granville	Mouse			.63									.04									T.		1.14				.24					2.05
Hankinson‖	Red								2.00	1.00													.10		.07	.14	1.00						4.31
Hannah	Pembina		T.		.75																			T.	1.65				.10	T.			2.50
Hansboro	Devils Lake			.95																				.90	.40			.25					2.50
Hettinger	Grand			.02	.05									.07			.02							.47	.41	.24	.75	.08	.08				2.19
Hillsboro	Red		.09	.13																				.61			.11	.07					1.01
Howard (near)	Missouri		.11	.07		T.				T.			T.	T.		T.	T.					T.	.17	.12			.06	.18					0.71
Jamestown‖	James		T.	.08	.41																		.02	.51	.38		.15	.37					1.92
Lamoine	Missouri																																......
Langdon‖	Pembina				.93																		.08		1.07				.08				2.16
Larimore‖	Red			.10	.60																		.10		.90			.05	.04				1.79
Lenton	Missouri		.03	.80																				.52		.44	.37	.07					2.23
Lisbon‖	Sheyenne		.05	.03					.15	.03												.04	T.	.08		.13	.74	.04					1.29
McClusky	Missouri			.80																				1.02	T.	T.	.28						2.10
McKinney (near)	Mouse			.10									T.										.40			.05		.25					0.80
McLeod	Sheyenne				.04					.36																.22		.88					1.50
Maddock	Sheyenne		T.	.82																		T.		1.17		T.		.30	T.				2.29
Mandan‖	Missouri		T.	.09	.28																			.20	.49	.03	.32	.14		.01			1.56
Manfred	James		T.	1.05																		T.		1.11	.02	T.		.22					2.40
Marmarth	Lit. Missouri			.26							T.		.06	.05										.52	.02	.09		.08	T.	.04			1.12
Mary	Lit. Missouri			.33									T.				T.						T.	.47	.01	.05							0.86
Max‖	Missouri			1.26													T.							T.	.96		.06		.19				2.47
Mayville	Red			.05	.04																						.12						0.21
Melville	James			1.18																				.80									1.98
Metigoshe	Mouse			.57																					.85			.14					1.56
Michigan	Red		T.	.45																				.66				.05					1.19
Minot‖	Mouse			.12	.10								.01												.80		.10	.14	.04				1.31
Mott	Cannon Ball			.06										.03			T.							.90		.47					T.		1.46
Napoleon‖	Missouri			.05	1.25												.01							.36	.10	.10	.25	.25	.01				2.38
New England	Cannon Ball			.30																				.75		.25		.15	.06				1.51
New Salem	Heart			.30										.07			.03							.53		.20	.19	.17			T.		1.49
Oakes	James			.07					.07	.07			T				T.					.01		.13		.24	.80	.08					1.47
Park River	Red		.12	.37																					.75				T.				1.24
Parshall (near)	Missouri			.33													.10							.54	.17			.13					1.27
Pembina‖	Red		T.		1.00																		T.		.80				T.	T.			1.80
Pettibone	James		T.	.87									T.											.55		T.	T.	.05					1.47
Portal‖	Mouse	T.	.37																					.35			.25	.05					1.02
Power	Sheyenne			T.						T.																.09	1.26	T.					1.35
Powers Lake	Missouri					.21															.61												0.82
Richardton	Heart													.07										.84		.28		.10	.06				1.35
Rugby [near]	Mouse			.59																				1.12				.14					1.85
Ryder	Missouri									.25														.76		.02							1.03
Sanish‖	Missouri																																......
Sharon	Red		.01	.28									T.				T					.02		.75			.08	.08					1.25
Stanton	Missouri		T	.37													.05							.96					.40				1.78
Steele	Missouri		.05	.76												T.	.12							.97	.10	.08	.08	.10					2.26
Stowers	Cannon Ball																						T.	.71	.10	.80							1.61
Tagus	Mouse		.03	.17																				.33	.02		.03	.26					0.84
Tioga	Missouri			.43								.10				.20								.32	.05	.02		.26					1.38
Towner	Mouse			1.10													1.20	.02										.20					2.52
Trotters	Lit. Missouri			.62									.02	.03									.07	.38		T.	T.						1.12
Turtle Lake	Missouri			.61																				1.11	.05	.08		.20					2.05
Valley City	Sheyenne		.20	.61																		T.		.67		.12	.17						1.77
Velva	Mouse		T.	.74									T.				T.					T.		.96	.22			.15					2.07
Verona	James			.10					.70																.10	.10	.92						1.92
Wahpeton	Red			.14	.13				.17	.60			.02												.12	.10	.58	.20					2.06
Washburn	Missouri																																......
Westhope	Mouse		.01	.30																				.30		.06		.12					0.82
Williston ***	Missouri		.06	.49		T.							.15	.05		.03							.02	.27			T.	.16	.02				1.25
Willow City	Mouse		.09	2.16		T.																T.		.99	.18			.18	T.				3.60
Wilton				.77													.12							1.00	.18		.16						2.23
Wishek‖	Missouri			.21	.50																			.45	.16	.05	.30	.15					1.82
Zap	Knife			.38										.14			.05							.74		.15			.11				1.57
Moorhead, Minn. ***	Red		.02	.05	.01				.01	.05			T.			T	T					T.	T.	.08		.17	.47	.01					0.91

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	95	87	80	67	88	57	58	60	74	85	75	85	62	80	78	63	50	58	66	67	76	90	83	65	53	50	51	54	59	64	..	69.3
	Minimum	61	66	63	46	35	32	36	43	47	37	41	37	41	39	48	37	32	17	18	32	47	54	50	48	42	46	42	42	34	30	..	41.2
Arnegard	Maximum	102	85	69	68	50	54	57	72	72	67	74	62	63	84	62	64	60	63	70	72	78	57	48	54	58	53	50	51	59	59	..	64.6
	Minimum	67	52	58	47	45	49	36	39	42	37	47	45	43	44	41	37	27	27	35	38	39	37	33	47	44	35	41	33	28	32	..	40.8
Ashley	Maximum	99	96	72	65	62	55	58	55	63	70	77	69	62	70	64	62	57	49	63	65	60	91	87	60	58	47	51	57	58	58	..	65.3
	Minimum	60	65	54	45	36	29	38	39	42	34	35	48	37	40	54	46	29	18	41	39	45	52	47	47	43	38	42	37	42	31	..	41.6
Beach	Maximum	100	84	67	76	83	61	57	64	74	67	74	75	62	85	66	65	60	68	70	74	79	62	82	63	50	47	52	56	56	66	..	66.9
	Minimum	62	62	46	36	44	37	35	36	32	46	32	56	42	43	43	40	34	35	32	42	50	46	42	38	37	40	42	34	33	43	..	41.1
Berthold Agency	Maximum	92	92	67	60	52	55	58	55	65	64	72	72	60	80	58	56	55	60	70	77	66	54	54	52	52	48	48	59	55	62	..	62.0
	Minimum	72	65	50	34	32	25	40	28	28	38	28	50	44	38	24	45	34	28	32	25	48	46	40	42	42	58	34	30	28	32	..	38.3
Bismarck	Maximum	102	88	65	64	57	53	57	57	70	68	79	58	58	84	65	61	52	49	66	64	72	79	55	55	51	48	52	60	57	62	..	63.6
	Minimum	66	63	48	42	37	32	35	40	36	44	33	47	43	40	44	44	32	30	41	41	49	49	48	46	43	39	45	41	39	41	..	42.6
Bottineau §§	Maximum	97	78	62	61	52	56	57	62	70	65	74	53	61	85	60	56	51	56	66	61	62	75	55	64	49	56	48	56	56	58	..	62.1
	Minimum	60	63	60	34	30	27	28	36	30	34	33	33	31	33	42	30	23	27	29	29	37	43	43	39	38	33	33	33	31	29	..	35.7
Cando	Maximum	87	85	69	61	59	56	61	58	66	67	73	71	62	83	86	76	55	56	66	64	58	68	79	64	58	48	58	59	61	56	..	65.5
	Minimum	36	34	55	40	34	29	34	41	38	39	36	44	31	42	41	32	28	20	23	34	47	35	43	44	39	33	30	34	45	41	..	36.7
Carson	Maximum	102	87	74	65	58	52	60	60	60	70	80	70	70	88	80	70	60	50	65	72	85	80	63	55	50	55	61	64	60	60	..	67.5
	Minimum	63	64	44	40	34	24	32	32	30	39	35	45	42	36	45	50	28	26	36	36	42	32	44	44	35	40	32	35	36	40	..	38.7
Crosby §§	Maximum	93	79	52	60	49	55	60	65	68	63	78	50	64	52	56	57	55	63	70	70	75	57	50	58	50	52	45	48	57	64	..	66.5
	Minimum	54	61	51	37	36	29	30	31	38	38	36	39	44	44	44	43	35	30	30	32	44	44	35	35	37	40	39	33	36	32	..	38.6
Devils Lake	Maximum	100	79	65	61	53	53	59	62	62	66	73	55	60	81	61	55	47	55	65	58	57	81	56	63	45	48	46	57	56	61	..	61.3
	Minimum	65	63	45	43	36	31	41	42	42	38	41	39	33	45	44	34	29	23	27	37	52	49	46	44	39	33	41	41	31	35	.	40.3
Dickinson §§	Maximum	100	87	58	61	51	50	52	61	69	65	75	62	61	87	62	67	55	56	68	74	82	67	50	55	51	48	56	55	55	65	..	63.5
	Minimum	57	65	56	36	34	32	34	26	29	39	31	48	44	35	49	42	30	28	27	36	48	53	41	44	39	39	41	37	34	35	..	39.6
Dunn Center §§	Maximum	101	98	86	55	54	50	53	56	69	73	75	56	60	86	60	64	54	57	69	73	79	65	50	59	58	52	53	55	58	65	..	64.4
	Minimum	59	67	55	35	35	28	35	27	29	22	23	24	44	29	49	41	31	28	24	25	40	50	39	49	40	25	41	35	31	31	..	37.0
Dunseith	Maximum	..	..	..	..	..	54	60	60	66	65	72	59	67	82	76	55	51	56	66	61	57	76	64	64	56	54	48	56	55	61	..	[a]61.6
	Minimum	51	60	51	36	33	30	39	32	33	31	32	30	42	41	45	33	27	25	23	33	44	45	44	38	38	31	37	36	32	28	..	36.7
Edgeley	Maximum	96	95	70	60	80	79	67	75	65	71	78	75	70	80	81	60	56	55	64	60	63	93	84	63	59	48	51	59	58	59	..	69.1
	Minimum	53	65	56	46	34	31	28	37	43	31	42	49	48	50	31	37	27	19	31	36	45	56	46	49	40	40	38	45	43	29	..	41.1
Ellendale	Maximum	94	92	78	65	64	51	58	52	62	70	77	71	63	79	64	60	51	52	62	61	66	87	78	61	49	48	51	56	58	57	..	64.6
	Minimum	56	66	49	44	36	35	41	44	44	36	42	43	35	43	43	41	30	20	40	40	52	57	48	46	42	42	46	40	37	35	..	42.4
Fessenden §§	Maximum	104	73	66	64	57	55	64	63	70	70	76	65	65	84	65	60	52	59	69	63	56	84	54	64	47	49	52	50	59	64	..	64.2
	Minimum	64	62	66	44	35	30	33	44	33	40	38	47	32	37	50	40	31	19	23	26	43	46	45	48	43	37	36	39	35	31	..	39.9
Foxholm (near)	Maximum	97	87	69	60	55	54	58	63	70	63	74	69	61	86	70	58	52	57	66	68	78	72	52	61	50	51	46	54	53	62	..	63.9
	Minimum	69	60	47	37	33	28	42	35	38	39	42	43	40	43	47	42	24	29	30	46	42	48	39	40	41	31	39	36	36	35	..	39.8
Fullerton	Maximum	94	93	78	65	65	52	60	55	62	70	72	71	62	79	65	59	52	55	63	63	66	88	74	62	52	48	52	56	58	58	..	65.0
	Minimum	58	66	56	47	36	32	39	43	45	36	41	47	32	32	45	39	31	20	41	40	52	57	48	48	43	42	45	40	40	33	..	42.5
Garrison	Maximum	99	86	68	62	56	57	58	63	75	67	77	68	61	87	72	60	53	56	67	67	79	76	52	58	51	50	51	56	58	65	..	65.2
	Minimum	66	66	56	48	40	28	45	43	28	40	31	46	43	42	49	43	31	27	30	40	48	47	46	45	42	36	42	36	33	45	..	42.1
Grafton	Maximum	97	91	71	66	64	58	63	..	65	72	76	74	63	82	80	61	55	57	66	69	67	90	86	68	65	57	55	57	60	65	..	[a]69.1
	Minimum	63	67	63	46	..	36	38	..	35	34	40	46	33	37	46	35	31	20	23	39	50	51	51	48	42	37	42	44	35	30	..	[b]41.6
Grand Forks	Maximum	95	78	69	66	61	55	63	62	62	72	76	67	61	81	70	54	49	56	64	66	72	90	63	63	50	50	50	56	59	63	..	64.8
	Minimum	65	68	51	46	39	35	37	47	43	37	41	40	36	41	45	37	28	18	26	39	54	63	52	47	44	42	45	42	34	32	..	42.5
Granville	Maximum	99	80	65	62	55	55	64	68	72	65	73	62	61	87	70	58	52	57	67	70	72	74	50	62	50	52	48	57	57	65	..	64.4
	Minimum	69	60	45	38	35	29	40	42	30	38	40	42	36	47	43	36	21	23	23	39	47	42	40	43	40	31	42	34	33	36	..	38.8
Hansboro	Maximum	98	84	65	60	51	57	60	64	66	68	75	80	78	75	60	60	50	54	65	61	57	78	59	62	56	50	45	54	55	60	..	63.6
	Minimum	45	50	47	33	25	26	28	28	26	32	30	32	30	30	28	25	24	14	17	28	42	37	38	35	33	24	30	28	28	26	..	30.6
Hettinger	Maximum	101	87	60	65	56	49	53	57	68	66	77	65	59	87	63	67	56	52	67	71	84	71	51	59	51	49	56	53	55	65	..	64.0
	Minimum	59	65	60	40	38	25	25	26	28	30	34	40	42	39	40	42	46	30	27	25	40	49	47	45	44	41	40	34	34	40	..	39.0
Hillsboro	Maximum	94	92	79	68	65	59	63	60	60	70	71	75	61	80	79	80	61	55	60	66	81	88	81	61	60	50	52	55	58	63	..	68.2
	Minimum	59	78	65	46	37	34	36	45	47	37	40	51	37	36	57	56	49	19	19	40	54	51	52	54	42	40	45	44	43	32	..	44.8
Howard (near)	Maximum	97	78	70	60	50	55	60	66	70	65	77	65	63	82	65	61	60	60	70	72	76	58	50	60	55	50	45	50	54	65	..	63.6
	Minimum	60	60	44	32	32	25	28	27	42	38	39	43	44	44	42	42	44	28	26	44	40	40	34	33	34	34	40	34	34	42	..	38.3
Jamestown §§	Maximum	98	91	69	66	60	51	59	60	62	71	78	65	62	81	64	60	49	58	68	64	60	92	60	62	47	47	50	55	57	61	..	64.2
	Minimum	60	61	62	45	36	30	32	36	39	35	33	36	31	36	47	38	32	15	18	25	45	51	51	46	43	38	39	42	35	27	..	38.8
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Langdon §§	Maximum	100	94	62	63	74	68	66	61	61	73	73	61	62	77	67	70	53	57	67	58	50	81	67	65	49	50	47	58	60	60	..	65.1
	Minimum	60	62	63	41	31	29	35	36	42	36	35	42	30	35	42	40	29	22	22	32	40	57	45	46	38	30	32	28	30	33	..	38.4
Larimore §§	Maximum	97	72	67	62	59	55	62	64	58	71	75	55	62	82	64	52	48	57	66	62	70	91	55	66	46	50	48	57	56	61	..	63.0
	Minimum	62	67	63	46	39	32	38	40	37	35	36	45	35	38	45	38	26	18	24	35	44	54	52	45	42	33	38	42	33	32	..	40.5
Linton	Maximum	102	98	68	64	69	52	59	56	69	71	78	74	63	84	65	61	52	49	65	62	67	79	89	61	58	49	53	58	60	58	..	66.4
	Minimum	61	67	54	42	32	28	36	32	34	35	32	41	42	32	44	44	32	30	27	39	48	49	46	46	45	39	46	40	39	45	..	40.9
Lisbon §§	Maximum	95	80	70	70	58	62	56	60	74	78	71	65	84	76	66	55	56	65	65	70	90	66	64	54	49	57	55	59	60	69	..	66.6
	Minimum	68	63	44	31	27	33	40	44	28	32	39	33	37	46	29	29	12	19	28	45	50	52	50	40	46	40	39	32	28	31	..	37.6
McClusky	Maximum	87	89	73	60	65	53	57	64	68	65	75	69	62	86	80	68	54	55	63	63	70	78	60	56	46	46	49	56	56	62	..	64.5
	Minimum	60	63	51	40	34	29	35	38	35	38	35	46	40	43	40	41	21	24	38	39	42	48	42	40	37	35	41	35	30	32	..	39.1
McKinney (near)	Maximum	94	82	65	61	54	55	59	65	70	65	75	65	63	85	70	35	55	55	56	..	..	..	..	..	..	..	..	60	65	62	..	[b]64.4
	Minimum	62	61	48	38	34	26	40	23	30	29	40	45	40	43	21	18	18	30	47	..	..	..	..	..	..	..	..	32	30	35	..	[b]35.9
Maddock	Maximum	105	95	72	61	60	54	60	64	67	68	75	72	63	85	83	60	55	76	67	64	59	80	69	62	59	46	49	57	51	61	..	66.0
	Minimum	64	62	55	41	29	40	39	39	38	33	35	44	24	43	49	32	38	15	26	20	48	43	44	46	40	33	37	38	33	30	..	38.9
Marmarth	Maximum	96	90	83	58	61	66	67	70	76	72	67	72	68	83	65	72	75	60	69	78	..	63	64	70	72	60	57	54	52	62	..	[a]69.0
	Minimum	70	70	49	30	39	30	34	44	43	42	36	43	44	55	46	47	28	32	50	37	41	42	48	44	46	46	37	47	43	49	..	43.7
Melville	Maximum	102	81	72	66	59	51	59	60	62	67	76	67	72	67	64	69	71	54	58	59	62	65	67	72	74	79	71	76	77	73	..	64.7
	Minimum	61	58	51	44	34	30	40	35	37	34	44	40	37	35	32	20	34	24	29	27	32	34	42	44	36	35	38	41	43	37	..	37.9
Minot §§	Maximum	98	78	61	62	52	55	59	64	73	65	76	53	61	86	60	60	53	58	68	68	76	74	52	61	46	53	48	56	57	67	..	63.3
	Minimum	64	64	60	38	36	28	31	36	29	33	34	41	42	43	49	42	26	26	30	35	40	48	39	41	40	33	35	35	35	34	..	38.9
Mott	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Napoleon §§	Maximum	103	92	67	64	60	51	62	61	66	69	79	64	62	84	60	61	51	54	67	60	63	90	61	64	49	44	52	60	58	60	..	64.6
	Minimum	64	70	59	45	36	28	39	40	40	37	37	45	38	40	52	40	27	20	41	40	46	54	46	46	44	38	39	40	40	30	..	42.0
New Salem	Maximum	104	100	78	64	60	53	60	57	59	58	70	70	58	88	75	64	64	50	68	69	80	76	58	56	67	50	55	58	56	62	..	66.2
	Minimum	63	53	47	40	35	29	36	48	36	41	49	48	42	41	50	41	29	22	45	42	45	48	45	45	38	26	41	36	35	40	..	41.5
Pembina §§	Maximum	102	92	75	74	70	55	71	74	75	73	69	53	62	72	62	62	52	54	63	58	64	82	58	63	58	60	56	56	54	58	..	65.9
	Minimum	56	58	52	40	33	38	40	39	38	36	37	38	28	36	41	34	33	19	20	38	37	36	44	42	39	34	36	38	33	29	..	37.4
Steele	Maximum	100	86	74	64	60	54	58	66	67	70	78	74	62	82	86	58	54	55	66	60	64	84	64	58	55	50	53	51	62	62	..	65.5
	Minimum	54	58	45	57	24	16	24	28	26	25	28	35	32	36	36	30	24	16	28	32	30	44	38	38	35	30	35	26	25	35	..	33.3
Towner	Maximum	99	90	78	63	63	60	68	70	75	70	70	68	60	56	58	60	63	68	70	68	60	63	70	65	60	68	58	62	63	60	..	66.9
	Minimum	65	64	48	44	40	27	40	42	32	38	35	22	30	28	30	35	50	48	45	35	30	28	35	28	20	28	40	38	40	30	..	37.8
Valley City	Maximum	101	101	89	66	66	62	64	62	62	77	82	82	67	86	82	65	62	63	71	67	69	94	86	72	67	54	53	55	64	60	..	71.7
	Minimum	60	69	60	46	35	32	38	42	44	29	30	46	36	40	55	36	32	16	24	40	51	52	49	48	43	39	44	43	34	26	..	41.3
Wahpeton	Maximum	94	97	98	74	72	69	63	60	54	72	77	76	69	79	76	68	57	56	64	66	80	86	89	80	60	55	55	57	61	63	..	71.3
	Minimum	63	63	68	48	38	30	44	47	47	36	45	52	44	41	59	39	24	19	30	42	54	54	66	52	38	45	44	45	36	33	..	45.2
Westhope	Maximum	98	72	60	62	52	59	60	67	74	66	65	66	65	85	75	56	54	56	68	66	68	78	68	67	51	67	48	63	60	64	..	65.3
	Minimum	60	59	49	35	34	25	42	33	32	39	38	35	32	45	45	33	22	22	22	36	40	40	43	40	44	32	42	40	30	30	..	37.5
Williston	Maximum	96	80	63	60	48	52	57	63	68	64	74	55	63	83	61	61	57	62	71	73	77	56	50	57	57	53	48	52	57	66	.	62.8
	Minimum	66	63	41	37	37	31	37	31	38	43	39	48	48	45	47	44	36	36	35	45	52	39	31	28	41	41	41	39	39	39	..	41.7
Moorhead, Minn	Maximum	93	87	81	65	65	56	61	57	56	70	76	67	60	78	66	61	48	55	62	65	74	88	74	62	55	50	52	52	56	61	..	65.1
	Minimum	64	69	53	47	40	34	42	48	47	39	41	45	40	44	46	38	32	24	32	41	54	63	53	49	42	45	46	44	38	34	..	44.5

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

[WBO, Minneapolis, 10-25-29—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXVIII   BISMARCK, N. D., OCTOBER, 1929   No. 10

GENERAL SUMMARY

The month, taken as a whole, was mild and pleasant. During the first decade weather favorable for farm work prevailed, and rapid progress was made in fall plowing, late seeding of winter rye, potato digging and corn picking. General rains, very beneficial, prevailed from the 9th to 11th, inclusive. Farm work continued uninterruptedly throughout the second decade after the storm, and during the third decade up to the 28th. From the 28th to the close of the month general snows covered the state, stopping all farm work, blockading many highways and necessitating much yard feeding of livestock.

TEMPERATURE

The mean temperature for the state was 46.8°, or 3.0° above the normal, and 1.2° lower than the mean for October, 1928. The highest mean reported was 54.8° at Marmarth, Slope County; the lowest was 43.0° at Langdon, Cavalier County. The highest temperature reported was 88° at Steele, Kidder County on the 17th; the lowest was 10° at Steele, Kidder County on the 23d. The greatest monthly range of temperature was 78° at Steele, Kidder County; the least was 46° at Marmarth, Slope County. The greatest daily range in temperature was 63° at Max, McLean County on the 14th.

PRECIPITATION

The average precipitation for the state was 1.85 inches, or 0.85 inch above the normal, and 1.44 inches more than the average for October, 1928. The greatest monthly amount reported was 4.75 inches at Oakes, Dickey County; the least was 0.28 inch at Max, McLean County. The greatest amount recorded in any 24 consecutive hours was 1.62 inches at Oakes, Dickey County, on the 31st. The average snowfall was 5.1 inches. the greatest monthly snowfall was 18.0 inches at Hansboro, Towner County. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Eckman, Foxholm, Howard, and Linton on the 2d; at Foxholm and Williston on the 5th; at Bottineau, Howard, Rugby and Westhope on the 6th; at Arnegard, Bottineau, Foxholm, Howard, Napoleon, Rugby and Williston on the 7th; at Foxholm, Pettibone and Williston on the 8th; at Foxholm and Williston on the 9th; at Rugby on the 10th; at Westhope on the 12th; at Foxholm, Oakes and Sharon on the 13th; at Rugby on the 14th; at Bottineau on the 15th; at Rugby on the 23d; and at Ellendale, Foxholm and Howard on the 24th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.06	30.60	22	29.59	26	57	5,143	6.9	26§	se.	28
Devils Lake	30.06	30.60	22	29.49	26	44	5,877	7.9	31§	nw.	31
Ellendale	30.08	30.49	22	29.47	31	56	8,888	11.9	35§	nw.	26
Grand Forks	30.04	30.51	22	29.34	31	90	....	.....	32	s.	17
Williston	30.06	30.69	22	29.56	17	48	4,266	5.7	29§	e.	28
Moorhead, Minn	30.06	30.52	22	29.31	31	58	5,585	7.5	24§	nw.	6
Av'ges and extremes	30.06	30.69	22	29.31	31	.....	....	8.0	35	nw.	26

* For any five-minute period. † And other dates. § From 3-cup anemometers.

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SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	203.1	336.9	60	0	84	58	63	29	15
Devils Lake	181.8	335.6	54	+ 1	87	58	67	24	5
Ellendale	223.5	338.3	66	+ 4	86	53	....	24	15
Grand Forks	......	......	......	......	84	....	65	......	....
Williston	200.9	335.6	60	+ 6	82	50	53	26	13†
Moorhead, Minn	221.1	336.9	66	+ 6	87	55	64	28	6
Averages and extremes	206.1	336.7	61	+ 3	85	55	62	24	5†

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913	39.3	−4.5	90	−2	1.63	+0.63	4	12	9	10	nw.
1914	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916	40.0	−3.8	85	−2	0.69	−0.31	4	12	8	11	nw.
1917	34.7	−9.1	82	−4	0.77	−0.23	5	8	11	12	nw.
1918	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.
1923	44.0	+0.2	84	−8	0.88	−0.12	4	14	7	10	nw.
1924	50.3	+6.5	86	19	2.43	+1.43	7	17	5	9	se.
1925	33.3	−10.5	66	16	0.78	−0.22	6	8	9	14	nw.
1926	42.6	−1.2	85	4	1.49	+0.49	6	10	10	11	nw.
1927	47.0	+3.2	88	12	1.39	+0.39	5	14	8	9	nw.
1928	43.5	−0.3	85	3	0.41	−0.59	2	15	8	8	nw.
1929	46.8	+3.0	88	10	1.85	+0.85	6	17	5	9	nw.

Climatological Data for October, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		3								0.81		0.31	0.4	5					H. A. Bury.
Amenia	Cass	954	33	46.9	+2.6	78	5†	21	23	44	2.87	+1.58	1.14	6.0	5	17	6	8	n.	E. T. Carney.
Arnegard (near)	McKenzie		14	49.2^a	+7.1	82^a	16	27^a	11	40	0.29	−0.75	0.15	1.5	5	20	4	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	47.3	+3.6	82	5	21	23	43	3.13	+2.07	1.14	10.9	7	18	4	9	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	47.8	+3.8	80	16	25	24	40	0.89	0.10	0.36	1.1	7	21	6	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	45.2	+0.5	75	18	18	24	47	1.10	+0.21	0.65	3.5	3	25	0	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	48.6	+3.7	83	5	26	24	40	1.82	+0.88	0.90	4.8	7	16	5	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	46.0	+4.4	78	17	21	24†	44	1.28	+0.29	0.72		6	17	6	8	se.	N. A. Eckberg.
Bowman	Bowman	2,961	15								1.45	+0.68	0.61		4	24	4	3	w.	M. S. Byrne.
Cando	Towner	1,488	28	46.9^a	+3.2	79^a	16	19	23	46^a	1.14	+0.42	0.61		4	7	10	14	n.	A. J. Swanson.
Carson	Grant	2,560	17	47.8	+4.3	80	4†	24	24	40	1.87	+0.99	0.55	5.0	8	20	2	9	nw.	J. W. Evens.
Cavalier	Pembina		2								1.76		0.40	5.0	8	20	0	11	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	23								1.68	+0.81	0.78	3.0	3	14	10	7	nw.	S. Friswold.
Corinth	Williams	2,180	2																	L. S. Evenson.
Crosby	Divide	1,954	23	43.4	+1.9	80	16	19	12	39	1.34	+0.59	0.60	8.0	5	16	4	11	sw.	John Jensen.
Devils Lake	Ramsey	1,478	32	44.5	+2.1	79	17	19	23	39	2.12	+0.87	0.88	9.7	6	14	5	12	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	46.2	+2.3	87	18	22	24	50	1.40	−0.12	0.50	2.5	8	11	5	12	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	47.2		86	5	26	30	43	1.33		0.40	5.5	6	17	5	9	nw.	R. L. Williams.
Drake	McHenry	1,634																		J. Rindt.
Dunn Center	Dunn	2,191	30	45.1	−0.5	79	14	21	24	45	0.94	+0.31	0.36		5	16	3	12	nw.	W. F. Moede.
Dunseith	Rolette	1,682	33	44.8	+3.7	77	17	24	30	39	1.40	+0.65	0.75	4.5	7	16	3	12	nw.	L. G. Lamont.
Eckman	Bottineau	1,500	24	44.6	+1.9	82	14	18	25†	49	1.00	+0.15	0.55	4.0	7	7	13	11	se.	C. E. Streck.
Edgeley	LaMoure	1,568	28	47.2	+1.3	86	5	25	23	45	4.05	+3.13	1.05	8.0	5	5	15	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	47.2	+1.6	84	5	23	23	43	3.30	+2.13	1.57	7.3	9	13	9	9	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	17	47.4		83	5	22	24	43	1.04	+0.34	0.38	4.0	4	16	7	8	nw.	H. S. Sodenberger
Epping	Williams	2,224	21	45.0		80	16	21	16†	43	0.73	−0.16	0.28	T.	6	15	7	9	nw.	A. O. Wang.
Fairfield	Billings		2								0.45		0.16	1.0	4	21	0	7	nw.	F. R. Hecker.
Fessenden	Wells	1,610	17	46.3	+4.3	83	5	21	23	44	1.56	+0.78	0.75	2.5	6	18	4	9	se.	T. D. Monsen.
Forman	Sargent	1,249	35								3.69	+2.35	0.99		8	20	4	7	sw.	O. Enger.
Fort Yates	Sioux	1,670	29	49.8	+3.5	82	4	24	23	47	3.30	+2.51	1.25	8.0	6	21	0	10		P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	46.2		79	14†	25	8†	38	1.12		0.39	7.0	6	13	6	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11								1.22	+0.02	0.64	2.0	5	20	5	6	nw.	Verne King.
Fullerton	Dickey	1,439	31	46.8	+2.5	82	5†	22	24	42	4.56	+3.27	1.45	17.5	6	16	5	10	nw.	F. O. Alin.
Garrison	McLean	1,901	34	48.4	+4.6	82	5	22	24	44	0.67	−0.23	0.32	3.0	4	15	7	9	nw.	Wm. H. Robinson.
Grafton	Walsh	827	38	46.4	+3.7	76	14	21	8†	43	1.83	+0.94	0.66		5	16	8	7	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	38	46.1	+2.6	76	14	23	23	37	2.34	+1.18	0.75	5.2	8	18	5	8	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	46.6	+2.5	80	14	19	23	40	1.07	+0.19	0.57	4.0	5	16	7	8	s.	W. A. Christianson.
Hankinson	Richland	1,068		48.2		82	14	24	22	46	3.16		1.06	3.0	7	18	2	11	se.	R. G. Stock.
Hannah	Cavalier	1,568	35								0.77	−0.19	0.42	2.3	5					James Meier.
Hansboro	Towner	1,597	21	41.8	+0.5	76	17	17	23	43	2.20	+1.29	0.65	18.0	7	17	5	9	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	48.2	+1.8	80	5	25	31	43	1.31	+0.67	0.39	0.3	6	18	5	8	nw.	C. H. Plath.
Hillsboro	Traill	901	23	47.6	+1.6	76	5†	22	23	37	2.81	+1.79	0.86		7	19	5	7	n.	G. Havland.
Howard‡‡ (near)	Williams	2,275	22	45.8	+4.4	81	16	23	23	46	1.23	+0.42	0.96	10.6	3	16	7	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	44.4	−0.4	82	4	22	23†	48	3.67	+2.74	1.12	9.5	9	11	8	9	sw.	S. Calvelage.
Lamoine	Kidder	1,936	24	46.8	+3.7	82	5	22	23	43	1.98	+1.40		8.0	5	20	1	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	43.0	+2.6	75	17	19	23	42	0.95	+0.01	0.30	5.0	6	21	2	8	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	45.9	+2.6	75	5†	22	23	45	2.89	+1.66	0.90	11.0	8	16	4	11	n.	Reuben Gray.
Linton	Emmons	1,711	11	48.3	+3.8	83	7	22	23	57	2.27	+1.36	0.97	3.5	5	21	3	7	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	44.2	−1.1	82	14	20	7	46	3.82	+2.80	1.50	3.0	8	14	7	10		L. B. Walker.
McClusky	Sheridan	1,943	11	46.4		80	5	21	23	41	1.77	+0.96	0.80	5.5	5	21	2	8	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	35	43.9	+2.2	80	17	18	8	40	1.17	+0.24	0.65	5.0	4	10	12	9	se.	E. A. Kaatz.
McLeod	Ransom	1,075	17	49.1	+3.9	80	7†	19	21	51	4.22	+3.16	1.53	1.5	5	17	6	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	13	46.2	+3.6	80	17	19	23	45	1.30	+0.51	0.48		6	11	6	14	nw.	A. T. Felland.
Mandan	Morton	1,644	15	47.8	+2.9	83	5	26	24	42	1.67	+0.96	0.77	2.5	7	15	4	11	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26								2.10	+1.29	0.65	8.5	6					P. B. Anderson.
Marmarth	Slope	2,714	20	54.8^d	+10.7	77^d	5	31^d	23	32^d	1.04	+0.25	0.34	0.6	4	20	3	8		S. P. Grane.
Mary	McKenzie		2								0.75		0.34	3.0	5	15	9	7	nw.	Fred Hartman.
Max	McLean	2,093		45.8		85	15	18	23	63	0.28		0.10	1.0	4					A. W. Rice.
Mayville	Traill	975	33	47.2	+2.3	78	15	22	8†	43	1.68	+0.57	0.70		5	15	4	12	nw.	N. C. Burhans.
Melville	Foster	1,590	31	48.5	+4.9	77	7	19	28	41	2.56	+1.69	1.60	4.3	4	18	6	7	se.	J. P. Fischer.
Metigoshe‡‡	Bottineau		4																	J. A. Thorburn.
Michigan	Nelson	1,518	1								2.39		1.00	12.7	5	13	5	13	n.	Arnold Johnson.
Minot	Ward	1,557	33	46.2	+2.6	82	14	23	23	45	1.78	+0.84	1.04	5.9	6	18	3	10	w.	Juna B. Rue.
Mott	Hettinger	2,424	22	49.2	+6.2	82	14	22	24	40	2.08	+0.99	0.71	5.0	8	12	7	12	nw.	O. H. Opland.
Napoleon	Logan	1,955	37	46.6	+4.7	83	5	17	23	41	2.90	+2.05	1.30	4.2	6	17	1	13	w.	C. J. Hoof.
New England	Hettinger	2,400	38	49.2	+5.5	78	14†	25	25	43	0.98	−0.35	0.50	1.0	6	16	7	8	se.	F. L. Sight.
New Salem	Morton	2,163	25	48.5	+4.2	83	5	16	31	50	1.47	+0.52	0.70	4.0	5	18	4	9	se.	J. Christiansen.
Oakes	Dickey	1,318	1	47.5		86	15	21	23	46	4.75		1.62	14.5	7	12	12	7	nw.	Eugene Naylor.
Park River	Walsh	998	25	48.2^d	+3.9	83^d	18	24	8†	36^d	1.49	+0.48	0.60	9.0	6	18	3	10	nw.	C. B. Wright.
Parshall (near)	Mountrail		14								0.88	+0.13	0.60	6.0	5	16	7	8	nw.	John A. Johnson.
Pembina	Pembina	789	55	44.2	+3.3	70	4	20	22†	38	1.90	+0.56	0.65	4.0	4	21	3	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	46.1	+4.9	79	17	21	24†	45	2.78	+2.13	0.98	5.5	7	16	3	12	se.	A. L. Carlson.
Portal	Burke	1,954	15	45.0	+3.5	80	14†	21	7	41	0.90	+0.25	0.50	5.0	4	18	1	12	w.	C. T. Holmes.
Power	Richland	1,020	35								4.00	+2.53	1.47	4.0	6	17	6	8	nw.	Frank B. Power.
Powers Lake	Burke	2,205	15	51.8		74	8†	26	18	41	1.65	+0.84	0.61	4.0	4	26	3	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	47.8	+5.1	81	5	24	29†	37	1.09	+0.38	0.41		5	20	4	7	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1								1.42		0.52	5.5	5	13	5	13	nw.	F. C. Erickson.
Ryder	Ward	2,108	1								0.36		0.12		4					E. M. Lemen.
Sanish	Mountrail	1,835																		H. W. Monson.
Sharon	Steele	1,516	4	45.6		80	5	22	23†	40	2.80		0.61	10.2	8	19	3	9	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	5								1.11		0.44	4.0	5	16	4	11	se.	J. H. Giffey.
Steele	Kidder	1,857	33	44.2	+0.2	88	17	10	23	48	3.22	+2.34	1.02	6.2	6	13	8	10	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14								1.97	+0.96	0.95	1.5	5	18	6	7		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.42		0.19		6	13	9	9	sw.	J. C. Abbott.
Tioga	Williams	2,279	3								1.94		0.50	3.0	5	24	4	3	nw.	Anton Carlson.
Towner	McHenry	1,482	27	46.4	+4.0						1.05	+0.15								B. Bagley.
Trotters	Golden Valley		4								0.33		0.17	2.0	4	18	4	9		A. J. Nellermoe
Turtle Lake	McLean	1,899	14																	A. T. Anderson.
Valley City	Barnes	1,245	24	47.0	+1.8	80	5	23	8	44	2.86	+2.03	0.76	7.0	7	22	1	8	w.	L. C. Robertson.
Velva	McHenry	1,511	3	47.4		82	14	22	23	45	1.21		0.45	5.0	5	12	10	9	nw.	Oscar Anderson.
Verona	LaMoure	1,387	35								3.48		1.23	7.5	6	23	1	7	nw.	W. C. Taylor.
Wahpeton	Richland	962	37	50.0	+4.1	83	15	22	23†	39	2.99	+1.48	1.00		7	20	0	11	se.	C. G. Lueck.
Washburn	McLean	1,731	27																	Karl Klein.
Westhope	Bottineau	1,508	27	46.0	+4.6	78	17	18	24	48	1.28	+0.61	0.85		8	17	3	11	nw.	W. A. Medaugh.
Williston	Williams	1,878	50	47.2	+3.8	82	16	23	12	45	0.45	−0.41	0.33	1.8	6	17	6	8	e.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	44.5	+2.8	79	17	18	24	46	1.26	+0.56			5	20	5	6	nw.	M. A. Ostby.
Wilton	McLean		1	47.5		80	5†	25	22†	39	1.31		0.66		6	21	0	10		L. Q. Perkins.
Wishek	McIntosh	2,010	9	46.8^d		83^e	6	21^d	23†	53^e	2.82		0.95	4.0	6	7	2	22	nw.	E. W. Davis.
Zap	Mercer	1,838	1								0.92	0.11	0.31	3.3	5					R. A. Norton.
Moorhead, Minn.	Clay	935	48	47.6	+3.1	80	15	23	23	35	3.13	+1.44	0.87	4.8	9	14	9	8	s.	U. S. Weather Bureau.
Averages				46.8	+3.0	88	17	10	23	63	1.85	+0.85	1.62	5.1	6	17	5	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for October, 1929

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri									.19	.31												.16						.11	T.	.04	T.	0.81
Amenia‖	Red										1.14	.20	.90						T.										.03	T.	T.	.60	2.87
Arnegard (near)	Missouri									.02		.04											.05						.03	.15			0.29
Ashley	Missouri									.92	.36	1.14	.10																.06	.15		.40	3.13
Beach	Lit. Missouri									.36	.16											T.	.12						.11	.08	.01	.05	0.89
Berthold Agency	Missouri									T.																			.45	.50		.15	1.10
Bismarck***	Missouri									.90	.01	.18										T.						T.	.32	.15	.05	.21	1.82
Bottineau‖	Mouse										.27	.01							T.		.04								.72	.19		.05	1.28
Bowman	Grand									.61	.38	.06																		.40			1.45
Cando	Devils Lake										.10	.23								T.								.61	.20	T.			1.14
Carrington	James									1.25		.25																T.	.10				1.60
Carson	Heart									.55	.02	.50										.01	.09						.26	.20		.24	1.87
Cavalier	Red					.03				.20	.49	.11								.03									.21	.19		.50	1.76
Cooperstown	Sheyenne									.78	T.	.60																	T.	.30			1.68
Corinth	Missouri																																
Crosby	Mouse										.25	.03	T.										.30						.16	.60			1.34
Devils Lake***	Devils Lake									.62	.05	.12									T.		T.						.36	.27	T.	.70	2.12
Dickinson‖	Heart							T.		.03	.50	.34									T.		.18						.07	.18	.05	.05	1.40
Dogden Butte	Mouse									.21	.04	.10																	.40	.38		.20	1.33
Drake	Mouse																																
Dunn Center	Knife									.23		.20											.10							.36	.05		0.94
Dunseith	Mouse									.05	.30	.05									.05								.75	.05		.15	1.40
Eckman	Mouse									.06	.06	.07										.06							[illegible]	.10		.10	1.60
Edgeley	James										1.60	1.53	.12															T.		.35		.45	4.05
Ellendale***	James				T.				.05	.94	.13	1.57																.02	.11	.08	.03	.37	3.30
Energy	Missouri									.38		.16											T.						T.	.30		.20	1.04
Epping	Missouri									.02													.17					.28	.20	.05		.01	0.73
Fairfield	Knife									.08	.16												.11							.10			0.45
Fessenden‖	James										.75	.15	.15																.20	.29	.02		1.56
Forman	Sheyenne									.50	.53	.99	.52																.04	.18	.23	.70	3.69
Fort Yates	Missouri									1.25	.07	.76																	.41		*	.81	3.30
Foxholm (near)	Mouse					T.				T.	.25	.05											.03						.39	.05		.35	1.12
Fryburg	Heart									.64		.28											.02						.08	.20			1.22
Fullerton	James									1.12	.21	1.41																.07	T.	.30	T.	1.45	4.56
Garrison	Missouri									.32		.05											T.							.20		.10	0.67
Grafton	Red									.48		.23								T.									.28	.18		.66	1.83
Grand Forks***	Red				T.	.01				.30	.28	.36							.20	T.									.22	.22		.75	2.34
Granville	Mouse									.12		.06																	.57	.18		.14	1.07
Hankinson‖	Red									.35	.25	1.06	.25																	.35	.50	.40	3.16
Hannah	Pembina										.42	.03									.07								.05	.20	T.	T.	0.77
Hansboro	Devils Lake									.25	.40	.20								.15									.35	.20		.65	2.20
Hettinger	Grand									.35		.39											.27						.07	.15		.08	1.31
Hillsboro	Red									.22	.81	.40	.13																.12	.27		.86	2.81
Howard (near)	Missouri									.10	T.	T.											.17					T.	T.	.96	T.	T.	1.23
Jamestown‖	James									.02	1.12	.50	.96															.12	.02	.05	.20	.68	3.67
Lamoure	Missouri									T.	.95	.23																	T.	.80			1.98
Langdon‖	Pembina										.30	.05									.10								.10	.30	.10		0.95
Larimore‖	Red					.10				.35	.90	.50	.08																.30	.22		.44	2.89
Lawton	Missouri									.97	.13	.85										T.								.02		.32	2.27
Lisbon‖	Sheyenne								.04	.94	.15	1.50														.15	.30		.07			.67	3.82
McClusky	Missouri									.80																			.42	.25	*	.30	1.77
McKinney (near)	Mouse									.10		T.										T.							.65	.30		.12	1.17
McLeod	Sheyenne				T.						1.53		1.44																.24		.15	.86	4.22
Maddock	Sheyenne									.34	.48	.08																	.25	.08		.07	1.30
Mandan‖	Missouri									.17	.77	.25	.03										T.						.09	.21	T.	.15	1.67
Manfred	James									.50	.23	.24																	.17	.31		.65	2.10
Marmarth	Lit. Missouri									.21	.31																		.34	.18			1.04
Mary	Lit. Missouri									.06	.18												.34						.03	.14		T.	0.75
Max	Missouri									.06	.05	.07																	.10				0.28
Mayville	Red									.19		.45	.14																	.20		.70	1.68
Melville	James										1.60	.53																	.12			.31	2.56
Mungoshe	Mouse																																
Michigan	Red				T.	T.				.30	.50	.19											T.						T.	.40	1.00		2.39
Minot‖	Mouse										.18	.08																	.28	.10	.10	1.04	1.78
Mott	Cannon Ball								T.	.71		.52											.10					.24	.22	.04	.08	.17	2.08
Napoleon‖	Missouri										1.30	.57	.62																.10	.20		.20	2.99
New England	Cannon Ball									.50	.15													.12					.08	.10	T.	.03	0.98
New Salem	Heart									.70		.30									T.	T.							.02	.20		.25	1.47
Oakes	James									.55	.45	1.48	.10																.06	.19		1.62	4.75
Park River	Red									.06	.60		.03							T.									.30	.20	T.	.30	1.49
Parshall (near)	Missouri									.21		.07																	.20	.10		.30	0.88
Pembina‖	Red						.50				.60		.40																			.40	1.90
Petibone	James									.92	.29	.98																.01	.01	.07		.50	2.78
Portal‖	Mouse									.10												.10						.20	.50				0.90
Power	Sheyenne									.72		1.47						.11												.99	.31	.40	4.00
Powers Lake	Missouri						.19									.26													.64	.57			1.66
Richardton	Heart									.40	.07	.44											.11							.07			1.09
Rugby [near]	Mouse									.25	.10																		.52	.25		.30	1.42
Ryder	Missouri									.10	.12											.04										.10	0.36
Sanish‖	Missouri																																
Sharon	Red				T.					.55	.47	.12	.02																.31	.38	.01	.61	2.80
Stanton	Missouri									.44		.15											.10							.18		.24	1.11
Steele	Missouri									1.02	.52	.98																	.08	.22		.40	3.22
Stowers	Cannon Ball									.24	.40	.95											.17					T.	.21	T.	T.	T.	1.97
Tagus	Mouse									.02	.06												.01						.19	.05		.09	0.42
Tioga	Missouri									.50	.30												.10						.14	.20	T.	T.	1.24
Towner	Mouse																																
Trotters	Lit. Missouri										.07																		.07	.17		.02	0.33
Turtle Lake	Missouri																																
Valley City	Sheyenne									.76	.20	.51	.97																.12	.33		.63	2.86
Velva	Mouse									.09	T.	.10	T.																.45	.29		.31	1.24
Verona	James									1.23	.56	.82																	.12		.05	.70	3.48
Wahpeton	Red									.15	.50	.51	.52																.21	.10		1.00	2.99
Washburn	Missouri																																
Westhope	Mouse									.04	.10											.05						.06	.85	.08	.07	.03	1.28
Williston***	Missouri				.01					T.	T.								T.			.06						.01	.21	.14		.02	0.45
Willow City	Mouse									.24	T.	T.									T.								.32	*	*	.70	1.26
Wilton										.66	.15																		.10	.10	.10	.20	1.31
Wishek‖	Missouri									T.	.84	.65	.95																	.21	.02	.15	2.82
Zap	Knife										.31	.12											.16							.14		.19	0.92
Moorhead, Minn.***	Red				T.					.71	.18	.86	.01						.03										.21	.32	.07	.71	3.13

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	72	73	72	73	78	72	64	60	50	48	48	57	70	70	78	70	76	73	60	58	51	44	50	68	67	67	51	40	37	36	35	60.3
	Minimum ...	33	36	36	35	35	33	31	26	29	40	42	33	36	36	34	35	38	48	36	34	28	29	24	26	34	35	25	36	31	31	32	33.5
Arnegard	Maximum...	69	74	66	74	77	61	62	67	54	55	48	64	75	80	75	82	81	65	62	60	59	47	50	59	57	60	55	43	38	37	..	[a]61.9
	Minimum ...	34	38	33	42	37	35	30	32	29	35	27	27	40	44	40	46	45	42	42	37	45	38	29	32	42	42	33	38	32	32	..	[a]36.6
Ashley	Maximum...	70	72	70	65	82	80	64	60	48	57	53	57	70	75	80	78	77	71	62	50	56	49	41	58	65	63	57	47	35	32	32	60.4
	Minimum ...	36	38	34	36	44	41	32	27	38	40	41	33	35	45	43	35	38	48	37	33	27	32	21	25	32	35	23	34	27	23	28	34.2
Beach	Maximum...	67	70	65	75	79	61	63	62	46	56	49	62	72	76	76	80	77	64	61	59	56	45	51	65	66	61	53	46	33	33	33	60.1
	Minimum ...	37	34	42	45	43	37	33	32	38	40	37	30	35	39	42	40	47	37	35	34	40	37	30	25	37	30	28	32	27	26	30	35.5
Berthold Agency	Maximum...	69	65	48	68	58	60	64	60	56	52	54	65	62	65	56	65	65	75	64	57	50	55	48	65	67	64	68	62	40	34	32	58.3
	Minimum ...	42	29	34	45	40	30	28	28	32	32	34	25	28	32	32	35	35	42	36	28	34	35	28	18	28	40	23	38	30	30	27	32.2
Bismarck	Maximum...	69	72	68	76	83	64	63	62	44	50	51	62	72	81	76	73	80	72	63	55	51	49	44	63	66	64	51	45	33	33	31	60.2
	Minimum ...	42	37	44	44	43	39	35	35	40	42	40	33	35	42	42	41	47	44	40	36	38	30	29	26	36	46	29	29	29	29	28	36.9
Bottineau §§	Maximum...	65	71	68	72	71	60	67	57	55	46	48	60	69	77	75	68	78	77	62	53	53	51	45	65	64	62	58	45	33	31	32	59.3
	Minimum ...	35	40	42	43	36	34	26	32	36	32	39	24	28	33	38	41	44	47	38	33	31	36	23	21	25	29	21	30	27	25	26	32.7
Cando	Maximum...	69	71	73	72	72	74	74	69	64	58	53	52	64	76	76	79	74	75	41	42	47	45	48	61	63	62	55	42	35	54	..	[a]61.4
	Minimum ...	29	38	45	42	39	41	29	26	28	31	32	31	42	36	41	33	31	44	32	29	29	31	19	23	28	36	22	29	28	29	..	[a]32.4
Carson	Maximum...	72	72	68	80	77	66	66	60	48	48	54	64	63	80	77	75	80	74	69	58	54	48	45	62	66	64	50	66	35	32	30	61.4
	Minimum ...	39	43	40	40	42	36	30	32	38	36	34	26	36	40	44	42	44	42	34	28	38	28	27	24	32	35	25	30	24	24	24	31.1
Crosby §§	Maximum...	68	72	69	73	58	55	58	60	40	47	44	61	73	77	70	80	78	67	55	50	50	50	52	65	65	55	45	32	33	33	31	57.1
	Minimum ...	32	33	37	40	44	41	35	20	20	20	30	19	28	31	34	31	35	34	29	25	31	25	23	25	25	30	26	32	32	26	27	29.7
Devils Lake	Maximum...	67	69	66	71	74	61	57	56	40	44	49	55	66	74	71	66	79	68	48	49	43	43	35	60	62	62	44	38	31	33	31	55.4
	Minimum ...	43	36	36	44	45	38	31	31	32	34	35	30	34	45	45	36	40	41	32	33	30	23	19	26	30	35	24	30	28	28	29	33.6
Dickinson §§	Maximum...	66	69	64	74	80	62	63	61	44	56	46	61	70	78	74	79	87	65	62	59	54	49	48	64	65	59	50	45	30	31	32	59.6
	Minimum ...	35	33	33	39	46	38	29	29	34	40	35	27	27	34	41	36	37	45	33	34	35	37	31	22	24	35	24	29	27	27	25	32.9
Dunn Center §§	Maximum...	68	65	67	73	61	61	61	61	44	53	46	62	72	79	72	78	78	60	62	57	57	46	50	65	69	60	46	44	32	34	33	58.6
	Minimum ...	28	31	32	33	33	26	25	37	41	34	28	24	30	34	40	33	35	46	36	29	37	35	29	21	28	35	26	29	28	28	28	31.6
Dunseith	Maximum...	68	70	68	70	67	59	55	57	47	46	47	57	61	74	69	67	77	66	59	49	52	45	39	61	60	59	50	41	32	29	29	55.8
	Minimum ...	35	39	40	42	39	42	32	26	34	31	39	29	36	35	39	38	40	51	35	34	31	35	25	26	32	36	27	28	25	21	26	33.9
Edgeley	Maximum...	70	71	61	61	86	71	66	56	47	52	51	58	71	78	84	64	74	64	70	61	48	53	44	59	64	65	55	45	33	33	33	59.6
	Minimum ...	40	33	31	34	41	59	34	26	39	40	44	38	36	43	44	35	31	30	33	32	29	29	25	21	36	31	35	29	28	29	30	34.7
Ellendale	Maximum...	69	71	67	64	84	66	63	52	46	55	50	58	70	76	83	66	74	75	63	51	48	48	45	59	65	67	51	45	32	34	32	59.0
	Minimum ...	39	38	38	34	41	43	37	30	41	46	42	37	31	37	43	35	35	51	37	34	30	29	23	29	29	37	32	29	29	32	29	35.5
Fessenden §§	Maximum...	69	73	70	73	83	61	61	62	45	54	49	62	72	78	73	70	71	70	50	53	52	48	38	63	65	64	57	45	33	35	40	59.4
	Minimum ...	42	36	34	34	39	39	31	25	34	35	41	30	32	44	43	35	40	41	35	30	29	36	21	23	29	33	24	24	29	29	30	33.2
Foxholm (near)	Maximum...	66	68	68	73	69	60	58	58	53	44	44	61	70	79	71	74	79	69	56	52	55	45	45	64	63	59	49	39	34	32	29	57.6
	Minimum ...	38	39	33	46	41	38	35	25	29	32	38	30	32	47	48	37	45	46	36	31	36	32	26	28	32	41	29	30	26	25	25	34.7
Fullerton	Maximum...	67	70	68	63	82	65	64	57	44	53	52	57	66	73	82	65	72	74	62	51	50	45	42	58	63	67	52	41	32	34	33	58.3
	Minimum ...	41	37	37	36	40	43	34	28	28	43	45	34	32	37	43	38	37	50	45	38	29	33	23	22	28	45	29	30	29	31	31	35.4
Garrison	Maximum...	69	72	74	76	82	69	62	61	59	50	50	63	73	80	75	74	78	71	61	69	68	49	46	66	69	68	57	46	33	31	35	62.5
	Minimum ...	34	34	38	39	40	43	35	32	37	37	42	28	31	38	42	38	41	48	38	36	33	34	23	22	33	32	25	30	28	28	28	34.4
Grafton	Maximum...	71	71	66	71	69	66	63	57	51	46	49	57	69	76	74	61	75	69	60	54	52	51	47	64	64	64	61	48	37	36	37	59.3
	Minimum ...	43	44	34	38	43	40	29	21	27	36	36	33	36	37	39	32	37	48	36	34	26	31	22	21	37	40	25	23	29	31	32	33.5
Grand Forks	Maximum...	69	70	65	66	74	65	58	55	47	46	49	57	69	76	74	62	73	68	49	53	52	44	45	62	62	64	49	41	34	37	36	57.1
	Minimum ...	45	38	34	38	47	40	34	25	32	41	43	33	34	41	42	36	38	45	37	34	28	31	23	25	33	37	25	33	32	32	33	35.1
Granville	Maximum...	67	70	70	75	74	77	65	60	48	50	50	62	70	80	72	72	79	65	52	55	56	50	47	64	65	60	50	45	35	30	32	59.6
	Minimum ...	35	33	33	45	40	37	30	25	32	34	43	28	38	45	42	35	43	38	32	30	30	28	19	25	30	38	25	40	30	28	28	33.5
Hansboro	Maximum...	70	68	67	72	58	60	52	58	55	45	45	56	66	72	68	65	76	61	55	50	52	43	40	61	62	50	45	38	35	33	32	55.2
	Minimum ...	35	30	27	36	36	36	27	20	27	30	30	20	27	37	35	28	30	40	28	25	25	30	17	24	32	30	35	18	22	20	24	28.4
Hettinger	Maximum...	65	69	61	74	80	63	65	60	52	57	50	66	72	78	78	77	79	72	63	61	58	55	49	63	64	65	55	49	35	31	32	61.2
	Minimum ...	38	33	41	42	39	41	29	33	42	42	38	28	33	31	40	31	44	45	33	38	37	31	26	23	37	35	31	34	26	26	25	35.2
Hillsboro	Maximum...	69	71	67	70	76	74	69	61	50	47	46	55	68	60	76	63	72	72	60	50	54	48	45	61	64	67	59	47	38	35	35	59.0
	Minimum ...	45	40	35	38	46	43	32	25	31	40	44	33	33	40	41	33	37	50	48	32	30	34	22	25	33	42	38	36	30	30	33	36.1
Howard (near)	Maximum...	78	72	67	72	63	59	60	62	50	50	48	61	75	80	74	81	80	53	61	60	54	46	50	64	65	58	50	38	33	33	33	59.0
	Minimum ...	32	36	36	50	40	27	34	24	32	38	30	24	31	45	40	37	40	40	30	24	38	33	23	25	29	24	24	32	30	25	29	32.6
Jamestown §§	Maximum...	70	67	64	82	64	62	56	45	48	49	58	70	77	77	67	71	73	57	50	49	47	38	60	65	64	47	42	32	34	32	33	56.5
	Minimum ...	29	37	34	34	40	41	31	24	26	39	42	32	32	33	41	35	36	44	37	35	28	29	22	22	25	31	27	27	29	29	28	32.2
Lamoine	Maximum...	66	73	72	73	82	67	60	60	60	54	55	60	68	77	78	76	78	70	59	57	50	49	41	62	65	60	62	48	38	33	32	60.8
	Minimum ...	30	35	37	38	40	38	31	30	29	36	36	35	27	39	37	38	35	48	44	32	30	33	22	23	30	28	24	32	28	26	28	32.9
Langdon §§	Maximum...	70	70	67	70	60	61	48	60	58	50	45	60	67	70	68	67	75	68	52	50	52	41	36	58	59	57	48	34	32	34	32	55.4
	Minimum ...	31	36	36	38	46	40	28	26	30	30	30	25	28	38	40	32	33	37	30	32	29	31	19	22	23	30	21	28	25	26	26	30.5
Larimore §§	Maximum...	70	70	68	67	75	72	60	58	45	45	48	55	69	75	75	66	68	72	66	52	52	42	42	61	65	61	48	45	35	37	52	58.6
	Minimum ...	31	42	32	35	30	32	24	30	30	35	42	30	42	40	47	38	33	38	33	32	26	32	22	27	35	40	26	35	28	27	34	33.2
Linton	Maximum...	70	78	74	73	83	74	83	59	48	50	48	62	71	78	76	69	79	79	65	63	51	50	43	60	66	65	56	50	51	45	32	62.8
	Minimum ...	38	36	32	40	43	39	26	35	40	40	40	29	28	34	42	33	47	47	32	36	38	32	22	22	36	24	29	29	27	24	27	33.8
Lisbon §§	Maximum...	72	69	65	79	68	66	56	46	50	50	57	68	75	82	65	78	66	54	50	58	49	65	67	50	46	35	35	39	41	34	34	57.1
	Minimum ...	34	33	29	35	39	32	20	33	39	40	33	33	37	41	36	32	33	33	25	27	22	22	29	26	35	26	27	29	29	28	29	31.2
McClusky	Maximum...	67	73	68	73	80	61	60	53	47	48	50	60	65	78	74	70	76	70	57	52	55	49	42	61	65	61	53	45	35	38	36	58.8
	Minimum ...	37	36	39	42	39	40	31	30	36	41	42	28	35	32	40	43	48	47	34	34	35	31	21	22	28	31	24	32	27	30	23	34.1
McKinney (near)	Maximum...	65	66	65	65	60	55	57	56	53	50	44	55	70	77	74	76	80	67	55	53	54	50	52	55	60	52	50	42	32	33	36	56.8
	Minimum ...	30	28	28	35	40	49	30	18	23	30	30	26	26	45	50	30	31	44	34	32	30	27	30	28	31	25	28	31	28	26	28	31.0
Maddock	Maximum...	67	70	68	73	79	61	60	58	52	48	52	57	68	76	75	70	80	79	66	51	51	50	43	61	63	66	56	45	36	31	35	59.7
	Minimum ...	39	33	32	41	36	37	28	23	31	31	41	29	32	40	45	32	35	49	47	34	25	34	19	23	27	36	21	30	27	27	28	32.6
Marmarth	Maximum...	65	64	60	71	77	72	68	61	54	56	49	61	70	74	74	75	75	64	65	60	57	50	50	61	64	64	56	..	..	..	..	[d]63.7
	Minimum ...	50	50	52	55	54	56	36	52	45	42	42	45	38	43	52	55	53	50	48	46	43	37	31	44	42	40	42	..	..	..	..	[d]46.0
Melville	Maximum...	71	76	73	75	69	72	77	68	74	69	65	67	71	63	59	62	58	61	59	62	57	57	60	53	62	56	62	56	59	55	52	63.8
	Minimum ...	39	36	38	35	40	37	36	34	37	39	41	36	38	40	37	34	32	36	33	35	36	34	21	27	31	28	29	19	26	23	21	33.2
Minot §§	Maximum...	68	71	74	74	76	61	60	60	44	48	47	65	73	82	72	71	79	68	53	55	58	48	47	61	66	61	46	40	33	32	32	58.9
	Minimum ...	35	32	35	41	36	46	31	24	31	31	36	27	28	44	48	23	39	47	37	33	35	34	23	25	32	26	26	30	28	28	28	33.6
Mott	Maximum...	70	75	70	78	67	65	66	64	52	56	57	66	73	82	78	79	80	73	58	56	54	48	47	62	66	61	53	43	40	35	32	61.5
	Minimum ...	42	46	41	46	40	38	37	42	40	41	35	36	44	45	42	46	48	36	34	35	31	33	27	22	32	35	38	30	27	25	26	37.0
Napoleon §§	Maximum...	69	75	69	70	83	65	64	61	45	61	45	59	70	76	77	73	86	71	62	52	56	50	44	59	58	64	53	42	33	33	30	59.5
	Minimum ...	40	35	37	40	43	37	32	30	33	29	42	29	32	40	46	34	46	49	35	31	29	31	17	18	35	34	25	30	27	28	27	33.6
New Salem	Maximum...	69	78	67	73	83	79	76	78	62	69	51	62	70	76	75	81	80	70	55	50	49	48	45	57	58	66	55	53	45	46	32	63.0
	Minimum ...	30	40	30	34	36	39	36	28	29	33	39	36	35	38	42	37	42	48	40	37	36	28	29	34	35	37	30	27	25	26	16	34.0
Pembina §§	Maximum...	60	63	68	70	63	60	56	58	59	60	56	62	60	62	60	61	61	58	58	60	56	44	48	68	60	62	52	48	38	36	40	57.4
	Minimum ...	34	33	34	36	38	34	32	30	28	34	38	34	36	38	34	26	32	34	32	38	26	34	20	25	24	32	26	24	28	20	21	31.1
Steele	Maximum...	68	72	68	73	82	75	64	63	52	56	50	58	69	75	78	72	88	72	63	58	52	50	51	60	68	61	55	48	42	30	38	61.7
	Minimum ...	34	25	26	34	34	30	20	29	34	33	35	22	24	32	31	28	44	42	26	23	26	25	10	12	22	26	15	26	24	20	19	26.8
Towner	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Valley City	Maximum...	71	73	67	65	80	78	63	56	51	57	48	57	70	76	76	67	76	73	64	53	48	46	43	68	67	61	59	45	33	35	34	60.0
	Minimum ...	40	33	34	37	40	41	33	23	40	38	45	31	30	39	44	34	38	49	26	25	27	36	24	24	30	30	26	30	29	30	31	34.1
Wahpeton	Maximum...	67	73	71	68	80	80	67	61	57	57	49	57	68	77	83	73	74	70	72	63	51	50	49	59	66	63	70	62	37	40	41	63.4
	Minimum ...	49	40	42	37	45	43	33	25	42	43	46	37	34	40	41	37	41	51	28	24	26	30	22	22	34	25	34	33	30	31	33	36.6
Westhope	Maximum...	73	72	72	74	68	64	60	62	48	45	58	62	73	68	71	71	78	66	60	62	51	40	46	66	48	62	46	38	37	23	34	59.5
	Minimum ...	30	30	38	45	40	34	28	26	30	34	36	22	28	33	39	38	41	40	20	38	41	36	22	18	32	30	22	32	30	27	27	32.5
Williston	Maximum...	69	82	67	75	72	60	60	62	45	54	49	65	74	86	72	82	78	63	62	61	57	46	51	64	67	61	44	42	31	34	34	59.9
	Minimum ...	36	35	38	50	41	38	36	26	36	39	30	23	31	40	42	37	44	39	34	31	42	20	27	26	35	39	26	32	29	29	31	34.5
Moorhead, Minn	Maximum...	68	71	63	66	78	65	61	55	46	47	49	55	68	76	80	64	72	71	59	53	51	42	45	50	64	66	52	43	34	35	37	58.0
	Minimum ...	47	40	40	38	48	44	35	31	40	43	44	37	35	41	45	38	42	49	39	38	30	32	22	27	33	37	30	32	31	30	33	37.2

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 11-23-29—1100]

51.05
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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVIII Bismarck, N. D., November, 1929 No. 11

GENERAL SUMMARY

Heavy snows at the opening of the month stopped most farm vork, blocked traffic on most sideroads and delayed traffic on nain highways and necessitated much yard feeding of livestock. Mild temperature during the latter part of the first decade and nost of the second decade reduced the snow covering rapidly, llowing corn picking and grain marketing to be resumed, and llowing livestock to range freely on harvested fields. Stormy veather with lower temperature prevailed during the last decade.

TEMPERATURE

The mean temperature for the state was 24.8°, or 1.8° below he normal, and 6.2° lower than the mean for November, 1928. The highest mean reported was 29.8° at Fort Yates, Sioux ounty; the lowest was 18.2° at Hansboro, Towner County. The highest temperature reported was 70° at Arnegard, McKen- ie County on the 16th; the lowest was -21° at Langdon, avalier County on the 28th. The greatest monthly range of emperature was 85° at Arnegard, McKenzie County; the least vas 50° at Powers Lake, Burke County. The greatest daily ange in temperature was 50° at Melville, Foster County on the 9th.

PRECIPITATION

The average precipitation for the state was 0.53 inch, or .05 inch below the normal, and 0.05 inch more than the verage for November, 1928. The greatest monthly amount eported was 1.60 inches at Fessenden, Wells County, and at Langdon, Cavalier County; the least was a trace at Stowers, Adams County. The greatest amount recorded in any 24 conecutive hours was 1.14 inches at Fessenden, Wells County on he 1st. The average snowfall was 5.2 inches. The average umber of days with 0.01 inch or more of precipitation was 5.

AURORAS

Auroras were observed at Rugby and Willow City on the 1st; t Bottineau, Foxholm and Rugby on the 2d; at Napoleon and Oakes on the 3d; at Foxholm on the 4th; at Bottineau and Williston on the 5th; at Foxholm on the 7th; at Bottineau on he 9th; at Rugby on the 20th and 26th; at Bottineau on the 28th; and at Linton on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevat on of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.11	30.85	21	29.14	25	57	6,626	9.2	32§	nw.	18
Devils Lake	30.07	30.82	21	29.31	25	44	7,009	9.7	37§	n.	18
Ellendale	30.11	30.80	21	29.47	25	56	9,891	13.7	50§	n.	18
Grand Forks	30.04	30.76	21	29.27	25	90	....	.....	39	s.	22
Williston	30.12	30.89	21	29.45	25	48	5,947	8.3	28§	nw.	27
Moorhead, Minn	30.08	30.83	21	29.35	26	58	6,232	8.7	29§	nw.	5
Av'ges and extremes	30.09	30.89	21	29.27	25	.....	....	9.9	50	nw.	18

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	130.3	281.1	46	− 6	83	66	76	40	16
Devils Lake	111.1	278.2	40	0	91	85	90	64	9†
Ellendale	143.8	284.1	51	− 1	88	70	....	40	16
Grand Forks	......	......	.....	.....	83	....	81	.....	....
Williston	120.0	278.2	43	− 4	83	69	75	34	15
Moorhead, Minn	130.6	281.1	46	− 2	88	67	80	41	16
Averages and extremes	127.2	280.5	45	− 4	85	71	80	34	15

† And other dates.

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COMPARATIVE STATE DATA FOR NOVEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893	22.4	−4.2	74	−27	0.57	−0.01	3	9	10	11	nw.
1894	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901	26.8	+0.2	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918	28.9	+2.3	71	−18	1.04	+0.46	4	13	6	11	nw.
1919	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921	21.0	−5.6	69	−30	0.68	+0.10	5	7	8	15	nw.
1922	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.
1923	36.5	+9.9	72	− 5	0.50	−0.08	3	13	8	9	nw.
1924	27.6	+1.0	69	−15	0.18	−0.40	2	11	9	10	nw.
1925	28.8	+2.2	69	−17	0.25	−0.33	2	14	8	8	nw.
1926	21.5	−5.1	68	−23	0.65	+0.07	5	6	7	17	nw.
1927	20.7	−5.9	59	−24	0.70	+0.12	6	7	8	15	nw.
1928	31.0	+4.4	70	−11	0.48	−0.10	1	15	8	7	nw.
1929	24.8	−1.8	70	−21	0.53	−0.05	5	9	8	13	nw.

Climatological Data for November, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With 01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	3	....	......	...	...	...	...	......	0.29	......	0.12	2.9	5	.....	.....	.....	.....	H. A. Bury.
Amenia	Cass	954	33	22.9	−4.4	54	10	−14	28	43	1.05	+0.51	0.75	3.0	4	10	16	4	n.	E. T. Carney.
Arnegard (near)	McKenzie	......	14	26.0^{b}	−2.8	70^{b}	16	−15^{b}	21	42	0.85	+0.49	0.30	7.0	6	10	4	16	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	25.8	−1.9	49	16	−8	21	37	0.26	−0.28	0.07	5.0	5	13	3	14	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	28.4	−3.0	58	16	−20	21	32	0.69	+0.06	0.26	.....	14	16	7	7	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	26	29.3	+0.5	60	9†	−12	21	41	0.13	−0.35	0.05	.....	3	17	0	13	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	27.9	−0.6	56	15	6	21	36	0.25	−0.32	0.06	2.1	10	8	9	13	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	37	21.4	−2.2	48	15	−15	21	32	0.64	+0.10	0.20	.....	10	12	3	15	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	15	....	......	...	...	...	...	......	0.87	+0.55	0.30	5.0	5	14	9	7	nw.	W. H. Rappuhn.
Cando	Towner	1,488	28	22.4	−4.1	43	15†	−15	24	44	0.45	−0.06	0.12	.....	8	10	7	13	w.	A. J. Swanson.
Carson	Grant	2,500	17	28.1	−2.6	58	14	−15	20	45	0.24	−0.32	0.10	2.5	4	13	9	8	nw.	J. W. Evens.
Cavalier	Pembina	......	2	.....	......	...	...	...	...	......	0.09	......	0.07	0.9	2	13	1	16	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	23	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	S. Friswold.
Corinth	Williams	2,180	2	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	L. S. Evenson.
Crosby	Divide	1,954	23	24.2	−3.6	41	10†	11	21	33	0.47	−0.24	0.15	3.0	5	7	4	19	n.	John Jensen.
Devils Lake	Ramsey	1,478	32	20.8	−3.8	43	15	−12	29	31	0.78	+0.06	0.19	11.2	9	6	10	14	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	26.8	−1.8	60	9	−11	22	49	0.63	+0.15	0.17	4.1	13	10	8	12	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	25.6	......	50	15	−10	21	36	0.67	......	0.35	6.8	6	6	9	15	nw.	R. L. Williams.
Drake	McHenry	1,634	....	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	J. Rundt.
Dunn Center	Dunn	2,191	30	26.9	−1.5	60	9	−12	21	46	0.32	−0.30	0.26	2.0	2	7	9	14	w.	W. F. Moede.
Dunseith	Rolette	1,682	33	20.6	−5.6	45	16	−16	21	34	0.95	+0.52	0.40	9.5	6	7	10	13	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	24	22.9	−3.4	50	15	−12	21	38	0.19	−0.35	0.07	7.0	7	3	8	19	w.	C. E. Stock.
Edgeley	LaMoure	1,568	28	26.0	4.4	47	16	8	21†	43	0.30	−0.04	0.20	3.0	2	4	11	15	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	25.8	−0.3	50	16	−6	22	39	0.21	−0.53	0.01	2.7	8	6	12	12	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	17	28.0	......	59	15	−7	21	40	0.33	+0.07	0.20	2.5	3	8	12	10	nw.	H. S. Solenberger.
Epping	Williams	2,224	21	25.8	......	59	16	−8	22	40	0.50	+0.08	0.11	2.2	7	13	5	12	nw.	A. O. Wang.
Fairfield	Billings	......	2	.....	......	...	...	...	...	......	0.72	......	0.12	6.5	10	13	3	14	nw.	F. R. Hecker.
Fessenden	Wells	1,610	17	23.8	−3.2	46	15†	−9	21	38	1.60	+0.96	1.14	13.5	7	7	5	18	nw.	T. D. Monsen.
Forman	Sargent	1,249	35	.....	......	...	...	...	...	......	0.20	−0.36	0.20	2.0	1	13	10	7	sw.	O. Enger.
Fort Yates	Sioux	1,670	29	29.8	+0.2	51	16	7	21	39	0.25	−0.28	0.05	2.0	5	9	12	9	.....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	25.0	......	53	15	−11	21	35	0.62	......	0.35	7.8	8	4	9	17	nw.	E. C. [illegible]
Fryburg	Billings	2,790	11	.....	......	...	...	...	...	......	0.90	+0.26	0.20	8.0	7	13	5	12	nw.	Verne King.
Fullerton	Dickey	1,439	31	26.2	−3.5	48	16	−7	21	38	0.41	−0.32	0.25	4.1	4	2	15	13	nw.	F. O. Alin.
Garrison	McLean	1,901	34	28.4	+1.4	60	9	9	21†	50	0.20	−0.28	0.20	2.0	1	9	13	8	nw.	A. F. Robinson.
Grafton	Walsh	827	38	22.6	−1.4	49	16	−15	30	46	0.42	−0.24	0.32	2.7	3	10	8	12	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	38	23.0	−3.1	52	15	−15	29	28	0.75	+0.05	0.42	6.9	11	11	11	8	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	25.8	−0.3	57	15	−10	21	33	0.83	+0.22	0.30	7.0	6	8	9	13	nw.	W. A. Christianson.
Hankinson	Richland	1,068	....	26.2	......	56	15	11	28	35	0.34	......	0.10	5.0	4	13	2	15	nw.	R. G. Stock.
Hannah	Cavalier	1,568	35	.....	......	...	...	...	...	......	1.38	+0.70	0.67	13.8	8	.....	.....	.....	.....	James Meier.
Hansboro	Towner	1,597	21	18.2	−7.7	42	15	−20	21†	35	0.73	+0.27	0.35	11.0	4	14	8	8	nw.	C. F. Blackorby.
Hettinger	Adams	2,675	22	29.1	−4.3	60	9	14	21	41	0.24	−0.08	0.08	3.8	4	13	9	8	nw.	C. H. Plath.
Hillsboro	Traill	901	23	23.6	−5.2	50	14†	−13	29	34	0.57	−0.24	0.34	4.3	6	11	7	12	n.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	22	24.8	−2.9	51	15	−16	21	25	0.43	−0.08	0.16	2.9	3	13	2	15	nw.	C. P. Armsbaugh.
Jamestown	Stutsman	1,390	37	22.7	−4.9	46	14	−10	21†	46	0.52	−0.21	0.28	5.2	5	9	8	13	nw.	S. Calveiage.
Lamoine	Kidder	1,936	24	24.4	−2.6	45	25	−12	21	40	0.60	+0.06	0.40	6.0	2	12	2	16	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	20.0	−5.7	41	16	−21	28	43	1.60	+0.90	0.60	16.0	7	11	16	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	20.9	−4.9	45	15†	−17	29	35	1.32	+0.64	0.80	13.2	6	12	7	11	n.	Reuben Gray.
Linton	Emmons	1,711	11	26.6	2.8	48	16	8	21	42	0.04	−0.52	0.04	1.0	1	12	5	13	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	25.2	−5.0	51	14	10	20†	39	0.25	−0.37	0.15	2.5	2	13	9	8	.....	L. B. Walker.
McClusky	Sheridan	1,943	11	24.4	......	50	15	−9	21	35	0.71	−0.01	0.30	7.0	5	9	10	11	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	35	24.2	0.4	45	9	10	21	28	0.50	−0.15	0.25	5.0	3	7	10	13	nw.	E. A. Kaatz.
McLeod	Ransom	1,075	17	23.6	−6.1	58	9	−16	22	38	0.17	−0.42	0.08	1.7	3	18	4	8	sw.	J. G. Carlson.
Maddock	Benson	1,504	13	23.2	−3.8	45	15†	11	21	30	0.84	+0.16	0.65	.....	4	6	8	16	nw.	A. I. Ferland.
Mandan	Morton	1,644	15	26.9	−3.0	57	15	−8	21†	44	0.21	−0.34	0.14	1.6	4	7	3	20	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26	.....	......	...	...	...	...	......	0.85	+0.11	0.20	8.2	9	.....	.....	.....	.....	P. B. Anderson.
Marmarth	Slope	2,714	20	.....	......	...	...	...	...	......	0.77	+0.44	0.26	9.3	8	9	5	16	.....	S. P. Grane.
Mary	McKenzie	......	2	.....	......	...	...	...	...	......	0.53	......	0.17	3.2	6	5	10	15	nw.	Fred Hartman.
Max	McLean	2,093	....	27.8	......	60	15	−13	21	42	0.74	......	0.60	7.5	4	5	3	22	nw.	A. W. Rice.
Mayville	Traill	975	33	22.8	6.5	51	15†	−19	21†	37	0.76	+0.09	0.50	.....	4	11	2	17	nw.	N. C. Barbans.
Melville	Foster	1,590	31	25.8	−3.2	51	3†	−11	29	40	0.61	+0.08	0.30	6.1	3	11	5	14	nw.	J. P. Fisener.
Metigoshe ‡‡	Bottineau	......	4	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	J. A. Thorburn.
Michigan	Nelson	1,518	1	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	Arnold Johnson.
Minot	Ward	1,557	33	26.0	−3.7	58	16	−10	21	33	0.26	−0.42	0.20	3.9	4	14	12	4	w.	Julia B. Rue.
Mott	Hettinger	2,424	22	27.2	−4.0	51	15	12	21	30	0.36	−0.10	0.21	3.0	4	11	12	7	w.	O. H. Opland.
Napoleon	Logan	1,955	37	21.0	−2.6	47	16	−10	21	41	0.68	+0.09	0.40	7.0	4	7	3	20	nw.	C. J. Hoof.
New England	Hettinger	2,400	38	29.2	−1.0	61	9	−14	21	31	0.27	−0.22	0.10	2.8	5	12	6	12	nw.	F. L. Sight.
New Salem	Morton	2,163	25	27.6	−3.1	57	9†	10	21	40	0.17	−0.18	0.08	2.0	5	10	11	9	nw.	J. Christiansen
Oakes	Dickey	1,318	1	25.6	......	47	14	−5	21	29	0.62	......	0.60	1.8	2	4	17	9	nw.	Eugene Naylor.
Park River	Walsh	998	25	22.0	−6.0	45	16	−16	29	34	0.23	−0.53	0.20	7.5	2	8	7	15	nw.	C. B. Wright
Parshall (near)	Mountrail	.....	14	.....	......	...	...	...	...	......	0.30	+0.04	0.20	3.0	2	12	9	9	nw.	John A. Johnson.
Pembina	Pembina	789	55	20.4	−2.3	48	14†	−18	29†	44	1.00	+0.32	0.60	10.0	3	12	11	7	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	20	23.4	−3.5	45	16	10	21†	41	0.47	−0.08	0.30	4.8	4	9	3	18	nw.	A. L. Carlson.
Portal	Burke	1,954	15	20.0	−5.8	45	15	−13	22	40	0.80	+0.16	0.80	8.0	1	5	11	14	w.	C. T. Holmes.
Power	Richland	1,020	35	.....	......	...	...	...	...	......	0.60	−0.02	0.30	6.0	3	16	4	10	nw.	Frank B. Power.
Powers Lake	Burke	2,205	15	22.8	......	43	19†	−7	15†	31	1.13	+0.57	1.01	7.1	3	8	10	12	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	26.6	−1.9	58	9	−16	21	47	0.26	−0.25	0.16	2.6	2	11	10	9	nw.	John Muggli.
Rugby (near)	Pierce	1,562	1	.....	......	...	...	...	...	......	0.10	......	0.10	1.0	1	4	6	20	sw.	E. C. Erickson.
Ryder	Ward	2,108	1	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	E. M. Loveen.
Sanish	Mountrail	1,835	...	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	H. W. Monson.
Sharon	Steele	1,516	4	20.3	......	46	16	−15	21	31	0.55	......	0.26	5.2	12	11	7	12	w.	Nels O. Greisheim.
Stanton	Mercer	1,722	5	.....	......	...	...	...	...	......	0.16	......	0.10	1.5	3	6	8	16	nw.	J. H. Giffey.
Steele	Kidder	1,857	33	20.5	−7.9	49	16	−18	21	48	0.29	−0.30	0.25	3.0	3	0	14	16	sw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14	.....	......	...	...	...	...	......	T.	−0.46	T.	T.	0	8	14	8	.....	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	.....	......	...	...	...	...	......	0.12	......	0.09	1.2	3	7	6	17	nw.	J. C. Abbott.
Tioga	Williams	2,279	3	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	Anton Carlson.
Towner	McHenry	1,482	27	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	B. Bagley.
Trotters	Golden Valley	......	4	.....	......	...	...	...	...	......	0.79	......	0.20	7.0	9	4	12	14	nw.	A. J. Nellermoe
Turtle Lake	McLean	1,899	14	.....	......	...	...	...	...	......	....	......	.....	.....	.....	.....	.....	.....	.....	A. T. Anderson.
Valley City	Barnes	1,245	24	24.3	−5.4	46	16	−8	29	28	0.63	+0.01	0.30	4.0	5	15	5	10	w.	I. C. Robertson.
Velva	McHenry	1,511	3	26.7	......	58	15	−9	21	33	0.58	......	0.28	8.5	8	5	8	17	nw.	Oscar Anderson.
Verona	LaMoure	1,387	35	.....	......	...	...	...	...	......	0.47	...	0.45	7.0	2	14	4	12	nw.	W. C. Tayler.
Wahpeton	Richland	962	37	27.7	−0.6	55	9	−17	29	35	0.42	−0.27	0.15	1.0	4	16	0	14	nw.	C. G. Luick.
Washburn	McLean	1,731	27	26.2	−4.1	53	7	−14	22	44	0.23	−0.41	0.07	3.5	4	6	11	13	nw.	C. W. Fee.
Westhope	Bottineau	1,508	27	25.0	−1.8	47	9	−12	21	34	0.07	−0.51	0.07	1.0	1	8	7	15	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	27.4	+0.2	61	15	−12	21	33	0.59	+0.01	0.12	4.9	11	8	9	13	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	23.2	+1.1	50	9	9	21	34	0.80	+0.29	0.40	8.0	4	12	11	7	nw.	O. M. Sanderson.
Wilton	McLean	......	1	23.4^{f}	......	51^{f}	15	10^{f}	21	35^{f}	......	......	......	......	......	15	2	13	.....	L. Q. Perkins.
Wishek	McIntosh	2,010	9	23.9^{e}	......	49^{e}	18	−11^{e}	21	36^{e}	0.33	......	0.20	3.3	2	3	3	24	nw.	E. W. Davis.
Zap	Mercer	1,838	1	.....	......	...	...	...	...	......	0.40	+0.04	0.17	2.7	6	.....	.....	.....	.....	R. A. Norton.
Moorhead, Minn.	Clay	935	48	24.8	−2.3	52	15	−11	29	30	1.08	+0.18	0.36	12.2	11	10	6	14	n.	U. S. Weather Bureau.
Averages			....	24.8	−1.8	70	16	21	28	50	0.53	−0.05	1.11	5.2	5	9	8	13	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing: for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for November, 1929

Stations	Drainage Basin	Day of Month																														Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			.01																			.02			T.	T.	[illegible]	T.	[illegible]	[illegible]		[illegible]
Amenia	Red	[illegible]									T.							.10		T.					.10			.10					[illegible]
Arnegard (near)	Missouri											T.								[illegible]			[illegible]			.05		.10	.30		.10		[illegible]
Ashley	Missouri																		[illegible]						T.	.05		.06			.03		0.26
Beach	Lit. Missouri	.02	.03	[illegible]														.02	.01	.03	.04	.03	.01	[illegible]	.02		T.	[illegible]	[illegible]	[illegible]	.04		[illegible]
Berthold Agency	Missouri																		T.		T.		T.		T.	.05	T.	[illegible]	T.	[illegible]	T.		[illegible]
Bismarck ***	Missouri	.01		T.		T.	T.					T.						.01		.01	T.		.01	T.	.02	T.	.03	.03	[illegible]	.03	[illegible]		[illegible]
Bottineau ||	Mouse	.07		[illegible]															.01	T.			[illegible]	T.	[illegible]	[illegible]	.03	.01	[illegible]		.05		0.64
Bowman	Grand			[illegible]																.20	.16			T.				T.	.22		.05		0.87
Cando	Devils Lake	.05					T.	T.				T.							.12	[illegible]		.03		.03	[illegible]	[illegible]		T.	.01				0.45
Carrington	James	T.		T.															[illegible]												[illegible]		0.10
Carson	Heart																		.02	.02									.10		.10		[illegible]
Cavalier	Red																		.07							.02							0.09
Cooperstown	Sheyenne																																
Corinth	Missouri																																
Crosby	Mouse																			T.	T.		.10	.15				.02	.10	.10			0.47
Devils Lake ***	Devils Lake	.24		T.			T.	T.			T.							[illegible]	.06	.05			.09	.08	T.	.02	T.	.19		T.	.02		0.78
Dickinson ||	Heart	.04		.02	.02			T.											.02		.02	.01		.05	.01	.01		.17	.12	.08	.03		0.63
Dogden Butte	Mouse	.35		T.															.02	T.	T.			.07		.07		T.	T.	.05	.11		0.67
Drake ||	Mouse																																
Dunn Center ||	Knife																			T.				T.	T.			.26	.06				0.32
Dunseith	Mouse			T.														T.	.40	.05				.20	.05	T.		.20			.05		0.95
Eckman	Mouse	.01																	.02	.01			.01	T.	.04	.03					.07		0.19
Edgeley	James																					.10									.20		0.30
Ellendale***	James	.02	T.	.01		T.	T.	T.				T.							.04	T.	T.	.01	.01		T.	T.		.01	.02		[illegible]		0.21
Energy	Missouri	.20																					.05		T.	T.			T.		.08		0.33
Epping	Missouri			T.														.08		.05	.05		.08	T.			T.	.11		.03	.10		0.50
Fairfield	Knife		.02	.05																	.10		.12			.02	.06	.10	.10	.05	.10		0.72
Fessenden ||	James	1.11																	.18					.02	.05		.02	.15	.04				[illegible]
Forman	Sheyenne																		.20														0.20
Fort Yates	Missouri																																0.25
Foxholm (near)	Mouse	.05					T.	T.				T.						T.	.10	.01	T.		.06	T.	.02	.02			.01	T.	.35		0.62
Fryburg	Heart																	.16				T.	.20		.05	.05	T.	.20	T.	.10	.20		0.90
Fullerton	James	T.	T.	.03															.25		T.	T.	T.	T.	T.			T.	.03	T.	.10		0.41
Garrison	Missouri			T.														T.		T.	T.		T.		T.	T.			T.	T.	.20		0.20
Grafton	Red	.06																	.32	T.	T.		.04				T.	T.					0.42
Grand Forks ***	Red	.01		.10														.18	.21	.03			.03	.02	T.	.06	.03	.03			.02		0.75
Granville	Mouse		.05																.10	T.			T.	T.	.10	.08	.20	T.	T.		.30		0.83
Hankinson ||	Red																		.10				.10					.08			.06		0.34
Hannah	Pembina	.65				T.			T.			T.							.32	.02	T.			.08	.01	.13	.07	.10	T.				1.38
Hansboro	Devils Lake			.20															.35	.10											.08		0.73
Hettinger	Grand	.05		T.																T.				.03					.08		.08		0.24
Hillsboro	Red	.08		.02														.34	.02				.04			.07	T.	T.					0.57
Howard (near)	Missouri			T.			T.											T.			.12				.15	T.	.16	T.	T.	T.			0.43
Jamestown ||	James						T.												.15	.02		.05	T.					.02			.28		0.52
Lamoine	Missouri			T.								T.							.20							T.		T.	T.		.40		0.60
Langdon ||	Pembina	.60	T.															.40		.10						.20		.20	.05		.05		1.60
Larimore ||	Red	.10																	.80	.10			.10				.02	.20					1.32
Linton	Missouri	T.																	T.	T.		T.	T.		T.	.04		T.	T.		T.		0.04
Lisbon ||	Sheyenne																	T.	.10								T.				.15		0.25
McClusky	Missouri	.30		T.															.05	T.		.05		T.		T.	T.	.01	T.		.30		0.71
McKinney (near)	Mouse	T.	T.				T.				T.								.15	T.			T.		T.	.10			T.		.25		0.50
McLeod	Sheyenne		T.																.08	T.			T.					.03		.06			0.17
Maddock	Sheyenne	.66																	.02	T.			T.		.06	T.		.10			T.		0.84
Mandan ||	Missouri	.11		T.	T.														T.	T.		T.		T.	.02	T.	T.	.03	T.	.02			0.21
Manfred	James	.20		.03			T.												.15		T.		.08	.04	.07	.03		.07	T.		.18		0.85
Marmarth	Lit. Missouri		T.	.08														.01		.10	.08			.08				.26	.08		.08		0.77
Mary	Lit. Missouri			T.								T.							T.	.07			.08		T.	.17	.10	.10	T.	.01	T.		0.53
Max ||	Missouri	.10																	.02						.02						.60		0.74
Mayville	Red																		.50	.03	.02		T.				.21						0.76
Melville	James	.30																.20	.11														0.61
Metigoshe	Mouse																																
Michigan	Red																																
Minot ||	Mouse																		.03	.01										.02	.20		0.26
Mott	Cannon Ball											.04					T.			.05	T.		.06	T.						.21			0.36
Napoleon ||	Missouri	.40																	.20					.05				.03					0.68
New England	Cannon Ball																				.05		.02					T.	.05	.05	.10		0.27
New Salem	Heart																			T.	.01				.03				.02	.03	.08		0.17
Oakes	James																		.60				T.	.02							T.		0.62
Park River	Red																		.20				.03				T.	T.					0.23
Parshall (near)	Missouri			T.																T.			T.					.10			.20		0.30
Pembina ||	Red																		.60				.20				.20						1.00
Pettibone	James	.10			T.															.05	T.		.02				T.	T.	T.	T.	.30		0.47
Portal ||	Mouse																									T.					.80		0.80
Power	Sheyenne																		.30							T.		.10			.20		0.60
Powers Lake	Missouri		.05									.07									1.01												1.13
Richardton	Heart																			.10								.16					0.26
Rugby [near]	Mouse			T.		T.																									.10		0.10
Ryder	Missouri																																
Sanish ||	Missouri																																
Sharon	Red	.02		.01		T.	.01	T.											.26	.01			.04	.02	.07	.05	.01	.04	.01		T.		0.55
Stanton	Missouri																						T.		.04			.10	T.		.02		0.16
Steele	Missouri																		.02		T.		T.		.02						.25		0.29
Stowers	Cannon Ball																			T.				T.	T.		T.	T.	T.	T.			T.
Tagus	Mouse																							.02					.01		.09		0.12
Tioga	Missouri																																
Towner	Mouse																																
Trotters	Lit. Missouri	.04		T.															.04	T.	.06		.03				.20	.15	.13	.10	.04		0.79
Turtle Lake	Missouri																																
Valley City	Sheyenne	.07		T.			T.												.10	T.			.01		.30			.15					0.63
Velva	Mouse	.15		T.			T.												.04	T.	T.		.03	T.	.02	.01		T.	.03	.02	.28		0.58
Verona	James	.45									T.								.02														0.47
Wahpeton	Red			.10															.12						.05			.15					0.42
Washburn	Missouri																	.06							.07	T.				.04	.06		0.23
Westhope	Mouse																						.07										0.07
Williston ***	Missouri	T.	T.	T.			T.					T.						.02		.03	.02		.08	T.	.11	.01	.09	.04	.05	.02	.12		0.59
Willow City	Mouse																		.08	T.	T.		T.	.40	.20			T.			.12		0.80
Wilton																																	
Wishek ||	Missouri	.20																								.13							0.33
Zap	Knife	.17						.02									.01									.02	.13		T.		.05		0.40
Moorhead, Minn. ***	Red	.03	T.	.03			T.	T.				T.						T.	.36	.05			.10	.23	.05	.03	.03	.12			.05		1.08

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24 hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	36	45	44	42	30	28	28	42	49	51	39	37	43	48	53	40	38	29	25	10	18	26	19	35	38	40	20	9	8	14	....	32.9
	Minimum	32	31	32	31	26	23	22	18	19	28	32	20	14	26	26	23	6	9	5	-1	-12	-9	0	-8	-3	16	20	-14	-12	-12	....	12.9
Arnegard	Maximum	....	....	....	....	....	....	....	....	63	42	45	40	45	45	60	70	41	32	22	14	-2	34	30	37	40	44	38	28	18	26	....	[b]36.9
	Minimum	....	....	....	....	....	....	....	....	32	27	26	15	16	19	26	28	29	10	-2	-3	15	-4	-1	19	32	34	28	17	1	1	....	[b]15.2
Ashley	Maximum	33	39	38	31	33	28	27	36	40	43	38	34	38	41	45	49	45	40	24	23	15	20	33	28	42	43	43	30	14	21	....	34.3
	Minimum	26	22	26	18	27	17	12	15	25	26	30	23	17	26	25	31	29	22	15	0	8	-7	-2	11	18	29	27	9	-2	10	....	17.2
Beach	Maximum	40	40	33	47	37	26	36	49	59	49	36	41	41	46	56	58	47	30	22	20	12	34	37	34	40	43	46	32	28	27	....	38.3
	Minimum	29	28	17	15	16	15	14	19	32	36	16	15	18	26	28	29	28	15	9	-4	-20	3	15	16	30	29	30	28	7	14	....	18.4
Berthold Agency	Maximum	35	42	38	48	45	38	40	50	60	55	38	45	47	50	60	50	47	40	40	30	20	35	30	34	42	48	46	32	22	24	....	40.8
	Minimum	28	28	31	25	11	18	20	12	30	30	27	14	15	30	25	29	18	16	12	1	-12	-6	-4	14	30	30	30	14	12	0	....	17.8
Bismarck	Maximum	36	41	36	39	38	23	32	46	54	46	38	41	47	50	56	52	51	32	26	15	5	36	31	38	45	50	38	29	14	18	....	36.8
	Minimum	28	30	31	23	20	17	21	19	28	28	27	24	21	31	28	30	22	17	8	-1	-6	0	1	14	31	29	26	5	3	4	....	19.0
Bottineau §§	Maximum	34	31	34	35	36	23	30	37	44	43	36	38	39	39	48	41	37	35	21	18	5	15	21	23	35	37	35	22	5	18	....	30.7
	Minimum	27	19	28	18	20	6	18	9	26	25	26	20	15	23	29	21	29	18	16	-1	-15	-7	-10	-9	12	10	19	-7	-10	-11	....	12.1
Cando	Maximum	33	37	36	33	35	27	29	35	39	36	37	34	36	38	43	43	40	38	26	19	11	19	26	24	21	36	37	37	34	24	....	32.1
	Minimum	21	26	28	21	23	19	19	14	24	26	27	17	15	28	28	30	29	16	14	-12	-9	-7	-5	-15	-8	8	11	14	-10	-11	....	12.7
Carson	Maximum	34	40	46	40	45	33	45	45	52	42	47	44	56	58	55	45	40	35	20	22	33	38	40	45	50	45	40	28	26	25	....	40.5
	Minimum	26	24	26	15	24	15	15	26	26	26	15	16	26	25	27	29	16	12	1	-15	-12	10	18	20	28	25	25	13	0	0	....	15.7
Crosby §§	Maximum	38	34	32	38	29	20	31	38	44	37	27	37	39	38	44	41	34	25	21	10	23	30	29	40	38	30	30	21	15	20	....	31.4
	Minimum	29	27	26	16	21	17	17	15	27	21	21	16	19	18	29	31	34	21	15	15	-11	-10	2	11	19	18	20	5	8	10	....	16.9
Devils Lake	Maximum	31	34	34	33	32	24	27	37	41	34	31	32	36	38	43	41	35	30	24	9	2	28	20	18	37	38	33	9	3	14	....	28.3
	Minimum	28	23	28	24	21	18	18	16	29	28	20	17	16	29	28	31	29	13	9	-7	11	-3	5	-10	11	12	9	-11	-12	-4	....	13.2
Dickinson §§	Maximum	38	41	33	47	34	20	35	50	60	46	31	40	45	48	58	49	50	50	24	14	19	35	28	39	43	48	34	20	17	30	....	36.8
	Minimum	27	30	28	17	25	16	15	15	21	29	26	13	13	17	23	28	31	18	16	3	-13	-14	0	2	20	26	33	17	13	5	....	16.7
Dunn Center §§	Maximum	38	42	36	50	32	22	38	50	60	40	32	42	44	48	57	52	39	31	25	13	21	35	32	39	42	46	34	21	16	26	....	36.8
	Minimum	27	30	30	22	27	16	17	17	18	19	25	14	15	24	23	32	30	12	13	0	-12	-11	6	11	21	31	33	11	13	0	....	17.0
Dunseith	Maximum	31	36	34	34	32	21	27	36	42	39	33	31	36	42	44	45	37	36	21	15	0	24	20	20	35	39	35	21	6	12	....	29.3
	Minimum	25	22	27	12	20	14	17	11	26	30	25	14	16	26	27	33	29	16	14	-2	16	-10	-7	7	7	8	15	-10	-14	-15	....	11.8
Edgeley	Maximum	33	38	35	34	35	30	34	38	41	41	35	35	39	44	46	47	41	41	26	24	6	35	33	34	44	45	41	26	17	16	....	34.5
	Minimum	28	25	27	18	28	18	18	17	26	29	31	21	19	30	26	31	27	20	15	1	8	-8	16	6	16	27	24	5	4	4	....	17.6
Ellendale	Maximum	34	40	34	32	36	26	27	36	41	49	37	37	42	47	48	50	43	36	27	17	4	33	28	30	44	47	[illegible]	21	12	18	....	33.9
	Minimum	27	22	29	20	22	21	19	15	21	30	30	23	18	30	27	31	32	16	16	2	5	6	2	9	29	28	24	1	-2	1	....	17.7
Fessenden §§	Maximum	38	40	33	33	30	25	31	36	40	36	35	42	40	41	46	46	46	26	25	10	10	30	26	37	39	42	27	9	10	18	....	31.7
	Minimum	28	25	27	18	21	12	19	12	22	31	32	25	19	21	28	30	32	21	19	2	9	-8	-3	2	7	20	25	3	-1	0	....	16.0
Foxholm (near)	Maximum	34	37	38	39	37	22	32	42	51	48	33	38	41	46	53	48	43	32	23	13	5	30	26	28	39	42	38	28	11	15	....	33.5
	Minimum	26	21	26	20	18	15	18	14	32	29	25	18	21	32	29	22	30	15	11	3	-11	-5	-3	7	23	17	25	3	2	-1	....	16.5
Fullerton	Maximum	34	38	35	34	35	28	29	36	40	41	36	35	41	46	47	48	43	36	28	24	12	32	28	31	44	47	42	26	12	18	....	34.3
	Minimum	29	23	30	20	28	20	20	17	22	21	32	23	20	28	25	32	32	26	15	0	-7	-6	1	8	19	27	26	7	-2	2	....	18.0
Garrison	Maximum	37	40	43	44	42	23	38	50	60	45	43	43	46	48	58	49	48	43	22	15	6	41	28	32	43	46	49	38	18	18	....	38.5
	Minimum	28	27	29	22	21	18	20	18	28	30	26	19	20	30	25	31	32	17	9	4	-9	-9	0	11	26	27	28	12	4	5	....	18.3
Grafton	Maximum	35	39	34	33	39	32	26	38	40	34	36	34	39	45	48	49	40	37	25	23	7	17	19	19	38	40	38	13	2	14	....	31.1
	Minimum	31	27	28	24	28	24	18	17	26	28	28	16	18	29	26	33	31	14	14	-1	-14	-10	9	-3	10	6	11	-10	-10	-15	....	14.0
Grand Forks	Maximum	35	40	38	39	36	30	28	40	47	43	35	35	40	47	52	50	41	33	23	14	7	20	19	15	38	39	22	7	5	14	....	31.1
	Minimum	33	31	32	30	28	24	22	18	28	32	29	18	18	29	24	29	29	16	14	-13	-13	-5	0	-2	13	12	7	-14	-15	-11	....	14.8
Granville	Maximum	35	38	34	40	35	25	35	45	55	40	35	45	45	45	57	47	44	32	25	20	5	30	26	30	40	42	30	25	15	18	....	34.5
	Minimum	28	25	28	22	22	18	18	18	28	30	27	20	20	30	29	28	30	18	10	10	-10	-3	-4	8	8	20	25	5	0	5	....	17.1
Hansboro	Maximum	32	31	34	32	32	22	27	34	38	36	33	32	34	40	42	40	35	25	24	15	5	23	21	20	33	40	30	17	5	11	....	28.2
	Minimum	14	18	25	25	18	14	10	5	22	22	22	15	10	25	25	27	20	10	10	-10	-20	-12	-10	-15	0	15	15	-17	-20	-15	....	8.3
Hettinger	Maximum	35	39	32	46	43	28	34	49	60	48	43	39	44	50	59	52	54	34	24	20	13	37	33	36	44	47	42	30	19	33	....	39.0
	Minimum	31	28	29	17	28	17	18	18	30	30	27	15	18	27	25	33	31	20	18	5	-14	-6	-1	16	30	29	30	18	4	4	....	19.2
Hillsboro	Maximum	34	44	40	36	34	33	27	41	46	42	40	41	48	50	50	40	39	20	20	9	0	20	22	19	37	40	37	23	4	15	....	31.7
	Minimum	32	23	34	30	28	21	24	19	27	33	33	18	30	26	32	30	20	13	0	-7	-10	6	5	-4	3	13	22	-7	-13	-8	....	15.4
Howard (near)	Maximum	34	35	32	38	30	21	28	39	50	37	32	35	40	40	51	43	34	31	30	10	0	25	25	30	35	38	34	30	18	25	....	31.7
	Minimum	28	23	28	15	21	17	18	22	25	25	25	16	19	29	29	29	29	10	10	0	-16	0	3	21	25	26	27	12	11	6	....	17.8
Jamestown §§	Maximum	38	34	34	32	25	28	38	42	41	35	35	40	44	46	45	40	29	26	12	2	30	27	28	43	44	34	26	8	12	7	....	31.2
	Minimum	28	25	28	23	20	15	15	15	14	24	26	21	17	18	24	28	29	21	13	-2	10	-10	-3	-5	6	22	26	5	-7	-4	....	14.2
Lamoine	Maximum	34	37	34	33	34	26	41	40	39	38	34	36	41	43	42	44	35	41	40	30	25	30	25	28	45	40	40	25	10	18	...	34.0
	Minimum	27	22	26	16	20	8	10	18	20	28	28	23	25	28	36	28	28	18	10	-1	-10	-8	-8	-12	22	24	25	6	-3	0	....	14.9
Langdon §§	Maximum	32	33	37	30	28	25	26	32	35	33	31	33	35	40	38	41	35	28	25	15	10	21	28	33	29	30	24	18	15	12	....	28.6
	Minimum	28	21	21	15	25	20	16	8	10	21	27	14	21	29	20	25	28	20	11	8	17	-14	-8	-10	-4	8	18	-21	-18	-10	....	11.5
Larimore §§	Maximum	33	38	36	35	32	27	30	35	37	35	33	33	35	41	45	45	41	31	21	14	8	20	21	24	37	40	15	14	5	13	....	29.5
	Minimum	30	24	23	22	26	22	18	12	24	25	20	12	10	25	26	29	31	22	14	2	-12	-4	2	-9	2	9	14	-15	-17	-10	....	12.3
Linton	Maximum	34	40	35	36	38	35	32	38	45	47	36	38	46	47	47	48	47	46	30	21	11	37	28	30	48	46	43	30	16	17	....	36.2
	Minimum	28	20	29	16	19	17	20	18	10	22	32	24	22	22	23	[illegible]	31	19	16	6	-8	-5	-2	15	28	30	29	14	-1	-1	...	17.1
Lisbon §§	Maximum	40	37	43	41	35	34	43	44	50	45	39	42	50	54	53	52	39	29	30	15	25	26	40	46	41	28	12	15	24	13	....	36.3
	Minimum	22	27	25	26	19	20	17	18	19	21	20	14	15	25	27	27	26	12	3	-10	11	-1	1	9	22	25	-3	-10	8	2	....	14.0
McClusky	Maximum	35	32	33	35	30	28	34	38	42	40	35	49	41	44	50	45	42	30	21	15	9	30	22	30	40	46	30	25	12	15	....	32.2
	Minimum	23	21	25	27	25	13	19	14	30	23	22	21	27	27	23	23	30	18	13	6	-9	5	-5	10	20	22	23	6	-1	0	....	16.6
McKinney (near)	Maximum	33	34	34	40	32	28	26	40	45	36	32	34	34	35	36	31	33	32	30	25	7	16	26	26	36	36	34	26	20	10	...	30.3
	Minimum	28	21	28	24	25	18	19	12	28	30	30	30	20	19	26	28	29	18	25	5	-10	-5	-2	7	26	27	25	5	4	0	....	18.1
Maddock	Maximum	32	36	34	33	30	33	31	36	41	38	34	36	38	40	45	45	28	35	25	21	5	25	22	21	40	43	40	25	7	15	...	31.5
	Minimum	27	22	27	16	20	10	18	12	25	30	29	29	17	30	27	29	30	16	16	2	-11	-5	-5	-2	14	16	17	-3	-5	-2	....	14.9
Marmarth	Maximum	....	....	...	....	....	....	....	....	...	...	...	....	...	...	...	...	...	....	...	...	...	...	...	...	...	...	...	...	...	....	....	......
	Minimum	....	...	....	....	...	....	...	....	...	...	...	...	...	...	...	...	...	....	...	...	...	...	...	...	...	...	...	...	...	...	...	......
Melville	Maximum	47	45	51	48	40	42	47	45	51	48	46	50	42	46	43	47	39	41	39	30	40	37	35	41	47	42	37	41	39	35	....	43.0
	Minimum	21	19	22	18	11	17	20	21	24	27	23	19	12	16	14	8	6	1	-3	-10	-6	-9	-5	8	16	-2	-6	-8	-11	-4	....	8.6
Minot §§	Maximum	32	39	37	34	43	28	25	32	47	56	36	34	43	46	44	58	48	42	25	24	14	26	31	29	58	41	43	30	11	13	....	34.8
	Minimum	28	25	28	22	27	17	17	15	25	29	31	18	18	24	27	31	31	16	14	4	16	-8	-2	8	13	21	23	6	4	-2	....	17.2
Mott	Maximum	38	36	37	41	36	30	35	37	45	48	38	44	46	56	54	52	40	33	27	20	12	34	36	42	46	34	30	24	17	18	....	35.9
	Minimum	27	20	23	28	23	20	17	21	30	30	24	23	33	29	32	25	20	12	11	1	-12	4	21	24	26	15	12	0	2	9	....	18.4
Napoleon §§	Maximum	34	37	33	35	33	23	29	35	40	41	35	37	38	43	42	47	41	27	24	13	8	33	30	37	43	46	34	15	10	15	...	31.9
	Minimum	26	22	25	17	20	17	18	15	25	24	27	23	15	25	24	28	30	21	15	-1	-10	-8	-5	5	21	27	32	8	-3	1	....	16.1
New Salem	Maximum	32	40	37	36	31	30	37	51	57	50	36	38	41	50	57	51	50	33	28	20	10	35	30	31	45	48	40	31	20	20	....	37.2
	Minimum	21	26	28	26	20	11	18	17	17	30	22	27	21	30	25	21	30	16	17	2	-10	-5	2	18	29	20	30	12	7	2	...	18.0
Pembina §§	Maximum	42	48	35	38	36	28	30	34	32	28	34	40	45	48	45	42	48	40	20	10	12	14	30	34	20	15	-2	4	8	10	....	28.9
	Minimum	32	30	32	32	28	24	20	20	21	23	20	18	20	18	20	18	16	20	18	3	-12	-6	-8	-10	20	-10	-2	-10	-18	-18	....	12.0
Steele	Maximum	38	35	31	34	34	33	28	34	42	44	35	38	42	40	48	49	48	30	24	17	2	34	18	24	44	42	40	18	12	18	....	32.5
	Minimum	18	15	14	10	15	0	10	15	18	17	18	18	8	18	18	19	22	12	8	-8	-18	-14	-15	0	20	18	18	0	-10	-8	....	8.5
Towner	Maximum	....	....	....	...	....	....	....	....	...	....	....	....	....	....	...	...	....	....	....	...	...	...	...	...	...	...	....	....	....	....	....	......
	Minimum	....	....	....	....	....	...	....	...	...	...	....	....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	....	....	......
Valley City	Maximum	33	38	35	35	35	27	28	36	40	40	36	35	39	40	44	46	41	39	27	27	19	23	27	26	38	42	40	20	6	19	....	32.6
	Minimum	31	24	31	24	20	21	19	15	22	30	31	21	11	30	29	33	30	20	14	1	-6	-4	1	2	11	21	17	-6	-8	-3	....	16.0
Wahpeton	Maximum	46	49	45	42	41	31	33	46	55	50	48	39	45	53	54	53	47	48	29	27	21	24	21	30	42	44	43	20	7	15	....	38.4
	Minimum	35	29	31	30	27	22	24	23	27	36	34	24	18	28	33	29	28	25	9	5	-8	-4	-1	-5	7	26	15	-5	-17	-9	...	17.0
Westhope	Maximum	35	34	30	38	35	35	32	40	47	45	40	40	39	40	40	43	38	34	32	30	14	29	28	30	35	39	35	23	12	15	....	33.6
	Minimum	28	20	20	22	22	10	21	22	25	25	24	20	23	30	30	28	30	14	10	5	-12	-5	10	14	15	25	23	-2	-2	-2	....	16.4
Williston	Maximum	43	40	33	47	37	22	36	49	58	41	32	41	45	47	61	48	40	32	23	13	9	37	32	29	40	44	39	28	20	27	...	36.7
	Minimum	31	30	23	22	18	17	21	20	30	27	20	16	20	30	29	28	26	15	5	-9	-12	2	2	17	30	31	28	14	7	8	....	18.2
Moorhead, Minn	Maximum	36	45	38	39	35	29	29	43	50	47	38	35	42	49	52	51	42	39	22	17	5	26	18	19	39	41	29	11	5	15	....	32.9
	Minimum	32	30	32	32	25	26	22	23	27	33	31	21	17	31	25	32	32	16	14	-5	-7	-4	5	-3	17	15	11	-9	-11	-7	....	16.8

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 12-30-29—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXVIII Bismarck, N. D., December, 1929 No. 12

GENERAL SUMMARY

The temperature averaged below normal in all sections of the state, except at some stations in the extreme east and extreme south where the least snow fell. The coldest weather occurred in the central and west-central sections where there was a heavy snow cover. The snowfall in most sections was somewhat above normal and almost all of it fell from the 1st to the 17th. It was followed by a severe cold snap from the 17th to the 22d. Livestock suffered considerably during the third week due to the cold weather and heavy snow cover and many highways were blocked with drifted snow. Mild temperature, without precipitation prevailed from the 23d to the 31st, reducing the snow covering and improving highways. Livestock ranged freely during the closing week and considerable marketing was done. F.J.B.

TEMPERATURE

The mean temperature for the state was 12.5°, or 0.5° below the normal, and 8.2° lower than the mean for December, 1928. The highest mean reported was 16.4° at Lisbon, Ransom County; the lowest was 4.2° at Hansboro, Towner County. The highest temperature reported was 59° at Park River, Walsh County on the 30th; the lowest was -38° at Dunn Center, Dunn County on the 18th. The greatest monthly range of temperature was 91° at Park River, Walsh County; the least was 61° at Dogden Butte, McLean County, and at Hillsboro, Trail County. The greatest daily range in temperature was 51° at Melville, Foster County on the 2d.

PRECIPITATION

The average precipitation for the state was 0.81 inch, or 0.27 inch above the normal, and 0.53 inch more than the average for December, 1928. The greatest monthly amount reported was 2.10 inches at Cando, Towner County; the least was 0.10 inch at Amenia, Cass County. The greatest amount recorded in any 24 consecutive hours was 1.11 inches at McClusky, Sheridan County on the 16th. The average snowfall was 9.9 inches. The average number of days with 0.01 nch or more of precipitation was 5.

AURORAS

Auroras were observed at Arnegard, Bottineau, Crosby, Devils Lake, Ellendale, Foxholm, Grand Forks, Howard, Larimore, Napoleon, Oakes, Rugby, Tagus, Trotters, Willow City and Williston on the 3d; at Bottineau, Crosby, Dogden Butte, Ellendale, Fessenden, Foxholm, Grand Forks, Hettinger, Howard, Linton, Minot, Napoleon, Oakes, Rugby, Sharon, Tagus, Trotters, Velva, and Williston on the 4th; at Bottineau, Crosby, Devils Lake, Ellendale, Linton, McLeod, Trotters, Velva and Williston on the 5th; at Foxholm, Trotters and Westhope on the 7th; at Williston on the 17th; at Arnegard, Foxholm and Trotters on the 21st; at Foxholm, Howard, Rugby, Sharon, Steele, Trotters, Westhope and Williston on the 22d; at Williston on the 25th; at Linton on the 26th; and at Williston on the 30th and 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.14	31.01	18	29.54	31	57	6,333	8.5	36§	nw.	24
Devils Lake	30.12	30.96	18	29.36	26	44	7,029	9.5	31§	nw.	30
Ellendale	30.11	30.93	18	29.52	26	56	9,827	13.2	38§	nw.	30
Grand Forks	30.09	30.91	18	29.30	30	90	....	.....	35	nw.	24
Williston	30.15	31.07	18	29.44	26	48	5,404	7.3	35§	nw.	26
Moorhead, Minn	30.12	30.96	18	29.40	30	58	6,083	8.2	25§	nw.	30
Av'ges and extremes	30.12	31.07	18	29.30	30	.....	....	9.3	38	nw.	30

* For any five-minute period. † And other dates. § From 3-cup anemometers.

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SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. ct.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	123.9	265.8	48	− 1	84	71	82	39	23
Devils Lake	115.7	262.1	44	− 1	89	86	88	73	4
Ellendale	136.9	269.6	51	−14	86	80	....	56	4
Grand Forks	....	....	......	......	79	....	79	.....	...
Williston	139.2	262.1	53	+ 4	87	79	82	57	4
Moorhead, Minn	91.5	265.8	34	−15	92	82	88	57	4
Averages and extremes	121.4	265.1	46	− 6	80	80	84	39	23

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P.cdy days	Cl'dy days	Wind Dir.
1891...	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892...	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893...	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894...	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895...	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896...	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897..	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898...	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	nw.
1899...	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900...	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901...	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902...	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903...	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904...	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905...	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906...	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907...	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908...	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909...	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910...	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911...	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912...	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913...	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914...	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915...	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916...	2.7	−10.3	61	− 50	1.21	+0.73	5	15	8	8	nw.
1917...	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918...	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919...	7.4	− 5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920...	15.2	+2.2	59	-32	0.32	−0.22	3	11	9	11	nw.
1921...	16.5	+3.5	59	33	0.41	−0.13	4	14	7	10	nw.
1922...	8.5	−4.5	55	−34	0.67	+0.13	5	11	8	12	nw.
1923...	22.2	+9.2	62	−36	0.32	−0.22	3	16	8	7	nw.
1924...	2.9	−10.1	58	−46	0.43	−0.11	4	12	7	12	nw.
1925...	16.5	+3.5	67	38	0.28	−0.26	3	12	8	11	nw.
1926...	9.2	−3.8	55	−36	0.57	+0.03	3	14	8	9	nw.
1927...	−1.8	−14.8	43	−38	0.75	+0.21	5	14	7	10	nw.
1928...	20.7	+7.7	57	−30	0.28	−0.26	3	14	7	10	nw.
1929...	12.5	−0.5	59	−38	0.81	+0.27	5	12	8	11	nw.

Climatological Data for December, 1929

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr. Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Precipitation, in inches Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	Number of days With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Alpha	Golden Valley		3								0.42		0.16	5.0	4					H. A. Bury.
Amenia	Cass	954	33	11.7	−1.0	40	4†	−24	18	50	0.10	−0.41	0.10	1.0	4	13	11	7	n.	I. Idso.
Arnegard (near)	McKenzie		14	13.0	+0.5	44	30	29	18†	41	1.95	+1.50	0.60	19.5	7	19	5	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	33	13.9	+0.4	44	4	−23	18	36	0.40	−0.11	0.15	8.0	4	17	3	11	nw.	H. D. Piper.
Beach	Golden Valley	2,759	23	15.2	−1.3	42	14†	−35	18	39	0.84	+0.33	0.49	10.0	8	16	6	9	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	36	13.2^a	−2.5	50^a	30	−31^a	18	46^a	1.30	+0.90	0.65	9.5	4	9	1	21	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	54	13.6	−1.1	47	4	−27	18	35	0.81	+0.24	0.49	13.8	6	11	7	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	37	6.6	−0.1	37	30	−30	18	34	0.45	−0.04	0.13		8	15	3	13	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	15								0.63	+0.40	0.32	10.5	6	17	10	1	nw.	George Larsen.
Cando	Towner	1,488	28	7.6	+0.4	39	30	−27	17	40	2.10	+1.74	0.80	21.0	5	11	3	17	w.	A. J. Swanson.
Carson	Grant	2,500	17	11.6	4.4	40	4†	−32	18	31	0.80	+0.26	0.30	8.0	6	15	5	11	nw.	J. W. Evens.
Cavalier	Pembina		2								1.85		0.60	19.0	8	15	1	15	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	23																	S. Friswold.
Corinth	Williams	2,180	2																	L. S. Evenson.
Crosby	Divide	1,954	23	7.8	−4.5	42	29	−37	18	39	0.70	+0.21	0.30	7.0	7	9	8	14	nw.	John Jensen.
Devils Lake	Ramsey	1,478	32	7.6	−1.9	39	26	31	18	29	0.87	+0.33	0.31	12.6	13	9	8	14	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	37	11.0	−6.3	41	4†	37	18†	42	1.58	+1.16	0.52	15.8	10	8	16	7	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	3	11.6		42	30	−19	18	29	0.83		0.35	10.5	6	11	9	11	nw.	R. L. Williams.
Drake	McHenry	1,634																		J. Rindt.
Dunn Center	Dunn	2,191	30	11.2	−9.3	46	29	−38	18	45	1.50	+0.94	0.60	15.0	4	7	8	16	w.	W. F. Moede.
Dunseith	Rolette	1,682	33	8.2	−0.1	41	21	−21	18	30	0.85	+0.44	0.20	8.5	9	9	11	11	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	24	6.8	−2.8	40	30	−33	18	36	0.58	0.04	0.15	14.0	9	5	11	15	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	28	13.3	−3.2	45	4	−20	18	41	0.55	+0.16	0.30	5.5	3	7	13	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	30	14.4	−2.4	45	29	−19	18	33	0.23	−0.25	0.15	4.9	7	7	9	15	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	17	12.2		50	30	−35	18	41	1.28	+0.93	0.50	14.0	4	11	13	7	nw.	H. S. Solenberger
Epping	Williams	2,224	21	9.4		40	23†	−33	18	34	0.86	+0.43	0.30	9.0	5	21	5	5	w.	A. O. Wang.
Fairfield	Billings		2								0.75		0.30	7.5	5	22	3	6	w.	F. R. Hecker.
Fessenden	Wells	1,610	17	10.2	−2.0	42	4	−28	18	40	0.97	+0.24	0.42	13.0	7	8	10	13	nw.	T. D. Monsen.
Forman	Sargent	1,249	35								0.90	+0.36	0.40	9.0	3	11	8	12	nw.	O. Enger.
Fort Yates	Sioux	1,670	29	14.5	−3.8	50	4	−27	19	31	0.50	+0.07	0.30	5.0	2	16	7	8		P. J. Jacobson.
Foxholm (near)	Ward	1,657	8	9.8		43	30	−25	18	33	0.48		0.12	6.0	7	8	13	10	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	11								1.28	+0.76	0.50	13.0	6	13	9	9	nw.	Verne King.
Fullerton	Dickey	1,439	31	14.4	+0.7	44	4†	−20	18	33	0.83	−0.01	0.35	8.3	6	8	10	13	nw.	F. O. Alin.
Garrison	McLean	1,901	31	12.4	1.2	46	29	−29	18	30	0.80	+0.23	0.60	8.0	3	14	7	10	nw.	W. F. Robinson.
Grafton	Walsh	827	38	8.9^d	+1.2	41^c	29†	28^f	18	35^f	0.60	+0.06	0.28	11.7	4	11	12	8	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	38	9.4	−1.2	40	30	−27	18	30	0.65	+0.02	0.18	6.7	10	8	14	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	22	10.4	−2.0	42	30	34	18	33	2.00	+1.45	0.60	20.0	9	9	15	7	nw.	W. A. Christianson.
Hankinson	Richland	1,068		15.5		45	29†	18	17	38	0.31		0.30	4.0	2	7	10	14	nw.	R. G. Stock.
Hannah	Cavalier	1,568	35								0.53	−0.10	0.22	5.3	6					James Meier.
Hansboro	Towner	1,597	21	4.2	3.1	42	29†	27	18	40	1.11	+0.45	0.25	22.0	7	15	5	11	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	22	16.0	+0.2	45	25	30	18	34	0.24	−0.10	0.12	2.5	4	18	5	10	w.	C. H. Plath.
Hillsboro	Traill	901	23	10.5	−2.1	39	29	22	18	32	0.21	−0.69	0.10	2.3	5	8	13	10	n.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	22	8.4	−3.4	38	29	−32	18	29	0.62	0.20	0.20	6.2	4	12	6	13	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	37	10.2	−3.4	42	4†	25	18	41	1.00	+0.25	0.48	10.0	4	12	10	9	nw.	S. Calvelage.
Lamoine	Kidder	1,936	24	9.4	−1.8	42	30†	29	18	31	0.70	+0.20	0.40	7.0	3	14	5	12	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	33	5.3	−2.0	34	24†	−24	18	48	0.65	−0.08	0.30	6.5	4	6	20	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	35	8.2	−2.6	40	29†	−26	18	26	1.30	+0.76	0.40	13.0	5	9	4	18	n.	Reuben Gray.
Linton	Emmons	1,711	11	14.4	+0.4	49	27	−24	18†	36	1.25	+0.85	0.50	12.5	3	19	2	10	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	25	16.4	+2.3	53	25	−23	17	43	0.40	−0.01	0.15	4.0	4	14	5	12		L. B. Walker.
McClusky	Sheridan	1,943	11	9.8		40	4†	−30	18	28	1.56		1.11	16.2	4	12	14	5	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	35																	E. A. Kaatz.
McLeod	Ransom	1,075	17	15.0	+0.7	42	29	−22	18	36	0.37	−0.08	0.12	3.7	5	15	7	9	nw.	J. G. Carlson
Maddock	Benson	1,604	13	8.7	−0.9	40	30	−30	18	34	0.44	+0.12	0.22	4.4	6	8	13	10	sw.	A. T. Felland.
Mandan	Morton	1,644	15	12.6	−0.5	44	4	−25	18†	47	0.77	+0.32	0.48	14.0	6	13	2	16	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	26								0.77	+0.01	0.20	8.0	8					P. B. Anderson.
Marmarth	Slope	2,714	20	15.4	−2.3	47	4	−35	18	36	0.29	−0.05	0.10	3.7	6	11	10	10	nw.	S. P. Grane.
Mary	McKenzie		2								0.71		0.48	7.8	4	9	11	11	sw.	Fred Hartman.
Max	McLean	2,093		8.8^a		45^a	4	−28^a	17	50^b	1.15		0.60	11.5	4	12	4	15	nw.	A. W. Rice.
Mayville	Traill	975	33	9.8^a	−3.3	41^a	30	−27^a	18	38^a	0.95	+0.37	0.80	11.0	3	16	2	13	n.	N. C. Burhans.
Melville	Foster	1,590	31	9.5	−2.3	44	4	−25	18	61	0.71	+0.25	0.24	7.1	4	5	12	14	nw.	J. P. Fischer.
Metigoshe ‡‡	Bottineau		4																	J. A. Thorburn.
Michigan	Nelson	1,518	1																	Arnold Johnson.
Minot	Ward	1,557	33	10.3	−2.1	45	29	−26	18	31	0.57	+0.06	0.26	7.4	6	16	9	6	w.	Julia B. Rue.
Mott	Hettinger	2,424	22	13.3	−0.8	45	4	−31	18	40	1.00	+0.42	0.46	10.0	5	10	10	11	w.	O. H. Opland.
Napoleon	Logan	1,955	37	12.0	−0.4	43	4	30	18	33	0.76	+0.28	0.30	8.0	6	16	1	14	nw.	C. J. Hoof.
New England	Hettinger	2,400	38	15.5	−1.9	48	25	−29	17	40	0.85	+0.44	0.20	8.5	9	16	7	8	nw.	F. S. Sleight.
New Salem	Morton	2,163	25	13.6	−1.3	54	30	−29	18	32	1.39	+0.86	0.65	15.0	5	18	4	9	sw.	J. Christiansen.
Oakes	Dickey	1,318	1	14.8		45	29	−21	18	40	0.29		0.17	9.0	3	9	12	10	nw.	Eugene Naylor.
Park River	Walsh	998	25	8.1	-3.0	59	30	−32	17	40	0.70	+0.17	0.30	17.0	5	9	7	15	nw.	C. B. Wright.
Parshall (near)	Mountrail		14								1.50	+1.11	0.60	15.0	4	13	14	4	nw.	John A. Johnson.
Pembina	Pembina	789	55	10.0	+4.0	40	30	−25	18	38	1.10	+0.34	0.56	11.0	3	2	17	12	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	20																	A. L. Carlson.
Portal	Burke	1,954	15	8.7		39	3†	−32	17	38	0.40		0.40	4.0	1	11	4	16	sw.	C. T. Holmes.
Power	Richland	1,020	35								1.00	+0.46	0.40	10.0	5	12	8	11	nw.	Frank B. Power.
Powers Lake	Burke	2,205	15	10.9		46	5	−32	18	35	0.81	+0.18	0.28	13.5	5	17	6	8	w.	Geo. B. Gee.
Richardton	Stark	2,467	13	12.4	−1.5	42	4	−32	18	40	0.55	+0.17	0.40	5.5	3	13	10	8	sw.	John Muggli.
Rugby (near)	Pierce	1,562	1								0.80		0.40	8.0	3	7	9	15	nw.	E. C. Erickson.
Ryder	Ward	2,108	1								0.80		0.50	8.0	2					E. M. Lemen.
Sanish	Mountrail	1,835																		H. W. Monson.
Sharon	Steele	1,516	4	7.8		38	29†	−28	18	38	0.73		0.23	7.2	12	13	8	10	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	5								0.62		0.33	15.0	4	12	8	11	nw.	J. H. Giffey
Steele	Kidder	1,857	33	10.0	−3.6	46	4	−30	18	42	1.70	+1.17	0.50	17.0	6	15	8	8	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	14								0.17		0.12	4.0	2	19	10	2		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.17		0.09	4.0	4	13	8	10	sw.	J. C. Abbott.
Tioga	Williams	2,279	3								1.29		0.36	12.9	9	5	7	19	nw.	Anton Carlson.
Towner	McHenry	1,482	27																	B. Bagley.
Trotters	Golden Valley		4								1.03		0.60	10.0	4	14	7	10		A. J. Nellermoe
Turtle Lake	McLean	1,899	14																	A. T. Anderson.
Valley City	Barnes	1,245	24	12.9	−0.8	44	26	−22	18	39	0.33	−0.22	0.10	3.3	6	11	9	11	n.	I. C. Robertson.
Velva	McHenry	1,511	3	10.7		43	30	−33	18	35	0.65		0.21	9.0	8	7	11	13	w.	Oscar Anderson.
Verona	LaMoure	1,387	35								0.30		0.25	3.0	2	11	1	19	nw.	W. C. Taylor.
Wahpeton	Richland	962	37	13.9	−0.3	43	30	−21	18	36	0.42	−0.03	0.15	4.0	6	11	0	20	nw.	C. G. Luick.
Washburn	McLean	1,731	27	11.4	−2.6	42	25	−34	18	39	0.78	+0.44	0.58	10.2	5	15	6	10	nw.	C. W. Poe.
Westhope	Bottineau	1,508	27	7.2	−1.8	39	28	−31	18	38	0.25	−0.12	0.14	3.0	4	13	10	8	nw.	W. A. Meddaugh.
Williston	Williams	1,878	50	11.2	−2.6	45	29	−36	18	35	1.29	+0.71	0.58	12.9	8	12	10	9	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	7.8	−0.7	41	30	−30	18	38	0.60	+0.06	0.30	6.0	3	16	7	8	nw.	O. M. Sanderson.
Wilton	McLean		1	12.1		44	25	−26	17	38	0.81			13.8		18	1	12		L. Q. Perkins.
Wishek	McIntosh	2,010	9	11.4^a		44^a	5	−25^a	18†	30^a	0.53		0.25	6.0	4	6	0	25	nw.	E. W. Davis.
Zap	Mercer	1,838	1								0.36		0.26	6.0	3					R. A. Norton.
Moorhead, Minn.	Clay	935	48	12.2	+0.7	42	30	−22	18	33	0.82	+0.10	0.44	11.3	10	4	7	20	n.	U. S. Weather Bureau.
Averages				12.5	−0.5	59	30	−38	18	61	0.81	+0.27	1.11	9.9	5	12	8	11	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ª, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for December, 1929

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
lpha	Lit. Missouri								.08	T.	.07			T.			.11	.16	T														0.42
menia ‖	Red	T.					T			T.	.10		T																				0.10
rnegard (near)	Missouri							.25		.50	.60	.15					.20	.20									.05						1.95
shley	Missouri	.15							T	.10	.05	T					T	.10															0.40
each	Lit. Missouri	T.					.15	.02	.08	.09	.04						.39						.06				.01						0.84
erthold Agency	Missouri							T		.35	.20		T.				.65	.10															1.30
ismarck ***	Missouri	T					T	.06	.02	.18	.01			T.			.47	.07						T.	T.		T.						0.81
ottineau ‖	Mouse	.01					.07			T.	.13	.03		.05	.01	.13								.02									0.45
owman	Grand	T						.01	.01	.11			T.	T			.32	.08									.10						0.63
ando	Devils Lake	T	T.					.20		T.		T.	T	T.	.80	.40	.10	.60			T			T			T.					T.	2.10
arrington	James						.05	.05									.40							.02	.03								0.55
arson	Heart	.10						.05		.10	.05						.20	.30															0.80
avalier	Red					.10	.60			.10	.20	.60			.10	.05									.10								1.85
ooperstown	Sheyenne																																
orinth	Missouri																																
rosby	Mouse	.10								T	.30			.02	.10	.08	.05											.05					0.70
evils Lake ***	Devils Lake	.01				.03	.06	.01		.02	.18	.27	T.	.01	.01	.13	.10							.01	.03		T.					T.	0.87
ickinson ‖	Heart	.05	T				.02	T	.11	.28	.09	.13	.03		.01	T	.31	.52							T			T.	T.				1.58
ogden Butte	Mouse	.10					T.	.04		.09	.17	T.		T.	T.	T.	.35	.08						T.									0.83
rake ‖	Mouse																																
unn Center ‖	Knife						T.			T.	.60	.40				T.	.10	.40															1.50
unseith	Mouse	.20				.05	.05			.05	.15			.10	.05	.15								.05									0.85
ckman	Mouse	.03					T.			.02	.15	.10		.10	T.	.11	.01							.05			.01						0.58
dgeley	James							.05			.20						.30																0.55
llendale***	James						T.	.02	.01	.02	.02	.01	T.	T.		T.	.12	.03									T.						0.23
nergy	Missouri									.24	.30						.50	.24						T.									1.28
pping	Missouri							T.		.25	.30	.15				.08		.08															0.86
airfield	Knife						.05	.15		.10	.15						.30																0.75
essenden ‖	James	.14									.19	.05				.08		.42								.08		.01					0.97
orman	Sheyenne	.30								.20								.40															0.90
ort Yates	Missouri									.20							.30																0.50
oxholm (near)	Mouse	.04					T.	.02		.12	.01	T.		.05	T.	.10	.11	T.						T.			T.					T.	0.48
ryburg	Heart	T.					T.	.20		.20	.20	.08				.30	.30																1.28
ullerton	James	.22					T.	.06	T.	.35	.05	.03				T.	.12	T.			T.												0.83
arrison	Missouri							T.		.10	.10						.60							T.			T.						0.80
rafton	Red	T.		T.		T.	.11				.17	.28			.04																		0.60
rand Forks ***	Red			T.		.06	.09	.04		.02	.18	.03	.01			.08	.11	T.		T.				.03	T.			T.					0.65
ranville	Mouse	.30				T.	T.			.10	.60	.10	T.	T.		.40	.20					.10		.10	.10		T.					T.	2.00
ankinson ‖	Red								.01									.30															0.31
annah	Pembina	T.	T.				.22	T.			.17	.02	T.	T.	.04	.05	T.								.03		T						0.53
ansboro	Devils Lake	.10					.15				.20	.16		.10		.25											.15						1.11
ettinger	Grand						T	T.	T.	.01	.01	T.					.10	.12						T.									0.24
illsboro	Red	T.					T.		.04	T.	.10	.01	T.				T.	.04							.02								0.21
oward (near)	Missouri									T.			T.	.10		.12	.20							T.			T.	T.				.20	0.62
amestown ‖	James					.02		.08			.42							.48															1.00
amoine	Missouri							.10			.20						.40							T.				T.					0.70
angdon ‖	Pembina	.05					.30									.10	.20																0.65
arimore ‖	Red								.10	.20	.30					.30	.40																1.30
inton	Missouri							.25		.50							.50																1.25
isbon ‖	Sheyenne					T.		.08	.08	.07	.02						.15																0.40
cClusky	Missouri	.10						T.		.15	.20					T.	1.11							T									1.56
cKinney (near)	Mouse																																
cLeod	Sheyenne								.09	.11	.02						.03		.12														0.37
addock	Sheyenne	.02					T.	T.		T.	.05	.22		T.		.08	.05							T.	.02		T.						0.44
andan ‖	Missouri	.07						T.	.02	.05	.01	T.					.14	.48															0.77
anfred	James						.01	.02		.20	.05	.07		T.	T.	.20	.20										.02	T.					0.77
armarth	Lit. Missouri	T.						.04	.04	.04	.10						.06											.01					0.29
ary	Lit. Missouri						T.	.10	T.	.09	.04						.48										T.					T.	0.71
ax ‖	Missouri	.10										.60		.25			.20																1.15
ayville	Red							.07			.80	.08																					0.95
elville	James									.13							.17	.24										.17					0.71
etigoshe	Mouse																																
ichigan	Red																																
inot ‖	Mouse										.26	.03	.02	.01		.18		.07															0.57
ott	Cannon Ball	T					T.	.02		.29	.05							.46	.18					T.									1.00
apoleon ‖	Missouri	.30							.08	.08							.05	.20							.05								0.76
ew England	Cannon Ball					.05	.05	.10	.20	.05	.05	.05				.10	.20																0.85
ew Salem	Heart						T.	.08	T.	.65	.06					.20	.40							T.			T						1.39
akes	James	.17							T.	.07	T.	T.					.05																0.29
ark River	Red						.06				.30	.25				.06	.03			T.													0.70
arshall (near)	Missouri								.10	.30	.60						.50																1.50
embina ‖	Red						.40						.50												.20								1.10
ettibone	James																																
ortal ‖	Mouse									.40																							0.40
ower	Sheyenne	.10			.10					.20							*	.40							.10								1.00
owers Lake	Missouri									.13				.28		.27	.11							.02									0.81
ichardton	Heart							.05				.10					.40																0.55
ugby [near]	Mouse										.40		T.	.10		.30	T.							T.								T.	0.80
yder	Missouri									.50							.30																0.80
anish ‖	Missouri																																
haron	Red	.04				T.	.01	.02		.05	.23	.01	.01	T.	T.	.10	.19	.04			T.	T.		.01	.02		T.	T.					0.73
tanton	Missouri							.05			.22						.33							.02									0.62
teele	Missouri	.20								.40	.20				.20		.50	.20															1.70
towers	Cannon Ball								T	T.	T.						.05	.12					T.										0.17
agus	Mouse									.02	.03					.09								.03									0.17
ioga	Missouri	T.				T.	T.	.05		.33	.36		.04	T.		.07	.30	.10			T.			.03			T.					.01	1.29
owner	Mouse																																
rotters	Lit. Missouri							.16		.15							.60	.12															1.03
urtle Lake	Missouri																																
alley City	Sheyenne	.04					.02	T			.03					.04	.10	.10															0.33
elva	Mouse	.04					T.	T.	T.	.08	.21	.03	T.	.03	T.	.17	.07	.02				T.		T.	T.		T.						0.65
erona	James	.25								.05																							0.30
ahpeton	Red	.05								.10							.05	.05	.15						.02								0.42
ashburn	Missouri							.03		.04	.03	.10					.58																0.78
esthope	Mouse										.02			.07	.02	.14																	0.25
illiston ***	Missouri					T.	T.	.05		.33	.36		.04	T.		.07	.40				T.			.03			T.					.01	1.29
illow City	Mouse					T.				.20				.30		.10								T.								T.	0.60
ilton																																	0.81
ishek ‖	Missouri		.25							.08							.10	.10															0.53
ap	Knife							.03			.07						.26																0.36
oorhead, Minn ***	Red	.03		T		.02	.03	.03		.13	.06	T	T	T.	T.	T.	.34	.10		T.	T.	T.			.07		T.	.01	T				0.82

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December, 1929

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	16	16	24	40	40	36	40	39	35	20	15	32	22	16	12	15	-8	-4	2	5	6	8	10	14	36	37	30	32	36	38	39	22.5
	Minimum	-4	-7	-5	2	15	16	-10	-5	0	-2	5	8	7	6	4	3	-12	-24	22	-14	-5	-13	-8	-10	12	17	14	12	14	20	26	0.9
Arnegard	Maximum	14	15	33	43	35	35	15	7	4	4	20	40	36	23	11	10	2	-13	-15	-4	2	24	26	30	40	38	33	30	40	44	36	21.0
	Minimum	-1	-10	13	27	17	1	0	-7	-2	-2	0	-1	6	3	7	0	-13	-29	-29	-22	-11	-14	7	7	26	19	12	10	22	16	14	5.1
Ashley	Maximum	12	12	26	44	41	31	15	14	14	8	21	28	28	24	25	13	6	13	-3	4	8	9	27	30	29	41	34	33	41	40	38	23.1
	Minimum	2	-13	3	12	19	4	0	-1	5	2	4	20	10	7	4	5	-9	-23	-18	-14	-7	-17	0	12	10	25	11	18	22	29	20	4.7
Beach	Maximum	22	20	34	40	36	35	20	10	8	4	32	25	31	42	22	25	15	4	2	-4	1	24	34	36	42	39	36	30	38	41	35	25.1
	Minimum	7	-11	15	23	18	5	6	-7	4	2	4	15	2	9	8	0	-16	-35	-26	-22	-11	-4	12	17	32	19	18	11	28	27	17	[illegible]
Berthold Agency	Maximum	16	20	30	45	35	35	30	15	6	8	20	20	26	....	16	18	5	-10	-8	3	5	25	40	40	35	45	40	30	46	50	35	[a]24.0
	Minimum	4	12	17	10	18	0	2	-11	4	0	0	4	5	....	4	4	-16	-34	25	-25	-16	-14	-6	11	12	16	10	16	23	25	20	[a]2.4
Bismarck	Maximum	12	13	30	47	32	32	19	13	7	4	22	27	23	30	17	13	-1	10	-5	5	1	15	37	32	44	40	38	32	43	44	38	22.4
	Minimum	-4	-9	7	19	22	2	4	-4	4	2	4	22	8	9	8	-1	-17	-27	-26	20	-15	-11	2	12	22	24	17	19	29	26	24	4.9
Bottineau §§	Maximum	11	6	18	30	29	19	10	9	6	5	10	24	23	14	10	7	1	-14	3	3	-1	7	22	31	30	35	28	22	36	37	31	16.3
	Minimum	-6	-19	0	5	11	6	-8	-12	-11	-5	-3	10	-2	-2	-2	-1	-19	-30	-20	-18	-15	-14	-2	-3	0	18	6	8	10	21	15	-3.0
Cando	Maximum	13	14	11	34	30	18	13	16	2	2	14	25	24	11	10	-1	13	-3	-1	0	10	16	25	27	30	34	31	29	37	39	31	18.1
	Minimum	-9	-15	-7	8	12	-7	-8	-10	-11	-6	-5	13	0	-1	2	-15	-27	-21	-18	-15	-11	-7	2	-6	3	1	8	16	19	17	24	-2.8
Carson	Maximum	20	15	30	40	38	36	20	15	11	10	20	26	30	20	16	15	9	-15	-10	0	-4	14	28	30	10	40	35	30	40	40	31	21.4
	Minimum	-1	-15	10	18	16	0	2	-5	3	0	0	5	4	3	-5	-1	-22	-32	-25	-23	-16	-14	5	10	18	25	12	16	25	24	18	1.8
Crosby §§	Maximum	6	18	32	37	27	28	17	1	0	7	18	15	10	10	10	5	-13	-12	-16	-2	5	24	35	31	32	27	30	39	42	34	25	16.8
	Minimum	1	-9	-2	10	15	-3	-2	-2	-9	-4	-5	10	3	-3	0	3	-15	-37	-31	-27	-23	-15	5	9	15	12	12	13	10	12	25	-1.2
Devils Lake	Maximum	7	12	11	33	20	11	12	7	2	-1	18	25	14	11	4	5	-9	-13	-8	-1	0	15	31	26	37	33	30	26	37	39	34	15.4
	Minimum	-7	-14	5	13	11	-9	-6	-6	-5	-5	1	14	2	2	0	-9	-25	-31	-22	-19	-15	-9	4	2	8	14	12	18	26	25	25	6.1
Dickinson §§	Maximum	11	22	33	41	38	13	17	13	5	10	17	24	15	34	20	8	-5	-11	-13	-1	2	24	35	34	41	35	26	39	40	31	33	20.8
	Minimum	4	-10	-9	15	20	8	4	-9	-7	1	0	9	4	3	8	8	-7	-37	-37	-33	-20	-16	-3	11	11	30	13	11	11	30	20	1.1
Dunn Center §§	Maximum	10	21	35	24	34	21	14	11	4	10	24	20	12	32	14	14	-5	-11	-8	2	2	24	34	32	40	41	34	41	46	36	34	26.3
	Minimum	1	-10	-10	20	21	5	4	-10	-7	-1	2	10	4	4	7	4	-9	-38	-33	29	-18	-15	2	14	14	30	15	9	27	32	21	2.0
Dunseith	Maximum	10	4	20	38	28	14	10	9	4	4	12	22	20	12	4	3	5	1	11	15	2	8	23	29	36	35	29	26	41	31	28	16.9
	Minimum	17	-13	0	8	12	-7	-11	-10	-10	-10	-7	8	3	-3	-3	-6	-17	21	-17	-4	-12	-15	2	3	9	16	9	13	25	19	17	-0.4
Edgeley	Maximum	16	11	21	43	36	24	24	15	16	8	21	28	28	25	26	16	12	-10	-3	6	4	-3	26	31	40	41	37	33	42	42	40	22.5
	Minimum	4	-11	0	11	21	2	-4	0	-1	4	4	20	9	4	3	6	-10	20	-15	-12	13	-16	-15	12	10	21	19	20	23	30	19	4.1
Ellendale	Maximum	12	12	24	45	31	24	15	16	12	11	25	30	29	24	13	13	2	-4	-3	7	3	12	31	33	43	42	39	31	45	43	42	22.6
	Minimum	0	-10	10	13	22	0	0	1	8	6	11	25	8	6	5	2	-15	19	-13	-1	-10	-13	-2	3	12	25	19	23	29	25	21	6.1
Fessenden §§	Maximum	10	15	32	42	23	15	16	12	5	16	24	26	10	22	12	6	7	-7	-6	6	5	13	16	31	40	36	33	35	40	34	37	19.1
	Minimum	8	-13	-8	13	18	2	-4	-2	-1	-1	-1	12	6	4	2	5	-13	-28	-27	19	11	-15	4	6	4	26	13	18	17	30	21	1.4
Foxholm (near)	Maximum	13	11	25	39	34	24	14	9	2	2	12	21	13	13	5	5	0	-6	-5	6	2	18	32	31	40	40	32	29	40	43	34	18.7
	Minimum	9	-14	7	16	16	-7	-5	5	-7	-6	5	11	3	-3	-1	-1	-18	-25	-15	-15	12	-15	10	5	8	22	15	13	22	26	24	0.9
Fullerton	Maximum	13	12	23	44	32	25	15	16	12	10	29	30	30	24	12	13	8	4	-4	6	3	12	28	32	40	40	39	31	41	43	41	22.5
	Minimum	-1	-11	2	11	22	2	0	0	6	7	10	26	10	5	5	5	-6	-20	-14	5	-5	-13	-1	6	11	32	19	23	22	30	21	6.4
Garrison	Maximum	22	15	29	43	35	31	17	11	6	5	18	25	21	25	15	6	4	-10	2	0	2	15	34	31	40	38	35	32	46	46	35	21.8
	Minimum	-2	-12	5	15	19	0	-1	-6	0	-2	0	17	4	4	4	3	-12	-29	-26	-20	-11	-14	4	9	13	25	12	21	23	25	26	3.0
Grafton	Maximum	12	13	19	34	27	15	....	13	18	5	19	29	30	9	12	....	7	-2	0	8	4	....	17	34	35	39	32	33	41	41	38	[c]20.8
	Minimum	-3	-9	-2	7	8	7	....	-18	-9	-4	0	18	1	0	-3	....	-20	-28	-23	11	-9	....	-12	....	0	7	11	12	....	....	19	[f]-3.0
Grand Forks	Maximum	11	11	19	34	20	17	12	13	5	6	22	32	17	10	11	7	-5	5	-4	3	4	6	21	32	36	37	33	29	38	40	37	17.7
	Minimum	1	-6	10	11	12	-10	-14	-8	-3	2	5	17	2	3	0	4	-21	27	-19	-6	-14	-14	-1	7	6	11	11	16	17	26	27	1.2
Granville	Maximum	15	12	25	38	32	18	15	10	4	2	20	25	15	18	5	7	0	-5	-6	5	8	16	35	31	40	40	32	40	40	42	35	19.8
	Minimum	-11	-19	-8	18	18	-5	-4	-7	-4	-5	-2	12	0	0	0	-2	-32	34	-26	-23	-18	-6	5	4	10	18	12	25	30	20	27	1.0
Hansboro	Maximum	9	10	20	35	25	15	15	10	0	0	10	22	12	10	5	0	-10	5	-3	5	5	10	15	28	30	30	33	36	42	42	33	15.8
	Minimum	-14	-13	0	5	6	5	-17	-16	-18	-13	-11	0	-8	-8	-10	-10	-26	27	23	-18	-18	-20	-4	-4	-7	0	-7	10	10	24	13	-7.4
Hettinger	Maximum	22	15	33	42	40	38	21	15	13	10	18	31	16	42	28	31	3	-5	5	5	8	25	37	31	45	42	36	33	41	40	35	25.5
	Minimum	4	-10	12	22	20	7	8	0	8	3	3	4	5	9	11	3	-12	-30	-21	-17	-15	9	10	15	24	32	18	16	27	31	25	6.5
Hillsboro	Maximum	15	14	20	35	28	17	8	12	5	7	20	32	35	12	12	10	6	-10	3	2	3	6	18	18	32	36	33	33	39	38	35	18.3
	Minimum	3	-5	0	8	12	-4	-12	-8	3	5	4	20	3	3	3	6	-15	-22	-19	6	-9	-15	-2	5	8	20	12	19	19	29	26	2.7
Howard (near)	Maximum	15	15	28	36	33	25	12	6	1	0	18	14	7	11	10	9	-3	-26	-10	-14	-10	14	32	36	34	32	50	27	38	34	34	15.9
	Minimum	3	8	10	16	14	-4	3	9	-5	-4	-5	7	-3	-3	3	-3	-20	-32	-30	-25	-20	-14	10	18	14	14	14	[illegible]	25	19	25	1.0
Jamestown §§	Maximum	7	10	29	42	23	11	15	11	5	9	23	18	10	18	10	8	-8	-9	-5	6	2	16	32	28	40	37	37	34	42	40	38	18.8
	Minimum	-3	-10	-11	11	20	10	-5	-4	-5	0	0	11	7	5	1	6	-10	25	-23	-17	-11	-16	-9	1	2	26	15	15	20	33	25	1.7
Lamoine	Maximum	18	17	22	38	31	22	13	16	4	3	20	20	20	22	18	6	3	-14	-6	-6	-1	10	25	30	38	4	35	30	38	42	42	19.2
	Minimum	-8	-17	-10	11	11	10	-3	-10	-3	-2	-3	4	4	2	1	3	-14	-29	-25	-20	-12	16	0	7	7	20	10	13	18	20	18	0.4
Langdon §§	Maximum	13	19	31	22	13	10	18	2	4	21	25	18	14	7	4	0	-5	-4	-1	4	8	8	10	31	31	22	28	31	28	28	30	15.4
	Minimum	-10	-17	-17	5	10	-5	-17	-18	-5	-10	-9	1	0	-2	-6	-5	-18	28	-25	20	-15	-18	-9	0	-5	17	10	18	12	21	15	-4.8
Larimore §§	Maximum	13	15	26	35	20	15	7	15	2	7	15	15	5	8	5	2	0	-15	-5	-5	5	10	18	32	37	33	32	35	40	40	39	16.2
	Minimum	-5	-10	5	10	15	-6	-14	-10	-8	-5	-2	5	2	0	-2	0	-15	-26	-26	-10	-5	-16	0	10	17	18	10	14	16	18	20	0.2
Linton	Maximum	16	18	31	48	36	35	19	17	13	9	25	27	26	28	22	15	[illegible]	[illegible]	-9	6	2	14	28	32	42	46	49	32	43	43	48	24.5
	Minimum	2	-3	6	12	19	4	3	-10	7	5	5	21	9	10	5	5	-11	-21	24	-18	-10	-8	-3	9	10	17	21	17	20	23	16	4.4
Lisbon §§	Maximum	22	35	49	33	33	19	18	13	18	32	38	21	32	20	18	6	-1	7	11	10	20	11	34	45	53	41	45	46	36	45	36	28.3
	Minimum	-8	-6	9	18	1	-5	-4	2	2	4	15	10	1	3	4	-10	-23	-19	-4	-10	-14	1	1	2	22	18	18	35	29	24	19	4.4
McClusky	Maximum	10	8	25	40	25	25	16	13	4	3	20	25	22	26	16	10	-1	14	-9	-1	0	10	29	33	38	38	36	26	39	40	58	19.0
	Minimum	-6	-18	5	14	15	-3	-2	-7	-13	-2	0	5	3	4	2	0	-12	-30	-24	-20	-15	-6	6	9	16	12	12	14	20	22	20	0.7
McKinney (near)	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Maddock	Maximum	15	8	21	36	33	23	15	12	2	5	18	24	25	12	12	6	0	-10	-5	2	0	10	30	28	34	33	31	34	35	40	37	18.3
	Minimum	-7	-15	2	8	14	-4	-7	-6	-5	-6	-4	16	3	0	2	0	-16	30	-24	-22	-11	-18	-2	4	0	19	6	15	18	28	21	-0.9
Marmarth	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Melville	Maximum	42	40	39	44	37	29	32	27	36	32	35	27	33	31	21	16	12	5	8	6	14	17	19	23	22	27	29	31	24	33	31	26.5
	Minimum	-14	-21	-10	-1	-3	-2	-6	-4	-7	-5	-9	-6	-10	-	9	-11	-21	-25	-21	-19	-12	-6	-8	-4	5	-2	-1	4	-2	6	8	-7.5
Minot §§	Maximum	8	17	36	40	27	10	11	9	14	7	21	24	10	19	7	5	-9	-1	2	9	6	21	36	35	40	28	32	39	45	34	35	19.6
	Minimum	-5	-19	-14	12	16	-2	-3	-7	-7	-4	-4	6	3	0	1	3	-13	-26	-21	-17	-10	-10	5	7	5	27	16	15	17	31	25	1.0
Mott	Maximum	10	22	34	45	34	14	12	19	10	13	22	24	14	27	16	15	8	1	13	-7	-2	10	35	37	38	42	39	36	44	38	28	22.8
	Minimum	-13	5	13	18	8	1	5	-5	1	4	6	11	3	6	11	8	1	-31	-27	-19	-17	-4	8	16	18	21	20	17	23	23	15	4.3
Napoleon §§	Maximum	8	13	35	43	30	11	17	16	7	16	24	28	14	15	17	10	7	13	-5	2	0	16	31	32	42	30	36	31	40	36	38	20.2
	Minimum	-5	-16	3	18	23	10	-3	-6	-5	0	-1	19	8	6	2	4	-11	-30	-23	-21	-12	-17	0	10	20	37	17	16	22	30	24	3.9
New Salem	Maximum	20	10	30	38	37	30	20	17	11	9	11	25	17	30	25	10	5	10	-3	2	1	17	36	41	42	40	37	29	45	54	39	23.1
	Minimum	2	-11	-2	23	20	10	3	-7	0	0	-1	17	8	4	5	-4	-12	-25	-21	-17	-12	-15	10	17	14	26	17	17	24	27	20	4.1
Pembina §§	Maximum	4	25	21	20	14	4	0	8	8	10	30	25	15	10	10	15	0	-5	0	10	5	18	20	20	28	28	29	38	39	40	34	16.9
	Minimum	-8	-10	20	16	14	-6	-5	-10	-4	-5	-8	25	2	5	-5	-5	-5	-25	-20	-19	-4	-5	-5	15	6	25	20	25	20	25	20	3.2
Steele	Maximum	8	7	24	46	32	18	18	12	6	10	26	36	26	20	20	14	-4	12	-8	-4	-2	10	32	24	40	34	34	36	42	34	38	20.7
	Minimum	-14	-20	-6	8	10	6	-10	-16	-8	-6	12	16	20	18	-2	-6	-16	-30	-28	-22	[illegible]	-26	0	2	13	25	12	16	14	16	18	-0.6
Towner	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Valley City	Maximum	12	8	14	40	25	20	14	14	8	6	21	30	30	19	14	10	12	11	7	5	6	12	24	38	40	41	37	38	42	43	32	21.8
	Minimum	-1	-7	2	10	14	-1	-7	-3	2	2	3	20	6	6	1	2	4	-22	-16	-8	-4	-13	-1	1	1	24	19	22	21	24	[illegible]	4.0
Wahpeton	Maximum	15	7	22	40	36	20	10	14	16	16	24	33	35	15	18	19	18	15	0	6	8	8	19	30	39	46	35	37	42	43	38	23.2
	Minimum	5	-7	-1	9	10	6	-10	-5	0	11	12	21	5	1	10	11	9	-21	-19	-16	-10	-12	-2	14	5	16	15	21	20	32	30	4.6
Westhope	Maximum	10	13	28	24	16	12	16	16	2	1	2	25	18	10	12	10	10	-4	-6	0	10	18	24	36	34	30	31	39	31	32	29	17.4
	Minimum	-8	-16	-2	5	4	-6	-6	-6	-8	-5	-5	-2	-2	-2	-2	-2	-20	-31	-22	-20	-18	-18	-2	-2	10	10	10	25	20	26	10	-2.9
Williston	Maximum	10	23	33	40	36	33	16	4	4	3	19	18	7	18	16	10	0	-15	-14	3	0	22	40	27	41	39	33	29	45	44	34	19.9
	Minimum	-3	-8	14	22	17	0	2	-5	1	-1	1	4	0	6	6	3	-2	-36	-32	-29	-11	-13	8	22	31	28	27	18	15	26	25	2.5
Moorhead, Minn	Maximum	11	8	19	38	21	20	12	12	12	12	24	33	33	15	15	13	3	-7	-3	4	4	8	22	31	28	38	35	30	41	42	30	20.0
	Minimum	3	-4	8	9	15	-8	-10	-2	4	8	12	24	4	4	6	3	-18	-22	-16	-7	-9	-12	-1	6	5	20	15	21	21	29	30	4.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 1-31-30—[illegible]]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIX   Bismarck, N. D., January, 1930   No. 1

GENERAL SUMMARY

The month was cold and deficient in moisture. Only five times in the 39 years of record for January has a lower mean temperature for the state been recorded. The month opened with moderate temperatures and the last week was mild, but cold weather was experienced continuously from the 6th to the 22d. Sub-zero temperatures were the rule even in the afternoons during most of this period. Only a few stations, mostly in the southwestern part of the state, reported precipitation above the normal, but the heavy snowfall during December and the cold January weather caused livestock to suffer considerably and much yard feeding was necessary. Very little outdoor work was accomplished, but the ice harvest was well under way by the end of the month. Many highways, particularly in the northern part of the state, were blocked with drifted snow.

F. J. B.

TEMPERATURE

The mean temperature for the state was -1.9°, or -6.8° below the normal, and 2.9° higher than the mean for January, 1929. The highest mean reported was 5.0° at New England, Hettinger County; the lowest was -9.0° at Hansboro, Towner County. The highest temperature reported was 41° at Powers Lake, Burke County on the 1st; the lowest was -43° at Eckman, Bottineau County on the 9th. The greatest monthly range of temperature was 78° at Eckman, Bottineau County; the least was 52° at Cando, Towner County, Pembina, Pembina County and Portal, Burke County. The greatest daily range in temperature was 52° at Eckman, Bottineau County on the 3d.

PRECIPITATION

The average precipitation for the state was 0.29 inch, or 0.25 inch below the normal, and 0.34 inch less than the average for January, 1929. The greatest monthly amount reported was 1.41 inches at Bowman, Bowman County; there was none at Hansboro, Towner County, Mayville, Traill County and Portal, Burke County. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Lamoine, Kidder County on the 24th. The average snowfall was 2.7 inches and the greatest monthly amount was 11.0 inches at Mott, Hettinger County. The average number of days with 0.01 inch or more of precipitation was 4.

AURORAS

Auroras were observed at Linton and Williston on the 3d; at Arnegard, Bottineau, Linton, Rugby, Trotters and Williston on the 4th; at Williston on the 6th; at Foxholm, Rugby and Sanish on the 7th; at Sanish on the 8th; at Bottineau on the 9th; at Dogden Butte, Foxholm and Rugby on the 18th; at Rugby on the 20th; at Foxholm on the 27th; at Bottineau and Linton on the 29th; at Howard and Williston on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.27	30.92	9	29.69	1	57	5,665	7.6	25§	nw.	27
Devils Lake	30.25	31.00	9	29.60	1	44	6,104	8.2	26§	n.	24
Ellendale	30.27	30.93	8	29.74	1	56	9,056	12.2	31§	n.	6
Grand Forks	30.24	30.97	9	29.65	1	90	....	.....	29	nw.	6
Williston	30.29	30.88	8	29.74	1	48	5,046	6.8	25§	w.	17
Moorhead, Minn	30.26	30.99	9	29.61	1	58	5,836	7.8	24§	n.	24
Av'ges and extremes	30.26	31.00	9	29.60	1	.....	....	8.5	31	n.	6

* For any five-minute period. † And other dates. § From 3-cup anemometers.

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1930

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	121.4	279.2	43	−10	87	71	80	40	21
Devils Lake	115.8	275.8	42	− 9	89	87	89	79	21
Ellendale	163.6	282.9	58	+ 5	87	81	....	70	2
Grand Forks	......	......	......	.....	73	.....	76	......	....
Williston	148.0	275.8	54	+ 1	85	73	74	55	20
Moorhead, Minn	122.6	279.2	44	− 9	92	72	86	37	17
Averages and extremes	134.5	278.6	48	− 5	86	77	81	37	17

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	3.3	−1.6	58	−52	0.32	−0.22	4	15	8	8	nw.
1893	0.8	−4.1	52	−48	0.98	+0.44	7	11	11	9	nw.
1894	0.6	−4.3	60	−47	0.39	−0.15	4	13	9	9	nw.
1895	−2.9	−7.8	42	−46	0.56	+0.02	5	16	8	7	nw.
1896	5.3	+0.4	58	−42	0.70	+0.16	6	9	9	13	nw.
1897	3.6	−1.3	49	−38	0.79	+0.25	5	11	9	11	nw.
1898	14.6	+9.7	69	−32	0.11	−0.43	2	15	8	8	nw.
1899	5.2	+0.3	55	−41	0.25	−0.29	3	13	9	9	nw.
1900	15.4	+10.5	70	−30	0.22	−0.32	3	15	9	7	nw.
1901	7.7	+2.8	68	−39	0.28	−0.26	4	14	8	9	nw.
1902	12.7	+7.8	51	−40	0.14	−0.40	2	17	7	7	nw.
1903	9.4	+4.5	56	−37	0.66	+0.12	5	13	8	10	nw.
1904	3.6	−1.3	50	−52	0.37	−0.17	5	15	6	10	nw.
1905	0.9	−4.0	48	−40	0.30	−0.24	3	15	8	8	nw.
1906	12.2	+7.3	60	−38	0.69	+0.15	4	14	6	11	nw.
1907	−6.2	−11.1	45	−45	1.40	+0.86	8	12	8	11	nw.
1908	17.0	+12.1	70	−44	0.18	−0.36	2	17	8	6	nw.
1909	3.5	−1.4	53	−48	0.42	−0.12	4	14	8	9	nw.
1910	9.4	+4.5	49	−35	0.33	−0.21	3	16	8	7	nw.
1911	−1.0	−5.9	56	−43	0.91	+0.37	6	11	8	12	nw.
1912	−4.6	−9.5	63	−52	0.35	−0.19	4	16	6	9	nw.
1913	3.2	−1.7	60	−54	0.45	−0.09	5	12	9	10	nw.
1914	14.8	+9.9	62	−38	0.50	−0.04	4	12	8	11	nw.
1915	5.8	+1.1	51	−48	0.29	−0.25	3	12	9	10	nw.
1916	−6.4	−11.3	49	−56	1.38	+0.84	6	13	8	10	nw.
1917	1.7	−3.2	47	−46	0.73	+0.19	5	13	8	10	nw.
1918	0.5	−4.4	48	−44	0.45	−0.09	5	12	8	11	nw.
1919	18.7	+13.8	66	−44	0.17	−0.37	2	17	8	6	nw.
1920	2.7	−2.2	49	−44	0.93	+0.39	5	10	9	12	nw.
1921	15.9	+11.0	58	−31	0.24	−0.30	2	13	9	9	nw.
1922	7.0	+2.1	55	−46	0.49	−0.05	5	12	9	10	nw.
1923	10.1	+5.2	56	−35	0.53	−0.01	5	9	9	13	nw.
1924	2.6	−2.3	61	−42	0.23	−0.31	3	14	9	8	nw.
1925	8.6	+3.7	52	−35	0.22	−0.32	3	11	10	10	nw.
1926	16.3	+11.4	55	−30	0.38	−0.16	4	13	8	10	nw.
1927	10.1	+5.2	60	−44	0.41	−0.13	4	14	8	9	nw.
1928	13.0	+8.1	50	−41	0.21	−0.33	3	14	9	8	nw.
1929	−4.8	−9.7	42	−42	0.63	+0.09	6	13	8	10	nw.
1930	−1.9	−6.8	41	−43	0.29	−0.25	4	12	9	10	nw.

Climatological Data for January, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		4								0.37		0.10	3.7	6					H. A. Bury.
Amenia	Cass	954	34	0.0	-4.5	39	1	-29	9	43	0.08	-0.42	0.05	0.8	2	18	2	11	n.	I. Idso.
Arnegard (near)	McKenzie		15	-3.4	-14.1	37	3	-30	18	40	0.30	-0.26	0.10	3.0	4	18	10	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	0.8	-6.7	35	1	-30	9†	32	0.09	-0.46	0.03	7.0	5	12	10	9	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	-0.1	-9.4	36	4	-32	17	39	0.30	-0.33	0.12	3.0	7	19	6	6	nw.	J. C. Russell.
Berthold Agency††	McLean	2,082	37	0.2	-7.3	35	3	-25	7†	39	T.	-0.40	T.	T.	0	25	1	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	-0.4	-8.2	31	3	-28	9	33	0.23	-0.22	0.14	2.7	6	10	12	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	38	-5.9	-5.2	27	1	-37	9	32	0.11	-0.35	0.05	1.1	5	18	6	7	nw.	N. A. Eckberg.
Bowman	Bowman	2,961	16	1.5		38	3	-31	17	38	1.41	+0.91	0.40	10.5	9	18	10	3	nw.	George Larsen.
Cando	Towner	1,488	29	-4.8	-3.3	18	24	-34	9	32	0.20	-0.20	0.10	2.0	2	13	4	14	w.	A. J. Swanson.
Carson	Grant	2,500	18	-2.4	-12.3	35	4†	-34	17†	39	0.30	-0.04	0.20	3.0	3	12	13	6	nw.	J. W. Evens.
Cavalier	Pembina		3								0.18		0.10	1.8	3	14	0	17	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	24																	S. Friswold.
Corinth	Williams	2,180	3																	L. S. Evenson.
Crosby	Divide	1,954	24	-5.8	-7.5	20	1	31	9	43	0.24	-0.25	0.10	2.5	4	5	10	16	nw.	John Jensen.
Devils Lake	Ramsey	1,478	33	-5.2	-7.0	26	1	-35	9	30	0.06	-0.41	0.03	0.7	4	10	6	15		U. S. Weather Bureau
Dickinson	Stark	2,543	38	-2.5	-12.8	35	3	-30	8	40	0.61	+0.22	0.12	6.4	15	7	18	6	nw.	Leroy Moomaw.
Dogden Butte††	McLean	1,880	4	-1.6		31	1	-36	9	34	0.02		0.02	0.5	1	10	9	12	nw.	R. L. Williams.
Drake	McHenry	1,634																		J. Rindt.
Dunn Center	Dunn	2,191	31	-2.2	-16.0	35	3	-31	9	36	T.	-0.51	T.	T.	0	4	13	14	nw.	W. F. Moede.
Dunseith	Rolette	1,682	34	-6.2	-7.7	31	1	-33	9	34	0.25	-0.22	0.10	2.5	4	6	16	9	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	-5.4	-6.0	35	3	43	9	52	0.08	-0.48	0.02	2.4	6	2	12	17	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	29	1.6	-6.2	36	1	-29	9	36	0.20	-0.09	0.10	2.0	3	7	14	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	0.8	-9.9	32	1	-30	9	37	0.14	-0.34	0.06	4.1	6	5	11	15	nw.	U. S. Weather Bureau
Energy ††	McLean	1,750	18	-0.3		31	1	-35	9	36	T.	-0.29	T.	T.	0	12	16	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	-4.8		30	3	-30	17	36	0.40	-0.16	0.15	3.5	6	13	16	2	nw.	A. O. Wang.
Fairfield	Billings		3								0.72		0.20	7.2	6	20	2	9	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	-2.2	-5.4	28	1	33	9	35	0.27	-0.33	0.12	2.5	3	7	15	9	nw.	T. D. Monsen.
Forman	Sargent	1,249	36																	O. Enger.
Fort Yates	Sioux	1,670	30																	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	-2.5		29	1	-33	8	31	0.11		0.05	1.2	4	9	7	15	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12								0.52	+0.19	0.15	5.5	6	10	13	8	nw.	Verne King.
Fullerton	Dickey	1,439	32	2.2	-5.6	32	1	-29	9	34	0.56	-0.19	0.30	5.6	7	4	17	10	nw.	F. O. Alin.
Garrison	McLean	1,901	35	0.2	-6.3	31	1	-30	9	29	T.	-0.43	T.	T.	0	12	16	3	nw.	W. F. Robinson.
Grafton	Walsh	827	39	-2.6^{f}	-3.5	37	1	-38^{f}	9	30^{f}	0.27	-0.33	0.18	3.0	2	14	8	9	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	39	2.5	6.1	31	1	33	9	32	0.27	-0.31	0.05	4.1	8	16	12	3	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	2.6	4.3	30	1	-35	9	29	0.50	-0.01	0.10	5.0	5	18	3	10	nw.	W. A. Christianson.
Hankinson	Richland	1,068		3.3		37	1	-26	8†	39	0.21		0.20	5.0	2	8	17	6	nw.	R. G. Stock.
Hannah	Cavalier	1,568	36								0.04	-0.68	0.03	0.4	2					James Meier.
Hansboro	Towner	1,597	22	-9.0	6.7	33	1	-42	9	36	0.00	-0.95	0.00	0.0	0	19	8	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	1.6	-10.9	39	3	-31	17	37	0.19	-0.13	0.09	2.0	5	14	9	8	nw.	C. H. Plath.
Hillsboro	Traill	901	24	-1.2^{b}	-5.1	35^{b}	1	-31^{b}	9	30^{b}	0.17	-0.57	0.04	2.0	7				nw.	G. Havland.
Howard †† (near)	Williams	2,275	23	-6.4	-7.9	28	3	-35	17	35	T.	-0.75	T.	T.	0	17	8	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	2.0	-8.5	28	1	-30	9†	38	0.27	-0.37	0.12	2.8	5	15	7	9	nw.	S. Calvelage.
Lamoine	Kidder	1,936	25	-2.4	-6.4	40	1	-32	9	33	1.00	+0.39	0.80	10.0	3	15	5	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	34	-8.3	-5.6	26	1	39	9	45	0.50	-0.15	0.20	5.0	3	10	20	1	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	-3.6	-6.2	25	1	36	9	40	0.15	-0.55	0.08	1.5	2	8	12	11	nw.	Reuben Gray.
Linton	Emmons	1,711	12	-0.3^{e}	-11.0	36^{e}	4	-29^{e}	21	37^{e}	0.25	-0.15	0.10	2.5	3				nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	26	1.0	-4.9	34	3	-31	8†	42	0.16	-0.54	0.10	1.8	4	19	8	4		L. B. Walker.
McClusky	Sheridan	1,943	12	-1.8		28	1	33	9	32	0.11	-0.37	0.06	1.0	2	18	6	7	nw.	Edw. Tapley.
McKinney ††	Renville	1,640	36																	E. A. Kaatz.
McLeod	Ransom	1,075	18	0.9	-6.8	35	1	-33	9	43	0.33	-0.34	0.11	3.3	6	12	11	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	14	-3.8	-9.1	32	1	-36	9	34	0.07	-0.24	0.03	0.7	3	9	13	9	nw.	A. T. Felland.
Mandan	Morton	1,644	16	-1.6	-10.1	32	3	-31	9	33	0.19	-0.04	0.08	1.9	6	7	0	24	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27								0.36	-0.29	0.14	4.0	6					P. B. Anderson.
Marmarth	Slope	2,714	21	-0.4	-10.7	40	3	-30	16	46	0.54	+0.24	0.13	7.9	7	11	8	12		S. P. Grane.
Mary	McKenzie		3								0.16		0.06	1.8	4	9	14	8	nw.	Fred Hartman.
Max	McLean	2,093		-3.1		30	3	-30	9†	38	0.25		0.20	2.5	2	12	4	15	nw.	A. W. Rice.
Mayville	Traill	975	34	-0.4	-6.5	39	1	-33	9	44	0.00	0.49	0.00	0.0	0	13	3	5	nw.	N. C. Burhans.
Melville	Foster	1,590	32																	J. P. Fischer.
Metigoshe ††	Bottineau		5																	J. A. Thorburn.
Michigan	Nelson	1,518	2																	Arnold Johnson.
Minot	Ward	1,557	34	-2.3	-7.3	34	1	-32	9	34	0.05	-0.40	0.02	0.8	4	16	12	3	w.	Julia B. Rue.
Mott	Hettinger	2,424	23	-1.6	-9.1	36	1	-30	17	34	1.06	+0.18	0.56	11.0	9	10	10	11	w.	O. H. Opland.
Napoleon	Logan	1,955	38	-1.4	-7.3	33	4	-34	17	38	0.26	-0.19	0.10	3.0	3	10	4	17	w.	C. J. Hoof.
New England	Hettinger	2,490	39	5.0	-8.3	40	2	-20	9	32	0.27	-0.15	0.10	2.7	5	18	5	8	nw.	F. S. Sleight.
New Salem	Morton	2,168	26	-0.2	-7.9	33	4	-30	9†	36	0.21	-0.42	0.04	2.0	9	11	8	12	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	2.8		39	1	-31	9†	39	0.23		0.13	3.8	5	7	16	8	nw.	Eugene Naylor.
Park River	Walsh	998	26	-3.6	-5.4	38	1	-36	9	32	T.	-0.44	T.	T	0	11	9	11	nw.	C. B. Wright.
Parshall (near)	Mountrail		15								T.	-0.17	T.	T.	0	14	6	11	nw.	John A. Johnson.
Pembina	Pembina	789	56	-3.2	-0.3	20	1†	-32	8†	37	0.20	-0.44	0.20	2.0	1				n.	C. W. Shumaker.
Pettibone	Kidder	1,856	21	-2.6	-2.6	34	1	-33	17	33	0.37	-0.14	0.10	3.8	7	6	4	21	nw.	A. L. Carlson.
Portal	Burke	1,954	16	-5.8	-10.3	20	23	32	8†	33	0.00	-0.38	0.00	0.0	0	16	2	13	nw.	C. T. Holmes.
Power	Richland	1,020	36								0.85	+0.20	0.40	8.5	6	10	12	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	16	-0.8		41	1	-26	8	29	0.26	-0.52	0.13	5.0	4	15	12	4	nw.	Geo. B. Gee.
Richardton	Stark	2,467	14	-2.0	-13.6	32	3	-32	17	36	0.05	-0.47	0.05	0.5	1	14	9	8	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2								0.15		0.05	1.5	3	4	9	18	nw.	E. C. Erickson.
Ryder	Ward	2,108	2								0.18		0.08	1.8	3					E. M. Lomen.
Sanish	Mountrail	1,835		-2.4		34	1	-31	8	35	0.02		0.02	0.2	1	7	4	20	nw.	H. W. Monson.
Sharon	Steele	1,516	5	-3.8		30	1	-32	9	33	0.10		0.03	1.2	8	9	12	10	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6								T.		T.	T.	0	11	9	11	nw.	J. H. Giffey.
Steele	Kidder	1,857	34	-1.3	-8.9	32	1	-32	9†	29	0.25	-0.27	0.10	2.5	3	11	11	9	nw.	Paul Neubauer.
Stowers††	Adams	2,325	15								0.72	+0.38	0.50	7.2	4	18	12	1		Chas. E. Stowers.
Tagus	Mountrail	2,179	3								0.06		0.05	0.6	2	13	9	9	nw.	J. C. Abbott.
Tioga	Williams	2,279	4								0.93		0.33	5.2	5	5	8	18	nw.	Anton Carlson.
Towner	McHenry	1,482	28	-5.6	-8.2	28	3	-38	9	38	0.10	-0.39	0.10	1.0	1	13	12	6	nw.	B. Bagley.
Trotters	Golden Valley		5								0.68		0.33	6.5	5	16	7	8		A. J. Nellermoe
Turtle Lake	McLean	1,899	15																	A. T. Anderson.
Valley City	Barnes	1,245	25	1.0	-3.8	39	1	-28	9	31	0.28	-0.38	0.20	2.8	4	5	12	14	w.	I. C. Robertson.
Velva	McHenry	1,511	4	-0.9		30	1†	-36	9	37	0.18		0.11	2.3	6	8	11	12	w.	Oscar Anderson.
Verona	LaMoure	1,387	36								0.42		0.30	2.8	3	12	6	13	nw.	W. C. Taylor.
Wahpeton	Richland	962	38	3.4	-4.4	37	1	30	9	42	0.35	-0.16	0.15	3.0	5	17	0	14	nw.	C. G. Luick.
Washburn	McLean	1,731	28	-4.2	-11.6	29	3	-34	9	36	T.	-0.39	T.	T.	0	15	5	11	nw.	C. W. Poe.
Westhope	Bottineau	1,508	26	-4.9	-3.5	30	1	-36	8†	28	0.06	-0.50	0.04	0.6	2	8	10	13	nw.	W. A. Meddaugh.
Williston	Williams	1,878	51	-2.2	-8.6	38	3	-28	16	35	0.17	-0.37	0.14	1.9	3	11	9	11	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	-4.4^{a}	-4.7	28^{a}	1	-37^{a}	9	32^{a}	T.	-0.58	T.	T.	0	16	12	3	nw.	O. M. Sanderson.
Wilton	McLean		2	-2.0^{d}		29^{d}	3	-30^{d}	16	30^{d}	T.		T.	T.	0	14	0	17		L. Q. Perkins.
Wishek	McIntosh	2,010	10	0.2^{b}		39^{b}	1†	-30^{b}	17	31^{b}	0.61		0.18	6.0	5				nw.	E. W. Davis.
Zap	Mercer	1,838	2								0.03	-0.33	0.01	0.3	3					R. A. Norton.
Moorhead, Minn.	Clay	935	49	0.3	-3.5	33	1	-30	9	35	0.46	-0.21	0.19	6.6	11	4	12	15	n.	U. S. Weather Bureau.
Averages				-1.9	-6.8	41	1	-43	9	52	0.29	-0.25	0.80	2.7	4	12	9	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used i determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for January, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	T.				.10		.01			T.	T.	T.	.08	.02	T.						T.		.08	.08	T.	T.						0.37
Amenia ‖	Red				T.		T.	T.								T.	.03		T.						T.	T.	.05	T.	T.			T.	0.08
Arnegard (near)	Missouri					.05													.10						.10	T.		T.	.05			T.	0.30
Ashley	Missouri						.03						.01	.01			.02								.02								0.09
Beach	Lit. Missouri	T.	.03			.04	.01							T.	.03			.05							.12			.02					0.30
Berthold Agency	Missouri															T.																	T.
Bismarck ***	Missouri	T.				T.	.14					T.	.02	T.	T.	T.	.01	T.	T.					.01	T.	T.	.03				T.	.02	0.23
Bottineau ‖	Mouse	T.												T.			T.	T.	T.					.05	.01		.01	.02			.02		0.11
Bowman	Grand		.26			T.	.11						.05	.01	.35		T.	.08	.05					.12	.40		T.						1.41
Cando	Devils Lake			T.			T.					T.		T.	.10	T.	T.	T.						T.	.10	T.		T.			T.		0.20
Carrington	James																	.10						.10	T.			.05					0.25
Carson	Heart						.20						.05			.05																	0.30
Cavalier	Red																								.05		.03				.10		0.18
Cooperstown	Sheyenne																																
Corinth	Missouri																																
Crosby ‖	Mouse																																
Devils Lake ***	Devils Lake		T.			T.	.01				T.	T.		T.		T.		T.	T.					.01	.03		T.	.01			T.	T.	0.06
Dickinson ‖	Heart		.01	T.			.03	.09					T.	.02	.01	.04	.02	.02	.03					.03	.12	.09	.06	.04	.03				0.64
Dogden Butte	Mouse	T.												T.	T.	T.	T.	T.	T.					.02	T.			T.			T.	T.	0.02
Drake ‖	Mouse																																
Dunn Center ‖‖	Knife																							T.	T.							T.	T.
Dunseith	Mouse						.05																	.05	.05			.10					0.25
Eckman	Mouse					T.	.02								T.	.02		.01						.01	.01	T.	T.	T.		T.	.01		0.08
Edgeley	James						.10						.05												.05								0.20
Ellendale***	James		T.			.01	.06	T.			T.	.03	.02	T.		T.	T.	T.						T.	.01	T.	T.					.01	0.14
Energy	Missouri						T.									T.		T.						T.	T.			T.					T.
Epping	Missouri						.01								.02	.02		.10						.15				.10					0.40
Fairfield	Knife						.10							.02	.05									.20	.20			.15					0.72
Fessenden ‖	James																		.10							.12		.05					0.27
Forman	Sheyenne																																
Fort Yates	Missouri																																
Foxholm (near)	Mouse					T.	T.							T.	T.	.05								.02	.02					.02		T.	0.11
Fryburg	Heart		.04				.15								.08	T.		T.	T.	T.	T.	T.	T.	.10	.10	T.	T.	.05					0.52
Fullerton	James					T.	.30				T.	.09	.04	.03	T.	T.	T.	T.	T.	T.				T.	.04	T.	.04					.02	0.56
Garrison	Missouri																		T.					T.	T.		T.	T.					T.
Grafton	Red				T.	T.						T.						T.						.18	T.		T.	T.			.09		0.27
Grand Forks ***	Red	T.		T.		T.					.05	T.		.01		.02		T.	.02					.05	.03			.05			.04		0.27
Granville	Mouse						T.										.10	.10	T.					.10	T.		.10	.10			T.		0.50
Hankinson ‖‖	Red						.01						.20																				0.21
Hannah	Pembina				.03		T.							T.		T.			T.	T.			T.	T.	T.	T.						.01	0.04
Hansboro	Devils Lake																																0.00
Hettinger	Grand		.05				.09						T.	T.	.02	.01	.02	T.						T.	T.	T.	T.						0.19
Hillsboro	Red						.02						.03						.02					.02		.03			.01		.04		0.17
Howard (near)	Missouri														T.							T.		T.	T.			T.					T.
Jamestown ‖‖	James					.12							.08												.02	.03	.02						0.27
Lamoine	Missouri																		.10					.10	.80								1.00
Langdon ‖‖	Pembina					.20		.20																							.10		0.50
Larimore ‖‖	Red						.08								.08																		0.16
Linton	Missouri						.10						.05											.10			T.						0.25
Lisbon ‖‖	Sheyenne					.02	.10					.02	T.						T.				T.	T.	.02	T.					T.		0.16
McClusky	Missouri		T.				T.												T.						.11			T.				T.	0.11
McKinney (near)	Mouse																																
McLeod	Sheyenne		T.					.11				.07		.06										.01		.06	T.	.02					0.33
Maddock	Sheyenne	T.					T.					T.		T.		T.		T.	.03					T.	.03			.01				T.	0.07
Mandan ‖‖	Missouri					T.	T.	.08					.02	.03	T.	.01	.01							T.	T.		T.	T.			T.	.04	0.19
Manfred	James					T.	T.							.02	T.	T.	.01			.04				.07	.14			.08			T.		0.36
Marmarth	Lit. Missouri		.13			T.	.12						.04	T.	.05									.04	.12	.04							0.54
Mary	Lit. Missouri														.06	T.	.03							.03	.04							T.	0.16
Max ‖	Missouri															T.			T.						.05	.20							0.25
Mayville	Red																																0.00
Melville	James																																
Metigoshe	Mouse																																
Michigan	Red																																
Minot ‖‖	Mouse															.01								.01		.01						.02	0.05
Mott	Cannon Ball				T.	.03	.56	T.					.14	.03	.05	.11	.09							T.	T.	.02	.03					T.	1.06
Napoleon ‖‖	Missouri						.10												.08								.08						0.26
New England	Cannon Ball						.10					.05						T.						.10	.01		.01						0.27
New Salem	Heart					T.	.04						T.		.02	.03	.03	.01						.04	.02	T.	T.	.01				.01	0.21
Oakes	James						.13						.05												.01	.02	.02						0.23
Park River	Red																								T.						T.		T.
Parshall (near)	Missouri																						T.		T.			T.					T.
Pembina ‖‖	Red																								.20								0.20
Pettibone	James		T.					.10			T.		T.			T.	.05	.02	.05	T.			T.	T.	.05		.05	.05					0.37
Portal ‖‖	Mouse																																0.00
Power	Sheyenne						.40							.10			.10		.05					.10	.10								0.85
Powers Lake	Missouri					.07	.04																.13	.02									0.26
Richardton	Heart																	T.						.05			T.						0.05
Rugby (near)	Mouse													T.	T.		T.	T.						.05	.05		T.	.05					0.15
Ryder	Missouri					.05												.05										.08					0.18
Sanish ‖‖	Missouri															T.								.02		T.		T.					0.02
Sharon	Red					T.	.01					.01		T.	T.	.01		.01	T.					.01	.03			.01			.01	T.	0.10
Stanton	Missouri						T.							T.											T.								T.
Steele	Missouri					T.	T.												T.					.05	.10		.10						0.25
Stowers	Cannon Ball					T.						T.	T.			T.	.05	.07	.10			.50											0.72
Tagus	Mouse																							.05	.01								0.06
Tioga	Missouri					T.	T.						T.		T.	T.	T.	.33	.07	.03	T.			.25	.25	T.							0.93
Towner	Mouse																								.10								0.10
Trotters	Lit. Missouri		T.				.03							T.	T.			.07						.18	.33			.07					0.68
Turtle Lake	Missouri																																
Valley City	Sheyenne		T.			T.	.20							T.					.03						.03		.02						0.28
Velva	Mouse	T.				T.	T.							T.	T.	.11	T.	.02	T.					.01	.01	T.	T.	T.		T.	.01	.02	0.18
Verona	James						.05					.07													.30								0.42
Wahpeton	Red						.05						.05	.15									.05	.05									0.35
Washburn	Missouri											T.	T.			T.	T.	T.									T.	T.				T.	T.
Westhope	Mouse																							.04				.02					0.06
Williston ***	Missouri	T.				T.									T.		T.	T.					T.	.14	.02	T.				T.		.01	0.17
Willow City	Mouse																								T.		T.				T.		T.
Wilton																									T.								T.
Wishek ‖‖	Missouri						.18	.18								.11			.09						.05								0.61
Zap	Knife								.01									.01							.01								0.03
Moorhead, Minn. ***	Red	T.	T.			.01	.19				.01	.02		.03	T.	T.	T.	.01	T.					.09	.03	T.	.02	.03		T.	.02		0.46

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	39	32	21	22	21	11	-9	-2	-10	-8	8	22	5	4	3	-4	4	3	11	12	15	12	10	20	21	15	14	20	21	23	20	12.2
	Minimum	26	0	-4	-2	-1	-16	-16	-22	-29	-28	-17	-19	-12	-12	-13	-22	-26	-25	-17	-18	-15	-15	-13	5	-22	-23	-6	-4	-5	-4	-5	-12.1
Arnegard	Maximum	26	14	37	15	2	-9	-12	-11	-8	0	-1	-1	-4	-4	1	-13	-20	8	5	-7	-11	-6	10	16	18	22	15	8	15	12	20	4.4
	Minimum	10	-2	-3	0	-9	-19	-25	-25	-26	-20	-18	-18	-17	-15	-16	-20	-29	-30	-9	-24	-25	-20	-11	10	8	7	2	0	-10	3	0	-11.8
Ashley	Maximum	35	29	30	32	25	18	-7	-7	-11	7	15	9	8	-3	-3	-10	-3	9	5	-9	4	7	18	18	18	13	16	13	27	22	15	11.0
	Minimum	20	8	0	14	14	-14	-22	-23	-30	-25	-7	-7	-13	-12	-11	-25	-30	-6	-21	-18	-23	-13	0	8	-8	1	0	-12	-2	-2	-2	-8.4
Beach	Maximum	25	20	35	36	15	-3	-9	-11	-11	-3	-4	-4	-4	-3	-3	-7	7	10	5	-14	-11	11	13	16	20	16	15	18	25	25	28	8.2
	Minimum	15	7	6	0	-7	-20	-22	-25	-22	-17	-18	-11	-16	-17	-20	-26	-32	5	-26	-24	-25	-16	-1	4	13	11	-4	0	10	4	7	-8.4
Berthold Agency	Maximum	30	21	35	28	11	20	10	10	-28	0	-2	0	0	4	4	-20	10	8	8	-8	5	10	12	12	10	12	15	15	12	20	15	8.4
	Minimum	22	0	-4	10	-2	-15	-25	-25	-16	-15	-18	-16	-15	-16	-20	-24	-25	-4	-24	-24	-19	-6	18	8	5	4	0	-15	5	5	0	-7.9
Bismarck	Maximum	29	20	31	28	11	-2	-5	-13	-14	5	2	0	0	-1	0	-18	5	10	-9	-7	4	11	18	22	15	14	17	10	20	20	16	7.7
	Minimum	19	2	2	10	-2	14	-21	-24	28	-17	-13	-14	-16	-14	19	-27	-28	-9	18	-19	-17	-11	11	7	3	5	1	-10	-4	2	1	-8.4
Bottineau §§	Maximum	27	18	12	15	14	0	-10	-8	-15	0	-2	-7	-2	6	4	-15	0	7	-4	-8	2	3	8	17	8	9	12	10	11	10	9	4.2
	Minimum	15	-7	-15	-2	-3	-22	-33	-33	-37	-20	-22	-20	-21	-20	-17	-27	-31	-5	-30	-28	-19	-17	-9	9	-22	-8	-13	-22	-9	-7	-2	-16.0
Cando	Maximum	11	14	13	12	9	-4	-8	-9	15	2	-1	-2	-2	1	-3	-1	-1	7	8	2	5	6	13	18	10	12	14	9	13	14	13	5.2
	Minimum	-8	-10	-12	-2	-7	-17	-23	-30	-34	-23	-16	-14	-18	-18	-26	-24	-26	-5	-7	25	-15	-16	-6	1	-21	-20	-9	-17	-5	-1	-1	-14.7
Carson	Maximum	28	15	35	35	20	0	5	0	-16	2	-5	-2	-10	-5	-10	-23	5	8	-10	-14	2	10	14	20	23	14	15	14	16	25	20	7.5
	Minimum	10	-1	-4	12	-4	20	-26	-27	-30	-20	-22	-15	-22	-11	-24	-31	-34	-13	-25	-24	-25	-14	0	10	3	0	-5	-16	-2	4	-2	-12.4
Crosby §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Devils Lake	Maximum	26	18	16	10	2	-5	-7	-20	-15	3	4	-3	-3	0	-8	-19	1	8	-11	7	8	7	13	11	10	12	13	3	12	14	10	3.5
	Minimum	18	-9	-10	-1	-5	-16	-23	-31	-35	-20	-14	-18	-20	-18	-20	-26	-27	-15	-24	-23	-15	-16	0	-14	-20	-6	-4	-14	-3	-2	-2	-14.0
Dickinson §§	Maximum	25	17	35	26	2	15	-7	-17	-11	1	-2	-1	-2	1	-11	-21	8	7	-10	-9	0	13	16	21	19	14	13	16	23	24	28	6.5
	Minimum	11	10	-5	10	-5	-16	-26	-30	-28	-29	-20	-15	-16	-13	-12	-25	-29	-23	-24	-23	-26	-15	-7	12	9	3	-2	-9	-8	-4	-1	-11.5
Dunn Center §§	Maximum	26	18	35	19	9	-5	-15	-15	-4	-2	2	1	0	4	-12	-16	6	-15	-16	-8	2	11	17	21	17	14	14	11	22	25	22	6.1
	Minimum	18	5	-1	9	-5	-17	-28	-29	-31	-18	-17	-16	-15	-15	-13	-24	-27	-14	-21	-25	-23	11	-11	14	9	4	-5	-12	-7	3	1	-10.4
Dunseith	Maximum	31	18	12	12	-14	2	-16	-16	-9	4	-4	1	-10	3	1	-17	-1	5	5	-7	1	6	12	16	7	9	11	9	14	9	12	2.6
	Minimum	16	-16	-21	-12	-15	-22	-28	-30	-33	-22	-18	-15	-16	-15	-21	-28	-30	-6	-22	25	-19	-15	-2	2	-19	-2	-12	-14	-6	1	3	-14.9
Edgeley	Maximum	36	27	29	29	19	10	4	-5	-8	7	13	6	1	-2	-2	-8	-1	-6	-9	-4	12	8	23	20	19	14	18	15	26	27	18	10.5
	Minimum	23	9	-1	13	9	-12	-20	-22	-29	-26	1	-5	-11	-11	-11	-21	-27	-11	-17	-16	-17	-12	3	10	-17	6	3	-9	-6	1	0	-7.2
Ellendale	Maximum	32	25	30	31	15	5	6	-13	-13	12	14	3	3	-2	-1	-13	6	11	-6	-5	16	8	26	20	11	14	18	12	21	18	14	9.5
	Minimum	21	2	-1	12	5	-11	-20	-23	-30	-25	0	-7	-8	-10	-16	-23	-28	-6	-15	-15	-20	-16	3	-6	-15	3	4	-7	-6	1	2	-8.0
Fessenden §§	Maximum	28	10	27	18	6	-11	6	-15	-6	6	1	-2	5	-1	-8	-17	3	11	-7	-3	13	13	15	18	13	16	13	16	18	20	16	6.7
	Minimum	22	4	-6	13	-2	-15	22	-27	-33	-29	-17	-13	-16	-17	-16	-24	-28	-22	-18	-23	-21	-12	-11	11	-15	-2	-12	-12	-4	-1	-1	-11.2
Foxholm (near)	Maximum	29	19	23	17	4	-1	-7	-10	-12	-3	-3	-1	0	1	1	-15	3	7	-1	-5	2	10	15	18	13	13	15	9	13	16	13	5.9
	Minimum	15	-6	-6	-4	-4	-19	-23	-33	-32	-16	-17	15	-17	-15	-16	-27	-28	-4	-22	-21	-16	-9	7	8	0	1	-4	13	3	-1	-2	-10.9
Fullerton	Maximum	32	27	29	30	15	5	-4	-10	-13	9	15	10	1	0	-4	-9	-1	11	0	-3	12	8	20	21	18	15	19	16	25	20	16	10.6
	Minimum	22	10	1	14	5	-11	-18	-22	-29	-25	7	-3	-9	-10	-10	-21	-27	-6	-15	-13	-19	-11	5	11	-13	4	4	-12	-6	2	1	-6.3
Garrison	Maximum	31	25	28	24	15	5	-3	-7	-13	2	0	0	0	5	4	-8	2	9	-8	0	3	11	15	20	18	12	15	12	19	18	18	8.8
	Minimum	21	-1	-1	4	1	-15	-22	-24	-30	-17	-16	14	-14	-14	-10	-24	-27	-3	-19	-23	-18	-10	2	12	1	3	2	-13	1	5	-1	-8.5
Grafton	Maximum	37	29	13	8	8	7	5	-8	-12	1	12	10	3	4	4	12	-1	-12	3	-7	12	9	12	19	5	11	15	15	17	14	16	7.2
	Minimum	26	0	-4	-4	-3	-20	-23	-29	-38	27	-2	-10	-24	-19	....	-22	....	....	....	....	....	-17	-10	-11	3	-9	-9	-5	-11	-5	-10	[f] -12.4
Grand Forks	Maximum	31	25	17	18	7	-2	-1	-16	-13	12	13	-4	3	3	-5	-13	-2	13	-7	-5	12	4	11	18	6	14	16	10	16	16	8	6.7
	Minimum	25	5	-8	3	-2	14	-17	-28	-33	-20	-6	13	-18	-18	-19	-24	-25	-9	-19	19	-13	-13	9	-14	-22	-1	-1	-6	-7	-1	-6	-11.7
Granville	Maximum	30	18	20	25	5	5	-3	-18	-10	2	0	-2	0	0	2	-11	4	8	-4	-11	6	11	15	20	12	12	15	10	15	16	15	6.7
	Minimum	18	-4	-8	-4	-4	-18	23	-33	-35	-14	-20	-15	-19	-18	-17	26	27	-6	-21	-22	-16	-11	4	-5	2	-5	-2	-16	-3	-2	-3	-12.0
Hansboro	Maximum	33	15	10	6	0	-5	-15	-20	-20	0	-2	-8	6	0	-4	17	-2	6	5	-10	10	5	12	10	6	10	12	5	10	15	10	2.4
	Minimum	0	-10	-12	-10	-10	-24	-32	-38	-42	-30	-24	-21	-23	-25	-27	-32	-37	-10	-26	30	-22	-17	-17	-10	-30	-6	-16	-16	-12	-7	-12	-20.3
Hettinger	Maximum	31	26	39	36	30	2	-4	-9	-13	5	-4	1	0	-1	0	-10	4	1	4	-8	3	11	17	21	23	14	15	20	25	29	33	11.0
	Minimum	15	8	2	16	1	-18	24	-24	-25	-15	-16	-9	-16	-10	-17	-27	-31	-12	-18	-19	-17	-9	5	13	11	-8	-4	-1	-1	2	6	-7.8
Hillsboro	Maximum	35	15	21	21	17	4	-2	-16	-13	7	17	0	5	4	2	-10	-5	12	5	-5	9	8	15	15	5	17	....	16	....	16	16	[b] 8.0
	Minimum	15	6	-5	6	0	-12	-15	-23	-31	-23	0	-11	-17	-13	-17	-22	-26	-7	-18	-17	-17	12	-7	5	-22	-3	....	-4	....	-4	-7	[b] -10.4
Howard (near)	Maximum	25	10	28	10	0	-8	-18	-20	10	-6	-5	-9	-8	0	-10	-25	0	-2	-6	-16	6	0	18	12	18	15	12	12	16	14	15	2.1
	Minimum	10	-8	-6	-6	-8	-21	-28	-30	-30	-26	-21	-20	-20	-15	-21	-30	-37	-10	-27	-21	-18	-15	-7	-10	8	0	-15	15	-8	-6	-2	-14.8
Jamestown §§	Maximum	28	15	26	22	10	8	-5	-12	12	8	5	2	4	3	-9	-16	5	9	-10	-6	10	11	17	19	9	12	16	10	23	17	17	6.9
	Minimum	25	13	1	6	6	-10	-19	-23	-30	-30	-16	-9	-13	-14	14	-25	-30	-27	-18	-20	-20	-15	-15	9	-14	-9	0	-10	-12	-2	-2	-10.8
Lamoine	Maximum	40	30	24	22	13	0	-12	-7	-7	2	-1	-1	-1	-4	-3	-15	-1	7	3	-12	7	8	14	18	12	10	8	8	17	15	10	6.6
	Minimum	18	0	-9	7	0	-14	-25	-27	-32	-20	-12	-10	-18	-19	-15	-25	-30	-16	-22	-26	-20	-15	3	9	6	0	-3	-17	5	-3	-7	-11.4
Langdon §§	Maximum	26	12	10	7	10	9	-15	-8	-10	4	4	-5	0	2	-10	-15	0	-5	6	-1	6	5	17	18	17	15	10	5	10	15	10	3.7
	Minimum	10	2	-15	-10	-6	-21	-29	-34	-39	-38	-20	-20	-22	-24	-27	-30	-33	-28	-29	-28	-25	-20	-26	-2	-30	-22	-15	-9	-14	0	-3	-20.3
Larimore §§	Maximum	25	20	12	9	6	-10	-3	-20	-8	9	-2	-10	4	4	10	-7	5	16	-10	-11	11	8	1	17	15	14	10	9	17	11	17	4.9
	Minimum	20	11	-12	5	-3	-15	-20	-28	-36	-22	-14	-15	-19	-18	-20	-25	-7	-14	-21	-21	-17	-15	0	-5	-27	-10	-5	-9	-5	-4	-2	-12.2
Linton	Maximum	33	23	31	36	....	22	-3	-12	-12	....	....	12	2	....	....	-2	5	5	2	8	6	1	2	21	22	22	16	11	22	22	17	[e] 11.5
	Minimum	16	7	-2	11	....	-15	-25	-25	-28	....	....	-15	-16	....	....	-2	-28	-10	-24	-21	-19	-21	1	-15	-4	-5	-2	-11	-6	-3	-4	[e] -12.1
Lisbon §§	Maximum	32	32	34	20	8	-2	-12	-11	11	15	11	14	5	-4	-9	1	3	-7	-6	11	10	26	2	2	23	21	13	27	30	24	28	12.3
	Minimum	18	-1	3	4	-10	-23	-23	-31	-31	-3	-7	-13	-12	11	-22	-31	-8	-19	-16	-20	-16	-7	0	-22	-7	-4	-6	-7	-3	-4	4	-10.4
McClusky	Maximum	28	21	24	21	8	0	-4	-7	-10	2	1	-1	1	-2	1	-5	3	8	-4	8	3	9	14	18	13	12	13	6	18	17	13	6.7
	Minimum	20	-1	7	4	-1	-16	-23	-26	-33	-18	-17	-10	-15	-1	-16	-24	-25	8	-2	-26	-21	13	5	10	0	0	-2	-14	0	-1	-5	-10.4
McKinney (near)	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Maddock	Maximum	32	20	20	20	7	3	-5	-8	-14	2	3	-4	-1	-2	-5	-14	0	8	5	-6	8	11	13	20	12	4	14	15	11	17	13	6.4
	Minimum	16	-3	-14	-2	-2	-17	23	-31	-36	-24	-19	-16	-22	-22	-19	-27	-29	-6	-23	-24	-18	-15	-3	9	-22	-2	-6	-15	-2	-7	-5	-13.9
Marmarth	Maximum	30	26	40	30	9	-3	-4	-8	-9	-10	1	3	2	2	-1	-11	-8	13	0	-6	8	12	20	20	26	19	17	2	29	30	25	9.7
	Minimum	10	0	-6	3	-3	-16	-29	-27	-22	-20	-19	-12	-20	-14	-21	-30	-29	0	-16	-20	21	-8	5	13	1	-5	-4	-6	-4	-5	0	-10.5
Melville	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Minot §§	Maximum	34	13	30	7	2	-13	-1	-16	-9	2	-2	-1	2	2	-11	-11	6	8	-9	-2	5	15	16	19	15	12	17	16	16	17	14	6.1
	Minimum	13	-4	-4	0	-3	-16	-20	-28	-32	-28	-16	-15	-15	-15	13	-23	24	-16	18	-20	-18	-8	-2	11	2	4	-2	-10	-11	0	-1	-10.7
Mott	Maximum	36	28	30	25	12	-2	-14	-16	-15	-6	-1	-2	-1	-3	-9	-10	4	-4	-8	-10	5	10	15	23	13	15	18	22	25	20	24	7.2
	Minimum	10	4	10	12	-12	-20	-27	-28	-29	-18	-9	-8	-18	-19	-12	-29	-30	-19	-21	-22	-21	-12	-4	0	-2	-2	-3	-2	2	-3	6	-10.5
Napoleon §§	Maximum	28	15	29	33	16	-1	-6	-14	-8	8	12	-2	-1	-2	-7	-18	4	10	-5	-9	3	10	16	19	15	11	14	8	25	17	15	7.6
	Minimum	22	9	-2	11	5	-14	-25	-27	-33	-22	0	-8	-18	-19	-15	-31	-34	-10	-22	-21	-26	-16	0	7	7	-3	-1	-15	-4	-5	-3	-10.5
New Salem	Maximum	25	27	30	33	29	4	-6	-6	-15	3	-2	0	1	-2	-1	-10	2	8	16	-10	3	7	18	17	20	19	15	12	20	21	20	9.4
	Minimum	13	4	-2	12	0	-17	-24	-29	-30	-22	-17	-10	-17	-13	-12	-26	-30	6	-26	-22	-22	-13	3	3	4	3	-3	-12	2	4	0	-9.8
Pembina §§	Maximum	20	10	12	8	-12	-10	-10	-10	5	10	5	5	4	-10	-8	0	-10	-10	-10	3	7	5	20	-2	0	10	8	10	8	12	20	2.8
	Minimum	20	5	3	-2	-5	-14	-20	-32	-32	-13	-5	20	-5	-5	-20	-20	-24	20	-20	-20	-10	-5	-3	-2	-20	-3	3	2	0	5	6	-9.1
Steele	Maximum	32	18	27	30	15	5	-6	-8	-12	-6	8	6	4	-4	-6	-14	-16	6	-10	-12	0	8	16	22	18	18	18	10	18	22	16	7.2
	Minimum	8	2	-2	9	5	-15	-22	-25	-32	-20	-16	-14	-16	-16	-16	-22	-32	-10	-22	24	-18	-12	8	12	-3	4	-4	-8	-2	2	-2	-9.8
Towner	Maximum	18	18	28	24	10	-5	-10	-12	-13	4	-5	-5	-8	-10	0	-10	3	4	7	-2	0	7	14	18	-3	12	15	8	16	16	17	4.6
	Minimum	3	-5	-2	-2	-5	-20	-26	33	-38	-20	-22	-18	-20	-22	-20	-29	-29	-5	-24	-20	-18	-8	0	-25	-12	-5	-10	-20	-20	-18	5	-15.7
Valley City	Maximum	39	28	25	23	10	6	-5	-8	-14	6	11	10	1	5	2	-16	-5	12	1	-3	11	11	18	20	11	14	18	14	22	18	18	9.8
	Minimum	25	2	-3	9	6	-13	-17	17	-28	-22	3	-7	-12	-11	-14	-24	-26	-4	-16	-17	-16	-12	-2	8	20	5	-2	-6	-5	-1	-4	-7.8
Wahpeton	Maximum	37	33	25	34	32	18	-1	-1	-11	10	21	21	6	5	4	-6	-8	13	13	-1	6	7	21	22	20	19	20	20	22	23	20	14.3
	Minimum	27	10	-1	15	5	-10	-17	-22	-30	-25	9	-8	-11	-9	-12	-22	-27	-9	-16	-14	-21	-14	-5	5	-22	4	0	-3	-4	-6	-4	-7.6
Westhope	Maximum	30	14	14	6	2	0	-5	15	-8	0	-3	-6	0	1	-19	-15	0	10	-6	-4	4	10	13	20	6	12	15	9	15	13	10	4.0
	Minimum	4	-7	-10	-3	-4	-23	-20	-36	-36	-20	-19	-21	-20	-19	-27	-26	-17	-6	-24	22	-13	-13	6	6	-14	-5	-4	-19	0	-5	-1	-13.8
Williston	Maximum	26	13	38	14	4	-12	-9	-12	-8	-3	-5	-4	-4	5	-12	-29	7	6	-11	-8	-1	12	18	21	19	15	14	14	14	17	21	5.5
	Minimum	10	-1	3	-4	-12	-19	-23	-26	-24	-14	-17	-16	-16	-18	-20	-28	-27	-11	-21	-22	-12	-6	10	12	9	3	-2	-12	0	-4	1	-9.8
Moorhead, Minn	Maximum	33	25	22	31	15	0	-4	-12	-15	14	17	1	3	4	4	-14	2	13	5	-6	8	8	18	20	4	12	19	9	22	17	15	9.0
	Minimum	25	1	0	13	0	-13	-13	-23	-30	-21	1	-10	-11	-9	-17	-21	-26	-5	-14	-14	-18	-12	-6	-11	-19	2	2	-4	-5	-3	0	-8.4

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 3-5-30—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIX BISMARCK, N. D., FEBRUARY, 1930 No. 2

GENERAL SUMMARY

Mild weather prevailed in most sections throughout the month, the mean temperature (21.7°) being with but one exception the highest of record for February. Heavy snow covering at the beginning of the month necessitated considerable yard feeding, but mild temperatures thereafter caused rapid diminution of covering and livestock ranged freely on ranges and harvested fields. Heavy snows with decidedly lower temperature during the last week blocked highways and railways, and caused great shrinkage in livestock.

TEMPERATURE

The mean temperature for the state was 21.7°, or 15.8° above the normal, and 18.9° higher than the mean for February, 1929. The highest mean reported was 29.6° at Marmarth, Slope County; the lowest was 12.4° at Hansboro, Towner County. The highest temperature reported was 63° at Fort Yates, Sioux County on the 19th; the lowest was -30° at Grafton, Walsh County on the 15th, at Hansboro, Towner County on the 14th and 15th, and at Pembina, Pembina County on the 14th. The greatest monthly range in temperature was 82° at Dunseith, Rolette County; the least was 58° at Langdon, Cavalier County. The greatest daily range in temperature was 60° at Fort Yates, Sioux County on the 15th.

PRECIPITATION

The average precipitation for the state was 1.18 inches, or 0.69 inch above the normal, and 0.89 inch more than the average for February, 1929. The greatest monthly amount reported was 2.50 inches at Hansboro, Towner County and at Langdan, Cavalier County; the least was 0.11 inch at Tagus, Mountrail County. The greatest amount recorded in any 24 consecutive hours was 1.50 inches at Hansboro, Towner County on the 25th. The average snowfall was 11.7 inches. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Foxholm and Williston on the 2d; at Linton on the 8th; at Devils Lake, Ellendale, Grand Forks, Howard, Rugby, Sharon and Tagus on the 13th; at Crosby, Howard and Rugby on the 14th; at Crosby on the 15th; at Crosby, Epping, Foxholm, Howard and Willow City on the 16th; at Foxholm, Oakes and Willow City on the 18th; at Bottineau on the 20th; at Devils Lake on the 21st; at Arnegard, Bismarck and Trotters on the 22d; at Bismarck, McLeod and Williston on the 23d; at Bottineau on the 24th; at Velva and Washburn on the 26th; and at Foxholm on the 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.91	30.56	14	29.50	11	57	5,325	7.9	30§	nw.	13
Devils Lake	29.91	30.54	14	29.42	11	44	6,327	9.4	36§	n.	13
Ellendale	29.91	30.57	14	29.48	11	56	8,424	12.5	50§	nw.	9
Grand Forks	29.89	30.53	14	29.40	22	90	....	......	40	w.	9
Williston	29.93	30.55	14	29.47	11	48	4,413	6.6	33§	nw.	12
Moorhead, Minn	29.91	30.56	14	29.46	22	58	5,360	8.0	31§	nw.	9
Av'ges and extremes	29.91	30.57	14	29.40	22	.....	....	8.9	50§	nw.	9

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	150.0	288.7	52	− 6	84	68	80	42	18
Devils Lake	137.4	286.9	48	− 9	89	86	88	70	20
Ellendale	173.9	290.3	60	+ 4	89	75	...	48	9
Grand Forks	......	......	......	......	88	.....	85	.....	.....
Williston	168.0	297.9	59	+ 6	84	70	76	50	23
Moorhead, Minn	100.1	288.7	35	−23	91	81	87	60	7
Averages and extremes	145.9	290.5	51	− 6	88	76	83	42	18

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	10.0	+2.1	62	−54	0.58	+0.09	4	14	7	8	nw.
1893	- 0.3	−8.2	52	−40	0.59	+0.10	4	12	7	9	nw.
1894	8.0	+0.1	55	−50	0.22	−0.27	2	14	9	5	nw.
1895	5.9	−2.0	65	−29	0.36	−0.13	4	13	7	8	nw.
1896	14.3	+6.4	64	−40	0.44	−0.05	3	12	9	8	nw.
1897	6.1	−1.8	52	−34	1.15	+0.66	7	12	7	9	nw.
1898	13.3	+5.4	65	−48	0.46	−0.03	3	13	8	7	nw.
1899	0.4	−7.5	60	−48	0.20	−0.29	3	14	8	6	nw.
1900	1.3	−6.6	46	−31	0.47	−0.02	4	12	9	7	nw.
1901	7.1	−0.8	60	−33	0.31	−0.18	3	15	7	6	nw.
1902	12.1	+4.2	51	−49	0.98	+0.49	6	10	6	12	nw.
1903	3.1	−4.8	46	−42	0.38	−0.11	3	19	4	5	nw.
1904	- 2.2	−10.1	52	−46	0.54	+0.05	5	13	6	10	nw.
1905	8.2	+0.3	64	−38	0.30	−0.19	2	19	4	5	nw.
1906	9.8	+1.9	57	−49	0.13	−0.36	2	13	8	7	nw.
1907	10.7	+2.8	58	−34	0.27	−0.22	3	15	7	6	nw.
1908	13.8	+5.9	62	−34	1.07	+0.58	5	12	7	10	nw.
1909	9.6	+1.7	56	−50	0.34	−0.15	4	11	7	10	nw.
1910	2.4	−4.5	56	−38	0.50	+0.01	4	14	7	7	nw.
1911	7.3	−0.6	55	−33	0.73	+0.24	3	15	8	5	nw.
1912	11.8	+3.9	48	−44	0.15	−0.34	2	10	9	10	nw.
1913	8.5	+0.6	64	−47	0.10	−0.39	2	12	9	7	nw.
1914	1.0	−6.9	57	−20	0.34	−0.15	3	12	8	8	nw.
1915	17.4	+9.5	50	−39	0.62	+0.13	3	9	5	14	nw
1916	6.4	−1.5	55	−48	0.46	−0.03	4	14	8	7	nw.
1917	- 0.7	−8.6	61	−41	0.66	+0.17	5	10	8	10	nw.
1918	10.8	+2.9	60	−40	0.19	−0.30	3	13	9	6	nw.
1919	7.7	- 0.2	58	−36	0.66	+0.17	5	10	8	10	nw.
1920	12.5	+4.6	53	−33	0.30	−0.19	3	11	9	9	nw.
1921	19.9	+12.0	64	−39	0.39	−0.10	3	11	10	7	nw.
1922	0.7	−7.2	45	− 40	1.21	+0.72	5	13	6	9	nw.
1923	4.1	- 3.8	48	− 27	0.65	+0.16	4	13	7	8	nw.
1924	20.3	+12.4	67	−39	0.41	−0.08	3	14	6	9	nw.
1925	16.5	+8.6	62	− 19	0.31	−0.18	3	10	9	9	nw.
1926	22.3	+14.4	58	−31	0.41	−0.08	4	9	9	10	nw.
1927	13.3	+5.4	50	−41	0.36	−0.13	4	12	7	9	nw.
1928	18.8	+10.9	59	− 19	0.10	−0.39	2	14	8	7	nw.
1929	2.8	− 5.1	44	−44	0.29	−0.20	4	12	8	8	nw.
1930	21.7	+13.8	63	−30	1.18	+0.69	6	11	8	9	nw.

Climatological Data for February, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	4	...	...	...	...	...	...	...	0.21	...	0.10	2.1	4	...	...	...	...	H. A. Bury.
Amenia	Cass	954	34	22.0	+15.0	58	18	-16	15	50	1.29	+0.89	0.70	12.9	5	12	0	16	nw.	I. Idso.
Arnegard (near)	McKenzie	...	15	23.6	+10.4	57	18	-17	14	40	1.15	+0.73	0.45	11.5	6	19	4	5	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	25.4	+17.6	56	20	-16	15	31	1.34	+0.87	0.60	13.0	6	13	5	10	se.	H. D. Piper.
Beach	Golden Valley	2,759	24	27.2	+13.6	60	20	-7	27	33	0.27	-0.24	0.12	3.0	5	10	13	5	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	24.1	+14.7	60	18	20	27	40	1.21	+0.66	0.80	35.0	6	17	5	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	24.3	+14.0	57	18	-11	14	36	1.36	+0.92	0.71	15.8	10	8	15	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	38	15.4	+13.6	46	20	-28	14	37	0.36	-0.01	0.20	3.6	7	12	4	12	...	N. A. Eckberg.
Bowman	Bowman	2,961	16	27.8	...	59	18	-6	27	45	0.73	+0.42	0.35	3.0	8	18	5	5	nw.	George Larsen.
Cando	Towner	1,488	29	17.2	+14.4	54	20	23	14	39	1.19	+0.96	0.63	12.0	6	7	2	19	w.	A. J. Swanson.
Carson	Grant	2,500	18	25.0	+11.3	60	18†	-12	14†	51	1.24	+0.94	0.60	11.2	6	15	9	4	nw.	J. W. Evens.
Cavalier	Pembina	...	3	...	...	...	...	...	...	...	2.45	...	...	...	...	...	...	...	...	E. W. Kibler.
Cooperstown	Griggs	1,428	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	S. Friswold.
Corinth	Williams	2,180	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	L. S. Evenson.
Crosby	Divide	1,954	24	20.7	+13.6	42	5	-18	14†	36	0.41	+0.15	0.30	4.5	5	6	14	8	sw.	John Jensen.
Devils Lake	Ramsey	1,478	33	17.1	+12.0	48	20	-23	14	33	1.32	+0.82	0.59	11.6	10	7	8	13	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	22.6	+10.8	54	20	16	27†	43	1.29	+0.86	0.75	12.9	8	10	14	4	...	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	21.2	...	50	20	-24	15	37	0.98	...	0.58	13.8	5	7	12	9	nw.	R. L. Williams.
Drake	McHenry	1,634	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. Rindt.
Dunn Center	Dunn	2,191	31	23.2	+10.2	51	18†	-18	27	43	1.40	+0.81	0.93	18.0	4	7	8	13	w.	W. F. Moede.
Dunseith	Rolette	1,682	34	16.8	+13.4	56	20	-26	14	33	1.01	+0.59	0.28	10.0	8	8	8	12	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	16.4	+10.0	48	20	-29	14	36	0.59	+0.24	0.40	12.0	4	2	16	10	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	29	26.2	+15.3	55	20	14	15	38	0.62	+0.30	0.40	4.5	3	4	17	7	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	25.6	+14.9	59	19	-16	15	39	0.92	+0.34	0.47	6.8	11	4	11	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	18	23.0	...	51	20	-20	15	34	1.06	+0.80	0.50	16.0	5	10	15	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	21.7	...	48	16†	-20	14	37	1.28	+0.93	0.75	18.0	4	21	2	5	w.	A. O. Wang.
Fairfield	Billings	...	3	...	...	...	...	...	...	...	0.75	...	0.40	7.0	2	20	1	7	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	20.8	+12.9	55	20	-15	14†	38	2.04	+1.71	1.27	17.5	7	12	7	9	nw	F. D. Monsen.
Forman	Sargent	1,249	36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	O. Enger.
Fort Yates	Sioux	1,670	30	28.9	+17.5	63	19	15	15	60	1.55	+0.91	1.00	12.0	3	14	10	4	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	20.1	...	52	20	-19	14	39	1.50	...	1.00	12.5	7	9	11	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	...	...	...	...	...	...	...	1.05	+0.53	0.35	9.0	5	11	10	7	nw.	Verne King.
Fullerton	Dickey	1,439	32	25.6	+16.3	56	19	12	15	34	2.14	+1.33	0.80	16.6	10	5	12	11	nw.	F. O. Alin.
Garrison	McLean	1,901	35	22.6	+14.2	51	18	-17	14	34	0.90	+0.37	0.60	9.0	3	15	6	7	nw.	W. F. Robinson.
Grafton	Walsh	827	39	16.4^{d}	+11.5	46^{f}	20	30^{g}	15	38^{g}	2.00	+1.42	0.93	17.5	5	11	7	10	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	39	18.1	+11.6	47	18†	23	14	44	1.89	+1.36	0.68	17.9	12	15	12	1	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	21.0	+12.8	54	20	18	14†	33	0.96	+0.58	0.60	9.0	6	13	12	3	nw.	W. A. Christianson.
Hankinson	Richland	1,068	...	27.4	...	58	18	-12	14	43	1.27	...	1.00	12.2	4	11	5	12	w.	R. G. Stock.
Hannah	Cavalier	1,568	36	...	...	...	...	...	...	...	1.86	+1.30	0.72	14.2	11	...	...	...	...	James Meier.
Hansboro	Towner	1,597	22	12.4	+ 8.7	46	20	-30	14†	46	2.50	+2.02	1.50	26.0	4	12	7	9	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	28.6	+15.4	62	19	-10	27	32	0.58	+0.30	0.23	6.2	6	12	11	5	nw.	C. H. Plath.
Hillsboro	Traill	901	24	21.7	+13.2	50	18	-16	14	32	1.08	+0.40	0.41	8.0	8	10	5	13	sw.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	23	21.5	+15.5	48	20	23	14	32	1.37	+0.68	0.85	13.7	5	16	6	6	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	20.4	+12.5	48	18†	-12	15	45	1.63	+1.05	0.68	8.8	6	5	15	8	...	S. Calvelage.
Lamoine	Kidder	1,936	25	20.6	+12.9	46	18	-12	15	34	1.70	+1.31	1.00	17.0	3	15	3	10	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	34	13.8	+10.8	41	19†	-17	14†	42	2.50	+1.85	0.60	25.0	8	10	15	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	18.6	+13.4	53	20	-23	14	38	1.77	+1.30	0.50	16.8	8	10	1	17	n.	Reuben Gray.
Linton	Emmons	1,711	12	24.8	+11.2	60	17	-18	15	39	0.50	+0.02	0.40	4.0	2	16	9	3	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	26	22.8	+13.2	57	19	-14	14	41	1.00	+0.27	0.70	10.2	8	12	3	13	...	L. B. Walker.
McClusky	Sheridan	1,943	12	22.2	...	47	20	-21^{d}	14	36^{d}	1.38	+0.76	1.15	11.2	4	12	8	8	nw.	Edw. Tapley.
McKinney ‡‡	Renville	1,640	36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. A. Kaatz.
McLeod	Ransom	1,075	18	24.8	+13.4	54	18	12	15	33	0.94	+0.36	0.43	4.1	7	13	3	12	nw.	J. G. Carlson.
Maddock	Benson	1,604	14	18.7	+ 3.9	43	20	-22	14	37	1.16	+0.73	0.50	12.0	6	5	14	9	nw.	A. T. Felland.
Mandan	Morton	1,644	16	21.4	+10.9	55	18	15	15	49	1.60	+1.25	1.03	20.0	9	10	5	13	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27	...	...	...	...	...	...	...	1.67	+1.24	0.70	15.8	9	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	21	29.6^{c}	+16.5	60^{f}	20	-3	28	38^{f}	0.33	0.06	0.13	4.6	5	7	12	9	...	S. P. Grane.
Mary	McKenzie	...	3	...	...	...	...	...	...	...	0.79	...	0.48	9.5	4	12	10	6	sw.	Fred Hartman.
Max	McLean	2,093	...	20.0	...	48	18	20	14†	47	1.40	...	0.60	14.0	6	...	...	...	...	A. W. Rice.
Mayville	Traill	975	34	21.6	+13.9	53	20	-18	14	33	1.20	+0.81	0.65	5.5	3	14	3	11	nw.	N. C. Burhans.
Melville	Foster	1,590	32	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. P. Fischer.
Metigoshe ‡‡	Bottineau	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. A. Thorburn.
Michigan	Nelson	1,518	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Arnold Johnson.
Minot	Ward	1,557	34	20.4	+12.5	55	20	-15	27	39	0.67	+0.21	0.35	9.1	7	14	10	4	w.	Julia B. Rue.
Mott	Hettinger	2,424	23	24.2	+12.4	60	18	-14	27	40	1.53	+0.96	0.93	14.0	5	9	10	9	w.	O. H. Opland.
Napoleon	Logan	1,955	38	22.6	+15.8	57	20	-16	15	33	1.90	+1.50	0.75	12.0	6	15	7	6	w.	C. J. Hoot.
New England	Hettinger	2,400	39	25.6	+13.5	60	18	-11	28	38	0.85	+0.31	0.40	8.5	5	14	9	5	nw.	F. S. Sleight.
New Salem	Morton	2,163	26	23.8	+13.2	54	19	-15	15	34	1.27	+0.89	0.70	14.0	7	14	8	6	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	26.4	...	57	18†	-13	15	37	0.75	...	0.32	6.7	5	8	13	7	nw.	Eugene Naylor.
Park River	Walsh	998	26	16.2	+10.5	46	20	-25	14	42	0.86	+0.42	0.25	14.3	8	7	7	14	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	15	...	...	...	...	...	...	...	1.20	+0.91	0.80	12.0	2	14	10	4	nw.	John A. Johnson.
Pembina	Pembina	789	56	17.0	+15.6	50	18	-30	14	33	2.00	+1.29	0.80	24.0	4	9	12	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	21	19.4	+14.8	49	20	-20	15	35	1.07	+0.71	0.40	9.2	8	7	7	14	nw.	A. L. Carlson.
Portal	Burke	1,954	16	18.1	+13.4	50	19	-25	13†	51	0.95	+0.50	0.50	9.5	3	19	3	6	w.	C. T. Holmes.
Power	Richland	1,020	36	...	...	...	...	...	...	...	1.01	+9.45	0.70	7.0	3	12	8	8	nw.	Frank B. Power.
Powers Lake	Burke	2,205	16	22.1	...	46	19	-19	14	25	0.70	+0.22	0.50	10.3	2	21	5	2	w.	Geo. P. Gee.
Richardton	Stark	2,467	14	23.2	...	50	19	-12	27	33	1.20	+0.83	0.80	12.0	2	8	15	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	...	...	...	...	...	...	...	1.45	...	0.80	12.5	4	1	13	11	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	...	...	...	...	...	...	...	1.52	...	1.15	15.2	3	...	...	...	...	E. M. Loren.
Sanish	Mountrail	1,835	...	19.9	...	57	19	-20	15	33	1.22	...	1.00	15.2	3	5	4	19	nw.	H. W. Monson.
Sharon	Steele	1,516	5	19.2	...	52	20	-18	14†	33	1.40	...	0.45	11.1	10	9	6	13	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	6	...	...	...	...	...	...	...	0.58	...	0.38	23.0	5	13	5	10	nw.	J. H. Giffey.
Steele	Kidder	1,857	34	24.7	+17.6	54	20	-12	13†	28	1.50	+1.05	0.50	10.0	7	12	8	8	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	...	...	...	...	...	...	...	0.86	+0.26	0.30	10.0	4	12	10	6	...	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	...	...	...	...	...	...	...	0.11	...	0.07	2.0	3	7	9	12	nw.	J. C. Abbott.
Tioga	Williams	2,279	4	...	...	...	...	...	...	...	0.90	...	0.80	7.0	2	6	12	10	nw.	Anton Carlson.
Towner	McHenry	1,482	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	B. Bagley.
Trotters	Golden Valley	...	5	...	...	...	...	...	...	...	1.13	...	0.71	8.5	6	12	8	8	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	20.6	+ 9.4	47	8	-18	14	32	...	...	...	...	...	12	7	9	nw.	E. T. Kusler.
Valley City	Barnes	1,245	25	23.6	+14.0	52	19	-19	14†	31	1.56	+1.21	0.60	12.6	6	7	11	10	n.	I. C. Robertson.
Velva	McHenry	1,511	4	21.6	...	51	20	-19	27	34	1.13	...	0.61	10.8	8	4	12	12	w.	Oscar Anderson.
Verona	LaMoure	1,387	36	...	...	...	...	...	...	...	0.71	...	0.60	7.5	3	10	2	16	nw.	W. C. Taylor.
Wahpeton	Richland	962	38	26.5	+16.6	55	19†	-10	15	32	1.06	+0.53	0.52	9.0	6	14	0	14	nw.	C. G. Luick.
Washburn	McLean	1,731	28	20.0	+10.5	50	18	-17	14	29	1.22	+0.83	0.79	17.5	5	9	9	10	nw.	C. W. Poe.
Westhope	Bottineau	1,508	26	16.6	+13.3	45	20	-28	14	34	0.30	+0.11	0.22	3.0	3	10	7	13	nw.	W. A. Meddaugh.
Williston	Williams	1,878	51	23.8	+15.7	56	20	15	14	32	1.24	+0.83	0.59	12.7	7	12	8	8	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	14.8	+12.1	46	20	26	14	41	1.30	+0.84	0.60	13.0	4	15	8	5	nw.	O. M. Sanderson.
Wilton	McLean	...	2	22.0	...	51	18†	15	13	40	1.44	...	0.70	12.8	7	18	3	7	...	L. Q. Perkins.
Wishek	McIntosh	2,010	10	23.3^{g}	...	54^{i}	20	-16^{d}	15	43^{j}	1.13	...	0.65	10.0	5	6	5	17	nw.	E. W. Davis.
Zap	Mercer	1,838	2	...	...	...	...	...	...	...	0.36	+0.10	0.17	4.0	6	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	49	23.0	+11.9	52	19	11	15	30	2.03	+1.34	0.51	10.6	14	3	8	17	s.	U. S. Weather Bureau.
Averages				21.7	+13.8	63	19	-30	14†	60	1.18	+0.69	1.50	11.7	6	11	8	9	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used i[n] determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for February, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.05													.02		T							T.	.04			.10				0.21
Amenia ‖	Red		.05								T			T			T	T					T.		.19	.70	.18		.17				1.29
Arnegard (near)	Missouri	.10				T.						.10		.10		T.									.35	.45	.05						1.15
Ashley	Missouri											T.		.03			.01						.16		.34	.20			.60				1.34
Beach	Lit. Missouri	.04										.01	.02												.08	.12	T.						0.27
Berthold Agency	Missouri	T.	.15									T.	.04	.10			.08								T	.80			.04				1.21
Bismarck ***	Missouri	.08										.08		.04		.08	T.					.10	.10		.66	.06	T	.05	.11				1.36
Bottineau ‖	Mouse	.01	T.			T.			T					.04			.04	.01								.20	.01		.05				0.36
Bowman	Grand	.02							T.					.04			.01					T.			.35	.15	.01	.10	.05				0.73
Cando	Devils Lake	T.	.01	T.		T.								.01			T.					T	.17			.63	.05	T.	.04				1.19
Carrington	James													.10		.02	T					T.	T.		.45		.05	.05	T				0.67
Carson	Heart		.02										.10									.02			.60	.10			.40				1.24
Cavalier	Red																																
Cooperstown	Sheyenne																																
Corinth	Missouri																																
Crosby ‖	Mouse		.02											.02												.30	.05	.05					0.44
Devils Lake ***	Devils Lake	.01	.02		T.	T.	T.		T.					.02		.02	.01					T	.59		.25	.14	.01		.25				1.32
Dickinson ‖	Heart	.01	.04				T.						.02	.04			T.						T.			.75	.25	.03	.15				1.29
Dogden Butte	Mouse		.17										.10										.03		.10	.58	T.		T.				0.98
Drake ‖	Mouse																																
Dunn Center ‖	Knife		.03																							.93	.28	.10					1.40
Dunseith	Mouse	.05	.12			.10								.10			.08									.20	.08		.28				1.01
Eckman	Mouse													.08												.40	.04		.07				0.59
Edgeley	James															.05							.17					.40					0.62
Ellendale***	James	T.		T.					T.			.01	.01	.03		.02	.03					.05	.10		.18	T.	.01	.04	.44				0.92
Energy	Missouri		.08										.15									T.			.25	.50			.08				1.06
Epping	Missouri	.18										.25				T.									T.	.75			.10				1.28
Fairfield	Knife																								.35	.40							0.75
Fessenden ‖	James		.08		.01								T.	.12			.09						.29			1.27	.18						2.04
Forman	Sheyenne																																
Fort Yates	Missouri												T.										.35		1.00				.20				1.55
Foxholm (near)	Mouse		.06	T.								.03		.02			.05								T.	1.00	.16		.18				1.50
Fryburg	Heart										.05	T.	T.					T							.35	.35	.10	.20					1.05
Fullerton	James	.04	.12	T.				T.				.03		.12			.28					.03	.26		.16	T.	.30	T.	.80				2.14
Garrison	Missouri		T.									.10					T.								T.	.60	T.		.20				0.90
Grafton	Red					.14				T.				.10									.63			.93	.20		T.				2.00
Grand Forks ***	Red	.04	.07			.05			T.	.06				.04			T.	.08				.01	.65		.20	.48	.14		.07				1.89
Granville	Mouse		.10						.01			T.					.02						.03			.60	.20						0.96
Hankinson ‖	Red																.25								T.		.01	.01	1.00				1.27
Hannah	Pembina	.03	.03				.03			.01				.05			.01	.12					.44			.72	.40		.02				1.86
Hansboro	Devils Lake	T.		.20																			.55			1.50			.25				2.50
Hettinger	Grand	.02												.06											.23	.14	.04	T.	.09				0.58
Hillsboro	Red			.04						T.	.02							.03				.36			.10	.41	.04		.08				1.08
Howard (near)	Missouri	.10	T.						T.			.15				.12							T.		T.	.85	.15						1.37
Jamestown ‖	James													.25									.68	.07		.20	.05		.38				1.63
Lamoine	Missouri													.40												1.00			.30				1.70
Langdon ‖	Pembina	.20	.10							.20									.20				.50			.60	.50		.20				2.50
Larimore ‖	Red	.02	.05						.10									.10					.30			.50	.40		.30				1.77
Linton	Missouri											T.											.10		.40								0.50
Lisbon ‖	Sheyenne	.02	.02				T.					T.	.02			.10									.02	.02		.10	.70				1.00
McClusky	Missouri		.05											.05		T.	T.					T.			1.15	T.	T.		.13				1.38
McKinney (near)	Mouse																																
McLeod	Sheyenne			T.					T.								.02	.04					.03		.10	.43		.02	.30				0.94
Maddock	Sheyenne	T.		T.		T.							T.	.04			T.	.04					.08		T.	.10	.40		.50				1.16
Mandan ‖	Missouri		.09										.06	.05			.06						.08			1.03	.02	.01	.20				1.60
Manfred	James	T.	.07										.05	.10			.12					T.		.20	.20	.70	.10		.13				1.67
Marmarth	Lit. Missouri	T												.09											T.	.13	.04	.02	.05				0.33
Mary	Lit. Missouri	.10										.06		T.									T.		.15	.48							0.79
Max ‖	Missouri		.20										.20	.10								T.				.60	.10		.20				1.40
Mayville	Red																	.12					.65			.43							1.20
Melville	James																																
Metigoshe	Mouse																																
Michigan	Red																																
Minot ‖	Mouse	.04											.02	.04												.35	.05	.02	.15				0.67
Mott	Cannon Ball					T.				.05			T.	.06												.93	.22		.27				1.53
Napoleon ‖	Missouri		.05										.10				.05	T.					.45			.75			.50				1.90
New England	Cannon Ball												.05	T.											.20	.40	.10	.10	T.				0.85
New Salem	Heart	.04										T.		.12			.04					.03			.30	.70			.04				1.27
Oakes	James		.06											T.			.13						.21		T.		.03		.32				0.75
Park River	Red	T.	.04			.04				.03				.06									.25			.25	.11	T.	.08				0.86
Parshall (near)	Missouri																								.40	.80							1.20
Pembina ‖	Red						.30			.30																.80		.60					2.00
Pettibone	James		T.					.05	T.				T	.05			.02						.15		.10	.40	.10	T.	.20				1.07
Portal ‖	Mouse												.25												.50	.20							0.95
Power	Sheyenne								T.														.15		.16				.70				1.01
Powers Lake	Missouri													.20													.50						0.70
Richardton	Heart																								.40	.80							1.20
Rugby [near]	Mouse	.05				T.																.20				.85	.40						1.45
Ryder	Missouri											.07														1.15			.30				1.52
Sanish ‖	Missouri												.12													1.00			.10				1.22
Sharon	Red	T.	.01	T.	T.	T.				.01				.01			.01	.07				T.	.44		.15	.45	.07	T	.15				1.40
Stanton	Missouri	.02										.02		.10												.38		.06					0.58
Steele	Missouri	.10	.10										.10				T.						.50		.10	.30			.30				1.50
Stowers	Cannon Ball												T.	.18											.30	.10	.28		T.				0.86
Tagus	Mouse											.02				.02									.07								0.11
Tioga	Missouri												T.													.80		.10					0.90
Towner	Mouse																																
Trotters	Lit. Missouri	.08										.05	.03												T.	.71	.18	T.	.08				1.13
Turtle Lake	Missouri																																
Valley City	Sheyenne															.08	.02					.30			.60		.04		.52				1.56
Velva	Mouse	.03	T.									.04	T.	.07			T.						.04		.09	.61	.10		.15				1.13
Verona	James		.01													T.						T	T.	.60		.10			T.				0.71
Wahpeton	Red		.05														.05								.06	.25	.10		.55				1.06
Washburn	Missouri	.18					.03					.10											T		.79				.12				1.22
Westhope	Mouse																									.22	.02		.06				0.30
Williston ***	Missouri	.18										.22	.02			T									.15	.50	.09		.08				1.24
Willow City	Mouse		.10											.20			T.									.60			.40				1.30
Wilton		.08											.10			.10							.20		.70	.10			.16				1.44
Wishek ‖	Missouri												.06	.16	.05											.65			.21				1.13
Zap	Knife		.03							.02						.06						.05					.17		.03				0.36
Moorhead, Minn ***	Red	.04	.06	T.	T	.01	T.		T.	.15			T	.04		T	.10					.02	.33	.07	.42	.16	.08	.04	.51				2.03

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace or less than 0.01 inch.

Daily Temperatures for February, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	33	26	41	38	30	30	35	38	28	31	38	28	18	9	18	38	40	58	43	40	38	37	31	46	32	18	17	18	....	....	....	32.1
	Minimum	−5	15	16	15	12	11	14	8	18	0	1	18	4	−11	−16	−12	13	20	32	28	32	33	23	22	22	18	0	2	....	....	....	11.9
Arnegard	Maximum	35	37	34	35	41	35	36	39	29	40	36	32	29	−4	20	42	46	57	51	56	42	41	41	33	18	9	12	10	....	....	....	33.
	Minimum	10	21	16	15	17	20	16	20	16	12	20	10	−11	−17	−11	16	25	34	35	32	34	29	22	18	4	0	−13	0	....	....	....	13.9
Ashley	Maximum	28	34	28	36	35	38	32	41	40	38	40	35	28	4	18	37	46	52	54	56	53	44	43	37	26	15	24	20	....	....	....	35.1
	Minimum	7	25	20	17	16	25	17	13	20	8	26	12	−6	−10	−16	4	26	35	36	31	31	33	30	24	6	6	0	7	....	....	....	15.8
Beach	Maximum	38	38	34	35	40	38	35	40	30	42	40	33	22	10	37	42	49	55	58	60	43	44	45	34	23	9	12	10	....	....	....	35.6
	Minimum	20	30	22	23	30	28	18	25	19	20	20	4	−5	−5	4	28	30	37	34	31	35	27	29	23	4	2	−7	−2	....	....	....	18.7
Berthold Agency	Maximum	25	40	30	34	50	40	40	45	42	42	40	30	25	0	14	45	50	60	55	52	42	44	45	32	25	10	10	10	....	....	....	35.1
	Minimum	−4	15	0	12	18	28	20	20	25	28	28	5	−8	−15	−14	5	20	35	35	28	30	32	20	8	4	5	−20	7	....	....	....	13.1
Bismarck	Maximum	36	36	29	35	44	37	36	46	31	43	40	29	25	−2	18	42	47	57	51	50	45	43	41	32	9	13	14	14	....	....	....	33.7
	Minimum	4	22	8	10	16	24	23	18	19	14	23	15	−7	−11	−10	6	25	39	36	34	36	30	25	7	5	4	−5	7	....	....	....	14.9
Bottineau §§	Maximum	12	20	21	26	21	26	24	36	28	29	33	29	18	−8	6	23	34	45	43	46	40	36	30	28	10	19	10	11	....	....	....	24.9
	Minimum	6	10	9	14	2	2	5	−1	12	−2	14	0	−15	−28	−27	0	12	25	26	28	29	29	10	9	0	6	−9	−4	....	....	....	5.8
Cando	Maximum	19	22	21	28	23	27	27	37	34	33	35	31	15	9	9	30	32	32	40	54	42	39	32	30	16	18	15	12	....	....	....	27.2
	Minimum	7	10	12	14	6	10	12	−2	−4	−4	22	8	−13	−23	−17	−6	0	18	32	31	32	31	13	8	4	11	−11	−2	....	....	....	7.1
Carson	Maximum	35	38	44	38	43	50	38	35	30	42	42	30	15	2	40	45	48	60	60	60	45	40	44	32	20	10	15	12	....	....	....	36.2
	Minimum	5	25	16	12	15	24	15	25	22	18	17	5	−7	−12	−11	15	25	35	32	30	32	28	28	10	−2	−5	−12	4	....	....	....	13.9
Crosby §§	Maximum	30	26	24	27	42	37	32	36	33	34	27	32	1	18	22	37	37	39	39	38	40	38	29	23	22	10	2	10	....	....	....	28.0
	Minimum	1	10	14	17	14	24	24	18	16	19	14	13	−15	18	−5	18	22	35	34	35	34	30	26	23	4	4	−17	−18	....	....	....	13.4
Devils Lake	Maximum	18	17	20	29	26	26	27	37	23	30	32	21	4	−5	7	25	37	41	39	48	38	35	32	26	17	17	16	12	....	....	....	24.8
	Minimum	10	14	14	9	7	11	9	4	4	0	20	2	−14	23	−14	2	18	35	32	32	34	29	23	6	7	−3	−9	7	....	....	....	9.4
Dickinson §§	Maximum	35	38	33	35	41	33	34	41	29	40	37	28	12	5	33	39	44	50	51	54	42	42	44	30	9	8	9	9	....	....	....	32.3
	Minimum	7	14	21	19	13	29	18	15	18	8	15	13	−7	−9	−10	0	25	28	34	27	28	32	24	26	5	3	−16	−16	....	....	....	13.0
Dunn Center §§	Maximum	36	35	33	33	42	35	34	42	32	40	38	28	10	10	33	42	43	51	49	51	44	43	41	30	25	9	7	10	....	....	....	33.2
	Minimum	5	16	21	21	9	32	17	18	20	11	16	10	−8	−10	−10	5	24	28	33	29	31	32	21	25	4	2	−18	−15	....	....	....	13.2
Dunseith	Maximum	14	19	20	21	20	31	29	33	29	30	35	27	11	−8	7	30	33	43	45	56	46	40	31	29	10	15	9	13	....	....	....	25.6
	Minimum	5	10	11	9	3	11	15	17	16	0	20	9	−16	−26	−19	0	0	26	29	27	30	29	14	3	0	7	−3	−3	....	....	....	8.0
Edgeley	Maximum	28	35	29	35	34	38	35	42	34	37	34	35	25	5	24	31	48	51	54	55	51	45	42	39	25	20	19	18	....	....	....	34.6
	Minimum	3	26	18	20	15	19	20	25	21	8	25	20	3	−7	−11	11	26	35	39	39	35	34	24	24	11	11	0	11	....	....	....	17.9
Ellendale	Maximum	32	36	31	36	44	38	33	47	32	39	41	30	19	2	23	38	49	59	59	54	46	42	44	36	22	20	18	19	....	....	....	35.4
	Minimum	3	21	16	19	17	18	20	15	19	7	23	16	−4	−13	−16	15	29	33	32	29	29	33	23	22	12	10	4	9	....	....	....	15.8
Fessenden §§	Maximum	32	25	25	36	37	34	34	41	28	35	35	30	2	0	23	35	41	46	51	55	47	42	40	23	15	21	15	10	....	....	....	30.6
	Minimum	4	10	9	16	12	11	13	9	19	5	12	15	−8	−15	−15	0	20	24	35	32	32	32	22	23	6	8	−11	−9	....	....	....	11.1
Foxholm (near)	Maximum	19	26	26	30	41	38	32	40	30	35	36	29	23	−2	12	35	42	49	48	52	48	41	38	30	10	12	9	9	....	....	....	29.9
	Minimum	4	14	8	8	9	9	17	15	17	11	26	12	−13	−19	−13	3	3	36	36	33	30	30	18	9	0	3	−14	−3	....	....	....	10.3
Fullerton	Maximum	29	35	30	37	34	40	34	42	31	37	41	35	21	2	22	29	47	53	56	53	46	43	43	37	27	27	21	19	....	....	....	34.7
	Minimum	6	25	17	19	17	23	18	12	14	8	20	18	−3	−5	−12	14	27	32	33	29	31	33	24	26	13	12	2	10	....	....	....	16.5
Garrison	Maximum	21	32	29	31	49	40	39	41	33	38	35	30	22	5	12	35	46	51	46	45	45	41	41	41	19	15	13	9	....	....	....	32.3
	Minimum	4	20	7	12	15	23	16	11	18	6	28	8	−11	−17	−12	5	21	36	37	30	34	33	22	16	3	5	−9	4	....	....	....	13.0
Grafton	Maximum	17	....	23	30	25	25	30	40	39	20	36	29	8	−5	5	20	37	44	...	46	42	38	36	29	22	21	17	12	....	....	....	[b]26.4
	Minimum	5	....	11	11	7	14	....	....	....	....	14	4	....	−27	−30	−9	16	6	....	24	27	32	26	7	9	12	−11	−5	....	....	....	[g] 6.5
Grand Forks	Maximum	20	20	24	33	23	27	29	38	25	23	34	22	6	−6	7	22	34	47	43	47	44	38	34	28	24	21	14	17	....	....	....	26.4
	Minimum	8	13	13	13	11	11	11	−6	3	−9	20	−4	−12	−23	18	−3	13	32	33	30	36	32	28	15	19	13	−5	2	....	....	....	9.9
Granville	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hansboro	Maximum	17	17	18	25	17	27	28	35	22	28	32	30	2	15	0	32	32	40	40	46	38	35	32	23	15	14	11	10	....	....	....	23.2
	Minimum	−10	7	8	5	5	10	8	−11	−17	−10	17	−2	−17	−30	−30	−5	16	18	25	22	28	27	17	0	−2	2	17	15	....	....	....	1.5
Hettinger	Maximum	35	39	36	37	43	41	35	44	33	49	44	31	30	17	27	48	52	60	62	59	48	46	45	34	21	14	13	10	....	....	....	37.7
	Minimum	17	27	25	21	20	31	19	26	22	27	29	14	−2	−5	−2	26	32	37	33	30	34	33	27	20	8	3	−10	4	....	....	....	19.5
Hillsboro	Maximum	25	21	20	34	31	26	31	36	31	22	36	29	14	4	19	20	38	50	49	45	45	47	37	38	27	25	17	20	....	....	....	29.6
	Minimum	7	15	14	15	13	17	16	4	17	−2	17	14	−4	−16	−13	0	15	33	33	32	32	33	29	19	17	15	4	9	....	....	....	13.8
Howard (near)	Maximum	5	35	30	31	40	32	32	36	26	37	34	34	11	−1	15	40	40	42	46	48	41	44	42	34	20	11	16	9	....	....	....	29.5
	Minimum	32	15	10	19	15	19	15	20	13	12	20	11	−10	−23	−10	14	21	34	34	32	34	30	20	20	0	−5	−16	2	....	....	....	13.5
Jamestown §§	Maximum	35	30	25	31	38	29	29	40	28	35	37	32	−2	−3	17	37	46	48	48	47	39	36	36	28	12	12	12	20	....	....	....	29.5
	Minimum	2	12	13	15	12	13	16	10	15	7	2	20	5	−10	−12	−8	9	21	38	29	29	33	24	22	10	10	−5	−3	....	....	....	11.4
Lamoine	Maximum	20	32	24	32	36	34	36	38	28	34	33	30	12	0	10	30	36	46	46	46	46	36	38	33	13	13	15	10	....	....	....	28.8
	Minimum	6	12	10	17	14	12	24	28	15	0	24	8	4	−20	−24	3	17	30	32	34	32	32	18	13	4	5	−7	8	....	....	....	12.5
Langdon §§	Maximum	16	20	23	24	20	24	33	22	25	33	32	21	9	0	9	25	35	39	41	41	36	37	28	12	17	16	15	12	....	....	....	23.8
	Minimum	3	8	10	10	2	2	5	10	−1	0	5	3	−15	−17	−16	−17	−5	10	30	25	26	31	20	5	4	10	−17	−17	....	....	....	3.8
Larimore §§	Maximum	18	20	25	34	22	27	25	38	22	25	35	22	18	4	5	18	40	48	43	53	47	35	40	32	22	20	1	12	....	....	....	26.9
	Minimum	5	10	13	15	10	16	12	10	10	−8	−3	4	4	−23	−15	10	15	30	33	30	31	30	23	20	9	10	−10	3	....	....	....	10.3
Linton	Maximum	35	35	36	38	42	38	39	47	32	41	41	33	22	−3	17	42	60	57	53	53	46	45	44	38	30	38	28	31	....	....	....	37.8
	Minimum	−4	21	2	3	16	22	14	9	21	3	11	13	−4	−13	−18	12	28	21	27	30	35	35	24	18	14	2	−8	−3	....	....	....	11.9
Lisbon §§	Maximum	31	33	40	40	31	39	38	26	36	41	37	8	8	16	22	48	53	54	57	55	38	45	44	26	28	26	24	28	....	....	....	34.7
	Minimum	0	10	8	13	11	11	4	10	−1	18	19	−2	−9	−14	−1	4	25	31	21	31	32	18	21	15	14	1	11	4	....	....	....	11.0
McClusky	Maximum	23	33	26	32	39	38	29	39	26	34	34	29	9	−5	18	32	33	41	46	47	41	38	40	36	21	15	12	10	....	....	....	29.5
	Minimum	6	22	14	14	14	17	13	10	18	8	25	5	−10	−21	−18	17	22	34	35	32	35	32	27	....	....	....	....	6	....	....	....	[d]14.9
McKinney (near)	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Maddock	Maximum	16	21	23	25	28	28	30	39	32	33	35	30	22	0	10	27	39	42	42	43	42	39	31	32	16	18	16	9	....	....	....	27.5
	Minimum	7	12	7	12	7	10	14	2	17	−2	19	11	−13	−22	−16	5	17	28	32	31	32	31	21	12	4	11	−14	1	....	....	....	9.9
Marmarth	Maximum	38	14	42	....	....	....	....	....	32	....	48	33	33	22	38	46	49	56	57	60	50	50	46	36	26	16	19	14	....	....	....	[f]38.9
	Minimum	9	27	27	20	20	30	18	20	21	18	32	22	21	−1	0	26	31	34	30	28	35	31	24	26	16	6	−1	−3	....	....	....	20.2
Melville	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Minot §§	Maximum	28	23	28	32	42	34	33	41	30	39	33	32	1	−1	14	38	45	51	47	55	49	41	41	23	10	15	15	10	....	....	....	30.3
	Minimum	2	13	7	16	12	12	14	14	21	13	20	8	−10	14	−14	−1	8	21	36	32	37	32	18	23	3	3	−15	−13	....	....	....	10.5
Mott	Maximum	31	36	36	37	40	44	37	32	30	31	31	30	14	8	33	44	49	60	55	48	44	46	43	39	20	8	21	10	....	....	....	34.6
	Minimum	−2	4	10	15	25	26	22	15	11	3	−9	−2	−5	−8	5	25	38	37	30	28	34	33	31	30	7	2	−14	2	....	....	....	13.8
Napoleon §§	Maximum	35	29	16	34	38	29	32	41	28	38	40	26	5	−2	17	38	43	50	51	57	46	41	41	30	10	15	24	12	....	....	....	30.9
	Minimum	4	25	15	13	15	23	18	15	18	6	10	17	10	−14	16	8	21	36	35	32	34	32	24	30	4	3	−6	5	....	....	....	14.2
New Salem	Maximum	31	36	36	35	41	46	38	46	30	38	39	31	25	−2	17	39	43	46	54	47	40	44	48	34	15	10	14	10	....	....	....	33.1
	Minimum	11	24	19	12	12	18	26	17	17	10	29	17	−9	−14	−15	13	23	35	33	30	34	31	21	15	1	0	−9	5	....	....	....	14.5
Pembina §§	Maximum	2	18	20	24	20	20	30	30	22	20	32	20	5	−4	10	22	26	50	45	40	40	42	32	30	25	22	20	6	....	....	....	23.5
	Minimum	−8	10	16	12	10	12	10	−3	20	10	20	5	−4	−30	−20	10	20	30	30	30	30	32	20	2	22	16	8	0	....	....	....	10.6
Steele	Maximum	24	34	26	34	38	40	36	38	30	40	44	35	16	14	6	40	42	48	48	54	48	42	40	28	22	28	16	12	....	....	....	32.9
	Minimum	4	18	11	16	17	18	19	14	18	14	35	16	−12	−4	−12	12	30	38	36	42	38	34	26	22	6	8	−6	0	....	....	....	16.5
Towner	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Valley City	Maximum	23	33	27	37	31	33	34	39	37	33	39	34	27	0	13	25	36	46	52	52	45	43	49	35	24	22	21	13	....	....	....	32.2
	Minimum	7	−1	12	19	13	20	22	10	21	1	20	30	−6	−10	−10	10	20	30	36	26	32	32	33	20	11	14	−1	12	....	....	....	15.1
Wahpeton	Maximum	23	34	34	35	36	30	31	35	38	30	39	37	27	5	22	23	42	52	55	55	52	52	43	45	40	28	26	27	....	....	....	35.7
	Minimum	12	11	12	12	16	22	16	11	23	4	22	7	0	−9	−10	14	15	35	35	30	39	35	27	35	22	17	13	18	....	....	....	17.3
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Williston	Maximum	35	34	31	33	42	35	37	39	29	43	36	30	4	3	19	45	50	55	50	56	44	42	47	32	15	10	10	13	....	....	....	32.8
	Minimum	9	19	20	17	17	26	19	24	16	18	23	−2	−11	−15	−8	15	28	40	37	31	35	28	22	15	5	−2	−14	2	....	....	....	14.8
Moorhead, Minn	Maximum	22	26	28	33	23	27	33	38	28	26	40	26	13	−3	17	21	40	51	52	49	49	47	37	34	33	24	19	23	....	....	....	30.6
	Minimum	10	17	16	16	14	19	16	8	11	2	19	5	−7	−10	−11	7	17	35	34	32	38	32	29	29	20	16	7	12	....	....	....	15.5

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 4-3-30—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIX BISMARCK, N. D., MARCH, 1930 No. 3

GENERAL SUMMARY

Cold and stormy weather prevailed at the beginning of the month. After the 2d, however, temperatures averaged somewhat above the normal with the exception of the 20th when sub-zero weather occurred at most stations. Less precipitation fell during the month than in any other March since statewide records began 50 years ago. None of the stations recorded an inch of precipitation for the entire month and 30 stations reported less than 0.01 inch. Many highways were blocked with snow and much yard feeding of livestock was necessary at the opening of the month but the snow cover decreased rapidly after the first few days. By the end of the month livestock ranged freely, tame grasses were greening and the soil was in excellent condition.

TEMPERATURE

The mean temperature for the state was 26.1°, or 3.5° above the normal, and 4.4° less than the mean for March, 1929. The highest mean reported was 31.6° at Hankinson, Richland County; the lowest was 17.5° at Langdon, Cavalier County. The highest temperature reported was 62° at Oakes, Dickey County on the 19th; the lowest was -17° at Park River, Walsh County on the 20th. The greatest monthly range of temperature was 68° at Garrison, McLean County, and New England, Hettinger County; the least was 50° at Grafton, Walsh County, and Mott, Hettinger County. The greatest daily range in temperature was 57° at Mayville, Traill County on the 20th.

PRECIPITATION

The average precipitation for the state was 0.09 inch, or 0.74 inch below the normal, and 0.69 inch less than the average for March, 1929. The greatest monthly amount reported was 0.80 inch at Power, Richland County; there was none at six stations in the northern and central parts of the state. The greatest amount recorded in any 24 consecutive hours was 0.48 inch at Verona, Lamoure County on the 1st. The average snowfall was 0.9 inch. The average number of days with 0.01 inch or more of precipitation was 1.

AURORAS

Auroras were observed at McLeod on the 2d; at Howard, Williston and Willow City on the 3d; at Fessenden on the 10th; at Foxholm, Grand Forks, Larimore and Sharon on the 11th; at McLeod on the 12th; at Arnegard on the 15th; at Arnegard, Foxholm, McClusky, Rugby and Velva on the 16th; at Bottineau, Eckman, Epping, Foxholm, Grand Forks, Howard, McClusky, Rugby and Willow City on the 17th; at Eckman, Foxholm, McClusky, McLeod and Sharon on the 18th; at Eckman, Ellendale, Foxholm, McClusky, Sharon and Willow City on the 20th; at Ellendale, McLeod and Pettibone on the 21st; at Foxholm on the 23d; at Bottineau on the 24th; at Devils Lake, Fessenden and Foxholm on the 26th; at Devils Lake and Williston on the 27th; at Bottineau, Foxholm, Howard, Napoleon, Sharon and Willow City on the 28th; at Bottineau, Carlson and Napoleon on the 29th; at Carlson on the 30th; and at Foxholm on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*†	Direction	Date
Bismarck	30.01	30.76	2	29.32	19	57	7,126	9.6	34§	nw.	12
Devils Lake	29.98	30.58	2	29.25	19	44	7,655	10.3	40§	nw.	12
Ellendale	29.99	30.61	2	29.36	19	56	11,184	15.0	41§	nw.	19
Grand Forks	29.96	30.45	2	29.26	12	90	....	.....	42	sw.	12
Williston	30.04	30.81	2	29.34	19	48	5,635	7.6	30§	nw.	12
Moorhead, Minn	29.98	30.53	2	29.28	19	58	7,316	9.8	31§	nw.	12
Av'ges and extremes	29.99	30.81	2	29.25	19	.....	....	10.5	42	sw.	12

* For any five-minute period. † And other dates. § From 3-cup anemometers.

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SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p'c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date†
Bismarck	215.8	369.9	58	+ 2	83	63	65	37	31
Devils Lake	267.1	369.7	72	+14	84	77	82	35	29
Ellendale	259.5	370.0	70	+14	83	56	....	27	28
Grand Forks	......	......	......	......	90	....	77	......	....
Williston	263.1	369.7	71	+19	85	60	60	19	29
Moorhead, Minn	247.8	369.9	67	+11	85	65	72	34	29
Averages and extremes	250.7	369.8	68	+12	85	64	71	19	29

† And other dates.

COMPARATIVE STATE DATA FOR MARCH

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	24.2	+1.6	66	−35	0.83	0.00	4	12	8	11	se.
1893...	13.9	−8.7	68	−35	0.99	+0.16	5	13	7	11	nw.
1894...	24.8	+2.2	69	−22	1.45	+0.62	5	12	9	10	nw.
1895...	23.2	+0.6	75	−35	0.16	−0.67	2	16	10	5	nw.
1896...	15.7	−6.9	70	−35	1.18	+0.35	8	12	10	9	nw.
1897...	11.9	−10.7	58	−48	1.27	+0.44	7	15	7	9	nw.
1898...	21.2	−1.4	79	−24	0.79	−0.04	5	13	8	10	nw.
1899...	7.5	−15.1	72	−30	1.00	+0.17	5	12	10	9	nw.
1900...	20.3	−2.3	77	−24	1.01	+0.18	5	14	7	10	nw.
1901...	25.3	+2.7	85	−32	0.86	+0.03	5	15	8	8	nw.
1902...	27.4	+4.8	65	−25	2.73	+1.90	8	10	6	15	nw.
1903...	22.1	−0.5	80	−24	0.55	−0.28	3	12	6	13	nw.
1904...	18.2	−4.4	64	−26	1.33	+0.50	5	11	6	14	nw.
1905...	32.5	+9.9	81	−25	0.87	+0.04	4	11	8	12	nw.
1906...	18.5	−4.1	67	−34	0.38	−0.45	3	15	6	10	nw.
1907...	23.1	+0.5	83	−20	0.70	−0.13	4	14	9	8	nw.
1908...	21.1	−1.5	68	−31	1.16	+0.33	8	10	9	12	nw.
1909...	24.0	+1.4	61	−24	0.32	−0.51	4	10	9	12	nw.
1910...	41.3	+18.7	90	− 7	0.97	+0.14	3	18	8	5	nw.
1911...	30.6	+8.0	78	−18	0.24	−0.59	2	16	10	5	nw.
1912...	15.4	−7.2	65	−28	0.33	−0.50	3	17	8	6	nw.
1913...	17.2	−5.4	70	−31	0.81	−0.02	6	12	9	10	nw.
1914...	25.5	+2.9	76	−20	0.90	+0.07	5	10	9	12	nw.
1915...	22.9	+0.3	63	−23	0.22	−0.71	2	16	6	9	nw.
1916...	20.3	−2.3	69	−45	1.48	+0.65	6	11	9	11	nw.
1917...	22.2	−0.4	67	−39	0.39	−0.44	3	13	10	8	nw.
1918...	35.0	+12.4	82	−15	0.39	−0.44	2	16	8	7	sw.
1919...	17.8	−4.8	67	−35	0.82	−0.01	4	12	9	10	nw.
1920...	22.4	−0.2	67	−32	0.79	−0.04	4	15	8	8	nw.
1921...	25.2	+2.6	75	−22	1.00	+0.17	6	9	12	10	nw.
1922...	25.8	+3.2	60	−30	0.72	−0.11	4	12	7	12	se.
1923...	18.3	−4.3	65	−35	0.41	−0.42	4	10	10	11	nw.
1924...	25.5	+2.9	58	−20	0.45	−0.28	4	10	9	12	nw.
1925...	27.4	+4.8	75	−26	0.67	−0.16	4	14	9	8	nw.
1926...	25.8	+3.2	83	−23	0.24	−0.59	3	13	10	8	nw.
1927...	30.4	+7.8	77	−10	0.74	−0.09	5	13	8	10	nw.
1928...	28.1	+5.5	85	−17	0.54	−0.29	3	15	8	8	nw.
1929...	30.5	+7.9	77	−15	0.78	−0.05	5	12	8	11	nw.
1930...	26.1	+3.5	62	−17	0.09	−0.74	1	17	8	6	nw.

Climatological Data for March, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	4	......	......	......	......		......	......	0.04	....	0.02	.....	2				.....	H. A. Bury.
Amenia	Cass	954	34	23.6	0.0	60	19	−4	2	49	0.25	−0.32	0.15	2.5	2	10	19	2	nw.	I. Idso.
Arnegard (near)	McKenzie	......	15	26.2	+2.7	55	21	−8	2	47	0.10	−0.69	0.10	1.0	1	22	3	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	28.0	+6.0	59	19	−6	2	41	0.05	−1.14	0.05	2.0	1	18	3	10	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	28.8	+2.3	58	10	−7	1	51	0.01	−0.77	0.01	0.1	1	19	7	5	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	26.6	+1.9	58	22	−5	7	36	T.	−0.84	T.	T.	0	29	0	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	28.0	+3.8	55	19	−3	2	49	T.	−0.89	T.	T.	0	12	12	7	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	38	22.9	+5.2	47	23	−12	2	35	0.12	−0.68	0.10	1.2	2	21	5	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	16	......	......	...	...	−4	1	......	0.06	−0.39	0.02	T.	4	17	11	3	nw.	George Larsen.
Cando	Towner	1,488	29	26.0	+5.5	51	22	−6	20	30	0.04	−0.59	0.02	0.2	2	19	6	6	w.	A. J. Swanson.
Carson	Grant	2,500	18	27.0	+2.5	52	22	−5	7	36	0.05	−0.61	0.05	0.5	1	20	6	5	nw.	J. W. Evens.
Cavalier	Pembina	......	3	......	......	...	...	...	...	......	0.10	....	0.05	1.0	2	17	0	14	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	21	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	S. Friswold.
Corinth	Williams	2,180	3	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	L. S. Evenson.
Crosby	Divide	1,954	24	23.6	+1.6	49	22†	−9	20	35	0.00	−0.58	0.00	0.0	0	10	10	11	nw.	John Jensen.
Devils Lake	Ramsey	1,478	33	23.4	+3.6	51	22	−7	2	44	0.13	−0.65	0.08	2.1	6	13	12	6	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	25.4	+1.0	51	22	8	2	53	0.05	−0.79	0.03	0.4	3	17	6	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	25.9	......	54	22	−5	20	35	0.05	....	0.05	0.5	1	16	8	7	nw.	R. L. Williams.
Drake	McHenry	1,634	......	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	J. Rindt.
Dunn Center	Dunn	2,191	31	25.4	+1.3	54	22	−5	2	48	T.	−1.11	T.	T.	0	16	6	9	nw.	W. F. Moede.
Dunseith	Rolette	1,682	34	22.8	+4.0	47	22	−12	20	34	0.25	−0.52	0.25	2.5	1	17	10	4	nw.	T. H. Tharaison.
Eckman	Bottineau	1,500	25	25.4	+3.3	57	22	−8	20	42	0.04	−0.46	0.04	0.0	1	4	20	7	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	29	30.4	+3.9	59	19†	2	20	42	T.	−0.80	T.	0.0	0	8	15	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	30.0	+4.4	60	19	−2	2	45	0.03	−0.80	0.03	0.2	2	7	14	10	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	18	27.4	......	51	22	−2	20	34	T.	−0.67	T.	T.	0	15	14	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	24.7	......	51	29	7	7	40	0.09	−0.47	0.05	1.0	2	19	7	5	nw.	A. O. Wang.
Fairfield	Billings	......	3	......	......	...	...	...	...	......	0.02	....	0.01	1.0	2	22	5	4	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	25.8	+4.4	57	22	−5	2	40	0.18	−0.54	0.18	2.0	1	17	9	5	nw.	T. D. Monsen.
Forman	Sargent	1,249	36	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	O. Enger.
Fort Yates	Sioux	1,670	30	29.6	......	60	18	−1	3	42	T.	−1.02	T.	T.	0	22	4	5	.....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	25.2	......	54	22	−9	20	40	0.05	....	0.03	0.2	3	13	10	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	......	......	...	...	...	...	......	0.10	−0.56	0.05	1.0	2	16	13	2	nw.	Verne King.
Fullerton	Dickey	1,439	32	29.8	+4.6	60	19	−2	2	34	0.13	−1.09	0.07	1.3	2	15	9	7	nw.	F. O. Alin.
Garrison	McLean	1,901	35	27.6	+5.9	55	22	−13	2	37	T.	−1.04	T.	T.	0	20	10	1	nw.	W. F. Robinson.
Grafton	Walsh	827	39	24.2	+5.0	47	19	3	20	26	0.25	−0.44	0.25	4.9	1	14	13	4	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	39	24.0	+1.6	54	19	−3	20	49	0.43	−0.28	0.21	3.3	6	20	10	1	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	25.8	+2.1	55	22	−5	2	35	0.05	−0.52	0.05	T.	1	18	9	4	nw.	W. A. Christianson.
Hankinson	Richland	1,068	....	31.6	......	60	15†	−3	2	56	T.	....	T.	T.	0	16	7	8	nw.	R. G. Stock.
Hannah	Cavalier	1,568	36	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	James Meier.
Hansboro	Towner	1,597	22	21.1	−0.2	42	8†	−12	20	35	0.20	−0.46	0.20	2.0	1	21	5	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	29.8	+2.2	60	19	−4	2	37	T.	−0.76	T.	T.	0	20	5	6	nw.	C. H. Plath.
Hillsboro	Traill	901	24	26.8	+2.1	56	19	−1	20	39	0.42	−0.32	0.16	5.0	4	15	13	3	nw.	G. Havland.
Howard‡‡ (near)	Williams	2,275	23	24.3	+3.5	50	29	−7	20	36	T	−1.14	T.	T.	0	17	7	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	26.2	+3.6	54	20	−5	2†	54	0.06	−0.94	0.02	0.6	3	8	15	8	n.	S. Calvelage.
Lamoine	Kidder	1,936	25	23.4	+0.4	51	22	−8	2	34	0.20	−0.57	0.20	2.0	1	21	5	5	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	34	17.5	−1.5	41	19	−12	20	43	0.20	−0.64	0.20	0	1	23	5	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	24.5	+3.5	53	23	−7	20	37	0.22	−0.47	0.10	2.2	3	14	5	12	n.	Reuben Gray.
Linton	Emmons	1,711	12	28.0^{a}	+1.8	57^{a}	20†	−5^{a}	2	53^{a}	T.	−0.54	T.	T.	0	19	2	10	nw.	Rev. O. Weber.
Lisbon	Ransom	1,091	26	29.1	+2.5	58	23	−4	1	36	0.02	−0.54	0.02	0.2	1	5	8	18	.....	L. B. Walker.
McClusky	Sheridan	1,943	12	24.9	......	54	22	−3	2†	32	T.	−0.79	T.	T.	0	19	7	5	nw.	Edw. Tapley.
McKinney‡‡	Renville	1,640	36	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	E. A. Kaatz.
McLeod	Ransom	1,075	18	28.8	+2.9	52	15	−3	2	29	0.12	−0.51	0.07	1.2	2	20	7	4	nw.	J. G. Carlson.
Maddock	Benson	1,604	14	25.7	+2.2	51	22	−8	2	32	T.	−0.43	T.	T.	0	11	13	7	nw.	A. T. Felland.
Mandan	Morton	1,644	16	26.2	+1.0	55	22	−5	2	37	0.08	−0.76	0.08	2.0	1	16	4	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27	......	......	...	...	...	...	......	0.06	....	0.03	T.	3	......	......	......	.....	P. B. Anderson.
Marmarth	Slope	2,714	21	30.8	+4.8	61	19	−3	1†	41	0.09	−0.36	0.06	1.2	2	18	4	9	nw.	S. P. Grane.
Mary	McKenzie	......	3	......	......	...	...	...	...	......	T.	....	T.	T.	0	17	6	8	nw.	Fred Hartman.
Max	McLean	2,093	....	25.5	......	55	23	−8	2	56	0.10	....	0.10	1.0	1	19	3	9	nw.	A. W. Rice.
Mayville	Traill	975	34	28.0	+4.8	56	19	−3	2†	57	0.07	−0.64	0.04	0.5	2	20	7	4	nw.	N. C. Burhans.
Melville	Foster	1,590	32	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	J. P. Fischer.
Metigoshe‡‡	Bottineau	......	5	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	J. A. Thorburn.
Michigan	Nelson	1,518	2	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	Arnold Johnson.
Minot	Ward	1,557	34	25.6	+4.2	56	22	−5	20	47	0.01	−0.76	0.01	0.2	1	21	7	3	w.	Julia B. Rue.
Mott	Hettinger	2,424	23	27.8	+1.2	47	17	−3	1	36	0.14	−0.90	0.12	1.0	2	11	12	8	nw.	O. H. Opland.
Napoleon	Logan	1,955	38	26.4	+5.1	56	19	−10	2	36	0.10	−0.83	0.05	1.0	2	19	6	6	nw.	C. J. Hoof.
New England	Hettinger	2,400	39	28.8	+4.4	56	22	12	1	42	T.	−0.87	T.	T.	0	20	5	6	nw.	F. S. Sleight.
New Salem	Morton	2,163	26	27.2	+2.7	55	19†	−9	2	33	T.	−0.96	T.	0.0	0	17	10	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	30.5	......	62	19	−3	2	36	0.05	....	0.05	0.0	1	11	16	4	nw.	Eugene Naylor.
Park River	Walsh	998	26	23.4	+1.3	46	19	−17	20	32	0.11	−0.44	0.08	2.5	2	16	7	8	nw.	C. B. Wright.
Parshall (near)	Mountrail	.....	15	......	......	...	...	...	...	......	0.00	−0.21	0.00	0.0	0	12	16	3	nw.	John A. Johnson.
Pembina	Pembina	789	56	19.9	+3.9	46	11	−10	20	35	0.00	0.90	0.00	0.0	0	18	10	3	n.	C. W. Shumaker.
Pettibone	Kidder	1,856	21	25.8	+2.0	53	22	−12	2†	36	T.	−0.54	T.	0.0	0	13	8	10	nw.	A. L. Carlson.
Portal	Burke	1,954	16	24.8	+8.9	54	21	−9	19	46	0.05	−0.69	0.05	1.0	1	21	2	8	n.	C. T. Holmes.
Power	Richland	1,020	36	......	......	...	...	...	...	......	0.80	+0.10	0.40	8.0	2	13	12	6	n.	Frank B. Power.
Powers Lake	Burke	2,205	16	20.5	......	46	24†	−12	1	24	0.13	−0.75	0.09	2.3	2	26	2	3	e.	Geo. B. Gee.
Richardton	Stark	2,467	14	26.0	−0.3	54	22	−9	2	43	T.	−0.52	T.	T.	0	9	18	4	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	...	...	...	...	......	0.20	....	0.20	T.	1	16	9	6	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	...	...	...	...	......	0.00	....	0.00	0.0	0	......	......	......	.....	E. M. Lomen.
Sanish	Mountrail	1,835	....	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	H. W. Monson.
Sharon	Steele	1,516	5	24.9	......	53	19	−6	2	38	0.06	....	0.03	0.6	3	17	8	6	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6	......	......	...	...	...	...	......	0.00	....	0.00	0.0	0	21	8	2	nw.	L. H. Giffey.
Steele	Kidder	1,857	34	27.8	+5.7	54	19	−3	2	32	T.	−0.93	T.	T.	0	21	6	4	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	......	......	...	...	...	...	......	T.	......	T.	T.	0	8	20	3	.....	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	......	......	...	...	...	...	......	0.02	......	0.02	0.2	1	19	4	8	nw.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	...	...	...	...	......	0.10	....	0.10	1.0	1	15	10	6	nw.	Anton Carlson.
Towner	McHenry	1,482	28	24.0	+4.8	51	22	−7	5†	46	0.00	−0.90	0.00	0.0	0	10	18	3	nw.	B. Bagley.
Trotters	Golden Valley	......	5	......	......	...	...	...	...	......	0.10	....	......	......	......	......	......	......	.....	A. J. Nellermoe
Turtle Lake	McLean	1,869	15	25.0	+2.2	48	29	−8	2	32	0.01	−0.80	0.01	0.1	1	16	9	6	w.	E. T. Kusler.
Valley City	Barnes	1,245	25	28.5	......	51	23	−3	2	38	0.08	−0.47	0.02	0.0	2	20	9	2	w.	I. C. Robertson.
Velva	McHenry	1,511	4	27.1	......	57	22	−4	2†	39	0.01	....	0.01	0.1	1	10	12	9	nw.	Oscar Anderson.
Verona	LaMoure	1,387	36	......	......	...	...	...	...	......	0.64	....	0.48	3.0	2	21	0	10	nw.	W. C. Taylor.
Wahpeton	Richland	962	38	31.3	+5.1	61	19	−3	2	55	0.06	−0.85	0.05	0.6	2	20	0	11	nw.	C. G. Luick.
Washburn	McLean	1,731	28	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	C. W. Poe.
Westhope	Bottineau	1,508	26	25.7	+4.8	53	22	−8	20	40	T.	−0.49	T.	T.	0	22	6	3	nw.	W. A. Meddaugh.
Williston	Williams	1,878	51	27.0	+4.1	54	22	−6	1	39	0.06	−0.63	0.06	0.6	1	18	8	5	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	24.8	+6.5	49	22†	−8	2	37	T.	−0.73	T.	T.	0	22	7	2	nw.	O. M. Sanderson.
Wilton	McLean	......	2	25.1	......	52	22	−8	1	42	T.	....	T.	T.	0	20	1	10	.....	L. Q. Perkins.
Wishek	McIntosh	2,010	10	25.6^{c}	......	55^{c}	23	−5^{c}	3	40^{c}	0.26	....	0.26	2.6	1	15	5	11	nw.	E. W. Davis.
Zap	Mercer	1,838	2	......	......	...	...	...	...	......	0.00	−0.67	0.00	0.0	......	......	......	......	.....	R. A. Norton.
Moorhead, Minn.	Clay	935	49	27.0	+4.3	60	19	−1	2	19	0.27	−0.74	0.18	3.1	6	10	10	11	n.	U. S. Weather Bureau.
Averages				26.1	+3.5	62	19	−17	20	57	0.09	−0.74	0.48	0.9	1	17	8	6	nw	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; McKinney, Tolley; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for March, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri						T.																	T.	.02	.02				T.			0.04
Amenia ||	Red	.15	T.														T.								.10		T.					T.	0.25
Arnegard (near)	Missouri																						.10	T.	T.								0.10
Ashley	Missouri	.05																															0.05
Beach	Lit. Missouri						T.										T.							T.	.01	T.	T.						0.01
Berthold Agency	Missouri						T.										T.														T.		T.
Bismarck ***	Missouri						T.							T.			T.			T.				T.			T.				T.		T.
Bottineau||	Mouse																				T.		.10	.02			T.						0.12
Bowman	Grand						.01															T.		.02	T.	.01	.02				T.		0.06
Cando	Devils Lake	.02																T.		T.			.02		T.								0.04
Carrington	James																						T.				T.						T.
Carson	Heart																										.05						0.05
Cavalier	Red																						.05	.05									0.10
Cooperstown	Sheyenne																																
Corinth	Missouri																																
Crosby||	Mouse																																0.00
Devils Lake ***	Devils Lake	.01									T.		T.				.01			.01			.08	.01			.01				T.	T.	0.13
Dickinson||	Heart	.05						.01			T.				T.			T.							T.	T.	.01	T.				T.	0.05
Dogden Butte	Mouse																T.						T.		T.		.05				T.	T.	0.05
Drake||	Mouse																																
Dunn Center||	Knife																								T.			T.			T.		T.
Dunnseith	Mouse																						.25	T.			T.				T.		0.25
Eckman	Mouse																						.04								T.		0.04
Edgeley	James																T.							T.									T.
Ellendale***	James						T.			T.	T.		T.			T.	T.							T.	.02	.01	T.				T.	T.	0.03
Energy	Missouri																T.										T.				T.		T.
Epping	Missouri													T.						T.			.05	T.	T.	.04					T.		0.09
Fairfield	Knife																								.01	.01							0.02
Fessenden||	James	.18																															0.18
Forman	Sheyenne																																
Fort Yates	Missouri	T.																							T.								T.
Foxholm (near)	Mouse									T.				T.			T.						.01	T.	.03		T.				.01		0.05
Fryburg	Heart																								.05	.05	T.				T.		0.10
Fullerton	James	T.	T.				T.	T.								T.	T.							T.	.07		.06				T.	T.	0.13
Garrison	Missouri																								T.		T.						T.
Grafton	Red	.25																															0.25
Grand Forks ***	Red	.07											.01				.02			T.			.09	.21		.03					T.		0.43
Granville	Mouse																					.05			T.		T.				T.		0.05
Hankinson||	Red										T.														T.								T.
Hannah	Pembina																																
Hansboro	Devils Lake																					.20											0.20
Hettinger	Grand																								T.	T.	T.				T.		T.
Hillsboro	Red	.16																					.07	.10	.09								0.42
Howard (near)	Missouri						T.						T.	T.	T.		T.			T.			T.	T.	T.	T.	T.				T.		T.
Jamestown||	James																							.02	.02						.02	T.	0.06
Lamoine	Missouri																										.20						0.20
Langdon||	Pembina																							.20									0.20
Larimore||	Red	.10	.10																												.02		0.22
Linton	Missouri																T.										T.						T.
Lisbon ||	Sheyenne																								.02								0.02
McClusky	Missouri																										T.				T.		T.
McKinney (near)	Mouse																																
McLeod	Sheyenne	.07																						T.	.05							T.	0.12
Maddock	Sheyenne																				T.		T.				T.				T.		T.
Mandan||	Missouri	.08																									T.					T.	0.08
Manfred	James																.02						.03				.01				T.		0.06
Marmarth	Lit. Missouri						.06										T.								T.		T.				.03		0.09
Mary	Lit. Missouri												T.											T.	T.	T.							T.
Max||	Missouri	.10																									T.						0.10
Mayville	Red	.04																							.03								0.07
Melville	James																																
Metigoshe	Mouse																																
Michigan	Red																																
Minot||	Mouse																								.01								0.01
Mott	Cannon Ball				.12					T.	T.															T.	.02			T.	T.		0.14
Napoleon ||	Missouri										T.														.05		.05						0.10
New England	Cannon Ball																								T.		T.						T.
New Salem	Heart																								T.	T.	T.						T.
Oakes	James																							.05	T.								0.05
Park River	Red																T.						.08		.03	T.							0.11
Parshall (near)	Missouri																																0.00
Pembina||	Red																																0.00
Pettibone	James																									T.					T.	T.	T.
Portal||	Mouse																							.05									0.05
Power	Sheyenne	.40																							.40		T.						0.80
Powers Lake	Missouri						.04					.09																					0.13
Richardton	Heart																														T.		T.
Rugby [near]	Mouse																						.20	T.			T.						0.20
Ryder	Missouri																																0.00
Sanish||	Missouri																																
Sharon	Red	.03					T.				T.			T.			T.	T.					.01	T.	.02	T.	T.				T.	T.	0.06
Stanton	Missouri																																0.00
Steele	Missouri																										T.				T.		T.
Stowers	Cannon Ball	T.	T.																						T.	T.					T.		T.
Tagus	Mouse																							.02									0.02
Tioga	Missouri																								T.	.10	T.						0.10
Towner	Mouse																																0.00
Trotters	Lit. Missouri																																
Turtle Lake	Missouri																										.01						0.01
Valley City	Sheyenne										T.											T.			.02		T.				.01		0.03
Velva	Mouse												T.				T.						T.		.01		T.					T.	0.01
Verona	James	.48																							.16								0.64
Wahpeton	Red																							.01	.05								0.06
Washburn	Missouri																																
Westhope	Mouse																							T.									T.
Williston ***	Missouri													T.			T.			T.		T.		.06	T.	T.	T.			T.	T.		0.06
Willow City	Mouse																						T.	T.									T.
Wilton																											T.				T.		T.
Wishek||	Missouri	.26																									T.						0.26
Zap	Knife																																0.00
Moorhead, Minn ***	Red	.04										T.	T.	T.	T.	T.	T.			.01	T.		.02	.02	.16	.02	T.				T.	T.	0.27

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for March, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	16	8	19	26	25	30	42	40	38	40	43	33	22	30	38	37	36	33	60	31	26	38	44	46	30	26	29	28	33	40	37	33.4
	Minimum ...	8	−4	−2	9	8	7	4	14	20	18	30	12	10	11	28	32	26	11	11	0	0	12	26	24	20	17	12	14	16	18	17	13.8
Arnegard	Maximum...	7	15	25	19	38	27	34	44	44	41	51	41	32	34	32	39	48	47	26	50	55	40	37	35	31	39	40	54	41	41	40	37.0
	Minimum ...	−4	−8	4	8	7	14	5	24	21	21	21	22	17	31	22	22	18	0	−4	11	33	27	28	24	21	16	12	16	20	12	12	15.3
Ashley	Maximum...	10	14	27	28	33	37	30	40	43	39	41	41	33	39	40	38	38	38	59	43	45	54	50	43	40	35	35	37	46	46	39	38.1
	Minimum ...	0	−6	8	8	5	19	8	14	28	27	27	32	18	25	29	27	21	18	28	2	16	29	29	24	20	14	13	15	16	25	20	18.0
Beach	Maximum...	5	16	31	30	44	35	39	48	44	58	46	54	31	51	40	31	37	39	55	33	54	56	45	30	38	28	38	40	54	38	40	39.6
	Minimum ...	−7	−6	8	10	15	15	11	30	28	26	30	28	24	26	27	23	20	28	4	−1	20	30	28	24	22	20	18	15	10	17	12	17.9
Berthold Agency	Maximum...	10	10	30	30	28	35	28	48	42	42	50	49	32	40	47	40	35	40	40	14	40	58	48	40	48	38	40	40	50	40	37	37.7
	Minimum ...	0	0	0	4	5	0	−5	12	15	22	30	26	22	32	28	20	25	18	12	0	14	32	35	20	15	18	15	15	15	22	18	15.6
Bismarck	Maximum...	9	16	29	30	32	30	27	45	43	42	46	45	30	41	40	33	39	44	55	23	48	55	49	36	40	31	38	39	50	35	40	37.4
	Minimum ...	0	−3	11	9	6	15	6	20	25	28	30	23	21	28	31	21	22	19	6	0	18	36	30	26	22	20	17	19	19	25	21	18.5
Bottineau §§	Maximum...	10	15	25	25	28	29	28	36	37	35	40	41	27	33	40	40	35	35	38	12	35	45	47	34	35	32	29	38	46	45	36	33.3
	Minimum ...	−2	−12	6	9	−2	17	−2	14	12	22	19	22	6	23	27	21	20	12	10	−10	10	29	25	16	20	15	8	9	11	20	13	12.5
Cando	Maximum...	10	19	29	31	32	32	31	41	39	40	40	40	29	35	46	44	43	36	46	17	36	51	49	46	37	33	34	34	46	44	46	36.6
	Minimum ...	−1	7	2	8	2	16	10	22	23	21	26	24	7	25	29	26	19	10	15	−6	15	28	29	19	22	8	14	13	15	17	15	15.4
Carson	Maximum...	10	10	32	26	30	30	28	40	40	40	45	45	30	40	45	35	45	46	38	35	50	52	48	40	36	30	36	35	50	45	50	38.4
	Minimum ...	−4	−3	−1	5	10	8	−5	15	24	20	25	24	18	25	26	22	15	20	23	−1	16	34	27	20	15	20	15	16	14	16	17	15.5
Crosby§§	Maximum...	5	10	18	27	29	25	35	35	42	39	38	35	32	34	32	35	37	36	21	18	38	49	33	38	36	35	35	36	49	25	37	32.1
	Minimum ...	0	−5	1	6	9	11	0	11	18	21	25	30	22	20	29	19	19	19	21	−9	5	18	30	19	22	20	20	15	19	25	12	15.2
Devils Lake	Maximum...	8	18	27	29	28	31	26	40	39	36	39	41	28	37	39	31	29	31	46	14	36	51	36	31	36	24	30	32	44	34	34	32.5
	Minimum ...	−6	−7	8	9	2	19	9	18	22	28	27	12	6	25	29	23	18	10	2	−6	12	29	27	20	18	15	9	14	17	18	16	14.3
Dickinson §§	Maximum...	5	14	28	26	36	34	32	44	42	43	48	38	31	45	39	29	39	47	53	27	53	54	45	31	31	29	38	39	51	33	38	36.9
	Minimum ...	−1	−8	−5	3	6	8	0	0	19	19	23	28	18	19	26	24	19	19	19	1	0	16	29	25	24	21	17	17	16	17	16	14.0
Dunn Center §§	Maximum...	7	15	30	29	36	9	31	44	42	42	47	37	32	41	39	31	40	46	48	28	48	51	42	35	36	30	38	40	53	32	39	36.2
	Minimum ...	−4	−5	1	9	3	4	4	5	16	20	26	26	17	18	26	24	19	17	21	−1	0	16	30	26	25	16	18	17	15	23	17	14.5
Dunseith	Maximum...	8	21	29	28	27	30	27	40	38	38	39	40	28	33	44	36	30	35	39	14	35	47	44	32	33	28	28	31	43	39	33	32.8
	Minimum ...	−1	−2	13	13	6	16	3	16	20	26	21	20	0	23	26	22	16	9	5	−12	8	26	25	15	16	14	5	6	14	16	11	12.8
Edgeley	Maximum...	12	16	30	31	35	34	33	41	45	44	44	45	35	42	42	41	42	38	59	44	53	59	53	45	43	38	39	40	49	40	39	40.5
	Minimum ...	4	15	18	14	10	10	16	19	29	30	29	30	18	30	28	29	22	28	25	2	13	39	29	24	19	14	13	14	15	20	25	20.4
Ellendale	Maximum...	10	17	34	32	34	38	30	49	46	44	44	47	34	41	48	40	40	38	60	22	44	49	52	32	40	27	36	38	46	51	37	38.7
	Minimum ...	1	−2	15	12	13	28	19	21	31	32	30	26	19	28	35	26	23	21	15	5	16	30	32	20	19	16	15	16	18	24	22	20.2
Fessenden §§	Maximum...	5	17	31	31	32	32	26	42	42	40	42	37	30	42	42	33	33	40	51	20	40	57	47	35	39	28	35	38	49	29	39	35.6
	Minimum ...	3	−5	6	8	2	7	10	12	21	28	28	29	15	18	29	24	26	18	21	−3	0	19	30	23	23	19	13	15	18	25	19	16.1
Foxholm (near)	Maximum...	7	17	27	29	31	31	27	41	40	42	45	44	30	40	39	34	33	42	44	21	41	54	47	34	36	33	35	37	49	41	38	35.8
	Minimum ...	−3	−5	8	12	8	15	2	19	20	26	27	24	14	26	26	21	18	15	4	−9	12	29	27	18	17	15	10	11	13	20	11	14.5
Fullerton	Maximum...	11	18	32	33	36	38	31	47	47	42	43	47	36	42	47	38	39	37	60	26	45	53	52	38	39	28	36	38	45	48	37	39.0
	Minimum ...	5	−2	14	14	12	25	18	20	31	31	30	28	19	28	33	31	23	20	26	5	15	30	30	26	22	15	15	15	18	22	22	20.7
Garrison	Maximum...	9	15	29	29	31	32	28	44	41	44	45	42	35	41	41	40	36	44	47	23	44	55	55	37	39	35	39	40	52	50	40	38.1
	Minimum ...	1	−13	5	5	5	18	0	17	21	25	29	32	18	27	23	26	20	28	21	−4	13	26	31	23	21	19	15	17	15	27	16	17.0
Grafton	Maximum...	12	19	29	30	30	34	30	40	41	39	39	43	29	36	39	38	31	32	47	18	33	40	39	36	32	24	26	31	40	36	31	33.1
	Minimum ...	−1	−2	10	15	2	19	9	12	22	21	29	26	3	19	31	28	19	5	14	3	10	27	29	19	21	15	9	15	18	19	14	15.3
Grand Forks	Maximum...	13	19	28	28	28	38	23	39	40	38	37	42	28	33	40	35	32	27	54	10	34	46	42	33	29	26	27	32	38	34	29	32.5
	Minimum ...	0	−2	13	10	4	22	9	15	22	30	30	15	6	25	30	25	11	7	5	−3	10	22	31	21	21	16	9	16	17	18	14	15.5
Granville	Maximum...	10	18	30	30	30	32	28	42	42	40	45	42	37	42	39	40	35	42	40	22	40	55	35	35	39	32	37	32	50	32	40	35.9
	Minimum ...	1	−5	9	8	3	12	2	18	21	24	29	32	15	28	22	22	20	18	10	−4	13	30	22	18	19	18	12	18	15	21	14	15.6
Hansboro	Maximum...	10	20	22	25	26	31	40	42	42	37	37	32	30	33	40	30	34	33	40	15	33	42	32	40	30	25	26	30	42	30	34	31.7
	Minimum ...	−8	−7	10	5	−2	15	10	15	15	15	20	15	0	18	25	15	12	10	5	−12	7	24	23	23	16	10	3	8	12	12	12	10.5
Hettinger	Maximum...	8	15	34	31	35	36	34	50	46	47	53	45	34	46	47	40	46	48	60	40	53	55	49	34	35	33	34	40	51	47	40	40.8
	Minimum ...	−3	−4	3	11	7	21	1	22	27	27	30	33	21	26	26	26	20	19	31	3	17	36	27	25	20	21	18	16	14	26	16	18.8
Hillsboro	Maximum...	5	7	31	30	29	40	32	40	46	42	42	40	31	40	42	39	33	30	56	35	35	47	53	37	35	31	29	35	43	42	40	36.0
	Minimum ...	3	0	15	2	9	20	13	18	29	21	31	31	9	22	30	28	22	10	25	−1	10	25	30	25	22	17	12	12	17	22	15	17.5
Howard (near)	Maximum...	5	16	18	30	34	25	32	42	38	44	42	42	31	45	35	33	38	46	36	21	46	49	40	41	32	28	35	36	50	39	29	34.8
	Minimum ...	−3	−3	3	8	5	5	0	18	18	15	21	22	17	21	25	16	16	18	0	−7	17	32	25	13	20	18	14	15	20	20	14	13.8
Jamestown §§	Maximum...	7	12	33	35	36	35	30	44	43	44	32	41	40	35	37	39	51	22	45	54	51	35	40	28	35	36	48	38	38	38	52	37.2
	Minimum ...	3	−5	−5	10	7	7	15	15	27	27	28	29	15	15	27	28	21	16	17	0	0	15	29	23	21	15	11	12	14	17	18	15.2
Lamoine	Maximum...	8	3	22	24	30	28	24	40	40	38	40	40	30	40	35	34	32	35	40	26	40	51	43	32	35	35	32	35	46	44	35	33.5
	Minimum ...	0	−8	4	0	4	4	4	11	18	20	22	20	13	20	28	25	15	12	20	−3	12	32	28	18	16	18	11	13	12	12	13	13.4
Langdon§§	Maximum...	7	20	30	22	26	32	22	38	36	40	37	32	28	35	32	31	33	37	41	15	33	39	33	30	31	23	25	31	40	24	31	30.1
	Minimum ...	−4	−9	−5	5	−4	−1	0	0	10	23	21	28	−8	−5	20	5	6	4	7	−12	−10	4	22	14	12	9	0	5	6	7	10	4.9
Larimore §§	Maximum...	14	20	30	28	30	40	24	41	44	40	42	38	24	39	37	31	30	31	52	15	37	48	53	32	31	29	29	30	40	26	34	33.5
	Minimum ...	2	−5	7	10	1	15	10	15	25	30	28	30	6	20	29	29	20	6	15	−7	15	25	35	26	18	14	7	12	15	20	12	15.5
Linton	Maximum...	16	14	28	29	30	33	28	45	45	44	43	43	35	41	37	34	39	42	....	57	57	48	47	37	36	38	39	48	48	45	45	*39.1
	Minimum ...	3	−5	5	−3	0	14	4	14	22	25	27	23	20	26	32	28	19	17	....	4	4	33	25	22	21	18	20	16	18	16	22	*16.8
Lisbon §§	Maximum...	25	34	35	38	30	35	45	48	45	46	46	45	36	47	47	47	47	36	56	22	42	51	58	36	51	41	33	42	51	42	43	41.9
	Minimum ...	−4	−2	3	5	12	12	17	18	28	26	30	31	15	16	27	29	19	12	23	2	10	20	25	24	12	15	12	15	17	19	16	16.3
McClusky	Maximum...	10	13	25	28	30	28	23	40	40	39	41	40	37	41	36	34	35	40	47	20	36	54	46	33	37	[illegible]	31	35	41	31	37	34.8
	Minimum ...	0	−3	10	9	10	15	4	14	15	25	21	19	13	17	23	24	17	15	15	−3	18	29	30	23	22	18	13	16	16	15	15	15.5
McKinney (near)	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Maddock	Maximum...	3	17	27	28	31	32	30	38	38	37	41	47	29	37	42	40	31	36	34	27	37	51	49	35	36	34	36	35	44	42	34	34.8
	Minimum ...	0	−8	6	9	0	20	11	16	20	27	27	29	11	25	28	25	20	14	22	−5	11	29	31	30	23	16	10	14	16	23	15	16.6
Marmarth	Maximum...	16	19	37	40	53	41	38	50	51	50	55	47	34	50	42	40	30	51	61	31	54	57	51	34	46	33	43	34	54	32	41	42.7
	Minimum ...	−3	0	−3	11	14	22	10	23	25	26	28	26	21	25	25	25	16	17	20	6	20	37	38	27	18	21	19	13	15	26	13	18.8
Melville	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Minot §§	Maximum...	10	19	29	30	34	32	31	44	42	43	46	37	31	43	40	30	35	44	45	24	43	56	42	37	39	30	38	38	51	31	40	36.5
	Minimum ...	3	−4	10	10	3	4	4	8	20	27	29	32	16	19	26	25	18	14	22	−5	−4	19	31	20	16	19	13	13	12	25	14	14.8
Mott	Maximum...	8	14	35	28	34	30	29	38	41	40	51	44	34	38	44	43	47	43	41	29	34	45	40	37	33	33	38	38	36	36	44	36.5
	Minimum ...	−3	2	−1	1	15	3	14	22	24	22	28	23	26	27	30	30	30	29	13	2	18	21	27	21	20	19	16	27	25	27	33	19.1
Napoleon §§	Maximum...	8	12	27	26	35	34	24	46	45	39	41	40	34	41	36	32	33	39	56	24	45	53	50	32	41	26	37	38	49	42	38	36.4
	Minimum ...	−1	−10	5	6	2	17	0	13	26	25	25	35	19	25	29	31	18	15	26	−2	15	25	31	24	18	16	10	14	13	20	18	16.4
New Salem	Maximum...	10	14	20	28	30	29	28	30	30	42	45	39	30	42	39	35	39	49	55	29	47	55	48	38	39	35	38	39	50	48	39	36.7
	Minimum ...	5	−9	5	8	4	15	14	5	8	15	24	28	18	25	27	28	20	26	29	−2	29	33	28	28	20	17	16	15	17	27	29	17.8
Pembina §§	Maximum...	5	20	32	24	28	25	30	44	38	36	46	24	20	30	28	30	30	30	40	20	30	40	34	24	30	36	30	25	40	30	40	30.3
	Minimum ...	2	2	8	10	10	15	10	15	20	18	18	15	16	4	10	6	4	−5	20	−10	10	20	18	10	4	10	12	2	10	2	10	9.5
Steele	Maximum...	14	12	24	34	38	32	28	38	40	42	42	40	34	40	38	36	38	38	54	32	44	53	46	38	28	28	34	38	48	36	38	36.3
	Minimum ...	−2	−3	7	10	10	14	6	14	26	28	29	31	20	29	28	32	20	19	30	0	16	35	29	25	22	18	15	18	16	35	19	19.4
Towner	Maximum...	10	22	30	32	31	32	32	43	40	42	46	38	32	42	45	38	35	42	49	37	40	51	48	35	39	34	31	36	38	40	38	37.1
	Minimum ...	−5	−2	15	7	−7	14	−4	17	0	18	10	8	13	26	26	20	16	18	6	−7	−6	12	6	19	20	17	12	14	16	20	21	11.0
Valley City	Maximum...	13	19	33	32	32	40	35	45	43	40	36	42	37	39	42	42	37	34	33	32	36	49	51	46	49	35	34	35	45	42	39	37.6
	Minimum ...	3	−3	14	12	8	20	17	19	27	30	30	30	14	26	32	30	32	12	23	1	13	11	36	32	32	16	12	15	16	20	20	19.4
Wahpeton	Maximum...	23	20	32	33	35	41	42	45	46	44	43	47	43	40	57	52	38	35	61	59	34	49	54	48	39	38	34	38	44	52	35	42.0
	Minimum ...	5	−3	13	12	9	26	17	14	31	32	32	33	16	28	34	33	24	14	24	4	15	27	31	32	23	18	13	16	18	26	22	20.6
Westhope	Maximum...	7	20	32	32	32	32	31	32	42	44	48	46	42	42	41	36	40	40	34	20	41	53	36	36	38	36	37	37	52	48	46	37.1
	Minimum ...	−2	−5	0	11	6	16	4	10	22	22	27	26	21	21	26	23	18	20	−5	−8	11	31	27	18	18	12	11	12	12	18	20	14.3
Williston	Maximum...	7	18	28	30	40	28	35	44	43	44	51	43	32	45	35	34	38	51	41	26	50	54	37	35	34	30	39	40	53	37	41	37.5
	Minimum ...	−6	−4	2	6	7	10	3	25	22	25	29	23	21	29	28	21	20	18	2	−3	12	34	27	26	27	22	18	15	16	21	15	16.5
Moorhead, Minn	Maximum...	13	20	30	31	29	39	28	41	42	41	40	44	30	38	47	36	32	29	60	11	33	48	53	35	34	26	29	34	41	42	33	35.1
	Minimum ...	4	−1	15	10	12	26	15	18	31	33	32	19	12	29	36	27	24	11	11	−1	10	27	30	26	21	17	12	17	19	22	20	18.8

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing. ° 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIX   Bismarck, N. D., April, 1930   No. 4

GENERAL SUMMARY

The mean temperature for the month was decidedly above the normal, there having been but four warmer Aprils in the climatological history of the state. This excess in temperature was about equally due to high day temperatures and high night temperatures. The precipitation was somewhat deficient, but generally ample for all crops, and at the close of the month farm work was well advanced. Early planted spring wheat made slow growth, and pastures were also somewhat backward.

TEMPERATURE

The mean temperature for the state was 47.3°, or 5.6° above the normal, and 5.8° higher than the mean for April, 1929. The highest mean reported was 51.3° at Marmarth, Slope County; the lowest was 41.4° at Hansboro, Towner County. The highest temperature reported was 86° at Carson, Grant County on the 9th; the lowest was 8° at Hansboro, Towner County on the 1st. The greatest monthly range of temperature was 72° at Berthold Agency, McLean County; the least was 50° at Melville, Foster County. The greatest daily range in temperature was 57° at Fort Yates, Sioux County on the 7th, and at Linton, Emmons County on the 8th.

PRECIPITATION

The average precipitation for the state was 1.25 inches, or 0.13 inch below the normal, and 0.06 inch less than the average for April, 1929. The greatest monthly amount reported was 3.67 inches at Carson, Grant County; the least was 0.10 inch at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 2.00 inches at Berthold Agency, McLean County on the 14th. The average snowfall was 0.5 inch. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Crosby, Fessenden, Foxholm and Grand Forks on the 2d; at Crosby on the 3d; at Rugby on the 5th; at Crosby, Epping, Foxholm, Moorhead and Oakes on the 7th; at Rugby, Stanton and Towner on the 8th; at Carson and Foxholm on the 12th; at Rugby on the 14th; at Howard on the 16th; at Ellendale, Grand Forks and Willow City on the 18th; at Bottineau, Ellendale, Fessenden, Foxholm, Grand Forks, Howard, Larimore, Moorhead, Steele and Velva on the 19th; at Bottineau, Dogden Butte, McClusky and Towner on the 20th; at Ellendale, Foxholm, Rugby and Steele on the 21st; at Bottineau and Dogden Butte on the 22d; at Crosby and Dogden Butte on the 24th; at Powers Lake on the 27th and 28th; and at Ellendale on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.00	30.31	24	29.56	30	57	6,215	8.6	35§	n.	20
Devils Lake	30.02	30.37	24	29.57	2	44	6,897	8.9	31§	nw.	20
Ellendale	30.04	30.31	24	29.61	30	56	8,894	12.4	44§	nw.	5
Grand Forks	30.00	30.34	24	29.57	30	90	....	.....	40	nw.	21
Williston	29.96	30.39	21	29.57	1	48	5,781	8.0	33§	nw.	4
Moorhead, Minn	30.03	30.34	24	29.56	30	58	5,509	7.7	27§	nw.	5
Av'ges and extremes	30.02	30.39	21	29.56	30	.....	....	9.1	44§	nw.	5

* For any five-minute period. † And other dates. § From 3-cup anemometers.

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SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	219.8	408.5	54	− 5	79	46	44	12	4
Devils Lake	253.5	410.5	62	+ 4	79	45	53	17	4†
Ellendale	268.1	407.2	66	+ 8	78	44	....	16	4
Grand Forks	......	......	......	......	81	.....	54	......	....
Williston	267.4	410.5	65	+ 7	75	45	42	18	3
Moorhead, Minn	265.5	408.5	65	+ 6	74	48	50	25	24†
Averages and extremes	254.9	409.0	62	+ 4	78	46	49	12	4

† And other dates.

COMPARATIVE STATE DATA FOR APRIL

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	37.6	−4.1	75	− 2	2.65	+1.27	7	10	6	14	ne.
1893	34.3	−7.4	77	− 8	1.73	+1.35	6	7	9	14	nw.
1894	42.8	+1.1	92	12	3.06	+1.68	9	7	9	12	se.
1895	49.6	+7.9	87	10	2.23	+0.85	5	13	8	9	nw.
1896	40.1	−1.6	92	2	4.37	+2.99	9	9	8	13	nw.
1897	40.8	−0.9	93	7	1.01	−0.37	5	12	8	10	nw.
1898	41.9	+0.2	87	− 4	1.38	0.00	5	14	9	7	nw.
1899	38.0	−3.7	86	−22	1.36	−0.02	6	12	10	8	nw.
1900	49.3	+7.6	93	11	0.75	−0.63	3	20	6	4	se.
1901	44.5	+2.8	92	10	0.98	−0.40	4	12	9	9	se.
1902	40.2	−1.5	87	− 2	1.06	−0.32	3	12	8	10	nw.
1903	42.5	+0.8	83	8	1.23	−0.15	5	16	6	8	nw.
1904	37.4	−4.3	91	2	1.70	+0.35	5	13	5	12	se.
1905	40.2	−1.5	83	3	0.63	−0.75	3	15	8	7	nw.
1906	46.7	+5.0	88	8	1.50	+0.12	5	14	7	9	nw.
1907	31.9	−9.8	80	− 6	0.57	−0.81	4	10	9	11	nw.
1908	43.9	+2.2	91	−19	1.47	+0.09	5	16	6	8	nw.
1909	34.2	−7.5	80	3	0.81	−0.57	6	10	9	11	nw.
1910	48.0	+6.3	96	4	1.30	−0.08	4	16	8	6	nw.
1911	41.5	−0.2	90	− 5	1.30	−0.08	5	15	6	9	nw.
1912	44.4	+2.7	88	2	2.34	+0.96	7	14	8	8	nw.
1913	46.8	+5.1	94	11	0.71	−0.67	4	16	6	8	se.
1914	40.9	−0.8	84	2	1.66	+0.28	6	9	10	11	nw.
1915	50.3	+8.6	99	5	1.08	−0.30	5	15	8	7	nw.
1916	39.2	−2.5	79	− 6	1.40	+0.02	5	10	10	10	nw.
1917	37.2	−4.5	73	5	1.68	+0.30	7	9	9	12	ne.
1918	41.4	−0.3	81	0	2.15	+0.77	7	12	8	10	nw.
1919	42.3	+0.6	79	6	1.50	+0.12	6	11	9	10	ne.
1920	32.1	−9.6	63	−11	0.83	−0.55	5	13	8	9	nw.
1921	41.1	−0.6	91	1	1.81	+0.43	7	14	7	9	nw.
1922	42.3	+0.6	89	− 2	0.92	−0.46	6	10	9	11	se.
1923	38.7	−3.0	89	−15	1.45	+0.07	5	13	8	9	nw.
1924	39.3	−2.4	84	6	2.55	+1.17	9	8	9	13	nw.
1925	47.8	+6.1	85	10	1.64	+0.26	6	11	10	9	se.
1926	42.8	+1.1	98	− 4	0.28	−1.10	3	17	8	5	nw.
1927	41.4	−0.3	95	7	1.70	+0.32	7	10	8	12	se.
1928	35.9	−5.8	84	− 6	0.88	−0.50	5	12	10	8	nw.
1929	41.5	−0.2	85	− 9	1.31	−0.07	6	12	9	9	nw
1930	47.3	+5.6	86	8	1.25	−0.13	6	14	7	9	se.

Climatological Data for April, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	....	4	....	....	....	....	....	....	....	1.82	....	0.76	....	10	....	....	....	....	H. A. Bury.
Amenia	Cass	954	34	45.8	+3.5	81	4	17	22	46	1.10	0.78	0.52	0	4	15	5	10	s.	I. Idso.
Arnegard (near)	McKenzie	....	15	49.4	+8.8	82	8	20	1	40	3.11	+1.66	1.80	3.0	7	23	4	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	47.6	+5.1	78	4†	20	1†	48	1.42	−0.55	0.54	....	7	16	4	10	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	50.4	+7.9	80	8	21	1	39	1.63	+0.21	0.54	T.	9	14	13	3	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	49.4	+5.7	84	8	12	1	53	2.03	+0.37	2.00	0	2	17	3	10	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	49.4	+7.3	81	8	21	1	44	1.37	−0.15	0.64	1.2	6	14	5	11	se.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	38	44.2	+4.8	76	8†	14	22	46	0.58	−0.29	0.28	....	7	12	15	3	se.	N. D. School of Forestry.
Bowman	Bowman	2.961	16	50.4^{d}	....	81^{c}	8	22^{f}	1	40^{g}	0.80	−0.44	0.23	T.	6	20	7	3	se.	George Larsen.
Cando	Towner	1,488	29	46.0	+5.4	76	10	20	1†	40	0.13	−0.76	0.11	0	2	11	12	7	nw.	A. J. Swanson.
Carson	Grant	2,500	18	49.4	+7.4	86	9	18	1	47	3.67	+2.12	1.51	0	7	17	9	4	se.	J. W. Evens.
Cavalier	Pembina	....	3	....	....	....	....	....	....	....	0.13	....	0.07	0	3	13	5	12	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	24	....	....	....	....	....	....	....	1.52	+0.47	1.28	0	4	14	8	8	nw.	S. Friswold.
Corinth	Williams	2,180	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	L. S. Evenson.
Crosby	Divide	1,954	24	45.6	+5.0	77	8	21	21	43	0.36	−0.83	0.16	0	5	12	10	8	se.	John Jensen.
Devils Lake	Ramsey	1,478	33	46.2	+7.4	76	4	21	21	36	1.05	−0.47	0.52	T.	9	12	8	10	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	47.3	+4.4	79	8	15	1	51	1.86	+0.63	0.60	0	10	11	12	7	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	47.4	....	76	8	17	22	47	1.18	....	0.50	....	6	13	10	7	nw.	R. L. Williams.
Drake	McHenry	1.634	....	48.3	....	80	3	20	20	46	1.50	....	0.38	0	10	12	2	16	nw.	J. Rindt.
Dunn Center	Dunn	2,191	31	48.0	+5.4	78	8	19	1	48	2.46	+1.14	1.35	0	5	10	7	13	e.	W. F. Moede.
Dunseith	Rolette	1,682	34	45.6	+5.2	72	8†	16	22	44	1.08	+0.25	0.79	T.	7	14	8	8	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	45.6	+4.0	80	8	12	22	49	0.20	−0.85	0.15	0	6	6	15	9	se.	C. E. Strock.
Edgeley	LaMoure	1,568	29	47.4	+4.2	82	3	17	24	54	1.16	−0.42	0.67	0	4	10	11	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	47.2	....	80	4	21	1	43	2.21	+0.11	1.13	1.8	7	10	7	13	se.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	18	50.4	....	80	8	20	1	44	0.97	−0.17	0.38	0	5	13	13	4	se.	H. S. Solenberger.
Epping	Williams	2,224	22	48.6	....	79	8	20	1	40	2.57	+1.42	0.97	0.5	9	11	14	5	nw.	A. O. Wang.
Fairfield	Billings	....	3	....	....	....	....	....	....	....	1.97	....	0.79	2.0	8	17	4	9	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	46.2	+6.0	76	1	18	24	44	0.88	−0.66	0.46	0	6	10	9	11	se.	T. D. Monsen.
Forman	Sargent	1,249	36	....	....	....	....	....	....	....	2.00	−0.19	0.95	8.0	6	....	....	....	....	O. Enger.
Fort Yates	Sioux	1,670	30	44.2	−0.3	81	8	18	1†	57	2.14	+0.47	0.58	0	6	19	1	10	....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	46.8	....	77	8	18	21	44	1.29	....	0.60	0	7	12	10	8	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	....	....	....	....	....	....	....	1.11	−0.33	0.55	T.	3	18	6	6	se.	Verne King.
Fullerton	Dickey	1,439	32	47.2	+4.4	79	4	20	1	45	2.43	+0.43	1.30	1.5	4	17	4	9	se.	F. O. Alin.
Garrison	McLean	1,901	35	48.2	+5.7	79	9	19	1†	41	1.84	+0.14	0.78	....	3	14	9	7	sw.	W. F. Robinson.
Grafton	Walsh	827	39	47.6	+7.3	77	5†	20	21	45	0.27	−1.21	0.13	0	3	12	9	9	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	39	45.3	+3.3	76	4	20	22	43	1.74	−0.19	0.97	T.	8	18	7	5	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	46.9	+4.4	....	....	....	....	....	0.54	−0.42	....	....	....	....	....	....	....	W. A. Christianson.
Hankinson	Richland	1,068	....	47.6	....	78	3	20	1†	49	1.60	....	0.60	....	6	19	1	10	se.	R. G. Stock.
Hannah	Cavalier	1,568	36	....	....	....	....	....	....	....	0.40	−0.86	0.20	T.	3	....	....	....	....	James Meier.
Hansboro	Towner	1,597	22	41.4	+1.5	72	12	8	1	51	1.05	−0.24	0.95	0	2	16	6	8	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	47.4	+2.6	83	9	18	1	44	0.48	−0.68	0.17	0	7	13	11	6	se.	C. H. Plath.
Hillsboro	Traill	901	24	47.8	+4.2	78	12	17	22	44	0.77	−1.24	0.36	....	4	11	10	9	sw.	G. Havland.
Howard‡‡ (near)	Williams	2,275	23	46.5	+6.7	78	8	20	1†	87	0.31	−1.09	0.18	T.	3	9	15	6	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	46.2	+3.7	80	3	18	24	53	0.44	−1.30	0.19	T.	6	13	8	9	....	S. Calvelage.
Lamoine	Kidder	1,936	25	46.6	+4.0	75	8	17	22	40	1.13	+0.16	0.76	T.	4	16	10	4	se.	E. V. Virgin.
Langdon	Cavalier	1,615	34	42.9	+4.8	30	10	11	1	44	0.18	−1.15	0.10	0	2	16	7	7	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	45.1	+4.7	80	3	16	22	50	0.58	−1.04	0.25	0.5	5	15	3	12	n.	Reuben Gray.
Linton	Emmons	1,711	12	49.8^{b}	+7.6	79^{a}	4†	16^{a}	2	57	1.75	+0.33	0.45	T.	6	18	2	10	se.	Rev. O. Weber.
Lisbon	Ransom	1,091	26	47.0	+4.3	85	4	15	1	50	2.05	+0.16	1.12	....	7	11	4	15	....	L. B. Walker.
McClusky	Sheridan	1,943	12	48.0	....	78	8	20	2	48	1.36	−0.07	0.60	1.0	10	20	5	5	nw.	Edw. Tapley.
McLeod	Ransom	1,075	18	46.4	+3.1	79	4	17	2	50	1.72	−0.67	1.08	T.	3	20	3	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	14	46.0	+4.9	76	4	16	22	47	0.65	−0.77	0.20	0	6	7	12	11	nw.	A. T. Felland.
Mandan	Morton	1,644	16	48.4	+6.3	81	8	19	1	48	1.71	+0.16	0.52	1.0	9	13	3	14	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27	....	....	....	....	....	....	....	0.86	−0.41	0.45	0	7	....	....	....	....	P. B. Anderson.
Marmarth	Slope	2,714	21	51.3	+8.5	80	8	19	1	43	0.80	−0.33	0.30	0	9	9	6	15	....	S. P. Grane.
Mary	McKenzie	....	3	....	....	....	....	....	....	....	2.02	....	0.84	0	8	15	8	7	nw.	Fred Hartman.
Max	McLean	2,093	....	47.9	....	81	12	17	1	47	1.79	....	0.73	1.0	9	13	5	12	se.	A. W. Rice.
Mayville	Traill	975	34	46.2	+3.0	79	5	14	22	47	0.80	−0.95	0.68	0	2	19	1	10	s.	N. C. Burhans.
Melville	Foster	1,590	32	48.7	+8.6	72	11	22	1	36	0.16	−0.95	0.10	0	2	17	9	4	nw.	J. P. Fischer.
Metigoshe ‡‡	Bottineau	....	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. A. Thorburn.
Michigan	Nelson	1,518	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Arnold Johnson.
Minot	Ward	1,557	34	46.4	+4.7	79	8	17	22	52	0.15	−0.87	0.35	0	4	14	10	6	w.	Julia B. Rue.
Mohall	Renville	....	1	....	....	....	....	....	....	....	0.74	−0.21	0.35	....	6	....	....	....	....	E. H. Wolsey.
Mott	Hettinger	2,424	23	49.4	+6.8	82	8	25	21	43	2.43	+0.83	0.53	0	7	9	10	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	38	47.4	+5.9	80	4	18	1	41	1.00	−0.67	0.35	0	9	13	2	15	e.	C. I. Hoof.
New England	Hettinger	2,400	39	50.8	+7.7	82	8	14	1	51	1.47	+0.45	0.64	0	5	16	8	6	se.	F. S. Steight.
New Salem	Morton	2,163	26	49.2	+6.7	84	8	20	1	46	2.41	+1.18	1.02	....	7	17	9	4	se.	J. Christiansen.
Oakes	Dickey	1,318	2	47.4	....	82	4	20	1†	46	2.30	....	1.17	3.0	8	12	9	9	se.	Eugene Naylor.
Park River	Walsh	998	26	46.6	+5.1	77	4	19	21†	45	0.22	−1.09	0.19	....	2	14	8	8	nw.	C. B. Wright.
Parshall (near)	Mountrail	....	15	....	....	....	....	....	....	....	1.13	−0.13	0.46	0	3	17	11	2	nw.	John A. Johnson.
Pembina	Pembina	789	56	44.6	+6.7	70	10	18	22	34	0.10	−1.31	0.10	0	1	9	12	9	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	21	46.6	+4.7	78	4	12	1	53	0.23	−1.17	0.15	T.	2	12	5	13	se.	A. L. Carlson.
Portal	Burke	1,954	16	46.4	+5.6	80	8	18	20	54	0.66	−0.42	0.33	....	6	18	3	9	nw.	C. T. Holmes.
Power	Richland	1,020	36	....	....	....	....	....	....	....	1.45	−0.38	0.80	4.0	3	17	6	7	nw.	Frank B. Power.
Powers Lake	Burke	2,205	16	45.2	....	71	29	28	9	38	2.42	+0.86	1.12	0	4	22	4	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	14	49.3	+8.5	80	8	20	1	42	1.68	+0.18	0.78	....	6	8	14	8	se.	John Muggli.
Rugby (near)	Pierce	1,562	2	....	....	....	....	....	....	....	0.42	....	0.42	0	1	10	10	10	e.	E. C. Erickson.
Ryder	Ward	2,108	2	....	....	....	....	....	....	....	0.74	....	0.47	0	5	....	....	....	....	E. M. Lomen.
Sanish	Mountrail	1,835	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	H. W. Menson.
Sharon	Steele	1,516	5	45.8	....	78	4	16	22	44	0.66	....	0.32	0.5	8	17	4	9	ne.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6	....	....	....	....	....	....	....	1.27	....	0.54	1.0	3	15	8	7	se.	J. H. Giffey.
Steele	Kidder	1,857	34	48.6	+4.2	76	4	20	1†	39	0.87	−0.24	0.55	0	3	17	7	6	se.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	....	....	....	....	....	....	....	2.40	+1.25	1.10	....	5	15	10	5	....	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	....	....	....	....	....	....	....	1.08	....	0.39	....	7	11	10	9	nw.	J. C. Abbott.
Tioga	Williams	2,279	4	....	....	....	....	....	....	....	1.27	....	0.53	0	7	14	4	12	se.	Anton Carlson.
Towner	McHenry	1,482	28	47.1	+5.7	80	5	16	1	50	0.90	−0.20	0.50	T.	3	17	8	5	nw.	B. Bagley.
Trotters	Golden Valley	....	5	....	....	....	....	....	....	....	1.99	....	1.12	....	10	10	13	7	....	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	E. T. Kusler.
Valley City	Barnes	1,245	25	48.3	+1.5	77	4	18	1†	49	0.34	−1.25	0.16	T.	4	16	5	9	e.	I. C. Robertson.
Velva	McHenry	1,511	4	48.6	....	79	8	19	22†	50	1.23	....	0.38	0	5	13	9	8	e.	Oscar Anderson.
Verona	LaMoure	1,387	36	....	....	....	....	....	....	....	1.89	....	0.86	0.5	5	17	3	10	sw.	W. C. Taylor.
Wahpeton	Richland	962	38	48.2	+3.9	79	4	18	24	46	1.15	−1.08	0.45	0	6	17	0	13	se.	C. G. Luick.
Washburn	McLean	1,731	28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	C. W. Poe.
Westhope	Bottineau	1,508	26	45.6	+5.9	79	10	16	22	56	0.12	−0.91	0.12	0	1	12	14	4	nw.	W. A. Meddaugh.
Williston	Williams	1,878	51	50.0	+8.0	79	8	19	1	39	1.96	+0.76	0.84	0.5	12	15	8	7	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	46.0	+5.8	76	8	18	22	44	0.54	−0.41	0.38	0	3	21	4	5	nw.	O. M. Sanderson.
Wilton	McLean	....	2	48.0	....	82	4	23	20	41	1.41	....	0.60	2.0	6	17	0	13	....	L. Q. Perkins.
Wishek	McIntosh	2 010	10	46.2	....	79	4	17	1	50	0.89	....	0.50	1.0	7	12	3	15	sw.	E. W. Davis.
Zap	Mercer	1,838	2	....	....	....	....	....	....	....	1.14	+0.06	0.74	2.0	4	....	....	....	....	R. A. Norton.
Moorhead, Minn.	Clay	935	49	46.3	+5.7	75	4	21	1	39	2.16	−0.02	1.00	0.6	7	13	4	13	s.	U. S. Weather Bureau.
Averages				47.3	+5.6	86	9	8	1	57	1.25	−0.13	2.00	0.5	6	14	7	9	se.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; **Energy, Underwood; Grand Forks, University; Lamoine, Tuttle** Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for April, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri										.07	.06			.76	.62		T.	.08						.05	.12		T	.36	.25	.10		1.52
Amenia ‖	Red																		.52									.10		.37	.11		1.10
Arnegard (near)	Missouri									T				.02	.66	.23		T.		.35							.03		.02		1.80		3.11
Ashley	Missouri												.25		.07			.24		.06							.17		.09		.54		1.42
Beach	Lit. Missouri											.10	.17		.54	.03		T.		.08		T.				.07		.08	.33	.23			1.63
Berthold Agency	Missouri									T.			.03		2.00																T		2.03
Bismarck ***	Missouri									T			.07		.38	.12	.57	T.		.20							.03		T.		T.		1.37
Bottineau ‖	Mouse					.01					.01					T	.16	.28	.03			T.						.08	.01				0.58
Bowman	Grand												.17		.15	.17		.01		T.		T				.07	.28				T.		0.85
Cando	Devils Lake					T.										.11					T.	T							.02	T.			0.13
Carrington	James															.09	.05			T.		T.					T			T.	.17		0.31
Carson	Heart												.25		1.49	.05	1.51			.25							.07				.05		3.67
Cavalier	Red					.01															T							.05		.07			0.13
Cooperstown	Sheyenne										T.	T.			.10												.10		.04		1.28		1.52
Corinth	Missouri																																
Crosby ‖	Mouse					T	T.					.04			.05	.16	T.	T.									.02		.09				0.36
Devils Lake ***	Devils Lake				T.	.03				T.			.52		T.	.32	.01				.05	T.					.07	.02	.01	.01	T.		1.05
Dickinson ‖	Heart												.33		.08	.54	.60		.04	.06	.01						.13	.02		.05			1.86
Dogden Butte	Mouse					.03				T		T.	.19			.50	.34	.05				T.					.07						1.18
Drake ‖	Mouse				.05							.08	.03		.48	.28	.20				.03						.02		.03		.30		1.50
Dunn Center ‖	Knife												T		T.	1.35	.43			.22							.14			.32			2.46
Dunseith	Mouse					.05										.06	.79	.07			T.	T.					.07	.02	.02				1.08
Eckman	Mouse									T.						T.	.01	T.				.01						.01	.01	.15	.01		0.20
Edgeley	James												.28					.36											.15		.67		1.46
Ellendale***	James				T.								.13		T.		.04	1.09		T.							.04		.06	.10	.75		2.21
Energy	Missouri												T.		.38	T.	.37			.10							.02			T.	.10		0.97
Epping	Missouri									.03				.05	.85	.52	.03	.04									.04			.04	.97		2.57
Fairfield	Knife								.04				.01		.15	.05											.17		.15	.58	.79		1.97
Fessenden ‖	James															.46		.10				.10						.04		.16	.02		0.88
Forman	Sheyenne																.25	.95		T.							.04	T.	.15	.36	.25		2.00
Fort Yates	Missouri												.42		.41		.37			.58							.25				.11		2.14
Foxholm (near)	Mouse					.01				T.					.08	.29	.02	T.				T.					.03		T.	.26	.60		1.29
Fryburg	Heart															.55											.18				.38		1.11
Fullerton	James									T.			.25		T.		T.	1.30									T.		.18	T.	.70		2.43
Garrison	Missouri												T.	T.		.78	.30			T							T.			.26	T.		1.34
Grafton	Red												.13															.13		.01	T.		0.27
Grand Forks ***	Red					.08							.07								.06	.10					.10		.11	.25	.97		1.74
Granville	Mouse																																
Hankinson ‖	Red										T.						.10	.60									.10		.20	.40	.20		1.60
Hannah	Pembina					.20					T.					T.	.15					T.					T.	T.		.05			0.40
Hansboro	Devils Lake															.95												.10					1.05
Hettinger	Grand															.17	.14	T.		.01	.04						.09	.01		.02			0.48
Hillsboro	Red																					.03						.06		.36	.32		0.77
Howard (near)	Missouri				T.					T.	T.			T.			T.	.18		T.									.11		.02		0.31
Jamestown ‖	James												.01			.11		.04				T.							.07	.02	.19		0.44
Lamoine	Missouri															.76	.22	.08			T.	.07											1.13
Langdon ‖	Pembina																											.10		.08			0.18
Larimore ‖	Red					.02								.25								.06						.20			.05		0.58
Linton	Missouri												.45		.08	T.	T.	.23		.43							.16		T.		.40		1.75
Lisbon ‖	Sheyenne													.02		.02		.15	1.12									.01		.53	.20		2.05
McClusky	Missouri														T.	.40	.60	.05		.10	.02	.02					.10	.03	.02	.02			1.36
McLeod	Sheyenne																	1.08		T.										.31	.33		1.72
Maddock	Sheyenne									T.			.10			.20	.19	.02				T.					.09		.05				0.65
Mandan ‖	Missouri												.07			.45	.52	.28	T.	.19	.05						.08	.05	.02		T.		1.71
Manfred	James												.10			.45	.09	.10			.05						.05		T.	.02			0.86
Marmarth	Lit. Missouri										.03	T.	.03		.16	.03		T.		.04							.30	.09		.03	.09		0.80
Mary	Lit. Missouri									T.			.18		.84	.34				.10							.10		.08	.14	.24		2.02
Max ‖	Missouri												.18			.73	.25	.18		.10	.05						T.	.06	.19	T.	.05		1.79
Mayville	Red																													.12	.68		0.80
Melville	James																.06	.10															0.16
Metigoshe	Mouse																																
Michigan	Red																																
Minot ‖	Mouse												.01			.35	.08											.01					0.45
Mohall	Mouse				.01											.25	.03	T.									.01			.35	.08		0.74
Mott	Cannon Ball												.43			.51	.53	.47		.08							T.	.04	T.	T.	.37		2.43
Napoleon ‖	Missouri												.35			.08	.02	.17	.02		.03						.05	.27		.01			1.00
New England	Cannon Ball											.12			.64	.34											.20				.17		1.47
New Salem	Heart												.02		.82	.18	1.02	T.		.27							.06				.04		2.41
Oakes	James												.05			.03		1.17									.03	.02	.14	.26	.60		2.30
Park River	Red												.03									.19											0.22
Parshall (near)	Missouri														.36		.46														.31		1.13
Pembina ‖	Red					.10																								T.			0.10
Pettibone	James					T										T				.08						.15							0.23
Portal ‖	Mouse										T.	T.		T.	.33	.08		.02									.07	.03			.13		0.66
Power	Sheyenne																	.80												.15	.50		1.45
Powers Lake	Missouri													.60	.40	.30															1.12		2.41
Richardton	Heart														.78	.37				.21							.11			.09	.12		1.68
Rugby [near]	Mouse												.42								T.												0.42
Ryder	Missouri												.14			.47	.03									.04			.06				0.74
Sanish ‖	Missouri																																
Sharon	Red				T.	.01							.04			.02		.01				.08					T	T.	.01	.17	.32		0.66
Stanton	Missouri															.54	.45			.28							T.	T.					1.27
Steele	Missouri															.10		.22		T.							.55				T.		0.87
Stowers	Cannon Ball										.28				.58		1.10			.20											.24		2.40
Tagus	Mouse					.06									.18	.20	.06										.10		.09	.39			1.08
Tioga	Missouri													.01	.53	.50	.08										.11	.02	.02				1.27
Towner	Mouse												.25		T.	.50							T.	.15									0.90
Trotters	Lit. Missouri									.03		.02	.20		1.12			.03		.03							.20		.15	.20	.01		1.99
Turtle Lake	Missouri																																
Valley City	Sheyenne																.01				T.						.04	T.	T.	.16	.13		0.34
Velva	Mouse					T.				T.			.38	T.	.12	.18	.38	T.			T.						T.		T.		.17		1.23
Verona	James												.02			.22			.86											.53	.21		1.89
Wahpeton	Red										.02					.01		.45										.25		.16	.26		1.15
Washburn	Missouri																																
Westhope	Mouse															T.														.12			0.12
Williston ***	Missouri									.05		.02	.01	.02	.84	.18		.01		.11	T.						.05	.02	.03		.62		1.96
Willow City	Mouse									T.			T.			.04	.38	T									.12		T.				0.54
Wilton													.10		.10	.40	.60			.20								.01					1.41
Wishek ‖	Missouri												.50			.02		.10		.08							.02	.15			.02		0.89
Zap	Knife											.07				.74				.22									.11				1.14
Moorhead, Minn ***	Red				.01					T			T.	T.	T.	T		1.00				T					.02	.04	.06	.26	.77		2.16

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	54	67	69	81	70	68	62	73	74	72	75	76	63	59	58	48	47	48	55	62	48	45	49	54	60	60	54	63	58	64	..	61.2
	Minimum	12	21	23	39	33	30	27	29	31	38	38	38	37	30	32	31	36	33	26	26	22	17	20	18	20	28	32	45	54	50	..	30.5
Arnegard	Maximum	48	64	72	62	67	60	68	82	68	75	75	76	68	52	48	50	61	48	43	68	45	57	58	59	52	57	67	67	69	72	..	61.9
	Minimum	20	34	32	38	34	44	30	42	52	48	55	42	42	37	39	38	29	30	32	33	21	22	37	32	39	40	34	47	51	36	..	37.0
Ashley	Maximum	51	67	74	78	75	70	61	75	78	71	73	68	63	60	59	52	46	50	49	58	60	54	54	55	62	47	55	54	61	60	..	61.3
	Minimum	20	30	27	30	35	34	26	35	39	47	35	46	40	37	40	36	34	30	27	28	24	23	27	20	29	34	41	44	48	52	..	33.9
Beach	Maximum	59	66	73	67	67	65	70	80	66	72	73	72	72	51	53	51	60	54	52	68	47	57	63	51	48	63	70	71	71	67	..	63.4
	Minimum	21	35	34	34	33	39	33	45	53	38	50	42	45	40	40	38	29	32	34	34	23	28	39	40	42	40	37	37	40	48	..	37.4
Berthold Agency	Maximum	55	50	40	78	65	63	65	84	82	77	77	80	77	60	53	56	62	60	62	68	70	58	60	58	55	53	65	70	70	70	..	64.8
	Minimum	12	15	22	25	30	30	22	34	36	32	41	46	46	41	41	46	28	30	32	32	25	22	30	28	40	40	47	47	50	46	..	33.9
Bismarck	Maximum	53	65	77	77	67	62	61	81	73	72	73	70	65	49	54	45	56	49	42	68	44	54	56	55	59	46	64	65	70	65	..	61.2
	Minimum	21	32	36	33	43	35	28	42	46	39	42	52	43	42	44	41	38	35	32	32	26	24	33	27	36	40	37	47	52	51	..	37.6
Bottineau §§	Maximum	52	53	69	63	57	56	55	76	66	73	66	76	59	54	47	45	60	44	55	72	42	49	50	51	51	42	56	58	68	71	..	57.9
	Minimum	19	20	27	32	32	30	30	30	35	32	35	45	38	37	35	34	28	25	20	31	18	14	21	24	26	32	38	40	45	46	..	30.6
Cando	Maximum	51	53	68	73	58	59	56	71	75	76	71	74	61	59	51	51	57	57	54	67	55	50	49	52	55	56	59	57	59	66	..	60.0
	Minimum	20	30	28	34	35	33	28	34	35	41	39	38	33	41	33	37	35	28	25	38	20	20	21	22	24	28	30	31	48	49	..	31.9
Carson	Maximum	50	70	75	74	66	65	63	82	86	82	83	83	70	55	50	50	50	50	45	70	56	42	58	52	50	54	63	74	80	70	..	63.9
	Minimum	18	28	35	37	32	36	28	40	46	35	45	44	45	35	39	36	29	30	28	30	25	28	33	25	36	35	34	42	45	49	..	34.9
Crosby §§	Maximum	55	60	69	58	64	57	63	77	66	63	68	67	53	43	43	44	57	40	49	63	40	48	53	51	51	48	64	68	59	68	..	57.0
	Minimum	25	23	35	35	35	34	30	34	44	41	42	43	43	41	36	37	31	27	27	34	21	24	30	31	31	37	27	48	40	40	..	34.2
Devils Lake	Maximum	51	52	70	76	57	55	53	71	72	73	66	71	56	52	52	51	53	44	52	66	42	48	45	50	55	51	52	61	62	63	..	57.4
	Minimum	23	33	31	40	38	34	29	35	46	40	42	45	38	36	35	39	39	31	29	33	21	22	24	24	25	34	40	46	49	49	..	35.0
Dickinson §§	Maximum	57	65	72	62	67	64	67	79	69	72	72	71	69	48	58	50	58	50	39	67	44	56	59	54	50	58	67	67	73	69	..	61.8
	Minimum	15	19	32	31	30	34	28	28	44	36	36	42	42	38	38	41	30	30	32	31	25	21	27	30	30	39	34	36	41	41	..	32.8
Dunn Center §§	Maximum	56	64	72	61	67	62	66	78	67	75	74	73	68	43	50	51	61	49	46	67	44	57	58	56	52	57	66	67	69	68	..	61.5
	Minimum	19	23	28	30	38	47	26	30	42	35	38	45	41	40	39	42	30	32	32	32	24	23	29	27	34	40	34	48	46	45	..	34.6
Dunseith	Maximum	49	49	66	65	56	54	53	72	70	71	67	72	69	56	46	45	57	55	52	69	62	47	47	49	54	51	53	55	64	70	..	58.2
	Minimum	18	28	30	40	36	35	29	32	50	39	41	45	35	36	31	36	32	26	23	30	18	16	23	23	26	34	38	43	47	46	..	32.9
Edgeley	Maximum	55	71	82	64	67	67	58	75	71	74	74	68	65	60	59	49	48	51	55	61	60	54	51	53	58	50	54	60	61	61	..	61.2
	Minimum	19	37	36	39	30	30	37	21	36	53	40	45	37	30	30	37	36	34	46	27	25	36	26	17	20	20	32	43	43	47	..	33.6
Ellendale	Maximum	52	68	71	80	63	68	58	75	75	70	74	67	64	57	59	46	43	48	47	58	47	52	50	51	59	49	54	61	60	62	..	59.6
	Minimum	21	26	29	37	40	31	26	36	39	47	38	44	39	35	43	39	32	33	30	29	28	22	25	21	25	35	43	47	50	50	..	34.7
Fessenden §§	Maximum	52	62	72	76	60	58	58	74	74	75	70	72	63	54	54	51	54	45	51	60	43	53	52	53	60	46	56	57	67	62	..	59.5
	Minimum	19	27	29	32	37	31	25	33	42	37	40	43	43	35	37	39	38	33	27	32	23	20	23	18	21	28	40	44	47	44	..	32.9
Foxholm (near)	Maximum	52	61	70	62	61	59	59	77	69	71	70	75	64	52	47	55	60	52	50	71	57	50	51	52	58	52	60	64	67	71	..	60.6
	Minimum	21	35	30	39	35	35	26	33	50	39	42	44	36	34	34	42	27	25	28	33	18	20	25	19	20	34	35	43	45	45	..	33.1
Fullerton	Maximum	52	68	70	79	63	67	56	74	74	70	74	68	65	57	61	47	47	49	48	58	53	52	52	52	60	52	56	60	63	62	..	60.3
	Minimum	20	26	26	34	37	32	25	34	39	43	48	44	38	34	43	38	32	35	29	28	28	22	25	22	24	34	43	46	45	50	..	34.1
Garrison	Maximum	54	53	65	75	76	73	68	61	79	65	75	75	75	68	50	50	49	50	58	57	68	45	55	54	56	58	61	69	67	71	..	62.7
	Minimum	19	19	32	34	32	31	26	27	48	35	45	51	51	40	40	42	31	32	31	33	26	23	30	25	25	30	29	32	50	47	..	33.8
Grafton	Maximum	50	52	60	76	77	77	54	65	72	76	73	73	70	56	57	55	53	53	56	68	65	50	48	52	56	60	55	57	60	66	..	61.4
	Minimum	26	32	30	33	32	47	34	34	39	42	39	44	56	35	29	33	38	29	22	30	20	21	22	23	23	26	33	43	49	52	..	33.9
Grand Forks	Maximum	52	52	62	76	55	53	49	67	69	73	68	69	57	56	61	52	51	42	53	64	39	46	44	50	56	59	52	58	58	66	..	57.0
	Minimum	22	32	29	33	39	34	31	34	38	41	38	42	37	36	41	36	38	29	23	30	22	20	22	21	23	29	43	44	49	53	..	33.6
Granville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Hansboro	Maximum	47	46	58	65	61	57	57	69	71	71	71	72	57	50	45	46	58	55	55	65	42	48	47	48	53	48	50	57	60	67	..	56.5
	Minimum	8	29	33	34	33	27	14	31	20	26	33	38	28	34	18	24	28	24	20	30	15	15	16	13	17	25	35	40	45	38	..	26.4
Hettinger	Maximum	40	54	67	73	65	68	67	66	83	73	69	73	70	68	50	62	44	57	54	38	67	48	56	60	46	46	63	63	68	73	..	61.0
	Minimum	18	19	27	29	30	31	30	33	40	43	42	41	33	37	39	45	32	33	35	34	27	26	31	30	30	39	37	40	44	43	..	33.9
Hillsboro	Maximum	52	62	64	74	72	74	70	71	71	72	67	78	69	57	61	58	63	60	52	60	48	49	48	50	58	56	54	57	58	64	..	61.6
	Minimum	20	30	31	33	31	30	32	34	39	43	40	43	40	41	39	39	40	35	25	40	20	17	21	21	20	36	40	42	49	51	..	34.1
Howard (near)	Maximum	45	54	64	57	64	54	66	78	69	73	66	70	60	50	48	50	45	45	52	68	45	52	54	56	54	56	66	67	70	70	..	58.9
	Minimum	20	24	33	31	31	36	30	41	48	38	38	38	38	34	34	38	30	27	32	34	20	24	38	29	38	40	30	45	40	45	..	34.1
Jamestown §§	Maximum	65	73	80	60	61	58	76	76	74	72	69	60	56	56	43	49	49	49	63	45	55	55	53	55	51	54	61	64	61	71	..	60.5
	Minimum	22	23	27	31	34	27	30	28	36	41	36	43	37	33	38	37	33	34	25	28	24	19	20	18	30	30	35	43	49	50	..	32.0
Lamoine	Maximum	45	60	70	72	67	62	61	75	70	73	68	68	65	64	54	50	53	53	47	64	59	51	50	51	58	58	60	52	67	62	..	60.3
	Minimum	20	28	50	32	43	35	28	36	48	40	37	38	37	36	38	37	37	31	27	26	21	17	22	21	24	30	27	28	45	45	..	32.8
Langdon §§	Maximum	44	46	51	63	54	53	54	68	71	80	64	75	55	51	50	52	54	42	64	37	47	50	38	47	60	65	56	52	60	68	..	55.7
	Minimum	11	21	28	36	35	30	29	34	35	36	37	38	34	36	31	30	35	27	23	17	17	19	17	19	22	30	40	43	45	49	..	30.1
Larimore §§	Maximum	54	65	80	57	55	54	71	73	76	69	72	57	56	60	50	50	44	52	66	42	40	45	50	59	58	52	55	59	65	65	..	58.4
	Minimum	26	28	30	33	38	38	29	28	33	39	38	40	36	32	36	36	36	30	22	31	18	16	20	18	20	26	38	44	45	49	..	31.8
Linton	Maximum	..	68	..	79	66	65	68	79	79	78	78	68	65	54	54	54	52	51	52	63	62	59	57	57	60	56	64	62	78	68	..	[b]64.1
	Minimum	..	16	..	28	42	27	30	22	42	38	38	48	41	41	43	39	37	33	32	27	25	27	29	27	38	35	38	45	56	52	..	[b]35.5
Lisbon §§	Maximum	54	71	76	85	68	68	61	78	72	76	75	74	68	61	60	58	44	49	49	59	48	54	59	58	65	58	58	65	64	65	..	63.3
	Minimum	15	21	22	36	38	29	24	31	32	38	34	40	37	30	39	35	30	31	24	25	24	20	19	20	22	29	36	46	46	51	..	30.8
McClusky	Maximum	50	61	60	74	61	58	59	78	72	74	71	71	70	53	51	50	55	53	45	68	62	52	53	53	58	54	62	59	62	66	..	60.5
	Minimum	22	20	34	39	37	35	26	30	47	38	44	50	40	44	41	40	34	30	30	45	22	22	21	25	28	35	39	45	53	47	..	35.4
McKinney (near)	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Maddock	Maximum	52	57	69	76	62	60	54	70	72	74	73	70	70	54	53	52	55	55	48	68	67	49	50	50	57	55	55	59	63	64	..	60.4
	Minimum	21	32	27	31	37	30	26	33	41	31	40	42	36	34	35	37	36	31	24	30	20	16	19	18	20	30	39	44	48	44	..	31.7
Marmarth	Maximum	57	67	72	66	68	72	72	80	75	71	72	75	70	64	62	57	64	55	51	68	62	57	67	58	47	64	69	66	74	70	..	65.7
	Minimum	19	25	37	31	35	33	36	37	50	50	49	39	35	41	42	40	27	32	32	32	29	29	34	35	42	44	37	43	46	47	..	36.9
Melville	Maximum	58	55	64	71	68	65	67	62	58	56	72	67	69	61	51	52	50	65	59	57	63	58	62	64	70	70	65	58	62	59	..	61.9
	Minimum	22	33	37	38	34	37	33	36	35	34	38	40	36	37	35	38	35	34	36	35	34	29	31	33	44	44	38	36	39	34	..	35.5
Minot §§	Maximum	54	63	73	68	64	60	60	79	67	73	71	76	59	53	50	49	60	50	50	70	43	52	53	52	58	47	63	66	68	72	..	60.8
	Minimum	18	22	27	33	32	34	20	27	41	31	42	45	39	39	38	32	28	29	31	35	22	17	19	22	25	32	40	45	48	45	..	31.9
Mott	Maximum	60	66	73	70	70	68	66	82	76	74	70	63	69	70	54	56	42	56	52	61	68	46	56	59	50	52	60	63	66	72	..	63.0
	Minimum	35	30	32	31	33	30	32	48	42	46	41	35	38	36	36	39	33	33	33	31	25	29	32	32	33	39	37	37	46	45	..	35.7
Napoleon §§	Maximum	52	67	75	80	64	63	62	77	79	75	75	66	64	52	57	45	50	50	45	61	45	54	55	56	61	47	64	56	67	60	..	60.8
	Minimum	18	30	27	36	39	33	24	38	42	45	41	46	37	36	40	37	35	32	28	27	21	19	24	21	26	33	40	45	49	47	..	33.9
New Salem	Maximum	53	65	77	67	69	63	67	84	75	75	75	76	56	54	50	50	55	55	46	69	51	51	59	54	55	51	65	69	72	76	..	62.9
	Minimum	20	34	31	29	35	33	26	39	49	41	45	49	42	39	41	40	32	32	30	30	24	23	30	22	35	37	33	48	46	53	..	35.6
Pembina §§	Maximum	42	45	48	45	48	45	48	62	62	70	62	61	64	61	48	62	63	42	62	60	40	48	50	50	60	64	62	64	66	68	..	55.7
	Minimum	20	28	30	34	40	38	30	38	40	39	38	41	36	30	36	36	40	32	36	20	40	18	25	20	38	30	33	34	38	38	..	33.5
Steele	Maximum	54	64	73	76	64	68	62	75	74	73	72	72	70	59	56	46	50	56	46	62	46	52	54	56	58	50	64	68	70	66	..	61.9
	Minimum	20	32	34	37	38	36	30	40	46	42	40	38	38	38	42	38	40	36	29	26	22	20	24	24	26	38	40	42	52	50	..	35.3
Towner	Maximum	42	60	55	65	80	75	68	75	70	75	65	68	65	60	55	50	55	58	60	60	50	50	52	55	56	58	60	58	58	60	..	60.6
	Minimum	16	26	27	30	35	32	34	25	44	30	45	40	48	45	40	38	40	25	34	38	40	40	35	33	23	28	35	35	18	30	..	33.6
Valley City	Maximum	54	65	69	77	76	59	57	73	76	74	72	68	69	55	55	48	47	46	63	58	52	50	54	58	58	52	60	60	62	61	..	60.9
	Minimum	18	35	33	28	40	37	35	34	30	45	38	43	39	35	37	35	33	32	39	32	18	31	32	32	30	42	46	48	51	44	..	35.7
Wahpeton	Maximum	55	69	68	79	77	67	62	73	73	73	77	74	70	68	59	56	48	50	45	62	62	51	52	55	61	61	59	58	62	65	..	63.0
	Minimum	19	30	25	33	38	19	28	33	41	48	36	42	38	34	44	36	33	32	28	28	24	21	23	18	26	32	36	48	50	56	..	33.8
Westhope	Maximum	52	59	76	62	64	59	58	56	74	79	78	70	65	53	48	60	65	47	57	73	45	47	47	47	46	48	46	58	73	75	..	59.6
	Minimum	21	29	20	30	32	32	22	35	33	43	42	47	38	42	37	36	25	25	23	31	19	16	19	27	21	31	36	42	46	46	..	31.5
Williston	Maximum	58	65	72	60	68	59	67	79	69	72	73	74	64	50	48	51	62	46	49	71	46	55	57	56	52	57	65	66	73	70	..	61.8
	Minimum	19	33	37	34	34	41	36	46	50	39	50	45	47	36	42	38	31	31	33	34	23	28	39	35	40	42	34	50	46	52	..	38.2
Moorhead, Minn	Maximum	52	64	65	75	59	57	50	70	70	68	73	68	61	58	60	47	38	45	47	59	52	48	45	51	57	59	54	55	58	63	..	57.6
	Minimum	21	31	29	36	40	33	31	34	41	48	43	45	40	36	41	35	33	32	28	32	22	22	26	22	26	32	43	45	49	54	..	35.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 5-26-30—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIX   Bismarck, N. D., May, 1930   No. 5

GENERAL SUMMARY

While the mean temperature for the month was slightly below the normal, the greatest deficiency occurred during the second decade, when freezing temperatures were general in all parts of the state. Some damage to crops was reported, but the greatest damage was to garden truck and fruit. The precipitation, which was somewhat above the normal, was quite evenly distributed geographically. Heavy rains and scattered showers were quite general from the 1st to the 14th, inclusive, with the exception of the 2d and 3d. Only scattered showers prevailed from the 15th to 31st, inclusive. Spring wheat, oats, speltz and barley stooled heavily and were in generally good condition at the close of the month, while early planted corn and flax were up to good stand and color, with rye either headed or heading. Considerable damage to crops from high winds was reported from many parts of the state.

TEMPERATURE

The mean temperature for the state was 50.8°, or 1.8° below the normal, and 1.7° higher than the mean for May, 1929. The highest mean reported was 56.8° at Wahpeton, Richland County; the lowest was 45.5° at Hansboro, Towner County. The highest temperature reported was 98° at Park River, Walsh County on the 21st; the lowest was 18° at Eckman, Bottineau County on the 16th and 29th. The greatest monthly range of temperature was 74° at Eckman, Bottineau County, and at Lisbon, Ransom County; the least was 56° at McClusky, Sheridan County, and Powers Lake, Burke County. The greatest daily range in temperature was 62° at Park River, Walsh County on the 21st.

PRECIPITATION

The average precipitation for the state was 2.62 inches, or 0.07 inch above the normal, and 0.37 inch less than the average for May, 1929. The greatest monthly amount reported was 5.99 inches at Larimore, Grand Forks County; the least was 0.96 inch at Beach, Golden Valley County. The greatest amount recorded in any 24 consecutive hours was 2.12 inches at McLeod, Ransom County on the 11th. The average snowfall was 0.7 inch. The average number of days with 0.01 inch or more of precipitation was 9.

AURORAS

Auroras were observed at Ellendale on the 1st; at Bottineau, Foxholm, Towner and Willow City on the 3d; at Foxholm and Hannah on the 4th; at Foxholm, Howard and Westhope on the 5th; at Bottineau and Ellendale on the 6th; at Bismarck and Bottineau on the 9th; at Bottineau on the 12th; at Bottineau, Howard and Marmarth on the 15th; at Forman, Foxholm, Fullerton, Mandan, Oaks, Steele, Trotters and Velva on the 16th; at Bismarck, Grand Forks, Hannah, Howard, McLeod, Towner and Willow City on the 17th; at Bottineau and McLeod on the 18th; at Foxholm and Oakes on the 19th; at Foxholm on the 20th; at Bismarck and Foxholm on the 29th; at Bismarck, Bottineau, Devils Lake, Ellendale, Fessenden, Forman, Foxholm, Hannah, McClusky, Mandan, Oakes, Sharon, Steele, Valley City, Velva, Willow City and Moorhead, Minn. on the 30th; and at Dogden Butte, Ellendale, Fessenden, Garrison, Grand Forks, Hannah, McClusky, McLeod and Rugby on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.90	30.40	29	29.30	4	57	8,036	10.8	34§	nw.	21
Devils Lake	29.91	30.41	29	29.26	21	44	8,206	11.0	48§	ne.	6
Ellendale	29.92	30.38	29	29.32	21	56	11,552	15.5	44§	nw.	21
Grand Forks	29.87	30.37	29	29.29	4	90	....	.....	39	w.	21
Williston	29.91	30.37	29	29.21	3	48	6,728	9.0	34§	nw.	22
Moorhead, Minn	29.89	30.39	29	29.30	7	58	6,744	9.1	28§	nw.	21
Av'ges and extremes	29.90	30.41	29	29.21	3	.....	....	11.1	48§	ne.	6

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	252.0	467.3	54	− 4	76	48	50	18	22†
Devils Lake	256.1	471.0	54	− 4	80	57	59	18	22
Ellendale	279.6	463.8	64	+ 6	79	57	....	25	23
Grand Forks	......	......	......	......	74	.....	56	.....	....
Williston	305.0	471.0	65	+ 7	73	49	47	17	22
Moorhead, Minn	226.0	467.3	48	− 9	76	55	54	19	22
Averages and extremes	263.7	468.1	57	− 1	76	53	53	17	22

† And other dates.

COMPARATIVE STATE DATA FOR MAY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	46.6	−6.0	96	13	2.21	−0.34	12	6	8	17	n.
1893	52.2	−0.4	97	19	1.61	−0.94	6	11	8	12	se.
1894	54.6	+2.0	98	23	1.51	−1.04	5	16	9	6	ne.
1895	54.4	+1.8	101	15	2.48	−0.07	8	10	11	10	nw.
1896	56.9	+4.3	103	22	4.89	+2.34	13	6	14	11	nw.
1897	55.4	+2.8	97	16	0.71	−1.84	4	16	10	5	nw.
1898	52.7	+0.1	92	14	1.98	−0.57	5	15	9	7	n.
1899	50.6	−2.0	91	16	3.49	+0.94	8	9	9	13	se.
1900	59.2	+6.6	106	15	0.69	−1.86	3	18	8	5	se.
1901	60.0	+7.4	99	19	0.31	−2.24	2	21	4	6	se.
1902	55.9	+3.3	94	24	3.57	+1.02	10	13	6	12	se.
1903	54.3	+1.7	96	11	3.12	+0.57	4	14	8	9	s.
1904	54.2	+1.6	93	20	1.76	−0.79	6	16	9	8	nw.
1905	50.1	−2.5	88	10	3.05	+0.50	8	12	8	11	nw.
1906	50.8	−1.8	99	11	4.63	+2.08	12	9	8	14	ne.
1907	44.0	−8.6	84	6	1.11	−1.44	6	12	10	9	nw.
1908	50.8	−1.8	88	9	2.97	+0.42	8	13	7	11	ne.
1909	51.0	−1.6	98	5	4.29	+1.74	10	12	9	10	nw.
1910	50.7	−1.9	94	10	0.96	−1.59	6	12	11	8	nw.
1911	55.0	+2.4	99	6	2.88	+0.33	8	14	9	8	nw.
1912	54.2	+1.6	90	16	4.52	+1.97	11	10	10	11	nw.
1913	51.2	−1.4	100	11	1.68	−0.87	9	10	10	11	nw.
1914	55.2	+2.6	95	16	2.12	−0.43	8	16	8	7	nw.
1915	51.1	−1.5	98	15	3.16	+0.61	9	10	10	11	se.
1916	51.0	−1.6	95	7	2.22	−0.33	8	11	11	9	nw.
1917	51.2	−1.4	98	15	0.30	−2.25	2	20	7	4	ne.
1918	51.7	−0.9	99	6	2.30	−0.25	9	10	11	10	nw.
1919	55.5	+2.9	101	16	3.25	+0.70	9	16	8	7	se.
1920	53.9	+1.3	89	20	1.74	−0.81	7	13	10	8	se.
1921	53.8	+1.2	90	21	2.46	−0.09	9	13	10	8	se.
1922	56.3	+3.7	93	24	3.11	+0.56	12	10	11	10	nw.
1923	54.1	+1.5	100	13	1.77	−0.78	6	15	10	6	nw.
1924	46.9	−5.7	84	15	0.79	−1.76	5	12	10	9	nw.
1925	53.6	+1.0	111	10	1.44	−1.11	4	17	9	5	nw.
1926	58.5	+5.9	105	10	2.18	−0.37	7	13	11	7	nw.
1927	48.0	−4.6	87	13	5.62	+3.07	14	6	8	17	nw.
1928	58.2	+5.6	107	16	1.15	−1.40	5	18	7	6	nw.
1929	49.1	−3.5	92	8	2.99	+0.44	7	16	9	6	nw.
1930	50.8	−1.8	98	18	2.62	+0.07	9	12	8	11	nw.

Climatological Data for May, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	4	......	......	...	...	...	...	......	1.12	......	0.55	......	7	......	......	......	......	H. A. Bury.
Amenia	Cass	954	34	51.3	+0.2	93	21	25	17	51	4.15	+1.31	0.83	0	14	14	1	16	s.	I. Idso.
Arnegard (near)	McKenzie	......	15	50.2	−2.9	85	3	28	17	46	1.71	0.00	1.15	3.0	6	20	4	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	31	51.8	−0.9	88	21	25	17	39	2.69	+0.23	0.89	0	10	14	6	11	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	50.7	+0.6	85	3	25	16	44	0.96	−1.85	0.73	0.4	5	18	5	8	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	51.0	−2.7	88	4	24	22	48	1.64	−0.82	0.65	T.	5	14	0	17	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	51.5	−3.0	87	20	29	17	40	2.19	−0.13	1.04	1.5	9	12	8	11	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	38	48.4	−2.9	90	3	22	16	51	2.10	+0.06	0.69	2.0	11	13	10	8	nw.	N. D. School of Forestry.
Bowman	Bowman	2.961	16	50.6	......	84	25	28	10†	50	2.09	−0.15	1.10	0	8	14	8	9	nw.	George Larsen.
Cando	Towner	1,488	29	49.8	−1.7	89	3	25	17	43	2.45	+0.05	0.70	1.0	8	8	14	9	nw.	A. J. Swanson.
Carson	Grant	2,500	18	50.1	−2.2	85	25	28	6†	46	2.46	−0.18	0.82	2.0	9	17	6	8	nw.	J. W. Evens.
Cavalier	Pembina	......	3	......	......	...	...	...	...	......	3.66	......	0.97	0	9	10	5	16	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	21	......	......	...	...	...	...	......	2.91	+0.73	0.88	....	10	17	3	11	nw.	S. Friswold.
Corinth	Williams	2,180	3	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	L. S. Evenson.
Crosby	Divide	1,954	24	48.2	−2.2	84	3	23	16	40	1.16	−0.84	0.25	1.0	9	8	11	12	nw.	John Jensen.
Devils Lake	Ramsey	1,478	33	49.9	−2.7	87	3	28	16	37	3.62	+1.59	1.22	T.	12	6	11	14	n.	U. S. Weather Bureau
Dickinson	Stark	2,513	38	48.8	−3.4	84	3	27	16	48	1.23	−1.20	0.34	1.7	15	12	10	9	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	49.8	......	88	3	23	17	43	3.72	......	1.49	0.5	11	10	13	8	nw.	R. L. Williams.
Drake	McHenry	1.634	.....	49.1	......	87	2	26	15	51	3.46	......	0.94	2.0	14	14	4	13	nw.	J. Rindt.
Dunn Center	Dunn	2,191	31	50.0	−3.3	84	3	27	17	43	1.68	−0.86	0.43	1.0	7	11	8	12	n.	W. F. Moede.
Dunseith	Rolette	1,682	34	48.8	−3.1	88	3	22	16	41	2.78	+1.08	1.05	2.0	10	9	12	10	ne.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	48.6	−2.0	92	3	18	16†	52	2.32	+0.14	0.54	2.0	11	5	14	12	se.	C. E. Strock.
Edgeley	LaMoure	1,568	29	51.8	−1.7	90	21	24	12	16	2.48	0.19	1.20	......	6	10	15	6	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	52.1	−3.6	89	21	26	17	39	2.25	−0.83	0.85	T.	12	6	9	16	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	18	51.4	......	88	3	25	17	45	2.27	+0.07	1.23	1.0	9	11	12	8	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	49.6	......	85	3	26	23	40	1.20	−1.11	0.46	3.0	7	13	11	7	nw.	A. O. Wang.
Fairfield	Billings	......	3	......	......	...	...	...	...	......	1.22	......	0.71	2.0	9	19	2	10	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	50.0	−1.5	89	3	26	24	43	2.99	+0.71	1.28	0	11	6	12	13	nw.	T. D. Monsen.
Forman	Sargent	1,249	36	......	......	...	...	...	...	......	3.46	+0.48	0.88	0	13	18	5	8	nw.	O. Enger.
Fort Yates	Sioux	1,670	36	51.8	−1.4	88	25	26	6	45	3.06	+1.29	1.25	0.5	8	19	3	9	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	48.5	......	87	3	23	16	45	1.62	......	0.52	1.5	10	11	9	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	......	......	...	...	...	...	......	1.74	−0.37	0.85	T.	7	13	10	8	nw.	Verne King.
Fullerton	Dickey	1,439	32	52.6	−0.7	89	21	25	17	47	2.77	−0.47	0.74	0	9	15	6	10	ne.	F. O. Alin.
Garrison	McLean	1,901	35	50.8	−1.8	90	4	27	16†	38	1.73	−0.44	0.90	0.5	9	16	9	6	se.	W. F. Robinson.
Grafton	Walsh	827	39	53.0	+0.1	91	21	23	24	44	3.97	+1.86	1.53	0	10	9	11	11	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	39	52.2	−1.2	92	21	28	17†	45	4.28	+1.74	1.72	T.	13	14	7	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	49.6	−1.8	90	3	25	16	43	2.76	+0.92	0.81	T.	12	8	13	10	nw.	W. A. Christianson.
Hankinson	Richland	1,068	.....	56.6	......	91	21	26	16	45	4.01	......	1.00	0	11	17	6	8	w.	R. G. Stock.
Hannah	Cavalier	1,568	36	......	......	...	...	...	...	......	2.99	+0.89	0.90	......	9	......	......	......	......	James Meier.
Hansboro	Towner	1,597	22	45.5	−4.8	87	3	20	15†	47	2.66	+0.58	1.12	0.3	6	10	13	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	50.4	−2.4	85	25	28	17	48	2.12	0.00	0.85	T.	9	14	6	11	nw.	C. H. Plath.
Hillsboro	Traill	901	24	53.2	0.0	93	21	25	17	44	4.04	+0.72	1.07	0	12	10	7	14	nw.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	23	48.6	−0.8	87	3	21	17†	42	1.41	−0.77	0.58	T.	5	6	14	11	nw.	C. F. Amsbaugh.
Jamestown	Stutsman	1,390	38	51.1	−2.4	91	20	25	17†	59	3.68	+0.99	0.74	0	13	10	8	13	......	S. Calvelage.
Lamoine	Kidder	1,936	25	48.5	−2.2	85	3†	23	17	45	1.69	−0.67	......	T.	5	13	7	11	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	34	49.6	−1.2	86	21	25	16	48	2.86	+0.61	0.60	0	9	21	2	8	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	50.4	−2.0	93	21	23	17	48	5.99	+3.52	1.70	1.0	15	12	3	16	n.	Reuben Gray.
Linton	Emmons	1,711	12	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	Rev. O. Weber.
Lisbon	Ransom	1,091	26	52.5	−0.4	95	21	21	17	46	3.64	+0.45	0.90	0	14	12	5	14	......	L. B. Walker.
McClusky	Sheridan	1,943	12	49.6	......	82	20	26	16	39	2.57	−0.12	1.26	3.0	9	18	4	9	nw.	Edw. Tapley.
McLeod	Ransom	1,075	18	53.5	−0.6	87	21	23	17	43	5.18	+1.40	2.12	0	9	16	7	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	14	50.4	−2.8	89	3	24	24	45	2.74	+0.71	0.65	.....	9	5	13	13	nw.	A. T. Felland.
Mandan	Morton	1,644	16	50.8	−3.1	87	3†	26	17	43	2.23	−0.27	1.04	.....	10	11	4	16	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27	......	......	...	...	...	...	......	2.57	+0.21	0.75	T.	9	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	21	52.3	+2.3	85	3	28	13	45	1.20	−1.08	0.60	T.	8	10	8	13	nw	S. P. Grene.
Mary	McKenzie	......	3	......	......	...	...	...	...	......	1.56	......	0.86	1.5	6	18	4	9	nw.	Fred Hartman.
Max	McLean	2,093	....	50.6	......	91	3	25	16†	47	2.14	......	0.70	1.0	11	10	9	12	nw.	A. W. Rice.
Mayville	Traill	975	24	53.2	−1.3	90	21†	24	17	45	4.78	+1.81	1.20	......	11	13	1	17	n.	N. C. Burhans.
Melville	Foster	1,590	32	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	....	J. P. Fischer.
Metigoshe ‡‡	Bottineau	......	5	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	.....	J. A. Thorburn.
Michigan	Nelson	1,518	2	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	Arnold Johnson.
Minot	Ward	1,557	34	49.6	−2.7	89	4	24	29	43	2.48	+0.51	0.65	0	12	14	5	12	w.	Julia B. Rue.
Mohall	Renville	......	1	50.4	−1.6	89	3	26	16	46	2.15	+0.20	1.05	......	6	10	12	9	n.	E. H. Wolsey.
Mott	Hettinger	2,424	23	51.8	+0.2	86	25	27	17	41	2.27	−0.99	0.76	0	9	10	10	11	se.	O. H. Opland.
Napoleon	Logan	1,955	38	50.9	−1.5	88	21	25	17	42	2.75	+0.35	0.75	0	12	12	8	11	n.	C. J. Hoof.
New England	Hettinger	2,400	39	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	F. S. Sleight.
New Salem	Morton	2,163	26	51.2	−0.1	94	3	26	16	42	1.73	−0.64	0.86	0	9	12	13	6	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	54.0	......	89	21	26	16	45	2.64	......	0.78	0	12	9	13	9	ne.	Eugene Naylor.
Park River	Walsh	998	26	51.0	−1.2	98	21	26	17	62	4.31	+2.08	0.93	0	11	11	5	15	nw.	C. B. Wright.
Parshall (near)	Mountrail	......	15	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	John A. Johnson.
Pembina	Pembina	789	56	50.8	−1.7	92	21	26	16	48	5.10	+2.88	2.08	0	7	14	8	7	s.	C. W. Shumaker.
Pettibone	Kidder	1,856	21	50.9	+0.4	89	21	25	17	42	2.20	−0.65	1.19	1.5	10	7	9	15	sw.	A. L. Carlson.
Portal	Burke	1,954	16	48.9	−2.2	89	2	22	15	46	2.64	+0.65	0.87	2.0	12	13	6	12	nw.	C. T. Holmes.
Power	Richland	1,020	36	......	......	...	...	...	...	......	3.63	+0.74	1.20	......	8	15	7	9	nw.	Frank B. Power.
Powers Lake	Burke	2,265	16	49.0	......	83	27	27	16	42	3.63	+1.83	1.27	5.5	5	17	7	7	w.	Geo. H. Gee.
Richardton	Stark	2,467	14	50.4	−2.5	85	3†	25	16†	47	1.62	−0.21	0.77	0	7	7	15	9	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	...	...	...	...	......	1.42	......	0.28	......	10	12	8	11	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	...	...	...	...	......	1.78	......	0.84	0	9	......	......	......	......	E. M. Lonen.
Sanish	Mountrail	1,835	....	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	H. W. Monson.
Sharon	Steele	1,516	5	50.9	......	91	21	25	17	42	4.84	......	1.53	1.0	11	13	6	12	n.	Nels O. Greisheim.
Stanton	Mercer	1,722	6	......	......	...	...	...	...	......	1.46	......	0.53	1.0	6	17	6	8	nw.	J. H. Giffey.
Steele	Kidder	1,857	34	51.0	−2.8	86	3†	25	17	42	3.75	+1.26	1.15	1.0	7	17	7	7	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	......	......	...	...	...	...	......	1.45	−0.93	0.70	1.5	4	16	10	5	......	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	......	......	...	...	...	...	......	1.11	......	0.35	0	10	7	12	12	nw.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	...	...	...	...	......	1.67	......	0.62	3.0	5	14	8	9	nw.	Anton Carlson.
Towner	McHenry	1,482	28	50.0	−2.3	88	3†	24	16†	48	2.60	+0.28	1.10	0	7	15	7	9	nw.	B. Bagley.
Trotters	Golden Valley	......	5	......	......	...	...	...	...	......	1.16	......	0.78	1.0	5	6	18	7	nw.	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	25	53.0	−0.4	91	21	23	17	43	3.77	+0.64	0.92	0	9	15	8	8	n.	I. C. Robertson.
Velva	McHenry	1,511	4	50.4	......	89	3	25	17†	43	2.92	......	1.28	1.0	10	10	11	10	nw.	Oscar Anderson.
Verona	LaMoure	1,387	36	......	......	...	...	...	...	......	2.57	......	0.55	0	8	16	3	12	nw.	W. C. Taylor.
Wahpeton	Richland	962	38	56.8	+1.5	91	21†	26	17	41	4.27	+1.46	0.88	0	11	20	0	11	se.	C. G. Luick.
Washburn	McLean	1,731	28	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	C. W. Poe.
Westhope	Bottineau	1,508	26	49.6	−1.8	91	3	23	16	41	1.93	−0.11	0.50	1.5	11	16	6	12	se.	W. A. Meddaugh.
Williston	Williams	1,878	51	51.2	−2.8	86	3	27	16	31	1.29	−0.77	0.59	2.5	8	14	10	7	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	49.3	−2.2	89	3	23	24	43	2.58	+0.66	1.12	T.	10	18	4	9	nw.	O. M. Sanderson.
Wilton	McLean	......	2	49.0^d	......	86^c	20	28^d	15	42^c	2.22	......	0.90	1.0	9	17	0	14	......	L. Q. Perkins.
Wishek	McIntosh	2 010	10	49.8^a	......	89^a	21	22^a	17	44^a	3.43	......	0.76	0	10	9	5	17	nw.	E. W. Davis.
Zap	Mercer	1,838	2	......	......	...	...	...	...	......	1.49	−0.89	1.05	T.	5	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	49	53.4	−1.7	93	21	28	17	41	2.68	−0.21	0.89	T.	14	8	6	17	s.	U. S. Weather Bureau.
Averages		......	.....	50.8	−1.8	98	21	18	16†	62	2.62	+0.07	2.12	0.7	9	12	8	11	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for May, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.02			.15		.13		.08	T		.01	.55							.18													1.12
Amenia ‖	Red	.04	.12			.25	.15	.03	[illegible]	.04	.01	.50	.40	.13	.05						[illegible]												4.15
Arnegard (near)	Missouri	.02			.02			T	[illegible]	T			1.15	.15					.01														[illegible]
Ashley	Missouri	.07			.19		.56	.08	.23	.16		.53	.08	.02						.17													2.09
Beach	Lit. Missouri				T			T	.04	.03		T	.73						.01			T											0.81
Berthold Agency	Missouri	T.			T			T	T			.60	.65	.06	.18				.15														1.64
Bismarck ***	Missouri	T		T.	.06	T	.29	.30	.02	.15		.70	.41	.45	.01				T			T					T						2.39
Bottineau ‖	Mouse	.02	.05			T	.33	.06	.37	.04	.08		.10	.65	.06	T				.17													2.14
Bowman	Grand	.02		.31	T	T.	.10		T	T		.05	1.16	.13					.07								T		T				2.09
Cando	Devils Lake	.25			T	T.	.11	.30	.10	T		.41	.49	.65	T					.13													2.45
Carrington	James	.12		.03	.16		.01	.13	.32			.35	.82	.10																			2.06
Carson	Heart	.23			.03		.30	.49	.03			.66	.69	.47	.10					.11													3.11
Cavalier	Red	.32			.18			.96	.55	.08		.97	.17	.41						.02													3.66
Cooperstown	Sheyenne	.27			.15		.20	.11	.47	.12		.88	.25	.18	.06																		2.94
Corinth	Missouri																																......
Crosby ‖	Mouse	T.	.02		.18	.15			.12	.28	.02		.23	.15						.01							T						1.16
Devils Lake ***	Devils Lake	.33		.01	.18		.06	.29	.62	.10	T	1.18	.49	.14	T.	T	T.		T	.11		T.					.01						3.62
Dickinson	Heart	.05	.04		.07	.09	.01	.03	.17	.05	.06		.34	.21	.01					.02							.07	.01					1.23
Dogden Butte	Mouse	.71			.07		.21	.05	.38	.10		.07	1.49	.34	.15					.15													3.72
Drake ‖	Mouse	.22		.02	.22		.25	.32	.24	.04	.03	.91	.50	.11	.01				.08	.04													3.46
Dunn Center ‖	Knife				T		.04		.41	.05			.40	.43	T.					.30							.05						1.68
Dunseith	Mouse	.10			.12		.06	.08	.10	.12		.15	1.05	.22						.28													2.78
Eckman	Mouse	.03			.34		.10	.12	.45	.01		.39	.54	.25	.13				T														2.32
Edgeley	James	.24			.18				.56	.10			1.20	.17														.03					2.48
Ellendale ***	James	.03			.14	.11	.33	.32	.08	.02	.21	.67	.18	.16		T.	T			.02							T						2.25
Energy	Missouri				.05		.28	.15	.23	.07		.04	1.23	.17	.05				T.								T.						2.27
Epping	Missouri				.09	.02		T.	.45	.12			.49	.09					T.		.02	T.											1.20
Fairfield	Knife			.03		.10	.06	.01	.19	.02			.71	.04					.06														1.22
Fessenden ‖	James	.03	.15					.12	.18	.04		.35	1.28	.29	.02					.08	.15												2.99
Forman	Sheyenne	.22			.19	T.	.88	.28	.59	.02	.13	.70	.16	.05	T.		.02			.04		.08											2.46
Fort Yates	Missouri				.16	1.25	.05	.40	.05	.10		.60	.51																				3.06
Foxholm (near)	Mouse	.09		T.	.11		.07	.01	.40	T.		.06	.52	.22	.12				T.	.02							T.	T.					1.62
Fryburg	Heart				.28	.22		.12	.12			T.	.85	.10					.05														1.74
Fullerton	James	T			.18	T.	.52	.42	.21	.18	T.	.74	.32	.14	T.	T.				.06													2.77
Garrison	Missouri	.06				.29	.69	.02	.05		.20	.90	.16	.05																			1.73
Grafton	Red	.29			.31	.02	T.	.60	.85	.03			1.53	.25	T.	T					.05							.04					3.97
Grand Forks ***	Red	.34			.39		.07	.75	.24	.04	.50	1.22	.28	.18		T.	T.			.02		T.				.05	T.	.10					4.28
Granville	Mouse	.05			.20	T.	.21	.10	.54	.15		.18	.81	.28	.04				.01	.16							T.						2.76
Hankinson ‖	Red	.10			T.	1.00	.20	.60	.20	.60	.80	.01	.20							.20		.10											4.01
Hannah	Pembina	T.				.48		.29	.61	.28	.06	.39	.90	.03	T.		T.			.15													2.99
Hansboro	Devils Lake				.30		.03	.40	.54			1.12	.27																				2.66
Hettinger	Grand	.20			.16	T.	.40	.02	T.		.12		.85	.33	.03					.01													2.12
Hillsboro	Red	.20	.02		.29		.41	.60	1.07	.04		.94	.25	.09	.09													.04					4.04
Howard (near)	Missouri	T			.58			*	.42	T.	T	T.	.20	.11			T					T.					T.						1.41
Jamestown ‖	James	.66	.02			T.	.30	.21	.27	.02	.21	.60	.74	.33	.12	.05	.04																3.68
Lamoine	Missouri							*	.44			*	*	1.25	T		T.										T.						1.69
Langdon ‖	Pembina	.05				.15			.45	.60		.45	.52	.08	.10					.16													2.86
Larimore ‖	Red	.96	.10			.30	.10	.15	1.70	.20	.05	1.20	.20	.50	.05						.04		.05					.15					5.99
Linton	Missouri																																......
Lisbon ‖	Sheyenne	.24	.37		.13	.07	.53	.03	.90		.03	.61	.20	.41	.02		.02			.02													3.64
McClusky	Missouri						.30	.28	.13	.12	.01	1.20	.40	.04						.09													2.57
McLeod	Sheyenne	.54			.20		.94	.49	.18	T.	T.	2.12	.68	.31	.02																		5.18
Maddock	Sheyenne	.31			.02		.08	.18	.61	T.		.53	.65	.20		T				.16													2.74
Mandan ‖	Missouri		.01	.01	.04		.36	.05	.29	T.	.18	T.	1.01	.08	.17	T																	2.23
Manfred	James	.22			T		.10	.27	.25			.79	.65	.15	.02	T.				.16													2.57
Marmarth	Lit. Missouri	T.		.01	.15	T.	.08		.11	T.	T.	T.	.69						.07								.15		.03				1.20
Mary	Lit. Missouri				.08		T.		.43	.04			.86	.05					.10														1.56
Max ‖	Missouri		.05		.07	.03		.11	.10	.09	.03		.70	.65	.22	.02																	2.14
Mayville	Red	.60	.17	.04	.40		.40	.42	1.20			.75	.60	.10							.10												4.78
Melville	James																																......
Metigoshe	Mouse																																......
Michigan	Red																																......
Minot ‖	Mouse	.03			.11	.03		.33	.29	.35			.11	.67	.14	.03				.05	.01												2.48
Mohall	Mouse				.16		T.	.35	.34	.01		T	1.05	.14	.07					.03	T.						T.						2.15
Mott	Cannon Ball				.11	.10	.68	T.	.12	.10		T	.76	.24	.09				.07														2.27
Napoleon ‖	Missouri	.26	.07		.09	.06	.75	.25	.26			.48	.42	.05	.04					.04													2.75
New England	Cannon Ball																																......
New Salem	Heart				.16		.27	.09	.29	.01	T.	.02	.86	.07	.02																		1.73
Oakes	James	.02			.17		.45	.36	.51	.03	.03	.78	.21	.09	T.	.02				.03													2.64
Park River	Red	.41			.27	.12	.04	.62	.93	.01		.72	.79	.39	.05																		4.31
Parshall (near)	Missouri																																......
Pembina ‖	Red		.50			.80			2.00	.50	T	T.	1.00	.20	.10	T.							T										5.10
Pettibone	James	T			.16		.16	.18	.06			1.19	.09	.25	.06	.03				.02													2.20
Portal ‖	Mouse	.12			.23		.01	.08	.87			.57	.39	.03					.09	.05							.10					.14	2.64
Power	Sheyenne	.20			.30			.18	.20	.15	.20	1.10	1.20																				3.63
Powers Lake	Missouri				.32				.69	1.27			.92		.43																		3.63
Richardton	Heart				.04		.18	.04	.41				.77	.16	.02																		1.62
Rugby [near]	Mouse	.17			.14		.08	.12	.17	.08		.14	.28	.12					.12														1.42
Ryder	Missouri	.08					.14	.08	.07			.27	.84	.18	.07		.05																1.78
Sanish ‖	Missouri																																......
Sharon	Red	1.05			.24		.08	.86	.60	.04	T.	1.53	.27	.12	.01	T.	T.			T.	T	.02	T.				T.	T.					4.84
Stanton	Missouri	T.			.22		.16			.06		.33	.53	.16					T.														1.46
Steele	Missouri	T.			.15		1.15	.40	.20			1.15	.40	.30																			3.75
Stowers	Cannon Ball						.70					.13	.45	.17																			1.45
Tagus	Mouse	.05			.11		.07	.10	.21			.06	.35	.05	.10					.01													1.11
Tioga	Missouri	.47			.13				.35	.10			.62																				1.67
Towner	Mouse	T.			.10		.50	.25	.25			.07	1.10	.33	T.					T.													2.60
Trotters	Lit. Missouri				.17				.12				.78	.05					.04			T.											1.16
Turtle Lake	Missouri																																......
Valley City	Sheyenne	.92			.13		.53	.66	.22			.75	.31		.02		.23			T													3.77
Velva	Mouse	.18			T		.19	.17	.42	.04	T.	.22	1.28	.28	.09	T.				.05								T.					2.92
Verona	James	.07				.51		.39	.28	.17		.41	.55				.19																2.57
Wahpeton	Red	.22			.15		.88	.51	.24	.05	.80	.50	.05	.10							.74												4.27
Washburn	Missouri																																......
Westhope	Mouse	.12			.21	.01		.13	.41	.07		.08	.50	.15	.09			.10															1.93
Williston ***	Missouri	T.		.03	.11	T.		.05	.46			.01	.59	[illegible]					.04			T.					T.						1.29
Willow City	Mouse	.18			.05		.15	.17	.41	.13		.02	1.12	.19	T					.16							T.						2.58
Wilton	Missouri				.09		.10	.27	.39	.15		.90	.12	.15	.08																		2.22
Wishek ‖	Missouri	.76	.04		.17	T.	.70	.04	.48		T	.40	.76	.04	.04																		3.43
Zap	Knife			.03			.08		.21						1.05				.09														1.49
Moorhead, Minn ***	Red	.09			.03	.42	.47	.48	.51	.10	.30	.17	.01	.03	.01	T.	T.			.01		T.						.03					2.68

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	72	70	91	74	61	56	51	50	57	65	71	65	56	50	54	49	54	62	68	90	93	88	85	78	79	79	66	67	66	73	83	68.5
	Minimum	48	42	45	53	44	35	37	41	34	38	49	48	44	40	41	30	25	28	41	40	45	50	34	29	38	54	45	38	34	33	41	40.1
Arnegard	Maximum	67	80	85	67	53	48	46	39	50	59	54	47	39	55	61	51	58	59	74	84	70	61	62	78	86	71	74	66	65	70	80	63.0
	Minimum	47	40	40	43	36	34	33	32	34	32	38	36	32	35	37	31	28	37	42	40	42	36	30	32	48	50	39	37	34	39	50	37.5
Ashley	Maximum	69	72	84	72	57	53	46	48	49	60	55	57	44	45	62	58	60	57	71	84	88	64	62	70	82	81	76	60	63	69	80	64.5
	Minimum	45	46	48	46	44	34	31	32	33	38	44	42	34	35	36	28	25	27	40	45	56	46	35	33	44	50	43	36	33	32	47	39.1
Beach	Maximum	63	81	85	67	68	45	48	41	49	58	50	41	43	58	65	53	59	63	70	82	65	62	63	76	86	75	75	69	65	72	79	63.7
	Minimum	43	37	50	44	37	36	27	31	34	36	37	37	31	30	31	25	29	34	38	48	44	37	33	38	45	45	37	38	40	44	50	37.7
Berthold Agency	Maximum	66	82	74	88	56	60	55	42	55	65	58	50	42	52	65	50	58	60	70	74	85	64	68	74	76	75	80	66	63	74	85	65.4
	Minimum	42	34	38	45	38	38	34	32	38	35	42	42	34	36	35	28	28	36	38	45	42	24	30	32	38	38	35	36	35	34	55	36.7
Bismarck	Maximum	69	78	86	67	53	43	42	47	48	64	52	48	39	48	64	46	53	59	72	87	79	62	59	71	85	75	69	63	64	69	82	62.7
	Minimum	46	40	56	48	42	33	33	34	32	35	46	36	34	38	37	30	29	34	42	47	50	46	36	35	47	52	43	37	33	42	56	40.3
Bottineau §§	Maximum	62	73	90	66	54	45	50	42	46	65	56	43	42	46	70	48	51	59	70	81	79	58	55	66	68	62	62	64	65	72	82	61.0
	Minimum	46	31	39	52	34	32	33	31	30	31	39	40	32	33	31	22	24	32	41	42	49	35	26	29	36	45	39	30	34	41	47	35.7
Cando	Maximum	61	72	89	84	62	42	46	45	51	65	55	47	55	43	60	44	58	60	70	83	87	59	59	67	71	69	67	66	67	72	82	63.2
	Minimum	48	36	46	51	37	50	36	35	34	35	42	40	35	35	38	26	25	35	32	45	51	37	29	26	27	34	31	29	28	37	56	36.3
Carson	Maximum	66	80	84	70	54	45	45	45	45	63	50	45	39	50	64	50	54	66	55	85	65	73	60	73	85	69	70	60	62	70	82	61.9
	Minimum	49	34	40	44	38	28	32	35	28	32	42	35	32	33	34	28	33	40	35	45	50	40	38	36	45	55	36	36	34	40	60	38.3
Crosby §§	Maximum	58	70	84	51	52	50	46	37	47	51	55	41	41	55	51	47	57	58	70	82	58	56	56	71	72	62	64	65	64	75	81	58.9
	Minimum	49	39	44	51	32	30	33	32	32	33	38	41	33	34	39	23	29	31	43	49	53	34	28	35	45	44	36	33	29	41	50	37.5
Devils Lake	Maximum	64	71	87	72	49	39	46	42	50	62	54	51	42	43	57	42	55	59	68	83	86	60	52	63	69	71	62	62	65	72	82	60.7
	Minimum	46	39	50	45	39	32	37	36	34	41	45	38	36	37	32	28	29	35	45	48	50	42	32	30	42	45	38	36	35	40	51	39.1
Dickinson §§	Maximum	65	81	84	59	53	39	43	45	49	61	51	43	44	54	63	47	55	60	68	83	64	60	61	74	82	72	72	65	65	73	82	61.8
	Minimum	43	34	36	52	38	35	31	31	29	30	30	41	31	31	31	27	28	30	35	41	48	37	32	33	36	47	35	39	37	39	46	35.9
Dunn Center §§	Maximum	63	80	84	63	53	40	44	42	53	61	53	44	41	52	62	50	57	61	69	82	69	61	59	72	81	72	69	63	64	72	83	61.9
	Minimum	46	37	46	54	38	36	32	32	33	31	38	13	33	33	31	30	27	34	39	44	52	35	32	31	44	55	36	36	32	39	51	38.1
Dunseith	Maximum	70	71	88	83	56	50	45	41	45	64	60	50	38	43	45	44	56	61	77	80	79	56	55	65	76	65	57	60	64	71	80	61.1
	Minimum	46	39	47	54	33	30	32	31	30	33	43	34	32	33	34	22	25	32	38	42	53	34	32	31	41	41	37	34	34	40	46	36.5
Edgeley	Maximum	70	72	85	80	61	55	47	50	50	59	57	54	44	49	61	59	52	60	71	86	90	64	60	68	86	80	78	62	62	70	82	65.3
	Minimum	45	40	47	55	44	37	36	34	32	38	45	24	35	38	39	29	25	27	51	44	51	47	28	30	40	44	44	31	29	30	46	38.2
Ellendale	Maximum	71	72	85	72	58	50	45	50	54	59	55	56	44	47	59	41	50	58	71	85	89	62	58	68	83	80	69	60	62	69	81	63.3
	Minimum	47	42	51	53	43	37	38	36	34	43	48	40	38	40	37	30	26	31	43	46	53	48	39	29	45	53	44	37	32	33	49	40.9
Fessenden §§	Maximum	66	75	89	74	56	40	45	45	51	64	52	47	39	44	48	44	47	60	68	86	88	60	55	60	73	75	66	66	68	74	76	61.3
	Minimum	46	38	53	54	39	34	34	35	32	33	44	47	35	38	39	29	27	32	43	47	51	42	32	26	40	47	38	35	30	31	46	38.6
Foxholm (near)	Maximum	62	75	87	82	54	50	45	38	50	61	57	48	40	47	55	46	55	60	65	81	77	58	55	69	71	67	64	63	63	71	81	61.2
	Minimum	47	39	42	43	34	31	32	31	30	35	41	33	31	33	32	23	26	32	41	47	50	36	27	30	41	43	36	29	27	36	52	35.8
Fullerton	Maximum	73	74	86	77	60	50	47	50	56	60	58	57	44	46	60	50	52	62	72	85	89	62	58	69	85	85	70	62	65	72	83	65.2
	Minimum	47	40	39	50	47	37	37	35	34	41	47	43	37	38	41	30	25	29	40	45	50	50	37	31	46	48	46	37	32	35	48	40.1
Garrison	Maximum	73	65	80	90	70	67	41	43	43	50	70	56	41	44	50	70	45	55	68	74	80	73	60	60	72	82	75	70	63	72	76	63.8
	Minimum	45	38	50	55	32	33	33	32	32	33	35	38	33	33	34	27	27	33	40	45	55	40	30	32	34	46	42	37	35	36	55	37.7
Grafton	Maximum	70	70	89	84	63	46	47	42	55	62	61	59	46	53	54	56	56	61	71	85	94	83	63	60	67	71	67	64	67	73	84	65.3
	Minimum	50	38	45	58	40	35	41	37	32	47	54	46	42	41	44	29	24	31	44	40	53	44	36	23	36	46	39	35	32	53	44	40.6
Grand Forks	Maximum	70	68	89	69	50	50	50	49	54	60	65	64	50	48	54	42	52	60	68	86	92	62	50	59	70	73	76	65	66	74	84	63.5
	Minimum	48	41	52	50	39	35	43	41	35	46	55	47	42	41	32	31	28	34	44	41	52	45	35	28	42	48	44	33	32	37	47	40.9
Granville	Maximum	68	77	90	72	55	40	49	40	50	65	57	50	50	46	60	48	56	60	66	82	77	66	56	70	74	70	65	61	67	67	83	62.3
	Minimum	47	37	47	45	37	32	37	32	34	33	45	37	34	34	30	25	29	34	42	42	48	34	28	27	44	45	37	31	27	32	54	36.8
Hansboro	Maximum	55	72	87	82	60	47	45	46	48	65	57	47	47	44	41	42	47	55	64	74	85	60	52	62	66	65	50	50	65	72	80	59.1
	Minimum	34	34	40	49	30	23	30	30	28	28	40	32	30	30	20	24	30	36	40	40	40	33	28	20	35	35	34	21	24	30	40	31.9
Hettinger §§	Maximum	66	82	83	62	48	41	43	46	49	60	45	44	45	54	62	62	54	62	69	83	72	60	62	72	85	74	72	65	63	70	82	62.5
	Minimum	44	34	41	57	43	32	31	33	32	32	33	40	33	32	29	33	28	32	35	43	55	40	37	38	41	51	38	43	44	43	44	38.4
Hillsboro	Maximum	67	70	90	86	57	51	51	51	53	52	71	68	55	47	52	53	53	61	69	88	93	90	61	62	69	72	70	66	66	72	84	66.1
	Minimum	52	40	50	47	46	38	42	38	36	41	43	46	45	41	41	30	25	29	36	51	55	46	35	29	38	42	42	35	33	35	43	40.3
Howard (near)	Maximum	62	79	87	72	52	50	45	37	49	57	54	50	40	55	56	55	48	58	71	84	70	58	59	68	70	68	71	64	65	74	80	61.5
	Minimum	40	37	47	41	34	30	33	32	32	33	35	33	31	33	31	34	24	26	37	44	40	33	24	34	31	52	55	36	33	36	49	35.8
Jamestown §§	Maximum	73	87	74	58	43	46	49	52	60	57	56	45	45	60	44	52	61	71	86	91	63	57	62	84	81	68	65	63	72	83	71	63.8
	Minimum	46	39	46	55	43	33	32	35	31	34	44	45	36	36	37	26	25	31	37	44	54	47	32	25	37	50	43	38	35	31	41	38.4
Lamoine	Maximum	68	74	85	72	52	50	42	43	46	62	58	51	38	43	62	45	53	60	68	85	60	60	58	69	83	78	64	62	62	70	82	61.5
	Minimum	41	34	51	48	37	30	33	31	26	30	42	38	32	32	31	25	23	31	38	40	42	39	27	28	43	46	38	31	29	33	52	35.5
Langdon §§	Maximum	70	73	85	68	52	42	46	44	51	65	52	44	41	56	40	56	53	60	66	80	86	84	65	64	65	68	70	65	75	70	76	62.3
	Minimum	34	40	42	55	35	29	30	35	34	34	48	43	36	35	26	25	31	34	43	42	49	36	36	25	36	40	32	30	40	45	50	36.9
Larimore §§	Maximum	65	70	88	70	47	45	45	47	52	62	56	58	45	46	55	41	59	61	70	87	93	62	53	64	70	75	61	65	68	75	84	62.5
	Minimum	51	40	40	55	40	32	33	38	32	36	46	50	40	37	36	27	23	30	42	45	50	46	34	25	35	45	40	32	31	35	45	38.4
Linton	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Lisbon §§	Maximum	75	75	91	75	63	53	52	56	62	61	69	68	52	51	57	48	57	61	72	86	95	64	61	69	84	73	60	59	59	61	76	66.0
	Minimum	46	39	45	54	44	35	36	36	32	33	46	43	39	38	39	29	21	25	41	41	51	48	36	25	45	47	46	41	34	30	43	39.0
McClusky	Maximum	65	73	78	78	54	49	41	42	46	64	60	39	44	46	61	45	54	60	71	82	81	60	58	70	79	74	62	61	65	67	78	61.5
	Minimum	45	35	52	50	32	30	32	32	32	33	37	32	35	36	37	26	28	34	40	45	51	40	31	41	46	46	40	30	38	35	54	37.6
Maddock	Maximum	64	71	89	88	71	50	40	41	49	63	63	52	41	42	55	55	54	57	66	83	83	63	60	68	69	76	76	65	64	73	84	63.7
	Minimum	47	37	44	55	38	30	33	34	32	31	43	39	34	35	37	26	26	30	42	45	51	48	30	24	40	44	38	30	29	31	46	37.1
Marmarth	Maximum	66	83	85	66	54	47	47	47	53	64	54	47	49	58	66	51	50	65	72	84	82	67	66	76	83	75	75	69	63	70	81	65.0
	Minimum	42	37	50	50	41	34	29	35	35	35	42	42	28	29	30	31	36	50	41	47	43	35	37	38	47	53	41	40	47	40	43	39.6
Melville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Minot §§	Maximum	64	79	89	66	52	38	46	39	51	63	57	50	42	48	61	46	56	60	68	84	74	71	57	70	74	62	65	64	64	72	83	61.8
	Minimum	43	36	48	48	36	32	30	34	32	35	44	42	33	33	30	29	26	35	43	45	60	38	28	26	44	46	38	32	24	32	54	37.3
Mohall	Maximum	64	78	89	83	66	55	47	43	51	63	60	60	41	51	60	49	58	60	69	82	73	58	58	70	68	68	60	64	65	65	83	63.3
	Minimum	45	53	43	45	35	32	32	32	32	34	34	36	34	34	34	26	27	32	38	45	45	36	28	31	63	46	40	32	32	33	53	37.5
Mott	Maximum	67	80	84	84	55	40	44	45	49	58	60	62	45	40	53	63	55	61	71	85	78	60	60	78	86	75	70	64	70	70	75	64.1
	Minimum	37	50	43	44	33	31	34	31	34	37	43	36	34	34	31	29	27	33	44	55	45	30	34	45	58	46	41	42	46	47	50	39.5
Napoleon §§	Maximum	69	75	87	71	55	43	42	48	47	62	50	53	40	45	64	45	55	66	73	86	88	62	59	71	84	80	69	64	64	70	82	63.3
	Minimum	44	37	55	55	42	32	34	32	30	32	42	47	33	33	35	27	25	26	40	45	58	44	35	29	42	50	39	33	31	34	52	38.5
New Salem	Maximum	69	80	94	85	52	49	42	55	50	51	56	49	42	51	63	48	44	60	71	86	79	64	59	71	86	77	70	65	66	70	81	64.0
	Minimum	44	38	52	52	38	41	31	34	31	34	44	37	32	32	32	26	28	31	40	48	49	43	33	33	44	42	37	31	32	44	53	38.3
Pembina §§	Maximum	66	72	82	72	42	48	58	56	58	65	64	62	48	51	50	48	50	68	65	80	92	62	53	72	68	60	63	63	78	71	86	63.6
	Minimum	45	40	42	41	38	34	30	44	40	40	42	42	40	40	38	26	28	28	41	44	41	41	38	30	38	42	39	30	31	38	42	37.9
Steele	Maximum	62	76	86	62	56	46	44	46	48	66	56	46	45	46	60	46	54	58	74	85	86	64	62	69	82	80	76	64	64	70	82	63.3
	Minimum	45	35	56	46	40	32	35	33	32	39	40	40	35	36	39	28	25	31	32	44	54	40	36	32	42	46	42	36	37	36	52	38.6
Towner	Maximum	68	65	88	78	50	45	46	50	56	68	55	50	45	45	64	60	59	59	60	83	78	72	70	68	68	60	60	65	70	78	76	63.2
	Minimum	40	42	45	45	36	38	40	46	40	30	44	38	38	38	33	24	24	43	45	48	53	38	35	33	28	30	28	30	28	30	35	36.9
Valley City	Maximum	68	63	86	77	69	51	46	48	58	61	61	62	61	51	57	50	54	62	69	87	91	62	61	66	75	79	80	69	70	73	81	66.1
	Minimum	46	40	50	55	42	35	37	37	33	43	50	46	40	35	41	30	23	26	43	45	55	41	36	28	43	48	45	40	34	30	42	40.0
Wahpeton	Maximum	76	71	88	87	71	63	63	58	60	63	76	76	62	49	53	53	53	61	63	84	91	91	63	62	73	80	80	66	67	72	83	69.6
	Minimum	48	41	51	58	49	42	43	40	40	49	57	50	46	42	42	31	26	32	41	46	60	50	42	30	48	52	49	44	32	36	46	44.0
Westhope	Maximum	70	75	91	68	57	50	50	40	49	65	52	51	42	46	62	50	58	60	72	82	75	68	58	69	69	66	65	66	67	73	83	62.9
	Minimum	44	35	50	46	36	31	34	32	33	33	43	36	32	32	32	23	28	34	42	42	50	37	26	25	42	44	40	29	25	37	52	36.3
Williston	Maximum	60	81	86	66	54	49	47	40	50	57	55	49	42	56	60	49	58	58	70	85	69	60	60	75	78	71	73	64	65	73	81	62.6
	Minimum	44	40	55	40	36	35	36	33	35	36	38	34	33	36	35	27	33	40	42	49	44	37	32	40	50	51	42	41	40	47	55	39.9
Moorhead, Minn	Maximum	70	70	88	71	52	61	53	51	55	60	74	62	50	47	51	40	52	60	64	85	93	62	54	61	70	75	62	64	64	72	82	63.7
	Minimum	49	43	52	51	44	37	44	42	41	48	56	50	43	42	34	31	28	34	42	44	54	51	39	31	46	52	47	40	37	40	46	43.2

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 6-27-30—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIX   BISMARCK, N. D., JUNE, 1930   No. 6

GENERAL SUMMARY

Temperature above the normal, accompanied by more than the usual wind movement prevailed in most sections of North Dakota during the fore part of June. The departure from the normal was mostly due to high night temperatures, as few maximum temperatures of 90° or above were reported. The precipitation was generally deficient, above normal departures being almost wholly confined to the central and southwest portions. As a rule crops at the close of the month were in good to excellent condition, although rain was needed in most sections of the state.

TEMPERATURE

The mean temperature for the state was 63.3°, or 0.5° above the normal, and 1.9° higher than the mean for June, 1929. The highest mean reported was 67.8° at Fort Yates, Sioux County; the lowest was 59.4° at Hansboro, Towner County. The highest temperature reported was 96° at Lisbon, Ransom County on the 21st; the lowest was 30° at Pembina, Pembina County on the 6th. The greatest monthly range of temperature was 64° at Lisbon, Ransom County; the least was 41° at Velva, McHenry County. The greatest daily range in temperature was 54° at Pembina, Pembina County on the 7th.

PRECIPITATION

The average precipitation for the state was 3.09 inches, or 0.41 inch below the normal, and 1.65 inches more than the average for June, 1929. The greatest monthly amount reported was 6.71 inches at Berthold Agency, McLean County; the least was 0.13 inch at Verona, Lamoure County. The greatest amount recorded in any 24 consecutive hours was 3.35 inches at Mohall, Renville County on the 18th. The average number of days with 0.01 inch or more of precipitation was 10.

AURORAS

Auroras were observed at Towner on the 1st; at Bottineau on the 2d; at Beach on the 3d; at Crosby on the 5th; at Fessenden on the 6th; at Grand Forks on the 13th; at Arnegard, Beach, Ellendale, Pettibone and Tagus on the 15th; at Beach, Ellendale, Richardson, Sharon and Willow City on the 16th; at Bottineau and Ellendale on the 17th; at Foxholm and Sharon on the 19th; at Velva on the 20th; at Bottineau on the 21st; at Towner on the 22d; at Bottineau on the 23d; at Willow City on the 25th; at Bottineau and Towner on the 26th; at Pettibone, Westhope and Willow City on the 28th.

BAROMETRIC PRESSURE AND WINDS

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Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	[illegible]	30.25	6	29.16	1	57	7,574	10.5	54§	sw.	1
Devils Lake	29.82	30.26	6	29.08	1	41	6,485	9.0	34§	w.	1
Ellendale	29.86	30.25	7	29.27	12	56	9,764	13.6	45§	sw.	1
Grand Forks	29.78	30.19	6	29.20	12	90	....	......	42	sw.	1
Williston	29.82	30.29	6	29.20	1	48	5,819	8.1	37§	nw.	29
Moorhead, Minn	29.84	30.23	7	29.25	12	58	5,583	7.8	31§	sw.	1
Av'ges and extremes	29.82	30.29	6	29.08	1	.....	....	9.8	54§	sw.	1

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	314.7	475.1	66	+ 5	77	49	50	22	7
Devils Lake	312.0	478.7	65	+ 5	78	52	56	22	7
Ellendale	367.6	470.9	78	+17	80	54	....	22	14
Grand Forks	....	....	......	......	76	.....	56	.....	....
Williston	323.7	478.7	68	+ 7	77	50	49	25	26
Moorhead, Minn	286.0	475.1	60	− 3	76	48	52	22	2
Averages and extremes	320.8	475.7	67	+ 6	77	51	53	22	2†

† And other dates.

COMPARATIVE STATE DATA FOR JUNE

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P'cdy days	Cl'dy days	Wind Dir.
1892	60.5	−2.3	94	28	3.35	−0.15	10	8	11	9	nw.
1893	67.4	+1.9	103	33	3.38	−0.12	9	13	10	7	s.
1894	68.8	+6.0	103	25	3.44	−0.06	7	17	6	7	se.
1895	59.7	−3.1	97	29	4.67	+1.17	12	8	13	9	nw.
1896	65.6	+2.8	97	37	3.80	+0.30	9	16	9	5	s.
1897	61.7	−1.1	109	20	3.75	+0.25	9	11	10	9	se.
1898	62.6	−0.2	105	26	3.19	−0.31	9	10	10	10	nw.
1899	62.2	−0.6	105	30	3.81	+0.31	10	12	11	7	w.
1900	66.9	+4.1	109	27	1.39	−2.11	5	15	11	4	se.
1901	61.6	−1.2	95	22	6.14	+2.64	15	10	11	9	nw
1902	58.0	−4.8	97	28	3.65	+0.15	11	12	9	9	nw
1903	62.4	−0.4	96	27	1.44	−2.06	4	17	8	5	se.
1904	61.4	−1.4	100	30	5.77	+2.27	11	13	8	9	nw.
1905	59.7	−3.1	97	32	4.52	+1.02	12	10	7	13	nw.
1906	62.0	−0.8	95	32	4.06	+0.56	11	13	8	9	nw.
1907	61.9	−0.9	95	25	2.85	−0.65	10	12	10	8	nw.
1908	60.4	−2.4	93	27	3.37	−0.13	10	12	9	9	nw.
1909	62.9	+0.1	98	28	3.21	−0.29	10	12	11	7	e.
1910	67.3	+4.5	111	19	1.83	−1.67	6	16	9	5	se.
1911	66.9	+4.1	108	25	3.12	−0.38	9	13	10	7	se.
1912	61.8	−1.0	104	28	2.05	−1.45	6	16	8	6	nw.
1913	65.8	+3.0	101	27	2.35	−1.15	8	16	9	5	se.
1914	62.2	−0.6	93	29	6.26	+2.76	13	9	11	10	se.
1915	56.7	−6.1	94	20	5.00	+1.50	12	9	12	9	nw.
1916	58.0	−4.8	92	29	3.89	+0.59	11	10	11	9	nw.
1917	59.7	−3.1	103	19	2.09	−1.41	8	13	11	6	nw.
1918	63.3	+0.5	102	27	1.63	−1.87	7	14	11	5	nw.
1919	67.2	+4.4	108	22	2.31	−1.19	5	15	10	5	se.
1920	62.2	−0.6	98	26	3.62	+0.12	11	12	12	6	se.
1921	68.2	+5.4	108	30	3.51	+0.01	9	14	10	6	se.
1922	63.5	+0.7	108	30	3.78	+0.28	9	15	8	7	nw.
1923	66.1	+3.3	100	30	3.82	+0.32	8	13	12	5	se.
1924	58.6	−4.2	89	26	4.17	+0.67	11	10	12	8	nw.
1925	61.5	−1.3	98	30	6.07	+2.57	14	11	10	9	nw.
1926	60.7	−2.1	104	22	2.65	−0.85	9	13	9	8	nw.
1927	61.2	−1.6	99	22	2.84	−0.66	9	11	13	6	nw.
1928	58.2	−4.6	92	24	5.07	+1.57	12	10	10	10	nw.
1929	61.4	−1.4	98	21	1.44	−2.06	7	16	9	5	nw.
1930	63.3	+0.5	96	30	3.09	−0.41	10	13	11	6	nw.

Climatological Data for June, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	....	4	....	....	....	....	....	....	....	3.59	....	2.13	0	9	....	....	....	....	H. A. Bury.
Amenia	Cass	954	34	64.7	+1.2	89	21	35	6	43	3.05	−0.82	0.87	0	11	16	0	14	s.	I. Idso.
Arnegard (near)	McKenzie	....	15	62.3	+0.3	89	27	41	5	38	2.92	−0.37	1.43	0	8	15	11	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	63.6	+1.6	91	21	37	6†	39	2.57	−0.92	0.77	0	11	16	11	3	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	61.9	+0.8	88	17	39	6†	37	4.70	+1.22	1.97	0	11	17	9	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	63.1	+0.5	84	7†	40	5	36	6.71	+2.83	1.90	0	10	15	3	12	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	64.5	+0.8	86	26	43	6	33	2.19	−1.16	0.93	0	9	14	11	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	38	61.8	+0.8	83	26	39	6	36	4.22	+1.08	1.11	0	15	11	18	1	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	16	62.4	....	....	....	....	....	....	3.95	+0.71	....	....	....	....	....	....	....	George Larsen.
Cando	Towner	1,488	29	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	A. J. Swanson.
Carson	Grant	2,500	18	62.4	−0.6	90	28	35	6	40	1.80	−2.07	0.86	0	6	15	14	1	nw.	J. W. Evens.
Cavalier	Pembina	....	3	....	....	....	....	....	....	....	2.50	....	0.99	0	6	19	6	5	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	24	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	S. Friswold.
Corinth	Williams	2,180	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	L. S. Evenson.
Crosby	Divide	1,954	24	61.4	+0.8	87	27	38	3	34	1.72	−2.63	0.59	0	15	6	19	5	nw.	John Jensen.
Devils Lake	Ramsey	1,478	33	63.3	+1.4	85	21	38	6	33	3.65	+0.04	1.27	0	11	6	11	13	s.	U. S. Weather Bureau.
Dickinson	Stark	2,543	38	60.8	−0.5	84	11†	39	6	35	4.31	+1.27	1.32	0	13	9	15	6	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	62.2	....	81	27	38	6	32	4.58	....	1.62	0	10	12	14	4	nw.	R. L. Williams.
Drake	McHenry	1,634	....	61.8	....	82	25	36	2	41	3.71	....	2.65	0	10	15	7	8	sw.	J. Rindt.
Dunn Center	Dunn	2,191	31	61.9	0.0	84	8†	33	2	37	3.41	−0.89	1.28	0	11	13	11	6	se.	W. F. Moede.
Dunseith	Rolette	1,682	34	61.8	+0.6	81	26	37	6	34	1.21	+1.25	0.94	0	14	8	15	7	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	61.9	+0.6	86	26	34	6	41	2.30	−0.46	0.12	0	16	3	21	6	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	29	62.8	0.0	88	20†	31	11	49	2.36	−1.00	0.88	0	6	9	21	0	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	63.1	−2.9	90	21	37	17	37	1.35	−3.24	0.41	0	10	8	10	12	nw.	U. S. Weather Bureau.
Energy‡‡	McLean	1,750	18	63.6	....	85	26	41	6†	37	3.76	+0.15	1.20	0	13	11	17	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	62.2	....	87	27	44	5†	35	2.56	−0.78	0.51	0	14	11	14	5	w.	A. O. Wang.
Fairfield	Billings	....	3	....	....	....	....	....	....	....	4.26	....	1.65	0	8	14	12	4	se.	F. R. Hecker.
Fessenden	Wells	1,610	18	61.0	+3.0	89	21†	35	6	39	2.70	−1.35	0.92	0	9	9	13	8	se.	T. D. Monsen.
Forman	Sargent	1,249	36	....	....	....	....	....	....	....	1.02	....	0.28	0	10	18	9	3	ne.	O. Enger.
Fort Yates	Sioux	1,670	36	67.8	....	90	28	40	5	58	1.75	−1.91	0.70	0	5	16	7	7	....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	61.4	....	83	26	40	3	36	2.43	....	0.92	0	11	4	15	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	....	....	....	....	....	....	....	3.50	+0.12	1.05	0	10	17	11	2	nw.	Verne King.
Fullerton	Dickey	1,439	32	64.2	+1.5	91	21	37	6	40	3.92	−0.26	1.16	0	8	18	11	1	nw.	F. O. Alin.
Garrison	McLean	1,901	35	64.3	+2.1	86	26	42	6	34	4.63	+1.31	1.84	0	8	13	12	5	se.	W. F. Robinson.
Grafton	Walsh	827	39	61.5ᵃ	+2.0	89	21	31ᵇ	3	50	3.67	0.17	0.93	0	7	16	9	5	s.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	39	61.8	+1.9	89	21	36	6	37	2.60	−0.79	0.81	0	10	17	11	2	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	62.1	−1.0	85	2	38	1	37	5.61	+2.86	2.48	0	15	1	23	6	nw.	W. A. Christianson.
Hankinson	Richland	1,068	....	67.0	....	93	20	39	5†	31	1.09	....	0.69	0	5	17	6	7	s.	R. G. Stock.
Hannah	Cavalier	1,568	36	....	....	....	....	....	....	....	5.51	+2.07	2.18	0	13	....	....	....	....	James Meier.
Hansboro	Towner	1,597	22	59.4	1.0	83	10	30	7	50	3.50	+0.81	1.50	0	9	7	21	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	61.9	0.2	88	20	36	6	44	3.12	−0.12	1.11	0	6	13	16	1	nw.	C. H. Plath.
Hillsboro	Traill	901	24	66.0	+1.6	90ᵃ	21	39	6	40	1.93	−1.42	0.52	0	9	9	15	6	s.	G. Havland.
Howard‡‡ (near)	Williams	2,275	23	60.3	+0.6	89	27	39	5	40	3.55	+0.95	0.79	0	14	11	9	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	63.6	+0.5	90	20	34	6	42	2.72	−1.06	0.75	0	9	7	19	4	....	S. Calvelage.
Lamoine	Kidder	1,936	25	61.5	+1.0	83	26	36	6	35	2.24	−1.08	0.97	0	6	12	16	2	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	34	61.0	+1.3	85	11	32	6	41	3.43	−0.07	0.95	0	12	20	7	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	63.8	+1.7	91	20	35	6	47	3.76	+0.26	0.76	0	15	15	3	12	n.	Reuben Gray.
Linton	Emmons	1,711	12	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Rev. O. Weber.
Lisbon	Ransom	1,091	26	63.4	+0.3	96	21	32	7†	44	1.01	−3.28	0.42	0	8	17	8	5	....	L. B. Walker.
McClusky	Sheridan	1,943	12	62.3	....	85	27	41	6	31	2.35	0.96	0.75	0	8	17	9	4	nw.	Edw. Tapley.
McLeod	Ransom	1,075	18	65.5	+0.5	92	21	43	2	38	0.63	−3.57	0.23	0	6	19	6	5	w.	J. G. Carlson.
Maddock	Benson	1,604	14	62.2	+0.8	83	1	33	6	36	1.28	+1.08	2.09	0	9	3	20	7	nw.	A. T. Felland.
Mandan	Morton	1,644	16	64.2	0.0	88	27	42	5	34	1.50	−1.66	0.85	0	10	8	10	12	w.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	27	....	....	....	....	....	....	....	3.56	0.22	1.70	0	6	....	....	....	....	P. B. Anderson.
Marmarth	Slope	2,714	21	62.7	+3.4	87	17†	38	6	35	1.76	+1.65	1.80	0	9	7	12	11	....	S. P. Grane.
Mary	McKenzie	....	3	....	....	....	....	....	....	....	3.36	....	1.28	0	12	16	7	7	nw	Fred Hartman.
Max	McLean	2,093	....	63.2	....	86	26	40	6	36	4.40	....	1.90	0	10	....	....	....	....	A. W. Rice.
Mayville	Traill	955	34	65.2	+0.7	88	22	32	6	45	1.49	−2.02	0.75	0	11	10	0	20	s.	N. C. Burhans.
Melville	Foster	1,590	32	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. P. Fischer.
Metigoshe‡‡	Bottineau	....	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. A. Thorburn.
Minot	Ward	1,557	34	62.5	0.0	82	26	40	6	34	4.07	+0.81	1.30	0	16	15	8	7	w.	Julia B. Rue.
Mohall	Renville	....	1	63.8	+3.1	89	6	40	3	48	5.52	+2.22	3.35	0	11	3	26	1	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	23	65.2	+2.2	86	23	40	5	35	3.20	0.20	0.74	0	8	10	8	12	sw.	O. H. Opland.
Napoleon	Logan	1,955	38	63.0	+0.8	89	21†	32	6	41	2.51	−1.11	0.58	0	12	15	9	6	s.	[illegible]
New England	Hettinger	2,400	39	61.6	+2.6	90	27	38	1	46	5.05	+2.36	2.02	0	7	12	17	1	se.	F. S. Sleight.
New Salem	Morton	2,163	26	64.0	+1.2	84	8†	41	5	51	2.22	1.49	0.58	0	8	12	12	6	se.	[illegible] Christiansen.
Oakes	Dickey	1,318	2	65.8	....	92	21	36	6	40	1.30	....	0.46	0	10	8	20	2	sw.	Eugene Naylor.
Park River	Walsh	998	26	64.3	+1.1	....	....	....	....	....	3.84	+0.51	....	....	....	....	....	....	....	C. B. Wright.
Parshall (near)	Mountrail	....	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	John A. Johnson.
Pembina	Pembina	789	56	63.4	+0.8	92	7	30	6	51	3.70	+0.42	1.70	0	7	....	....	....	....	C. W. Shomaker.
Petersburg	Nelson	1,520	1	....	....	....	....	....	....	....	2.43	....	0.70	0	11	12	6	12	....	Chas. Ouradnik.
Pettibone	Kidder	1,856	21	63.6	+3.4	87	21	36	6	38	2.31	−0.91	0.55	0	8	10	6	14	se.	A. L. Carlson.
Portal	Burke	1,954	16	61.7	+2.0	87	25	37	2	39	1.60	−2.36	0.26	0	17	18	0	12	w.	C. T. Holmes.
Power	Richland	1,020	36	....	....	....	....	....	....	....	0.67	3.29	0.41	0	3	23	6	1	n.	Frank B. Power.
Powers Lake	Burke	2,205	16	61.1	....	86	13†	34	5	29	2.89	+0.03	0.60	0	10	15	10	5	w.	Geo. B. Gee.
Richardton	Stark	2,467	14	62.4	−0.2	84	26†	38	5	37	6.22	+2.99	2.27	0	10	7	19	4	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	....	....	....	....	....	....	....	3.38	....	1.60	0	9	10	15	5	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	....	....	....	....	....	....	....	4.37	....	1.23	0	14	....	....	....	....	E. M. [illegible]
Sanish	Mountrail	1,835	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	H. W. Monson.
Sharon	Steele	1,516	5	63.2	....	87	21	36	6	38	2.66	....	1.65	0	12	15	11	4	w.	Nels O. Greisheim.
Stanton	Mercer	1,722	6	....	....	....	....	....	....	....	2.94	....	1.20	0	5	14	10	6	nw.	L. H. Giffey.
Steele	Kidder	1,857	34	63.6	+1.2	86	28	35	6	37	2.10	−1.23	0.80	0	16	15	13	2	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	....	....	....	....	....	....	....	1.95	−1.12	....	0	4	....	....	....	....	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	....	....	....	....	....	....	....	3.01	....	0.86	0	11	11	15	4	sw.	J. C. Abbott.
Tioga	Williams	2,279	4	....	....	....	....	....	....	....	2.24	....	0.43	0	10	12	9	9	se.	Anton Carlson.
Towner	McHenry	1,482	28	63.8	+1.6	86	27	35	1	40	2.36	0.72	0.95	0	8	22	5	3	nw.	B. Bagley.
Trotters	Golden Valley	....	5	....	....	....	....	....	....	....	3.16	....	0.90	0	11	8	15	7	....	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	E. T. Kusler.
Valley City	Barnes	1,245	25	64.6	+1.4	89	21	34	7	45	2.68	−0.63	1.07	0	11	17	10	3	w.	I. C. Robertson.
Velva	McHenry	1,511	4	63.8	....	82	27†	41	6	33	3.79	....	1.75	0	13	8	12	10	w.	Oscar Anderson.
Verona	LaMoure	1,387	36	....	....	....	....	....	....	....	0.13	....	0.13	0	1	22	2	6	sw.	W. C. Taylor.
Wahpeton	Richland	962	38	67.3	+2.5	94	21	35	6	35	0.49	3.46	0.20	0	4	20	0	10	se.	C. G. Lueck.
Washburn	McLean	1,731	28	63.2ᵈ	0.9	85ᵈ	27	39ᶜ	6	35ᶜ	4.65	+1.10	1.50	0	8	....	....	....	nw.	C. W. Poe.
Westhope	Bottineau	1,508	26	63.4	+1.8	88	20†	36	6	43	3.32	+0.28	0.92	0	13	16	9	5	nw.	W. A. Meddaugh.
Williston	Williams	1,878	51	63.4	+0.7	88	27	42	3	37	2.32	−1.11	0.88	0	12	13	10	7	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	62.0	+1.0	85	26	31	6	40	4.18	+1.00	1.37	0	13	17	11	2	nw.	O. M. Sanderson.
Wilton	McLean	....	2	63.4ᵈ	....	87ᵈ	26	42ᵈ	4	21ᵈ	3.67	....	1.42	0	7	23	0	7	....	L. Q. Perkins.
Wishek	McIntosh	2,010	10	62.2ᵉ	....	89ᵉ	21	34ᵉ	6	39ᵉ	3.05	....	0.93	0	11	6	3	21	nw.	E. W. Davis.
Zap	Mercer	1,838	2	....	....	....	....	....	....	....	6.21	+2.41	1.96	0	9	....	....	....	....	R. A. Norton.
Moorhead, Minn.	Clay	935	49	65.0	+0.6	91	21	39	6	33	2.70	−1.35	1.23	0	11	8	10	12	s.	U. S. Weather Bureau.
Averages				63.3	+0.5	96	21	30	6	54	3.09	0.41	3.35	0	10	13	11	6	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for June, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
pha	Lit. Missouri	2.13		.14						.26		T	.20			T.	T.			T	.26	.01		.35	.21						.03		3.59
nenia ‖	Red													.14	.38		.29			.10		.24	.20	.87	.28	.25	.27				.03		3.05
negard (near)	Missouri	1.43		.70						.08			.25	T	T.	T.					.27				.06	.06			.07				2.92
hley	Missouri				.77								.10	.08		.04			.08	.02	.07		.39	.67	.30	.05							2.57
ach	Lit. Missouri	1.97		1.11	.02					.33		.12	.03	T.	T.	.07				T.	.30	.14	T.	.44	.17	T							4.70
rthold Agency	Missouri	T.		.50						1.20		T.	1.90	.05		.10			T.		1.00		.50	1.11	.15	.20							6.71
smarck ***	Missouri	T.		.07		T.				.16	T.	T	.93	T		.06			.21		.43		.14	.15	T.	.04							2.19
ttineau‖	Mouse		.14		.17							.22	.68	.20	.04	.15	.08			1.14		.07		.03				.51	.70	.02	.07		4.22
wman	Grand																																3.95
ndo	Devils Lake																																
rrington	James				.36								.40	.32	T.				.18				.01	.15	.11	.20			1.10	.01			2.84
rson	Heart	.55											.66							.24				.20	.05	.10							1.80
valier	Red				.02							.99								.56				.13		.08			.72				2.50
operstown	Sheyenne																																
rinth	Missouri																																
osby‖	Mouse	.04	.21	.08	.16									.01		T.	.02		.15		.04	T	.04	.10	.04		.01		.01	.22	.59		1.72
vils Lake ***	Devils Lake	T.		.11	.02	T.							1.15	.03	T.	.01			.05	.01	T.		.01	.04	T	.57		.16	1.25	.13	.11		3.65
ckinson‖	Heart	.05	.40		.62					.12	.02		.51	.01			.05				.03	1.15		1.32		.02					.01		4.31
gden Butte	Mouse		.38		.81						.34		1.62			.37								.46	.07	.31			.20		.02		4.58
ake‖	Mouse	.03		.51							.03	2.05	.12			.28							.27	.35	.05	.02							3.71
nn Center‖	Knife		.33		.41					.07			1.28	.05					.15		.03	.30		.60		.13	.06						3.41
nseith	Mouse		.30		.22						.06		.94			.46			.51		.03	.07		.02		.15		.54	.82	.06	.09		4.21
kman	Mouse		.17		.21					.06	.34		.26		.02	.10	.02		.42		.08					.12	.06	.03	.28	.06	.07		2.30
geley	James				.88							.30				.20					.80		.16			.02							2.36
endale***	James	T.	T	.02	T.	T.							.09	.14		.02			.21	T.	.16		.29	.16	.25	.01				T.	T		1.35
ergy	Missouri	.08	.30			T.				.41	.13	.10	1.20	.09		.12			T.		.10		.41	.14	.56	.12		T.	T.				3.76
ping	Missouri	.51		T.	.40	.40				.10		T.	.03		.02	T.			.10		.33	.19	T.	.19	T.	.02	.12		T	.08	.07		2.56
irfield	Knife	1.66		.60								.75		.12							.35			.60	.06					.12			4.26
ssenden‖	James				.50								.92	.02			.20							.11	.08	.41			.42		.01		2.70
rman	Sheyenne												.02	.04		.06	T.		.13	.16	.17		.28		.08	.02					.06		1.02
rt Yates	Missouri			.70									.25								.41			.24	.15								1.75
xholm (near)	Mouse	.19	.01	T.	.22	T.	T.			.23			.92	T.	T	.02			.38		.02	.01	T.		T.	T.			.34	T	.63		2.43
yburg	Heart	1.05		.18					.06	.03	T.		.62		T.	.05					.46		T.	.88	.13						.04		3.50
llerton	James			T.	.93								.12			.06	T.		.09		1.06		.26	.22	.28								3.02
rrison	Missouri	.18		.55					.15	T.	.18	1.84				T.					T.		.53		T.	.12			1.68				4.63
afton	Red			T.	T.								.93			T.				.07	T.	.25		.16		.75			.40	.51			3.07
and Forks ***	Red			T.									.81	.23		.01				.01	.10			.57	.13	.32		.02	.40				2.60
anville	Mouse	.09			.34	.06					.62	T.	2.48	T.	T.	.17			.10		.16	.02	.12	.19	T.	.44	T.		.77	.03	.02		5.61
nkinson‖	Red												T.			.02			.10				.60	.20	.10								1.02
nnah	Pembina		.14										1.02	.32	.22		.20			.32		.03		.08		T.	.17	.20	.61	2.18	.02		5.51
nsboro	Devils Lake				.23								1.30			.13			.30					.17		.18		.28	.75		.16		3.50
ttinger	Grand		.17		.24						.53		.63	T.										1.11	.41	T.							3.12
llsboro	Red												.40	.30		.03				.02				.52	.11	.03	.20		.32				1.93
ward (near)	Missouri	.79	.20	.03	.30					.17		T.	.02	T.	T.	T.			T.		.24	.30	.20	.08	T.	.09			.51	.55	.07		3.55
nestown‖	James	T.		T.	.18								.38	T.	.01	T.	.01	T.		.51		.12		.41		.75	.32			T.			2.72
moine	Missouri			.33							.11		.97	T.	T.	T.			T.	.62					.21								2.24
ngdon‖	Pembina				.27								.95	.15	.08	.15	.15			.26		.09		.05			T.	.28	.60	.40			3.43
rimore‖	Red				.07									.43	.10		.05			.16	.03	.05		.55	.10	.35	.60	.14	.70	.38	.05		3.76
nton	Missouri																																
sbon ‖	Sheyenne												.03		.20					.09		.16		.42	.05	.04					.02		1.01
Clusky	Missouri	T.		T.	.73						.23			.01		.47								.18		.25			.40	T.	.10		2.35
Leod	Sheyenne												T.	.23		T.			.03		.18				.11	.07					.01		0.63
ddock	Sheyenne	T.			.30						T		2.09	.04		T.			.01	.01				.27	.02	.50			1.04	T.			4.28
ndan‖	Missouri		.03		.07							.02	.85	T.	T.				.20	.01		.13		.16		.02	.01						1.50
nfred	James	T.			.55								1.70	T.	T.				T.		.06			.11			.32		.62				3.36
rmarth	Lit. Missouri	1.80		.12							.80		.38									.10	.32	.72	.51						.01		4.76
ry	Lit. Missouri	1.28		.67						.03		.06	.35		.07	.08					.24		.28		.22	.01				.07			3.36
x‖	Missouri		.25		.47							.04	1.90				.03							.52	.70	.04				.42	.03		4.40
yville	Red												.75	.02		.05	.15			.01		.01		.34		.09	.02		.04		.01		1.49
lville	James																																
tigoshe	Mouse																																
not‖	Mouse		.20		.50					.21	.07	.10	1.30	.04						.12		.13		.30	.02	.11	.01		.70	.15	.11		4.07
hall	Mouse	T.	.40	.20	.05				.05				.10	T.	.04	.31			3.35		.04	T.	T	T.		.65				.30			5.52
tt	Cannon Ball	.47		.14				.30				.73				T.			T			.32	.40		.74	.10							3.20
poleon ‖	Missouri		.04		.07							.05	.98	.15	.03		.04			.13		.43		.40		.17	.02						2.51
w England	Cannon Ball	1.30		.14					.22			2.02								.22			.81		.34				T.				5.05
w Salem	Heart	.02		.02	.29						.40		.02								.49			.58		.40							2.22
kes	James											.06	.09	.12					.46		.25	.02		.24	.03	.02					.01		1.30
rk River	Red																																3.84
rshall (near)	Missouri																																
mbina‖	Red												T.	1.00	.10	.10				.30			.30	.20					T.	1.70			3.70
ersburg	Red												.33	.23		.04			.01	.25		.03		.30		.29		.19	.70	.06			2.43
tibone	James	T.	T.	.06	.48	T.							.45			.15			T.	T.	.09	T.	.55			.47	T				.06		2.31
rtal‖	Mouse	.22	.08	.21	.02					.24	.03	T.	.05	.06	.08			.03	T.		.05	T.	T.		.02	.26	.02	.02	.06	.15			1.60
ver	Sheyenne												T.	.15							.11					.41							0.67
vers Lake	Missouri	.03		.30						.47		.26			.41					.19			.23		.60			.23		.17	T.		2.89
hardton	Heart	.57		.43	.21					.62		.06	1.07			.09					2.27			.79		.21							6.32
gby [near]	Mouse	.15		.35									1.00			.35			.24		.10						T	.33	.78		.08		3.38
ler	Missouri	.10		.30						.19	1.04	1.23	.11						.16		.15	.06	.31	.45		.04			.22	.01			4.37
ish‖	Missouri																																
ron	Red			.04	.03	T.							.46	.18		.31			T.	.01	.08			1.05	.01	.06		.08	.35				2.66
nton	Missouri	T		.50							T	.23	1.20											.51	.50								2.94
ele	Missouri	.12									.15		.80	.02		.06			.04		.20			.40		.27	.04						2.10
wers	Cannon Ball																																1.95
gus	Mouse	.17			.26					.86	.02		.56						.46		.12	.08			.07				.36		.05		3.01
ga	Missouri	.40			.43					.05									.13		.27			.15		.26			.42	.07	.06		2.24
vner	Mouse		T.		.50									T.		.33	.02		.02		.02			.22		.30			.95	T.			2.36
tters	Lit. Missouri	.99		.28					.22	.23			.32	T		.02					.70		.05	.15	.12				T.	.08			3.16
tle Lake	Missouri																																
ley City	Sheyenne				.19									.22		.15			.04	.17	1.07			.50	.03	.10	.11				.10		2.68
va	Mouse	.20			.42			.01		T.	T.		1.75	.01		.07			.04		.07	.02		.33		.41			.37	T.	.09		3.79
ona	James												.13																				0.13
hpeton	Red												.10											.20		.14	.05						0.49
shburn	Missouri				1.17					.20		.55	1.50				.09		T.			.27		.39		.48	T.						4.65
sthope	Mouse		.25		.14	.02					.03		.49	.08	.11	.03			.59									.92	.53	.02	.11		3.32
liston ***	Missouri	.88		.34						.07	T.	.05	.01	.09	.11	T.			T		.29	.07	.11	T.	T.	.06			T.	.21			2.32
low City	Mouse	T.	.22		.24						.09		.75	T.	.04	.42			.22		.24			.03		T.	.35	.16	1.37	.05	T.		4.18
ton	Missouri			.60							T.	1.42	.05								.71		.39			.20	.30						3.67
hek‖	Missouri				.93								.20	.02	.12		.04			.27		.32	.14	.82	.04	.15							3.05
	Knife	.09		.21						1.02	1.69	1.96									.20		.49		.43	.12							6.21
rhead, Minn ***	Red	T.		T.	T.	T.							.08	.18	.01	.01	T.			.01	.98		.53	.71	.01	.14	T.	T.	T.	T.	.01		2.70

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of ervation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the our period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	82	85	74	76	65	68	79	81	84	85	82	79	62	79	80	65	76	74	76	88	89	84	75	79	72	84	81	87	81	69	..	78.
	Minimum	49	53	55	53	46	35	36	49	45	49	45	55	46	47	54	52	45	47	54	54	58	63	59	57	60	52	52	58	58	55	..	51.
Arnegard	Maximum	67	70	62	60	65	74	67	83	76	80	83	69	65	58	74	76	77	83	77	80	80	75	79	82	80	80	89	77	75	83	..	74.
	Minimum	48	47	44	42	41	43	47	52	58	50	55	51	47	48	53	47	49	52	56	43	58	53	54	50	54	49	51	56	45	47	..	49.
Ashley	Maximum	76	82	80	73	73	67	73	74	75	76	76	73	72	72	71	72	78	74	75	85	91	81	76	76	74	82	83	87	77	71	..	76.
	Minimum	54	46	54	51	43	37	37	44	50	51	48	55	48	43	52	47	39	50	57	56	57	59	58	57	51	52	60	60	55	54	..	50.
Beach	Maximum	69	69	65	62	63	71	76	82	75	78	87	68	75	62	66	76	88	78	78	68	78	72	75	75	76	84	86	76	76	73	..	74.
	Minimum	46	44	46	40	40	39	39	56	55	50	55	52	48	51	50	42	53	55	41	54	55	54	53	52	52	51	54	61	55	51	..	49.
Berthold Agency	Maximum	..	75	75	68	74	78	84	80	70	78	80	70	68	64	70	80	80	76	80	64	76	78	80	80	76	84	..	84	74	75	..	[b]75.
	Minimum	..	46	45	44	40	45	50	48	58	56	55	54	45	47	50	50	45	56	56	45	58	52	55	55	55	48	..	48	48	57	..	[b]50.
Bismarck	Maximum	70	78	77	71	62	70	74	79	80	77	78	68	69	67	69	73	78	71	77	74	81	78	76	79	74	86	85	84	77	72	..	75.
	Minimum	51	52	52	51	44	43	46	51	58	59	54	53	51	53	55	51	50	56	53	59	60	58	58	58	56	53	59	64	56	53	..	53.
Bottineau §§	Maximum	77	74	78	66	64	73	79	81	78	81	80	67	69	63	69	72	73	65	72	68	79	75	75	80	79	83	76	80	66	70	..	73.
	Minimum	54	49	44	43	43	39	43	46	54	55	52	54	47	50	49	49	47	50	49	56	58	52	56	48	50	49	54	55	47	47	..	50.
Cando	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Carson	Maximum	60	72	75	72	60	72	72	80	85	76	80	70	67	66	74	75	74	80	76	80	80	83	75	76	75	85	86	90	77	75	..	75.
	Minimum	50	43	45	40	38	35	46	54	54	55	54	51	46	50	40	48	50	42	54	56	53	54	53	54	46	45	54	60	54	49	..	49.
Crosby §§	Maximum	55	67	68	58	66	75	78	79	76	81	81	80	64	58	68	78	83	76	79	71	78	72	73	76	78	86	87	64	62	70	..	72.
	Minimum	49	49	38	42	42	41	47	53	57	54	56	53	48	49	50	48	55	48	45	55	55	49	50	49	54	54	56	58	51	46	..	50.
Devils Lake	Maximum	77	78	69	70	60	69	78	79	81	82	81	68	68	61	67	66	75	70	76	74	85	76	76	81	76	80	79	82	72	66	..	74.
	Minimum	55	54	40	45	42	38	45	50	51	58	54	54	53	52	54	51	43	51	57	56	59	58	60	57	57	53	52	59	56	51	..	52.
Dickinson §§	Maximum	56	71	73	65	60	72	74	82	72	77	84	66	68	64	68	75	84	77	76	70	80	73	75	76	76	83	82	79	74	71	..	73.
	Minimum	53	44	46	42	41	39	41	47	54	50	52	52	45	47	49	43	51	51	41	46	51	55	53	51	51	50	53	58	45	46	..	48.
Dunn Center §§	Maximum	63	70	68	71	61	74	76	84	71	80	82	66	66	61	68	74	79	76	76	68	79	73	73	79	76	83	84	80	75	72	..	73.
	Minimum	56	33	46	45	40	40	45	50	59	50	52	53	48	50	53	46	50	55	43	58	57	54	54	56	53	48	52	62	47	49	..	50.
Dunseith	Maximum	80	71	71	66	65	71	78	79	78	80	80	80	67	61	65	72	74	72	76	76	78	78	76	78	76	81	80	80	66	68	..	74.
	Minimum	56	48	43	41	41	37	48	45	50	56	51	50	46	47	51	52	45	48	48	57	56	54	56	52	51	55	49	54	48	46	..	49.
Edgeley	Maximum	76	82	79	71	62	67	73	76	78	89	80	78	68	76	73	72	75	70	76	88	85	73	72	76	75	84	84	88	79	73	..	76.
	Minimum	51	61	55	50	32	35	53	40	43	49	31	55	47	40	47	52	38	43	53	55	53	55	54	56	59	53	54	55	56	55	..	49.
Ellendale	Maximum	75	82	77	73	59	66	72	75	77	77	79	74	66	75	72	71	75	71	73	82	90	81	75	77	75	82	83	89	79	71	..	75.
	Minimum	51	48	56	54	44	37	38	38	46	51	45	47	42	42	54	51	39	50	58	58	58	65	58	58	55	53	55	63	59	50	..	50.
Fessenden §§	Maximum	75	80	74	72	62	70	80	81	84	80	80	70	70	67	70	68	77	60	80	75	89	89	78	87	77	84	85	82	76	69	..	76.
	Minimum	60	52	50	47	46	35	41	46	51	56	50	54	49	51	54	51	41	50	52	56	55	56	58	58	56	52	55	62	52	49	..	51.
Foxholm (near)	Maximum	79	72	65	64	66	70	76	81	76	73	79	77	66	61	68	70	76	72	76	68	78	75	72	78	78	83	81	79	68	72	..	73.
	Minimum	50	49	40	45	42	42	49	45	56	50	53	53	49	50	50	47	49	51	50	57	52	48	55	50	56	53	51	53	47	46	..	49.
Fullerton	Maximum	77	84	80	73	60	67	75	77	78	73	79	74	74	72	72	70	76	70	75	82	91	82	75	77	75	83	85	89	80	72	..	76.
	Minimum	60	48	56	54	47	37	40	37	47	51	46	58	50	44	52	50	39	49	57	58	58	58	58	60	55	53	56	62	57	55	..	51.
Garrison	Maximum	80	78	76	68	65	72	75	81	79	77	80	70	68	63	68	74	77	78	77	71	82	83	76	78	84	86	85	79	73	75	..	75.
	Minimum	48	48	48	51	44	42	48	49	49	57	54	58	56	53	51	59	50	54	50	58	59	57	55	56	57	52	56	61	50	48	..	52.
Grafton	Maximum	82	82	81	76	73	71	83	..	81	84	83	81	68	66	73	69	73	75	75	81	89	84	80	83	80	..	84	82	79	73	..	[b]78.
	Minimum	53	56	31	46	45	37	40	..	46	52	46	48	47	42	55	54	43	49	59	53	59	59	60	56	58	..	51	68	57	52	..	[b]50.
Grand Forks	Maximum	81	83	70	78	65	69	80	79	81	83	83	75	66	70	73	63	73	76	74	80	89	83	76	81	70	82	80	84	79	68	..	76.
	Minimum	63	56	52	52	44	36	43	50	49	54	51	58	52	51	58	50	42	51	58	52	61	61	59	57	57	53	53	62	57	51	..	53.
Granville	Maximum	71	85	70	70	65	72	77	80	82	77	84	70	73	62	63	72	75	65	77	68	81	74	74	79	79	82	82	79	69	72	..	74.
	Minimum	38	48	42	42	41	39	50	45	50	55	48	55	50	52	58	50	47	52	46	58	55	54	57	53	51	50	55	58	50	49	..	49.
Hansboro	Maximum	79	75	64	72	63	80	80	80	80	83	82	70	67	65	70	68	72	68	75	77	80	80	77	80	80	78	75	78	68	68	..	74.
	Minimum	50	47	35	37	40	34	30	42	44	48	42	40	44	47	40	48	36	45	50	50	50	48	52	47	47	60	45	55	48	42	..	44.
Hettinger §§	Maximum	56	72	75	69	61	72	78	82	76	73	83	67	67	67	62	75	83	74	77	88	84	81	76	73	74	83	84	81	75	72	..	74.
	Minimum	52	45	47	44	42	36	39	49	58	55	55	53	47	47	43	45	45	51	42	44	57	57	55	52	48	50	53	60	51	53	..	49.
Hillsboro	Maximum	83	81	70	82	74	76	80	78	81	81	..	..	..	73	68	..	75	73	72	82	90	86	75	74	73	83	81	86	..	67	..	[e]77.
	Minimum	62	61	54	60	48	39	40	45	44	50	..	..	..	68	55	..	45	46	59	58	61	64	55	60	61	51	52	59	..	55	..	[e]54.
Howard (near)	Maximum	72	68	59	57	65	72	72	82	72	80	84	75	57	58	54	77	84	75	84	65	77	70	74	79	81	88	89	75	62	73	..	72.
	Minimum	44	50	49	44	39	42	42	60	48	52	54	49	48	47	42	44	50	55	44	44	50	51	48	47	48	48	52	54	48	43	..	47.
Jamestown §§	Maximum	83	73	73	59	68	77	79	80	82	80	73	68	71	73	69	77	67	76	78	90	83	76	75	77	83	82	87	79	70	79	..	76.
	Minimum	55	50	53	51	45	34	37	43	48	53	49	57	45	45	53	51	38	50	54	56	59	62	58	59	53	53	55	59	54	54	..	51.
Lamoine	Maximum	72	78	71	68	67	67	75	78	80	75	78	73	65	63	68	70	73	70	74	73	80	76	76	78	73	83	81	80	78	82	..	74.
	Minimum	50	48	48	45	43	36	41	43	46	56	50	53	46	48	52	48	44	46	47	48	57	55	50	60	53	54	48	50	50	48	..	48.
Langdon §§	Maximum	79	76	68	68	60	70	81	60	64	80	85	66	66	61	69	64	72	71	74	70	83	76	72	81	76	77	75	80	70	64	..	71.
	Minimum	50	50	45	40	41	32	40	55	50	55	50	50	49	48	50	51	54	48	55	54	54	60	59	50	55	50	48	55	51	49	..	50.
Larimore §§	Maximum	82	72	75	62	75	82	80	82	85	82	83	66	68	73	64	74	77	75	80	91	83	76	80	74	80	80	84	75	66	79	..	76.
	Minimum	50	49	50	45	45	35	43	45	48	47	44	55	52	46	56	54	44	50	57	54	60	61	56	56	53	54	50	50	57	55	..	50.
Linton	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Lisbon §§	Maximum	85	75	70	66	58	61	79	81	85	82	81	77	62	80	73	72	74	68	76	81	96	83	76	78	75	83	84	93	80	71	..	76.
	Minimum	63	50	55	52	46	34	32	37	42	51	42	55	53	43	52	50	32	44	56	55	57	57	57	56	56	55	52	58	54	54	..	50.
McClusky	Maximum	74	76	72	68	65	68	75	73	80	78	77	74	67	61	67	73	75	73	70	73	78	78	75	78	74	82	85	81	73	69	..	73.
	Minimum	51	50	49	48	44	41	44	45	55	58	51	52	46	49	52	49	46	53	52	54	52	55	56	54	54	56	74	60	50	48	..	50.
Maddock	Maximum	83	79	79	71	67	69	79	79	80	80	80	80	67	66	61	66	75	73	77	77	79	78	74	79	79	81	82	66	63	65	..	74.
	Minimum	53	51	47	43	44	33	49	44	50	56	46	53	48	51	52	51	39	50	50	55	55	54	56	51	55	50	52	59	52	48	..	50.
Marmarth	Maximum	69	71	76	72	65	72	74	82	80	76	84	80	68	69	69	77	87	82	76	80	80	74	75	78	80	87	85	84	75	73	..	76.
	Minimum	46	43	53	42	43	38	48	52	53	53	56	54	56	42	49	42	54	59	42	50	59	59	52	53	49	52	56	56	48	55	..	50.
Melville	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Minot §§	Maximum	75	76	69	68	67	74	78	81	67	74	81	79	69	63	69	73	72	67	72	66	82	72	74	81	78	85	83	78	68	72	..	73.
	Minimum	52	51	43	47	41	40	51	51	51	49	49	55	61	52	52	49	50	53	49	57	54	53	54	51	58	52	57	58	51	43	..	51.
Mohall	Maximum	83	73	66	68	76	89	84	79	80	82	82	76	71	64	70	79	79	75	78	81	78	70	78	83	84	85	84	74	70	70	..	77.
	Minimum	54	54	40	42	43	41	46	56	50	51	53	54	51	50	51	45	59	53	56	58	56	49	50	62	52	52	62	59	44	42	..	50.
Mott	Maximum	82	75	76	70	62	70	78	75	81	75	74	78	67	66	70	75	81	73	77	85	82	82	86	80	73	84	84	85	82	72	..	76.
	Minimum	47	50	47	43	40	43	55	50	62	58	57	60	57	53	52	50	53	49	48	60	57	60	60	64	52	55	64	60	58	48	..	58.
Napoleon §§	Maximum	71	81	82	75	60	70	78	78	79	75	79	70	71	67	70	72	78	75	76	73	89	79	75	75	74	84	85	89	79	71	..	76.
	Minimum	57	46	48	50	42	32	37	41	52	54	46	53	48	43	51	46	42	52	55	55	59	61	57	55	50	49	53	62	53	53	..	50.
New Salem	Maximum	79	78	79	70	63	61	74	84	81	79	80	72	69	66	72	76	81	72	76	71	78	80	78	80	65	84	84	82	78	71	..	75.
	Minimum	49	47	48	47	41	44	46	55	58	49	52	57	49	49	50	57	57	56	57	58	60	57	55	58	52	52	54	57	52	49	..	52.
Pembina §§	Maximum	88	78	78	82	60	72	92	88	84	85	84	68	67	68	74	65	76	73	71	66	81	78	75	82	76	84	80	81	74	66	..	76.
	Minimum	48	54	46	46	42	30	38	48	50	52	50	54	52	52	55	54	46	48	52	51	53	56	60	56	55	51	51	48	58	54	..	50.
Steele	Maximum	78	79	76	72	66	71	75	75	78	75	78	70	70	68	70	72	76	72	78	73	83	83	82	78	76	82	84	86	78	76	..	76.
	Minimum	48	47	52	52	43	35	38	45	45	53	54	53	53	48	52	48	44	59	50	53	63	56	53	58	53	48	55	65	54	57	..	51.
Towner	Maximum	68	83	78	73	70	76	80	78	80	78	80	75	75	80	76	74	72	70	78	75	80	78	80	75	78	80	86	85	70	78	..	77.
	Minimum	35	43	44	45	55	54	50	43	46	50	52	50	48	54	46	47	48	50	54	55	55	52	54	54	55	54	53	62	52	54	..	50.
Valley City	Maximum	81	83	75	74	79	68	79	79	80	83	82	79	65	75	73	64	75	67	76	73	89	87	78	76	76	84	76	83	87	76	..	77.
	Minimum	61	53	55	54	55	35	34	39	45	51	47	56	46	48	53	53	40	47	56	53	59	65	56	56	58	53	55	63	56	56	..	51
Wahpeton	Maximum	83	85	85	79	71	65	75	77	81	84	83	80	74	81	79	67	76	73	83	87	94	93	83	85	79	87	87	91	89	75	..	81.
	Minimum	61	54	61	58	47	35	36	46	49	52	50	59	47	46	54	51	42	48	59	68	64	67	60	57	55	51	52	62	56	55	..	53.
Westhope	Maximum	78	74	67	67	68	79	81	83	80	81	82	70	70	65	70	80	61	66	80	88	87	82	79	81	84	88	78	79	67	75	..	76.
	Minimum	57	50	40	44	41	36	49	44	55	54	52	54	50	50	49	51	56	52	46	53	55	50	57	50	50	59	55	55	50	46	..	50.
Williston	Maximum	69	70	62	60	66	75	77	82	76	81	86	69	66	58	70	77	84	76	81	69	78	69	75	78	81	88	88	74	68	75	..	74.
	Minimum	49	50	42	45	44	45	53	54	59	55	59	53	50	48	53	47	58	56	44	57	60	53	54	54	59	51	59	58	54	48	..	52.
Moorhead, Minn	Maximum	81	84	74	74	60	66	76	75	79	82	80	77	63	75	74	62	76	73	79	82	91	84	74	77	71	83	80	87	77	69	..	76.
	Minimum	57	57	59	56	47	39	43	43	50	51	50	53	48	49	56	52	45	50	60	59	61	65	57	59	59	55	56	64	58	54	..	53.

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

[WBO, Minneapolis, 7-26-30—1000

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIX   BISMARCK, N. D., JULY, 1930   No. 7

GENERAL SUMMARY

The moisture content of the soil at the opening of the month was generally deficient, due to lack of precipitation and almost continuous high winds during June. This condition was greatly aggravated during July, when considerably less than one-half of the normal precipitation occurred and the temperature averaged nearly five degrees above the normal. There has been but one July (1916) with a higher mean temperature and but one July (1894) with less precipitation. Early small grains ripened too rapidly, and all crops deteriorated greatly in nearly all parts of the state. Rye harvest was general during the second decade and nearly completed and considerable threshed during the third decade. Harvesting and combining made rapid progress during the last decade, with yields being generally below normal. Pastures were drying, and rain was needed in all sections for late corn and flax.

TEMPERATURE

The mean temperature for the state was 72.3°, or 4.8° above the normal, and 1.7° higher than the mean for July, 1929. The highest mean reported was 79.4° at Fort Yates, Sioux County; the lowest was 63.4° at Hansboro, Towner County. The highest temperature reported was 107° at Napoleon, Logan County on the 11th; the lowest was 34° at Wishek, McIntosh County on the 14th. The greatest monthly range of temperature was 70° at Wishek, McIntosh County; the least was 47° at Pembina, Pembina County. The greatest daily range in temperature was 61° at Lamoine, Kidder County on the 15th.

PRECIPITATION

The average precipitation for the state was 1.04 inches, or 1.57 inches below the normal, and 0.23 inch lower than the average for July, 1929. The greatest monthly amount reported was 4.37 inches at Hankinson, Richland County; the least was 0.02 inch at Energy, McLean County. The greatest amount recorded in any 24 consecutive hours was 2.10 inches at Oakes, Dickey County on the 2d. The average number of days with 0.01 inch or more of precipitation was 5.

AURORAS

Auroras were observed at Foxholm on the 2d; at Arnegard and Bottineau on the 4th; at Velva on the 5th; at Hettinger, Oakes, Rugby and Sharon on the 10th; at Willow City on the 12th; at Bottineau on the 14th, 15th, 20th and 21st; at Bottineau, Carson and Stanton on the 24th; at Berthold Agency, Bottineau, Carson, Devils Lake, Rugby and Velva on the 25th; at Bismarck and Bowman on the 26th; at Howard on the 27th; at Bottineau and Westhope on the 28th; at Foxholm, McLeod and Towner on the 29th; and at Carson and Foxholm on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Wind: Elevation of anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.89	30.29	14	29.55	2	57	5,312	7.1	36§	nw.	7
Devils Lake	29.92	30.30	13	29.62	15	44	4,953	6.7	24§	ne.	18
Ellendale	29.86	30.31	20	29.62	11	56	7,366	9.9	43§	nw.	7
Grand Forks	29.90	30.24	30	29.61	15	90	....	.....	39	nw.	25
Williston	29.90	30.31	30	29.56	2	48	4,373	5.9	32§	nw.	26
Moorhead, Minn	29.90	30.29	30	29.54	12	58	4,785	6.4	45§	nw.	26
Av'ges and extremes	29.91	30.31	30	29.54	12	.....	....	7.2	45§	nw.	26

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Departure from normal, per ct.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	392.2	479.2	82	+11	75	39	34	15	18
Devils Lake	377.8	483.1	78	+7	82	46	48	23	15
Ellendale	410.9	475.2	86	+15	76	42	.....	18	31
Grand Forks	.....	.....	.....	.....	76	.....	56	.....	.....
Williston	391.4	483.1	81	+11	68	35	32	12	15
Moorhead, Minn	378.4	479.2	79	+12	77	42	43	23	30
Averages and extremes	390.1	480.0	81	+11	76	41	43	12	15

† And other dates

COMPARATIVE STATE DATA FOR JULY

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P'cdy days	Cl'dy days	Wind Dir.
1892	68.7	1.2	108	31	3.23	+0.62	8	19	8	4	se.
1893	69.5	2.0	112	35	2.04	−0.57	7	17	10	4	nw.
1894	71.7	+4.2	107	38	0.63	−1.98	3	20	8	3	nw.
1895	66.1	−1.4	102	29	2.90	+0.29	8	14	11	6	s.
1896	67.5	0.0	107	31	1.59	−1.02	6	15	10	6	nw.
1897	68.9	+1.4	109	38	4.43	+1.82	9	13	11	7	s.
1898	67.6	+0.1	106	28	2.49	−0.12	7	15	11	5	nw.
1899	68.3	+0.8	109	32	2.34	−0.27	6	18	9	4	nw.
1900	67.9	+0.4	107	33	2.25	−0.36	6	16	10	5	nw.
1901	70.8	+3.3	110	40	4.28	+1.67	6	18	7	6	se.
1902	67.6	+0.1	106	34	2.15	−0.46	5	20	7	4	nw.
1903	66.7	−0.8	109	26	2.23	−0.38	7	17	8	6	nw.
1904	64.4	−3.1	102	24	2.49	−0.12	6	17	8	6	nw.
1905	65.6	−1.9	100	32	3.90	+1.29	8	17	9	5	nw.
1906	66.9	−0.6	102	34	1.97	−0.64	11	13	8	10	nw.
1907	65.8	−1.7	103	31	3.14	+0.53	9	16	11	4	nw.
1908	68.6	+1.1	103	31	2.10	−0.51	6	19	9	3	nw.
1909	67.1	−0.4	99	34	2.89	+0.28	8	15	9	7	nw.
1910	70.0	+2.5	114	33	1.60	−1.01	5	18	9	4	nw.
1911	65.1	−2.4	107	23	1.82	−0.79	6	18	10	3	nw.
1912	66.0	−1.5	106	30	3.54	+0.93	10	12	13	6	nw.
1913	65.6	−1.9	103	35	2.30	−0.31	8	17	8	6	nw.
1914	72.1	+4.6	109	36	2.31	−0.30	6	19	9	3	se.
1915	62.3	−5.2	97	30	3.01	+0.40	11	12	11	8	nw.
1916	73.1	+5.6	105	33	3.16	+0.55	7	19	9	3	se.
1917	70.9	+3.4	114	27	1.66	−0.95	7	17	11	3	nw.
1918	65.5	−2.0	102	34	2.71	+0.10	7	14	10	7	se.
1919	71.2	+3.7	105	37	1.81	−0.80	5	18	10	3	se.
1920	68.3	+0.8	103	31	2.16	−0.46	7	18	11	2	nw.
1921	71.4	+3.9	110	35	3.07	+0.46	7	17	10	4	se.
1922	65.6	−1.9	100	30	2.43	−0.18	8	16	11	4	nw.
1923	71.2	+3.7	103	35	3.14	+0.53	8	16	11	4	se.
1924	65.5	−2.0	99	32	1.95	−0.66	6	18	9	4	nw.
1925	66.7	−0.8	106	29	1.34	−1.27	6	18	9	4	nw.
1926	70.3	+2.8	108	32	2.00	−0.61	7	18	8	5	se.
1927	65.4	−2.1	97	28	2.85	+0.24	9	15	10	6	nw.
1928	67.4	−0.1	96	38	5.05	+2.44	10	16	10	5	nw.
1929	70.6	+2.1	109	34	1.27	−1.34	5	21	8	2	nw.
1930	72.3	+4.8	107	34	1.04	−1.57	5	21	8	2	nw.

Climatological Data for July, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	4	...	...	...	...	...	...	...	0.25	...	0.10	0	4	...	...	...	...	H. A. Bury.
Amenia	Cass	954	34	72.4	+3.7	105	26	38	14	52	1.20	-1.84	0.75	0	3	24	3	4	s.	I. Idso.
Arnegard (near)	McKenzie	...	15	72.5	+3.3	103	7†	42	29	48	0.16	-1.14	0.15	0	2	25	6	0	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	73.8	+5.4	103	26	39	14	45	1.99	-0.67	0.89	0	6	26	2	3	se.	H. D. Piper.
Beach	Golden Valley	2,759	24	73.5	+6.2	103	9	46	28	48	0.67	-1.13	0.30	0	5	...	...	...	...	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	72.6	+3.7	105	15	42	5	55	0.17	1.80	0.12	0	3	17	12	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	74.8	+5.0	102	10	49	30	43	1.90	-0.54	1.26	0	8	22	7	2	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	38	69.4	+3.6	104	15	42	30	51	1.22	-1.66	0.28	0	7	24	7	0	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	16	74.8^{c}	...	103^{c}	10	46^{c}	22	44^{c}	0.43	-2.33	0.16	0	7	26	4	1	nw.	George Larsen.
Cando	Towner	1,488	29	71.0	+4.9	97	15†	44	30	43	0.93	-1.60	0.41	0	4	9	22	0	w.	A. J. Swanson.
Carrington	Foster	1,579	2	71.6	...	99	10	45	13	52	0.68	...	0.32	0	6	28	3	0	nw.	J. W. Evens.
Carson	Grant	2,500	18	73.3	+5.2	105	9†	45	21†	45	0.83	-1.11	0.50	0	4	21	10	0	nw.	L. A. Swanson.
Cavalier	Pembina	...	3	...	...	...	...	...	...	...	1.38	...	0.52	0	7	20	4	7	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. G. Hoel.
Corinth	Williams	2,180	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	L. S. Evenson.
Crosby	Divide	1,954	24	69.8	+3.9	99	15	43	29	44	0.63	1.58	0.46	0	5	14	15	2	sw.	John Jensen.
Devils Lake	Ramsey	1,478	33	71.0	+3.6	98	15	51	30	46	0.67	-1.90	0.34	0	7	12	14	5	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	71.6	+3.6	103	9	44	28†	46	0.08	-2.24	0.04	0	5	20	8	3	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	70.8	...	99	15	45	14	41	0.14	...	0.09	0	2	20	10	1	nw.	R. L. Williams.
Drake	McHenry	1,634	...	73.2	...	102	14	42	13	49	0.22	...	0.07	0	6	24	4	3	nw.	J. Rindt.
Dunn Center	Dunn	2,191	31	71.8	+3.8	102	15	44	30	50	0.43	1.62	0.18	0	3	26	1	4	w.	W. F. Moede.
Dunseith	Rolette	1,682	34	69.2	+1.8	98	15	45	13	46	1.64	-0.76	0.42	0	8	22	9	0	n.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	69.4	+3.6	103	15	38	14†	56	0.52	1.92	0.24	0	5	1	27	3	nw.	C. E. Strock.
Edgeley	La Moure	1,568	29	72.8	+4.3	101	26	40	11	45	1.33	1.47	0.76	0	2	15	15	1	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	73.2	+2.5	102	11	44	14	44	1.99	1.16	1.41	0	4	16	11	4	se.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	18	73.0	...	103	9†	44	14†	53	0.02	-2.16	0.02	0	1	23	8	0	nw	H. S. Solenberger.
Epping	Williams	2,224	22	72.8	...	106	15	43	20†	43	0.27	-1.65	0.11	0	5	22	9	0	w.	A. O. Wang.
Fairfield	Billings	...	3	...	...	...	...	...	...	...	0.26	...	0.12	0	3	12	17	2	se.	F. R. Hecker.
Fessenden	Wells	1,610	18	73.2	+6.1	103	15	43	13	53	0.96	-1.51	0.63	0	5	21	10	0	sw.	T. D. Monsen.
Forman	Sargent	1,249	36	...	...	...	...	...	...	...	2.63	0.40	0.95	0	6	23	7	1	se.	E. W. Bowen.
Fort Yates	Sioux	1,670	36	79.4	+8.1	106	10	45	17	46	0.80	-1.72	0.65	0	2	20	8	3	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	71.0	...	102	15	41	29	41	0.12	...	0.12	0	1	13	15	3	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	...	...	...	...	...	...	...	0.28	-2.00	0.23	0	2	27	2	2	w.	Verne King.
Fullerton	Dickey	1,439	32	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	F. O. Alin.
Garrison	McLean	1,901	35	73.8	+5.7	104	15	47	13†	50	0.03	2.07	0.03	0	1	19	12	0	nw.	W. F. Robinson.
Grafton	Walsh	827	39	71.4	+3.9	96	8	45	14	46	1.35	1.12	0.92	0	5	21	10	0	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	39	71.6	+4.2	99	8	44	30	42	1.75	-1.00	0.50	0	7	20	11	0	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	71.4	+4.3	102	15	43	14	53	0.34	-1.73	0.30	0	2	17	12	2	se.	W. A. Christianson.
Hankinson	Richland	1,068	...	75.6	...	102	25	52	29	45	4.37	...	1.40	0	8	26	4	1	w.	R. G. Stock.
Hannah	Cavalier	1,568	36	...	...	...	...	...	...	...	2.59	+0.13	1.05	0	7	...	...	...	...	James Meier.
Hansboro	Towner	1,597	22	63.4	-2.0	97	31	40	30	54	2.27	+0.29	0.57	0	9	13	17	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	73.2	+3.7	105	10	44	30	50	0.49	-2.30	0.17	0	4	26	4	1	nw.	C. H. Plath.
Hillsboro	Traill	901	24	73.0^{c}	+3.5	100^{c}	25	44	14	42^{c}	1.13	-1.50	1.10	0	2	19	12	0	s.	G. Havland.
Howard‡‡ (near)	Williams	2,275	23	70.6	+5.1	101	16	40	4	46	0.73	0.87	0.37	0	3	17	13	1	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	72.2^{a}	+3.7	100^{a}	11†	38	14	43^{a}	0.56	2.19	0.33	0	3	15	15	1	s.	S. Calvelage.
Lamoine	Kidder	1,936	25	69.8	+3.9	101	15	40	15	61	0.60	-1.95	0.60	0	1	25	4	2	nw.	E. V. Virgin.
Langdon	Cavalier	1,615	34	67.7	+3.2	92	31	43	30	44	1.93	-0.63	0.50	0	12	24	6	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	71.7	+5.0	97	7	45	14	49	3.24	+0.25	1.80	0	7	20	2	9	n.	Reuben Gray.
Linton	Emmons	1,711	12	75.4^{b}	+4.6	106^{b}	26	43^{b}	14	51^{b}	0.40	-1.60	0.30	0	3	...	...	...	sw.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	26	73.1	+4.9	100	25†	38	14†	45	1.83	1.70	0.48	0	7	22	5	4	...	N. S. Lindstrom.
McClusky	Sheridan	1,943	12	71.8	...	100	15	43	14	49	0.83	1.67	0.65	0	3	23	6	2	nw.	Edw. Tapley.
McLeod	Ransom	1,075	18	72.0	+1.8	103	25	41	15	47	2.14	-1.29	0.46	0	9	24	4	3	se.	J. G. Carlson.
Maddock	Benson	1,604	14	68.4	+0.6	101	15	40	14†	48	1.01	1.63	0.32	0	6	15	11	5	nw.	A. T. Felland.
Mandan	Morton	1,644	16	74.4	+3.6	102	15	47	14	47	2.40	0.56	1.36	0	7	19	5	7	se.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	27	...	...	...	...	...	...	...	1.36	0.94	0.48	0	10	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	21	75.4^{a}	+7.6	101^{a}	9	46^{a}	21	42^{a}	1.29	0.37	0.52	0	6	15	13	3	nw.	S. P. Grane.
Mary	McKenzie	...	3	...	...	...	...	...	...	...	0.28	...	0.10	0	4	27	3	1	nw.	Fred Hartman.
Max	McLean	2,093	...	72.2	...	105	15	44	14	53	0.11	...	0.08	0	2	15	11	5	se.	A. W. Rice.
Mayville	Traill	975	21	72.2^{c}	+2.8	100^{c}	26	39^{c}	14	45^{c}	0.28	-2.69	0.28	0	1	...	...	...	n.	N. C. Burbans.
Metigoshe‡‡	Bottineau	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. A. Thorburn.
Minot	Ward	1,557	34	71.4	-3.3	104	15	41	30	42	0.30	-1.55	0.26	0	3	27	4	6	w.	Julia B. Rue.
Mohall	Renville	...	1	73.0	+7.0	103	15	43	14†	47	0.16	-1.70	0.15	0	4	12	18	1	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	23	75.1	+6.0	106	10	49	30	49	0.46	-1.91	0.23	0	4	22	6	3	se.	O. H. Opland.
Napoleon	Logan	1,955	38	74.4	+6.1	107	11	39	14	50	0.62	1.86	0.38	0	5	26	4	1	nw.	C. J. Hoof.
New England	Hettinger	2,400	39	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	F. S. Sleight.
New Salem	Morton	2,163	26	75.0	+5.7	103	10†	45	14	45	0.79	-1.31	0.57	0	2	26	4	1	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	73.5	...	101	26	41	1†	43	3.18	...	2.10	0	7	21	9	1	se.	Eugene Naylor.
Park River	Walsh	998	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. B. Wright.
Parshall (near)	Mountrail	...	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	C. E. Shubert.
Pembina	Pembina	789	56	69.2	-1.5	93	15	46	11†	40	2.50	+0.12	1.20	0	4	21	6	4	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	...	...	...	...	...	...	...	2.28	...	1.05	0	5	21	4	3	...	Chas. Ouradnik.
Pettibone	Kidder	1,856	21	73.1	-7.3	101	15	44	14	43	1.70	-1.05	1.33	0	3	19	8	4	sw.	A. L. Carlson.
Portal	Burke	1,954	16	69.6	+3.9	103	14	40	19	45	1.22	-0.75	0.99	0	6	27	1	3	w.	C. T. Holmes.
Power	Richland	1,020	36	...	...	...	...	...	...	...	1.24	-2.14	0.36	0	5	25	5	1	n.	Frank B. Power.
Powers Lake	Burke	2,205	16	70.6	...	94	31	37	21	37	0.93	-0.85	0.42	0	4	19	10	2	e.	Geo. B. Gee.
Richardton	Stark	2,467	14	74.1	+4.1	102	10†	47	28	45	0.37	-1.64	0.21	0	2	18	12	1	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	...	...	...	...	...	...	...	0.71	...	0.37	0	2	13	15	3	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	...	...	...	...	...	...	...	0.27	...	0.16	0	3	...	...	...	...	E. M. Lomen.
Sanish	Mountrail	1,835	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. W. Monson.
Sharon	Steele	1,516	5	72.1	...	99	8	42	1†	43	1.60	...	1.10	0	5	22	8	1	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6	...	...	...	...	...	...	...	1.00	...	0.48	0	4	25	6	0	nw	J. H. Giffey.
Steele	Kidder	1,857	34	74.1	+5.0	102	11	44	28	42	1.68	-1.20	0.65	0	5	24	3	4	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	...	...	...	...	...	...	...	0.35	-1.50	0.10	0	5	26	5	0	...	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	...	...	...	...	...	...	...	0.09	...	0.09	0	1	23	7	1	w.	J. C. Abbott.
Tioga	Williams	2,279	4	...	...	...	...	...	...	...	0.29	...	0.17	0	4	21	9	1	nw.	Anton Carlson.
Towner	McHenry	1,482	28	72.2	+5.1	103	15	42	14†	53	0.43	-1.80	0.43	0	1	21	7	0	se.	B. Bagley.
Trotters	Golden Valley	...	5	...	...	...	...	...	...	...	0.21	...	0.10	0	4	22	6	3	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. T. Kusler.
Valley City	Barnes	1,245	25	73.0	+5.0	102	27	38	15	49	1.13	-1.71	0.33	0	5	28	3	0	w.	I. C. Robertson.
Velva	McHenry	1,511	4	71.4	...	103	15	42	29	53	0.20	...	0.15	0	2	19	9	3	w.	Oscar Anderson.
Verona	LaMoure	1,387	36	...	...	...	...	...	...	...	3.73	...	2.00	0	4	30	1	0	sw.	W. C. Taylor.
Wahpeton	Richland	962	38	75.3	+6.0	103	25	40	11	49	1.75	-2.05	0.60	0	8	25	0	6	se.	C. G. Luick.
Washburn	McLean	1,731	28	73.8^{a}	+4.3	103^{a}	10†	49^{a}	14†	48^{a}	0.76	1.54	0.32	0	4	...	...	...	w.	Fred Jeffries.
Westhope	Bottineau	1,508	26	70.3	+4.2	102	15	43	14†	48	1.35	-0.60	0.57	0	6	23	5	3	nw.	W. A. McDaugh.
Williston	Williams	1,878	51	73.0	+4.1	100	15	47	29	44	0.56	-1.33	0.33	0	10	19	10	2	ne.	U. S. Weather Bureau
Willow City	Bottineau	1,471	42	69.9^{a}	+4.5	103^{a}	15	37^{a}	30	58^{a}	0.60	-1.49	0.28	0	4	26	5	0	nw.	O. M. Sanderson.
Wilton	McLean	...	2	76.2^{b}	...	103^{b}	9	46^{b}	13	36^{b}	0.50	...	0.45	0	2	28	1	2	...	L. Q. Perkins.
Wishek	McIntosh	2,016	10	72.1^{b}	...	104^{b}	11	34^{b}	14	50	0.92	...	0.42	0	4	15	4	12	nw.	E. W. Davis.
Zap	Mercer	1,838	2	...	...	...	...	...	...	...	0.30	-1.87	0.26	0	2	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	49	73.6	+5.5	100	25	45	14	41	0.48	-2.95	0.18	0	8	16	8	7	s.	U. S. Weather Bureau.
Averages				72.3	+4.8	107	11	34	14	61	1.04	1.57	2.10	0	5	21	8	2	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used i determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for July, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri				.02					T			.16			T			.08		.05												0.25
Amenia ‖	Red			.10																	[illegible]							.75					1.20
Arnegard (near)	Missouri			T				T		.01										.15		T			T			T					[illegible]
Ashley	Missouri			.30	.02		.06	.80											.02		.10												[illegible]
Beach	Lit. Missouri				.04			.27					.05	.01					T		.30												[illegible]
Berthold Agency	Missouri									.04						.01					.12												[illegible]
Bismarck***	Missouri		T					1.26		T						T	.04	.05	.11	.25	.22		.04	.01		T	T					T	[illegible]
Bottineau ‖	Mouse									.28	.01	.18	.26	.05												.16		.28					1.22
Bowman	Grand			.02			T						.10				.03		.08		T		T	.06		.06		.02					[illegible]
Cando	Devils Lake							.41		[illegible]	T		.10								T					.29							[illegible]
Carrington	James		.02				.01						T				.02	.20	T		.32			T	.05								[illegible]
Carson	Heart			.50	.05																.26		.04										[illegible]
Cavalier	Red							.30				.22	.52					.02	.19		.03					.10							1.38
Cooperstown	Sheyenne																																
Corinth	Missouri																																
Courtenay	James		.18														.22		T		.69												1.09
Crosby ‖	Mouse				T							.08	.04								.46	.03	.02										[illegible]
Devils Lake***	Devils Lake		T	T				.34		T	T	.03	.01				.13	.06	T	T	.03				.07	T							[illegible]
Dickinson	Heart			.01					T	T			T	T				T	.04		.01		.01					.01					[illegible]
Dogden Butte	Mouse																	.05			.09				T								0.14
Drake	Mouse	.05									T					.01	.07			.01					.02							.06	0.22
Dunn Center ‖	Knife																.11				.18					.11							0.43
Dunseith	Mouse							.03		.05	.07	.62	.24								.07				[illegible]			.15					1.64
Eckman	Mouse								T	.63				.03							.17				.34			.01					[illegible]
Edgeley	James			.57					.76																								1.33
Ellendale***	James		T	.34	T			1.06	.35		T		T				T		.24		T			T									1.99
Energy	Missouri																T			T					.02								0.02
Epping	Missouri		T	.03						.10											.11		.01		T			.02					0.27
Fairfield	Knife							.12						.05							.09												0.26
Fessenden ‖	James																.03	.63	.03		.18					.09							0.96
Forman	Sheyenne		.86	.51					.95										.09		.10					.12							2.63
Fort Yates	Missouri		.65					.15																									0.80
Foxholm (near)	Mouse									T		T								T	.12				T		T						0.12
Fryburg	Heart			T	T					T		T	T			T	T	.23	T	T	.05												0.28
Fullerton	James																																
Garrison	Missouri									T							.03				T												0.03
Gratton	Red		.12					T		T	.16	.12	.92					.03	T		T												1.35
Grand Forks***	Red			T				.02		T	.45	.23	.12				.32		.50		T			T	.11								1.75
Granville	Mouse									T			T								.04				.30								0.34
Hankinson ‖	Red	.10	.90	.60	1.00			1.40											.05	.20						.12							4.37
Hannah	Pembina		T					.93		.12	.07	.20	1.05						T		.09					.13	T						2.59
Hansboro	Devils Lake		.05					.57		.27	.32	.50	.32						.15		.03					.06							2.27
Hettinger	Grand				.05					T				.10				T	.17		.17												0.49
Hillsboro	Red																	1.10		.03													1.13
Howard (near)	Missouri		T	.09					T	.27			T	T						.37	T		T	T	T			T					0.73
Jamestown ‖	James		T	T					.22										T				.33			.01							0.56
Lamoine	Missouri																				.60												0.60
Langdon ‖	Pembina			.05				.50	.15	.05	.09	.21	.12						.03	.08	.12					.48		.05					1.93
Larimore ‖	Red										.70		1.80					.40			.04			.02		.18		.10					3.24
Linton	Missouri									.02									.08		.30												0.40
Lisbon ‖	Sheyenne		.12	.48					.87				.08						.12	.14	.02												1.83
McClusky	Missouri																	.65	.03		.15												0.83
McLeod	Sheyenne		.19	.31		.32					.46		.07								.35			.04		.06	.26						2.14
Maddock	Sheyenne		.14					.23				.32						.11			.01					.20							1.01
Mandan ‖	Missouri			T				.01	1.36									.03	.52		.93		.04	.01									2.40
Manfred	James	.07						.12				.36	.11				.04	.18	.01		.10				.05	.02							1.36
Marmarth	Lit. Missouri							.01				.14	.52						.06		.12			.44									1.29
Mary	Lit. Missouri									.07				.10			.05				.06												0.28
Max ‖	Missouri									.23												.08											0.31
Mayville	Red																	.28															0.28
Metigoshe	Mouse																																
Minot ‖	Mouse									.01	.03														.26								0.30
Mohall	Mouse											.15									.10			.10				.11					[illegible]
Mott	Cannon Ball												T	.08			.03	.12		.23													[illegible]
Napoleon ‖	Missouri			.10					.07									.05	.02		.38												0.62
New England	Cannon Ball																																
New Salem	Heart							.22													.57												0.79
Oakes	James		2.10	.40	.10				.37									T	.16		.01					.04							3.18
Park River	Red																																
Parshall (near)	Missouri																																
Pembina ‖	Red					T		T	.60	.50		T	1.26					T			T					.20		T					2.56
Petersburg	Red							1.05					.44					.41			.06					.32							2.28
Pettibone	James		.27	T				T					T					.10			1.33			T			T	T					1.70
Portal ‖	Mouse										T		.01					.01		.16	.03						.99					.02	1.22
Power	Sheyenne	.11	.36									.27							.31		.19						T						1.24
Powers Lake	Missouri			.09						[illegible]				.31							.11												0.93
Richardton	Heart			.21									T								.16												0.37
Rugby [near]	Mouse									T			.37												.34								0.71
Ryder	Missouri							.04		.07										.16													0.27
Sanish ‖	Missouri																																
Sharon	Red		T					T			.05	T	1.10				T	.37	.02		.06	T				T	T	T					1.60
Stanton	Missouri																	.16	.05		.31				.48								1.00
Steele	Missouri			.65				.32										.08			.61	T	T				T	.02					1.68
Stowers	Cannon Ball				.10				.10				.05						.06	.04				T									0.35
Tagus	Mouse									.09																							0.09
Tioga	Missouri								.02	.17											.16			.04									0.39
Towner	Mouse												T								T				T	.13							0.43
Trotters	Lit. Missouri			.02										.10							.06							.03					0.21
Turtle Lake	Missouri																																
Valley City	Sheyenne		.27	.27																.10		.16					T	.33					1.13
Velva	Mouse		.05							T							T			T	.15				T								0.20
Verona	James		.28	2.00				1.20				.25																					3.73
Wahpeton	Red		.21	.22	.02	.04			.12									.60			.14					.40							1.75
Washburn	Missouri									T								.22	.02		.20				.32								0.76
Westhope	Mouse									.02		.40	.21												.08		.57	.07					1.35
Williston***	Missouri	T	T	.01					.13	.20		.01	.04							.16	T		.01	.01	T		.02	.03					[illegible]
Willow City	Mouse									.15	T		.28							T	.01				.16								0.60
Wilton	Missouri																T					.05			.45								0.50
Wishek ‖	Missouri			.25	.02				.23												.42												0.92
Zap	Knife																	.04							.26								0.30
Moorhead, Minn.***	Red			.12		.03		T		T		.01	.01				T	.01	.06		.06			T		T	.18	T					0.18

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	78	78	80	89	85	86	93	97	95	100	99	82	75	77	98	99	94	90	84	88	81	90	92	96	104	105	91	79	80	84	92	89.
	Minimum ...	43	51	60	61	59	52	57	62	65	69	68	63	51	38	47	61	62	59	52	61	58	50	52	57	52	60	62	51	52	41	48	55.
Arnegard	Maximum...	93	82	77	86	78	95	103	97	99	96	81	76	80	94	103	93	86	85	74	84	90	92	98	101	98	100	84	82	84	91	100	89.
	Minimum ...	46	56	49	50	50	54	72	63	67	67	62	62	52	51	56	61	61	51	50	49	49	61	69	53	61	56	53	47	42	48	53	55.
Ashley	Maximum...	77	88	80	87	88	89	98	91	93	96	102	85	73	82	98	102	99	92	88	81	78	87	94	96	100	103	96	83	83	87	97	90.
	Minimum ...	43	58	60	60	61	58	63	64	65	72	67	61	51	39	59	65	65	60	59	61	54	48	60	55	58	58	61	48	50	45	53	57.
Beach	Maximum...	91	88	80	86	90	97	96	99	103	101	87	78	81	90	101	97	92	85	85	74	80	90	89	97	94	96	88	79	83	90	100	89.
	Minimum ...	51	58	55	55	52	59	66	64	71	65	69	60	52	54	58	61	68	59	60	50	47	50	52	56	67	57	59	46	51	47	52	57.
Berthold Agency	Maximum...	84	85	80	86	82	91	99	95	101	97	85	80	78	91	105	93	95	89	86	79	84	91	92	99	99	101	95	82	84	91	100	90.
	Minimum ...	50	56	57	46	42	47	69	63	71	66	65	60	55	45	50	67	64	65	54	54	48	51	51	50	64	55	54	45	44	43	53	55.
Bismarck	Maximum...	83	88	81	86	88	90	96	94	98	102	93	80	74	87	100	100	95	92	80	79	78	88	91	96	98	101	81	80	81	87	96	89.
	Minimum ...	51	61	62	54	62	55	63	65	74	73	67	63	55	50	64	71	65	65	58	62	55	56	61	58	69	64	61	51	55	49	53	60.
Bottineau §§	Maximum...	77	78	78	80	81	83	89	97	89	83	82	78	68	83	104	88	93	82	80	75	79	88	87	93	92	90	72	76	77	82	98	83.
	Minimum ...	49	54	57	47	54	50	64	65	62	69	58	56	46	45	53	59	62	60	55	58	50	53	52	54	59	64	56	47	46	42	55	54.
Cando	Maximum...	78	77	78	80	82	81	89	91	89	86	86	83	83	82	97	97	91	91	82	85	84	86	87	91	91	92	84	81	74	80	93	85.
	Minimum ...	48	54	55	56	54	52	58	65	65	72	64	70	56	45	54	61	62	63	54	48	56	54	53	55	60	62	69	47	45	44	50	56.
Carrington	Maximum...	80	81	85	86	87	91	96	95	96	99	80	68	84	98	93	95	91	82	80	77	86	89	94	97	97	83	78	79	83	95	94	87.
	Minimum ...	76	59	50	57	49	63	58	61	69	67	61	48	45	46	64	64	61	50	53	54	48	58	54	60	57	61	48	47	48	50	56	55.
Carson	Maximum...	86	90	82	87	90	91	98	100	105	104	90	80	80	90	103	105	95	92	80	75	82	82	93	96	98	101	90	80	85	96	97	90.
	Minimum ...	46	50	54	54	58	56	57	56	70	70	70	59	46	51	56	66	60	60	60	54	45	58	54	60	56	60	45	47	46	50	55	55.
Crosby §§	Maximum...	83	80	66	79	79	93	96	97	92	85	68	78	75	89	99	91	85	80	77	65	90	86	85	95	95	85	81	78	76	86	99	84.
	Minimum ...	53	53	51	52	49	53	63	65	65	66	59	57	52	51	58	60	60	60	46	56	50	55	57	59	60	55	55	50	43	45	55	55.
Devils Lake	Maximum...	78	79	77	84	81	87	89	91	90	86	87	77	67	82	98	89	92	90	82	82	77	86	87	93	95	92	84	78	76	81	95	84.
	Minimum ...	63	56	50	53	54	52	64	63	70	67	66	56	49	49	60	62	64	61	55	61	56	54	60	56	63	62	57	48	49	46	49	57.
Dickinson §§	Maximum...	87	89	79	85	87	93	95	97	103	102	84	76	76	88	101	97	93	88	82	77	80	89	91	98	96	98	78	80	82	89	98	89.
	Minimum ...	49	52	56	52	51	55	62	64	68	63	66	61	54	47	50	55	59	60	58	52	47	49	52	52	53	54	59	44	45	44	46	54.
Dunn Center §§	Maximum...	87	86	88	86	87	92	96	96	97	98	80	77	70	90	102	91	92	86	85	76	80	88	89	96	96	99	72	79	81	89	98	88.
	Minimum ...	49	54	58	57	49	52	72	65	69	64	67	62	55	44	52	64	61	62	54	53	49	48	51	51	63	56	58	45	45	44	48	55.
Dunseith	Maximum...	75	76	76	78	81	83	88	91	90	85	80	76	70	84	98	91	89	81	81	78	76	85	84	91	93	92	86	75	74	79	96	83.
	Minimum ...	47	48	50	49	60	49	61	65	63	68	56	56	45	46	57	61	60	53	63	58	53	51	55	61	57	63	61	49	48	45	50	55.
Edgeley	Maximum...	78	83	84	85	87	86	95	90	91	93	98	87	83	80	97	97	96	91	86	86	80	79	93	95	99	101	94	86	82	80	82	88.
	Minimum ...	43	54	63	62	60	54	59	60	65	69	67	61	43	40	60	65	66	65	56	55	56	55	63	51	59	60	58	50	50	45	63	57.
Ellendale	Maximum...	76	87	76	86	86	87	96	90	90	94	102	80	70	77	96	97	96	88	79	83	76	87	92	94	100	100	93	82	81	85	96	87.
	Minimum ...	43	61	62	62	61	57	62	67	68	69	70	63	50	44	52	63	67	61	59	63	58	50	59	57	59	62	59	53	55	49	53	58.
Fessenden §§	Maximum...	81	83	84	90	87	91	95	99	99	99	102	81	80	88	103	98	93	92	85	83	80	90	93	98	102	96	82	82	81	86	100	90.
	Minimum ...	49	57	60	48	54	49	66	55	71	71	68	62	43	46	59	63	61	61	53	60	54	50	59	53	63	58	61	46	45	45	46	56.
Foxholm (near)	Maximum...	80	84	75	82	81	90	97	96	92	89	80	78	73	89	102	96	93	84	83	77	78	86	87	94	96	92	84	78	78	85	98	86.
	Minimum ...	52	50	58	48	51	50	63	68	65	69	62	55	49	47	59	61	63	61	50	54	50	57	58	54	59	58	57	50	44	46	54	55.
Fullerton	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Garrison	Maximum...	83	84	86	84	86	91	102	95	97	97	92	79	74	90	104	94	95	90	83	77	81	90	91	92	98	100	78	81	81	90	100	89.
	Minimum ...	50	59	59	56	50	72	73	61	71	70	64	61	54	47	56	64	69	66	55	57	50	53	58	57	63	60	59	49	51	47	50	58.
Grafton	Maximum...	79	80	77	86	84	85	89	96	93	89	84	80	68	78	95	92	88	84	81	84	80	85	90	93	91	93	90	80	78	83	92	85.
	Minimum ...	46	53	64	54	53	52	61	66	67	73	62	62	52	45	52	64	65	62	53	62	61	50	56	56	66	58	64	54	54	48	46	57.
Grand Forks	Maximum...	79	81	85	87	85	84	89	99	94	88	91	79	68	80	97	90	89	89	80	84	78	84	88	91	95	91	90	76	78	82	96	85.
	Minimum ...	47	55	65	60	55	51	61	64	70	67	66	58	52	46	55	62	64	62	55	62	59	53	57	58	59	57	60	53	54	44	49	57.
Granville	Maximum...	79	82	77	82	82	88	97	94	94	90	90	82	70	89	102	97	95	89	84	80	78	90	89	97	96	92	80	78	80	87	100	87.
	Minimum ...	50	57	59	51	52	50	68	62	68	70	65	60	50	43	57	60	60	62	52	52	56	53	54	51	62	55	55	49	44	47	47	55.
Hansboro	Maximum...	78	75	79	82	82	83	80	89	83	83	67	70	65	80	95	75	77	75	73	68	67	64	62	88	74	74	70	70	74	70	97	76.
	Minimum ...	52	51	55	45	42	48	58	62	60	55	51	54	41	48	60	41	50	54	48	56	50	45	50	50	54	56	54	43	44	40	43	50.
Hettinger §§	Maximum...	87	93	82	87	92	94	99	101	102	105	88	73	77	88	100	103	94	89	77	78	80	91	91	96	95	99	81	83	84	89	96	90.
	Minimum ...	50	52	57	58	55	59	69	68	68	70	63	61	53	50	53	53	63	61	63	55	46	49	53	51	54	56	57	51	53	44	46	56.
Hillsboro	Maximum...	78	77	78	....	86	85	91	99	95	94	96	94	....	78	99	96	94	92	80	86	84	86	83	95	100	94	....	78	77	80	93	[c]88.
	Minimum ...	47	52	57	....	58	55	56	65	70	68	67	64	....	44	65	66	65	60	52	56	55	51	52	56	66	66	....	52	54	48	51	[c]57.
Howard (near)	Maximum...	85	82	80	82	82	94	98	100	93	87	74	78	77	95	91	101	88	82	87	77	81	87	87	97	91	76	74	81	88	87	100	86.
	Minimum ...	54	53	46	40	48	52	70	64	65	70	60	54	56	62	52	64	68	44	49	59	45	50	56	55	70	55	45	42	46	54	54	54.
Jamestown §§	Maximum...	79	81	81	87	87	88	93	97	95	98	100	82	71	82	91	99	100	94	82	85	78	89	....	....	....	....	84	81	81	86	97	[d]87.
	Minimum ...	44	55	61	55	58	54	62	58	62	65	67	62	51	38	57	65	65	69	52	56	62	49	57	54	63	59	51	56	51	46	48	56.
Lamoure	Maximum...	80	82	80	85	86	90	97	98	94	96	99	78	71	91	101	93	92	89	78	77	77	89	90	95	94	94	92	86	80	86	96	88.
	Minimum ...	42	58	57	60	47	46	47	47	60	50	47	56	45	50	40	50	56	50	58	58	50	50	49	50	60	59	52	60	46	50	55	51.
Langdon §§	Maximum...	75	77	75	82	80	84	86	87	88	81	80	75	65	76	90	84	87	80	80	80	75	84	83	86	87	84	81	74	73	76	92	80.
	Minimum ...	46	53	56	48	51	49	61	61	65	68	60	60	47	45	52	60	60	58	58	60	55	51	[illegible]	[illegible]	53	60	61	48	47	43	48	54.
Larimore §§	Maximum...	80	84	87	86	88	90	97	94	87	95	75	66	80	94	90	92	89	84	85	78	88	88	93	94	92	88	87	77	82	95	96	87.
	Minimum ...	46	51	55	55	53	52	59	61	65	69	64	61	50	45	54	61	64	62	51	56	57	52	56	58	61	61	61	52	52	47	50	56.
Linton	Maximum...	....	....	....	....	....	....	....	....	95	99	105	91	77	87	102	105	100	95	82	87	82	94	[illegible]	99	102	106	102	85	86	90	99	[h]94.
	Minimum ...	....	....	....	....	....	....	....	....	70	65	72	62	54	43	52	68	65	61	58	60	53	51	60	55	56	57	60	45	47	42	49	[h]56.
Lisbon §§	Maximum...	79	84	82	91	87	90	96	92	90	95	98	82	72	76	95	95	92	87	86	82	79	85	92	93	100	100	92	86	86	83	93	87.
	Minimum ...	38	53	59	59	60	54	69	60	66	63	68	64	51	38	50	59	69	64	65	69	62	56	57	58	63	66	65	59	51	46	48	58.
McClusky	Maximum...	78	83	78	83	83	88	93	95	98	96	96	78	71	85	100	93	92	89	79	78	72	88	91	93	96	94	92	80	80	86	96	87.
	Minimum ...	48	61	55	47	54	51	66	59	70	75	63	60	50	43	51	64	62	62	53	59	51	52	[illegible]	53	61	59	51	46	48	52	55	56.
Maddock	Maximum...	74	75	75	83	82	88	88	88	90	89	90	84	71	84	101	99	95	95	79	79	79	89	96	96	95	95	91	76	80	84	95	86.
	Minimum ...	42	53	57	45	48	47	80	56	69	68	64	60	45	40	57	60	59	60	49	59	53	44	53	50	59	59	56	45	45	40	47	50.
Marmarth	Maximum...	89	94	82	86	....	95	98	100	101	99	99	82	86	87	97	96	94	86	82	87	84	92	89	94	92	97	86	84	82	88	95	[a]90.
	Minimum ...	70	55	62	59	....	59	65	70	75	65	71	61	65	56	56	67	61	61	68	55	46	50	54	69	65	56	64	58	57	48	52	[a]60.
Minot §§	Maximum...	80	83	78	83	81	91	100	95	92	89	85	81	72	90	104	90	94	86	85	76	80	91	89	95	97	91	75	80	80	86	99	87.
	Minimum ...	50	59	60	47	52	47	70	68	68	69	65	58	53	50	54	62	65	68	50	53	51	53	54	50	62	56	55	50	43	41	46	55.
Mohall	Maximum...	84	84	81	84	86	89	102	98	100	88	75	80	72	84	103	92	91	84	83	74	79	81	85	86	99	83	79	80	80	86	101	86.
	Minimum ...	52	63	60	60	65	45	55	70	68	70	60	63	60	43	66	75	68	60	52	55	63	68	67	55	62	53	50	50	43	67	66	59.
Mott	Maximum...	86	92	92	88	95	94	96	100	102	106	101	80	80	88	100	102	95	96	86	82	80	90	91	95	97	102	87	82	83	88	98	91.
	Minimum ...	54	60	64	55	58	62	70	68	76	75	62	50	53	60	61	64	62	61	51	54	53	55	54	56	61	53	52	54	50	49	56	58.
Napoleon §§	Maximum...	81	87	87	91	90	92	98	100	98	102	107	81	74	87	102	103	100	97	85	83	80	92	94	101	102	103	89	83	83	89	100	92.
	Minimum ...	43	59	61	55	57	55	67	60	66	73	69	60	50	39	56	63	64	59	54	59	53	47	59	51	60	57	62	45	50	43	53	56.
New Salem	Maximum...	82	88	89	88	87	93	96	95	101	103	90	81	79	89	102	103	98	95	88	80	82	90	94	98	100	101	84	82	94	89	98	91.
	Minimum ...	51	58	57	52	57	55	68	60	64	70	67	61	56	45	59	67	59	55	57	55	59	56	57	59	72	79	52	50	49	53	55	58.
Pembina §§	Maximum...	79	82	79	86	81	85	85	90	90	84	81	79	78	79	93	85	88	66	84	84	76	84	85	88	88	88	92	73	75	80	90	82.
	Minimum ...	48	54	60	56	55	54	50	63	66	70	64	62	50	46	53	58	64	62	54	56	52	54	54	55	56	66	54	46	50	49	50	55.
Steele	Maximum...	79	85	82	87	89	89	96	95	95	96	102	82	80	85	99	98	99	95	84	82	78	88	92	97	98	100	86	81	81	86	96	89.
	Minimum ...	53	54	65	55	60	56	70	65	70	74	70	62	54	49	60	58	69	62	58	58	54	54	61	56	64	66	60	44	52	48	54	59.
Towner	Maximum...	80	82	82	80	83	84	98	95	96	92	83	79	85	88	103	100	97	95	90	85	88	84	78	88	95	94	90	85	90	100	97	89.
	Minimum ...	56	55	58	56	56	58	63	60	60	60	58	55	50	42	50	54	58	60	63	48	56	54	55	56	42	58	50	48	53	63	56	55.
Valley City	Maximum...	79	80	83	90	87	90	92	97	91	98	100	83	83	85	80	96	98	97	91	82	89	82	87	94	96	100	102	88	79	84	95	89.
	Minimum ...	40	56	54	60	56	54	60	57	68	71	68	63	50	55	38	55	[illegible]	66	58	52	59	57	49	57	54	64	61	63	49	42	46	56.
Wahpeton	Maximum...	81	77	77	90	88	91	90	98	95	101	100	97	82	78	98	100	97	93	88	87	87	88	93	97	103	99	100	84	84	85	95	91.
	Minimum ...	42	56	61	61	62	55	61	65	67	73	75	67	55	40	54	67	70	63	58	63	57	57	60	59	67	63	65	53	53	50	46	59.
Westhope	Maximum...	79	78	81	83	86	86	97	98	90	88	78	80	72	87	102	92	92	84	82	76	82	82	89	98	98	96	75	79	79	82	98	86.
	Minimum ...	48	55	60	45	48	46	66	62	64	70	60	55	48	43	54	57	60	60	48	57	50	50	51	52	58	54	60	48	43	55	60	54.
Williston	Maximum...	90	86	70	84	84	95	100	99	95	91	78	78	79	91	100	92	89	82	85	71	80	87	88	98	95	96	76	78	80	88	99	87.
	Minimum ...	57	54	58	51	52	62	71	65	70	72	65	62	57	58	63	66	67	61	58	55	49	52	59	55	62	59	55	52	47	49	55	58.
Moorhead, Minn	Maximum...	77	78	76	86	84	84	89	96	94	96	98	83	68	76	94	93	91	88	81	85	79	85	91	93	100	99	90	78	78	82	92	86.
	Minimum ...	47	55	62	62	64	59	62	66	71	72	73	60	52	45	53	73	68	63	58	64	59	57	60	61	70	65	64	55	56	51	53	60.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc

[WBO, Minneapolis, 8-26-30—1000

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

Y OF THE
OF ILLINOIS

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXIX BISMARCK, N. D., AUGUST, 1930 No. 8

GENERAL SUMMARY

August opened with unseasonably high temperature and very little precipitation occurred during the first decade. During this period rye harvesting was nearly completed and good headway was made in harvesting of spring wheat and other small grains. Much rye was threshed, and some wheat and barley were threshed, with yields generally below normal. Drought conditions were relieved somewhat during the second decade in some sections, delaying harvesting and threshing, but improved pastures and meadows. Scattered showers were prevalent during the last decade, further improving pastures and conditions for fall plowing and the seeding of winter rye. Light frosts were reported in the north portion, but little damage was done. Silo filling and corn shocking were well under way at the close of the month.

TEMPERATURE

The mean temperature for the state was 70.4°, or 5.0° above the normal, and 1.9° higher than the mean for August, 1929. The highest mean reported was 74.0° at Wahpeton, Richland County; the lowest was 61.2° at Hansboro, Towner County. The highest temperature reported was 104° at Sharon, Steele County on the 2d, and at Napoleon, Logan County on the 6th; the lowest was 32° at Hansboro, Towner County on the 10th, and at Portal, Burke County on the 31st. The greatest monthly range of temperature was 68° at Portal, Burke County; the least was 48° at Pembina, Pembina County. The greatest daily range in temperature was 54° at Max, McLean County on the 2d and 4th.

PRECIPITATION

The average precipitation for the state was 1.45 inches, or 0.83 inch below the normal, and 0.68 inch more than the average for August, 1929. The greatest monthly amount reported was 5.01 inches at Ellendale, Dickey County; the least was a trace at Pembina, Pembina County. The greatest amount recorded in any 24 consecutive hours was 3.02 inches at Ellendale, Dickey County on the 18-19th. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Foxholm, Howard, Rugby, Tagus and Willow City on the 5th; at Howard and Oakes on the 6th; at Bottineau on the 7th; at Bottineau and Willow City on the 8th; at Bottineau, Dogden Butte and Howard on the 9th; at Carson on the 20th; at Arnegard, Bottineau, Fessenden, Foxholm, Rugby and Trotters on the 21st; at Crosby and Foxholm on the 22d; at Bottineau and Foxholm on the 23d; at Bottineau, Rugby and Willow City on the 24th; at Arnegard on the 26th; at Foxholm an the 28th; at Arnegard, Bottineau and Tagus on the 29th; at Devils Lake, Foxholm, Rugby, Sharon and Tagus on the 30th; and at Bottineau, Crosby, Howard and Larimore on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.96	30.40	10	29.56	30	57	4,838	6.5	37§	nw.	6
Devils Lake	29.99	30.41	11	29.57	30	44	4,546	6.1	24§	n.	31
Ellendale	30.01	30.39	10	29.61	30	56	7,672	10.3	45§	se.	21
Grand Forks	29.96	30.36	10	29.56	30	90	....	.....	29	nw.	31
Williston	29.96	30.29	10	29.57	30	48	3,858	5.2	20§	ne.	26
Moorhead, Minn	29.99	30.38	10	29.60	30	58	4,589	6.2	27§	nw.	29
Av'ges and extremes	29.98	30.41	11	29.56	30	.....	....	6.9	45§	se.	21

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	242.8	439.4	55	−14	77	47	48	18	30
Devils Lake	302.7	442.0	68	+ 3	77	40	47	18	3
Ellendale	323.1	437.4	74	+ 9	75	45	...	21	6
Grand Forks	....	....	....	....	77	....	48	.....	....
Williston	305.7	442.0	69	+ 2	70	41	36	15	5
Moorhead, Minn	310.4	439.4	71	+ 5	73	39	43	21	5
Averages and extremes	296.9	440.0	67	+ 1	75	42	44	15	5

† And other dates.

COMPARATIVE STATE DATA FOR AUGUST

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P'cdy days	Cl'dy days	
1892	67.3	+1.9	105	24	2.39	+0.11	8	15	10	6	se.
1893	66.7	+1.3	109	29	1.31	−0.97	3	20	7	4	nw.
1894	68.8	+3.4	102	30	1.14	−1.14	4	17	10	4	nw.
1895	64.5	−0.9	104	24	1.57	−0.71	5	17	11	3	nw.
1896	64.7	−0.7	107	21	1.39	−0.89	5	17	10	4	nw.
1897	64.1	−1.3	106	29	1.18	−1.10	5	15	10	6	nw.
1898	65.4	0.0	104	24	1.69	−0.59	5	15	11	5	nw.
1899	65.2	−0.2	97	32	2.83	+0.55	6	15	11	5	se.
1900	70.4	+5.0	114	33	5.06	+2.78	10	14	11	6	se.
1901	66.9	+1.5	100	32	1.77	−0.51	6	18	8	5	nw.
1902	64.3	−1.1	96	26	2.30	+0.02	8	16	9	6	s.
1903	63.7	−1.7	103	35	4.68	+2.34	10	13	7	11	se.
1904	63.3	−2.1	102	31	1.67	−0.61	6	17	7	7	nw.
1905	67.5	+2.1	107	34	2.62	+0.34	7	17	8	6	nw.
1906	66.3	+0.9	105	31	1.90	−0.38	7	17	6	8	se.
1907	64.5	−0.9	104	26	1.89	−0.39	6	18	9	4	nw.
1908	63.2	−2.2	104	25	2.28	0.00	7	17	8	6	nw.
1909	69.8	+4.4	109	27	2.25	−0.03	6	18	9	4	se.
1910	63.1	−2.3	109	24	1.41	−0.87	5	14	8	9	nw.
1911	62.2	−3.2	98	23	3.55	+1.27	8	12	11	8	nw.
1912	63.4	−2.0	118	32	2.95	+0.67	10	11	10	10	nw.
1913	68.9	+3.5	106	30	2.62	+0.34	6	16	10	5	nw.
1914	64.2	−1.2	101	26	2.18	−0.10	7	13	11	7	nw.
1915	64.4	−1.0	100	19	1.18	−1.10	4	19	8	4	se.
1916	66.0	+0.6	100	26	2.75	+0.47	8	16	10	5	nw.
1917	65.2	−0.2	105	25	0.82	−1.46	4	17	10	4	nw.
1918	66.5	+1.1	102	34	3.35	+1.07	8	15	11	5	nw.
1919	67.9	+2.5	101	30	1.62	−0.66	5	18	10	3	nw.
1920	68.8	+3.4	108	28	1.56	−0.72	5	22	6	3	se.
1921	67.2	+1.8	108	31	1.99	−0.29	6	18	10	3	nw.
1922	69.8	+4.4	115	33	1.36	−0.92	6	18	9	4	se.
1923	63.0	2.4	97	28	1.90	−0.38	8	14	12	5	nw.
1924	63.8	−1.6	102	28	1.65	−0.63	6	17	9	5	nw.
1925	67.9	+2.5	110	29	1.07	−1.21	5	20	8	3	nw.
1926	65.6	+0.2	105	36	2.43	+0.15	7	14	8	9	nw.
1927	63.4	−2.0	96	28	3.23	+0.95	8	18	8	5	nw.
1928	64.8	−0.6	105	25	3.30	+1.02	8	17	9	5	nw.
1929	68.5	+3.1	106	26	0.77	−1.51	4	20	9	2	nw.
1930	70.4	+5.0	104	32	1.45	−0.83	6	15	9	7	se.

Climatological Data for August, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	4	......	......	......	......	......	......	......	3.23	......	1.25	0	5	......	......	......	......	H. A. Bury.
Amenia	Cass	954	34	71.6	+5.3	102	1	41	10	47	1.17	−1.55	0.44	0	4	16	13	2	s.	I. Idso.
Arnegard (near)	McKenzie	......	15	71.6	+4.5	102	2	41	31	48	0.86	−0.57	0.70	0	4	23	4	4	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	70.7	+4.8	101	2	42	10	50	3.89	+1.69	1.73	0	7	20	5	6	se.	H. D. Piper.
Beach	Golden Valley	2,759	24	71.4	+6.4	......	......	......	......	......	3.52	+1.47	......	......	......	......	......	......	......	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	72.1^{c}	+4.4	103^{c}	5	42^{c}	29	49^{c}	0.75	−1.02	0.39	0	5	......	......	......	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	71.3	+4.0	97	6	45	10	38	1.71	−0.11	1.03	0	9	12	10	9	e.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	38	68.6	+5.0	96	1	42	28	42	0.80	−1.41	0.27	0	6	18	12	1	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	16	71.0	......	99	1	44	31	41	3.49	+2.54	1.09	0	9	22	4	5	nw.	George Larsen.
Cando	Towner	1,488	29	69.4	+5.5	94	2	41	29	41	0.95	−1.26	0.48	0	4	6	18	7	w.	L. A. Swanson.
Carrington	Foster	1,579	2	68.5	......	98	1	41	9	39	2.86	......	1.05	0	10	18	10	3	se.	J. W. Evens.
Carson	Grant	2,500	18	71.0	+3.4	100	3	42	28†	43	0.67	−0.73	0.30	0	5	14	12	5	se.	A. J. Swanson.
Cavalier	Pembina	......	3	......	......	......	......	......	......	......	0.32	......	0.16	0	3	19	8	4	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	21	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. G. Hoel.
Corinth	Williams	2,180	3	......	......	......	......	......	......	......	0.79	......	0.46	0	4	16	9	6	e.	L. S. Evenson.
Crosby	Divide	1,954	24	68.2	+4.5	96	1	44	31	41	0.59	−1.51	0.44	0	4	9	16	6	sw.	John Jensen.
Devils Lake	Ramsey	1,478	33	69.5	+4.7	95	1	41	10	37	0.62	−1.86	0.32	0	7	14	5	12	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	69.6	+3.3	99	5†	45	28†	51	0.55	−1.40	0.20	0	6	10	14	7	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	69.6	......	97	5	43	31	40	1.54	......	0.47	0	8	15	11	5	nw.	R. L. Williams.
Drake	McHenry	1,634	......	68.0	......	97	4	35	31	42	0.61	......	0.17	0	9	18	8	5	nw.	J. Rindt.
Dunn Center	Dunn	2,191	31	70.4	+3.8	99	5	42	28	45	0.61	−0.96	0.26	0	4	15	7	9	e.	W. F. Moede.
Dunseith	Rolette	1,682	34	68.6	+5.0	95	1	41	31	41	0.58	−1.83	0.15	0	6	11	10	10	n.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	63.7	+5.4	99	1	38	29	51	0.95	−1.37	0.39	0	9	2	20	9	se.	C. E. Strock.
Edgeley	LaMoure	1,568	29	71.2	+4.8	102	6	37	10	47	3.51	+1.37	1.45	0	7	8	20	3	se.	O. A. Thompson.
Ellendale	Dickey	1,449	31	71.0	+2.2	98	2	41	10	42	5.01	+1.93	3.02	0	9	5	15	11	s.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	18	71.0	......	100	5	42	10	45	1.11	−0.84	0.33	0	6	12	17	2	se.	H. S. Solenberger.
Epping	Williams	2,224	22	71.1	......	99	1†	41	31	44	1.21	−0.94	0.78	0	5	17	8	6	nw.	A. O. Wang.
Fairfield	Billings	......	3	......	......	......	......	......	......	......	1.01	......	0.48	0	4	14	11	6	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	70.8	+5.8	100	1	40	10	46	1.07	−1.31	0.60	0	8	14	13	4	se.	T. D. Monsen.
Forman	Sargent	1,219	36	......	......	......	......	......	......	......	1.73	−0.98	0.78	0	8	21	6	4	sw.	E. W. Bowen.
Fort Yates	Sioux	1,670	30	71.0	+1.8	100	4	45	16	44	2.65	+0.68	1.01	0	6	20	3	8	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	69.6	......	96	1	42	10	40	1.30	......	0.53	0	7	14	6	11	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	......	......	......	......	......	......	......	1.97	+0.43	0.87	0	7	22	2	7	nw.	Verne King.
Fullerton	Dickey	1,439	32	71.2	+4.9	102	2	41	10	46	3.54	+1.01	1.56	0	6	24	3	4	ne.	F. O. Alin.
Garrison	McLean	1,901	35	71.4	+5.7	101	5	45	10	44	1.22	−0.78	0.45	0	7	12	11	8	se.	W. F. Robinson.
Grafton	Walsh	827	39	70.6	+6.1	96	3	45	9†	42	0.68	−1.91	0.40	0	2	22	3	6	s.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	39	71.0	+6.1	98	2	41	10	40	1.24	−1.22	0.62	0	4	18	12	1	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	69.8	+5.9	100	6	41	10†	47	0.42	−1.67	0.25	0	4	15	8	8	se.	W. A. Christianson.
Hankinson	Richland	1,068	......	73.3	......	99	2	45	10	41	1.98	......	0.52	0	8	23	4	4	se.	R. G. Stock.
Hannah	Cavalier	1,568	36	......	......	......	......	......	......	......	0.19	1.66	0.08	0	4	......	......	......	......	James Meier.
Hansboro	Towner	1,597	22	61.2	−1.6	92	1	32	10	45	0.40	−1.82	0.20	0	3	25	3	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	70.6	+3.6	97	1†	46	31	42	1.09	−0.16	0.49	0	7	17	11	3	se.	C. H. Plath.
Hillsboro	Traill	901	24	71.6	+4.7	101	1†	44	11	40	0.67	−2.27	0.30	0	3	12	19	0	s.	G. Havland.
Howard‡‡ (near)	Williams	2,275	23	69.0	+5.5	100	1	39	31	43	2.33	+0.44	1.60	0	3	12	13	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	70.2	+4.0	100	1	41	10	48	1.26	−1.48	0.42	0	4	10	19	2	......	S. Calvelage.
Lamoine	Kidder	1,936	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. V. Virgin.
Langdon	Cavalier	1,615	34	68.2	+6.5	97	6	42	10	43	0.15	−2.50	0.12	0	2	27	4	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	70.5	+6.2	101	2	42	10	41	1.07	−1.53	0.80	0	4	23	2	6	s.	Reuben Gray.
Linton	Emmons	1,711	12	71.2	+2.2	100	2†	43	11†	48	3.01	+1.39	1.00	0	7	8	18	5	e.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	26	70.6	+4.1	97	2	44	10	43	2.55	+0.29	0.89	0	6	11	10	10	......	N. S. Lindstrom.
McClusky	Sheridan	1,943	12	68.4	......	96	1	40	10	43	1.44	......	0.56	0	7	20	7	4	se.	Edw. Tapley.
McLeod	Ransom	1,075	18	70.4	+2.8	99	2	40	10	45	1.59	−0.76	0.84	5	6	17	9	5	se.	J. G. Carlson.
Maddock	Benson	1,604	14	68.4	+2.7	......	......	......	......	......	0.82	−1.40	......	......	......	......	......	......	......	A. T. Felland.
Mandan	Morton	1,644	16	70.6	+2.8	99	6	45	10	41	2.00	+0.78	1.14	0	8	12	6	13	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27	......	......	......	......	......	......	......	0.71	−1.75	0.26	0	8	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	21	69.8^{i}	+4.2	102^{h}	1	48^{j}	31	40	2.44	+0.82	1.03	0	9	11	12	8	......	S. P. Grane.
Mary	McKenzie	......	3	......	......	......	......	......	......	......	1.46	......	0.34	0	8	21	1	9	se.	Fred Hartman.
Max	McLean	2,093	......	70.2^{c}	......	103^{c}	4	45^{c}	10†	54^{c}	1.63	......	0.60	0	6	16	5	10	......	A. W. Rice.
Mayville	Traill	975	34	70.4	+4.1	100	2†	37	10	45	0.16	−2.78	0.05	0	4	22	0	9	s.	N. C. Burhans.
Metigoshe‡‡	Bottineau	......	5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Thorburn.
Minot	Ward	1,557	34	69.2	+4.1	98	1†	45	28†	46	1.00	−1.20	0.45	0	7	18	8	5	e.	Julia B. Rue.
Mohall	Renville	......	1	72.2	+8.7	98	1	44	31	36	1.82	+0.04	0.65	0	7	11	17	3	se.	E. H. Wolsey.
Mott	Hettinger	2,424	23	71.6	+5.7	97	1†	42	30†	48	0.70	−0.94	0.21	0	5	11	8	12	se.	O. H. Opland.
Napoleon	Logan	1,955	38	71.2	+5.2	104	6	40	10	46	2.77	+0.38	2.05	0	8	12	11	8	s.	C. J. Hoof.
New England	Hettinger	2,400	39	72.2	+5.5	102	4	37	31	39	0.91	−0.86	0.31	0	6	14	11	6	se.	F. S. Sleight.
New Salem	Morton	2,163	26	72.6	+6.2	100	2†	45	31	43	0.79	−0.88	0.30	0	4	15	13	3	se.	J. Christiansen.
Oakes	Dickey	1,318	2	71.9	......	102	2	41	10	44	2.58	......	1.30	0	9	10	14	7	se.	Eugene Naylor.
Park River	Walsh	998	26	69.6	+4.1	96	2	44	10	39	0.68	−1.55	0.57	0	3	13	10	8	se.	C. B. Wright.
Parshall (near)	Mountrail	......	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. E. Shubert.
Pembina	Pembina	789	56	69.2	+5.1	93	3†	45	9†	42	T.	−2.13	T.	0	0	25	6	0	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	......	......	......	......	......	......	......	1.65	......	1.19	0	5	16	5	10	......	Chas. Ouradnik.
Pettibone	Kidder	1,856	21	70.8	+8.4	99	2†	43	10	41	1.97	−0.32	0.66	0	7	13	3	15	se.	A. L. Carlson.
Portal	Burke	1,954	16	68.6	......	100	1	32	31	49	1.42	......	0.61	0	9	21	1	9	se.	C. T. Holmes.
Power	Richland	1,020	36	......	......	......	......	......	......	......	0.55	−1.92	0.20	0	4	23	5	3	n.	Frank B. Power.
Powers Lake	Burke	2,205	16	72.3	......	99	1	41	21†	45	1.46	−0.13	0.64	0	7	17	11	0	e.	Geo. B. Gee.
Richardton	Stark	2,467	14	72.4^{a}	+4.6	99^{a}	2†	42^{a}	31	42^{a}	0.36	−1.23	0.21	0	4	9	16	6	se.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	......	......	......	......	......	0.27	......	0.17	0	2	14	13	4	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	......	......	......	......	......	1.75	......	1.05	0	6	......	......	......	......	E. M. Lomen.
Sanish	Mountrail	1,835	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. W. Monson.
Sharon	Steele	1,516	5	71.0	......	104	2	45	10	43	0.83	......	0.54	0	6	21	5	5	sw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6	......	......	......	......	......	......	......	0.97	......	0.27	0	4	19	6	6	se.	J. H. Giffey.
Steele	Kidder	1,857	34	70.6	+3.8	100	6	42	10	41	2.57	+0.23	1.44	0	7	14	9	8	se.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	......	......	......	......	......	......	......	1.34	......	0.70	0	6	2	15	14	......	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	......	......	......	......	......	......	......	2.45	......	1.65	0	8	22	1	8	se.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	......	......	......	......	......	0.75	......	0.44	0	2	10	15	6	se.	Anton Carlson.
Towner	McHenry	1,482	28	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	B. Bagley.
Trotters	Golden Valley	......	5	......	......	......	......	......	......	......	2.70	......	1.10	0	7	16	6	8	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	25	71.6	+6.0	101	2	43	10	48	1.28	−0.97	0.58	0	6	15	12	4	ne.	I. C. Robertson.
Velva	McHenry	1,511	4	69.8	......	99	5	41	10	42	1.07	......	0.31	0	8	13	9	9	w.	Oscar Anderson.
Verona	LaMoure	1,387	36	......	......	......	......	......	......	......	1.89	......	1.22	0	3	24	1	6	sw.	W. C. Taylor.
Wahpeton	Richland	962	38	74.0	+7.1	102	1†	41	10	43	1.59	−1.31	0.70	0	8	22	0	9	se.	C. G. Luick.
Washburn	McLean	1,731	28	72.3	+4.9	99	5	45	10	39	1.48	+0.15	0.77	0	5	13	11	7	se.	Fred Jeffries.
Westhope	Bottineau	1,508	26	68.8	+4.7	98	1	38	29	53	1.41	0.82	0.62	0	6	21	8	2	se.	W. A. Meddaugh.
Williston	Williams	1,878	51	71.4	+5.3	98	1	43	31	42	2.17	+0.70	1.36	0	9	19	5	7	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	68.4	+4.9	96	13	37	29	52	0.64	−1.44	0.19	0	6	21	6	4	se.	O. M. Sanderson.
Wilton	McLean	......	2	72.2	......	201	1	42	31	39	2.02	......	1.12	0	4	23	2	6	......	L. Q. Perkins.
Wishek	McIntosh	2,010	10	69.6^{b}	......	98^{b}	2	46^{b}	5†	46^{b}	3.21	......	2.50	0	5	6	14	11	se.	E. W. Davis.
Zap	Mercer	1,838	2	......	......	......	......	......	......	......	0.25	−1.80	0.14	0	3	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	49	72.2	+6.1	98	1	45	10	40	0.92	−1.97	0.39	0	8	8	13	10	s.	U. S. Weather Bureau.
Averages				70.4	+5.0	104	2†	32	10†	54	1.45	−0.83	5.01	0	6	15	9	7	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for August, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																																
Amenia ‖	Red															T	.79	1.25	.52	T		.05	.62										3.23
Arnegard (near)	Missouri						T						T	.11							.02		T					.11			.30	T	1.17
Ashley	Missouri											.08						.03	.70								T		T.	.05			0.86
Beach	Lit. Missouri																		1.26	1.76	.02	.15						.48		.02			3.69
Berthold Agency	Missouri						.39					.04																					.....
Bismarck ***	Missouri	T	T			.08	T.		.25			.01										.07					.17			.16			0.75
Bottineau ‖	Mouse					T.	.27	.15					.22						.16	.57	.02	.12					.04			.15		T.	1.71
Bowman	Grand	T.					.02		T			T.										.15						.01			.02		0.80
Cando	Devils Lake					T.											.76	1.09	.40		.01	.80		.35			.06					.02	3.49
Carrington	James					1.07	.08		.03		.18	.62	.26									T		T			.02	.19	T.				0.96
Carson	Heart												.05						.02	.15				.32			.69			.15			2.86
Cavalier	Red											.04					.30	.27	.05								.65			.02			0.67
Cooperstown	Sheyenne																											.16				.12	0.32
Corinth	Missouri											.24									.46												.....
Courtenay	James	T				.52			T.		T.	T	.13																	.07		.07	0.79
Crosby ‖	Mouse	T.															.02		.07	.42		.44	.23				.74			.12		.10	3.13
Devils Lake ***	Devils Lake	T	T.	T		T.	T.		T.			.31	.01							.01		T		.02			.07			.06		T.	0.59
Dickinson ‖	Heart			T.				.09									T.	.11	.04			.07	.01	.20						.04		.16	0.62
Dogden Butte	Mouse						T.					.03								.37		.47		.16				T					0.55
Drake ‖	Mouse						.04					.01							.15	.03	.10			.04			.13	.07		.11		.17	1.54
Dunn Center ‖	Knife							.26											.20					.10			.17		.03			.04	0.61
Dunseith	Mouse					.06						.13	.12									.10						.05					0.61
Eckman	Mouse					.04	.04					.05	.05															.02				.15	0.58
Edgeley	James								.17	.03										.01		.39		.05			.02					.30	0.95
Ellendale ***	James						.03		.12			T	.02						.66	1.45	.09							.84	.27				3.51
Energy	Missouri						.26		T.										2.89	.16	.03	.06					1.21	T.		.50			5.01
Epping	Missouri	T.																		.26		.07		T.			.20			.33		.05	1.11
Fairfield	Knife										.12							T				.78		.05						.14		.12	1.21
Fessenden ‖	James						.60	.02	.36								.12							.48		.05							1.01
Forman	Sheyenne		T.	.05					T.				.14						.05	.05	.01							.05			.15		1.07
Fort Yates	Missouri												.17						.05	.14	.25	.25						.78	T.		.04		1.73
Foxholm (near)	Mouse	T	T				.09		T.								.55		.65	.10		1.01					.15	.19					2.65
Fryburg	Heart	T.					.10					.21							.18	T.		.53		.06			.04			T.		.19	1.30
Fullerton	James		T.				.04		T.			.10				T	.40	.87	.30				.18				.02					T	1.97
Garrison	Missouri											T.	T.						.95	1.56		.08					T.	.83		.08			3.54
Grafton	Red						.45		T.			T	T.							.42	.03	.06		.05			.14			.07			1.22
Grand Forks ***	Red	T.	T.	T		T						T.												.28			T.	.40					0.68
Granville	Mouse					T.						T										T.					.10	.15		.37		.62	1.24
Hankinson ‖	Red						.02													.11		.25		.04			T.					T.	0.42
Hannah	Pembina	.15	.30	.32								.12							.05	.52							.12		T.	.40			1.98
Hansboro	Devils Lake	T.					.03						.08															.05	.03				0.19
Hettinger	Grand											.15	.05										T.									.20	0.40
Hillsboro	Red							T.									.09	.21	.08		T.	.05	.04		T.			.13		.49			1.09
Howard (near)	Missouri	T.	T					T.	T.			T.																.30		.25		.12	0.67
Jamestown ‖	James		T.														T	1.60			T	.60					T.					.13	2.33
Lamoine	Missouri						.31													.28	.25							.42					1.26
Langdon ‖	Pembina	*											.12																				.....
Larimore ‖	Red												.12															.03					0.15
Linton	Missouri												.11				T											.80			.05	.10	1.07
Lisbon ‖	Sheyenne						.20											1.00	.98			.15					.20	.23	T.	.25			3.01
McClusky	Missouri						.11													.34	.89							.83		.06	.32		2.55
McLeod	Sheyenne					.08						.06								.56		.18					.30			.15			1.44
Maddock	Sheyenne											T.	.09							.84								.31	.07	.02	.26		1.59
Mandan ‖	Missouri		T																														.....
Manfred	James						T	T	.04	.17		.07								1.14	.02	.14	T.					.04			.38		2.00
Marmarth	Lit. Missouri	.01				.26	.05						.20							.09		.02		.02		.05			.02			T.	0.71
Mary	Lit. Missouri						.05		.02							T	1.03	.86	.20		T.	.07		.25				.01				T.	2.44
Max ‖	Missouri						.17		.25			T.				T.	.03	.26	.04			.34					T.		T.	.25		.12	1.46
Mayville	Red																			.23	.17	.35			.60					.25	.03		1.63
Metigoshe	Mouse												.05										.04					.02			.05		0.16
Minot ‖	Mouse																																.....
Mohall	Mouse							.11				.03	.06							.07	.21	.45						.07					1.00
Mott	Cannon Ball				.09		.20	.06				.55								.12		.65								T.		.15	1.82
Napoleon ‖	Missouri								.18			T.			.04		.11	.21					T				.16		T.				0.70
New England	Cannon Ball							.02		.20									2.05	.02	.03			.02				.35		.08			2.77
New Salem	Heart	T.				T.	T.		.20		.02	.12				.08	.31						.28				.10						0.91
Oakes	James							T.	T.			.01	.06						.02	.21							.30			T.		T.	0.79
Park River	Red																		.33	1.30	.10	.05						.64	.03		.06		2.58
Parshall (near)	Missouri																											.57		.08		.03	0.68
Pembina ‖	Red										T.		T																				.....
Petersburg	Red																						T.				T.						T.
Pettibone	James	T.							T.			.09	.06												.05		.26	1.19					1.65
Portal ‖	Mouse						.20					.10	.05				T		.66	T.					T.	.55	.40			.01			1.97
Power	Sheyenne							.03			.11	.08							.01		.40		.61	.03				.03	T.			.12	1.42
Powers Lake	Missouri			.09		.03							.08															.20		.15		T.	0.55
Richardton	Heart						.04		T			.64							.06	.12						.16				.07		.31	1.46
Rugby [near]	Mouse					T											.03	.08								.21							0.36
Ryder	Missouri																					T.					.10					.17	0.27
Sanish ‖	Missouri																			.22		1.05		.11			.07			.24		.06	1.75
Sharon	Red	T.	T.			T.	T																										.....
Stanton	Missouri						.20		.26			.09	.02							T.							.05	[illegible]		.04	T.	.09	0.83
Steele	Missouri		T.				T		.45				T.						.24					T.		.27							0.97
Stowers	Cannon Ball						.70		.31										.06	1.44		.04			.04								2.57
Tagus	Mouse																.05	.16								.05	.48	.07	T.		.06	T.	1.34
Tioga	Missouri					.09						.11								.23		.78		1.05			.02			.03		.14	2.45
Towner	Mouse											.31										.44											0.75
Trotters	Lit. Missouri																																.....
Turtle Lake	Missouri								.08			T.					.40	1.10	.30			.42		.18								.22	2.70
Valley City	Sheyenne	T.	T.																														.....
Velva	Mouse							.09					.25							.58								.22			.13	.01	1.28
Verona	James						.04					.05								.31		.22		.26			.07			.10		.02	1.07
Wahpeton	Red																		.46	1.22							.21						1.89
Washburn	Missouri		T.	.05									.08							.02	.18		.16					.10			.30	.70	1.59
Westhope	Mouse					.09	.23		.23											.77							.16			T.		T	1.48
Williston ***	Missouri	T.	T.			.62	.17													.06		.28		.03								.25	1.41
Willow City	Mouse					.01	T					.10					T.	1.36	.05		.41	T.		.04			T.		.06	.01		.13	2.17
Wilton	Missouri					.19	.05					.04	.01									.18					T.					.17	0.64
Wishek ‖	Missouri					.63		T.												1.12	.16						.11						2.02
ap	Knife									.02										2.50	.04	.08						.57					3.21
							.14																				.09			.02			0.25
Moorhead, Minn ***	Red	T	T.	T.								.01	.15	T.						.07		.03					.07	.32	T.	.20		.07	0.92

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	102	100	95	93	99	98	95	87	82	78	72	74	91	97	95	88	85	84	79	83	79	87	89	90	94	94	82	84	83	90	86	88.2
	Minimum	55	57	60	62	55	57	61	57	52	41	51	56	54	54	56	57	50	52	53	54	53	59	59	59	59	61	60	48	50	52	55	55.1
Arnegard	Maximum	100	102	91	97	100	97	96	94	88	82	93	84	95	99	85	74	69	82	82	77	77	83	87	92	99	79	77	74	81	90	68	86.9
	Minimum	70	65	65	49	65	59	63	59	59	52	55	51	54	54	64	62	59	54	58	47	59	54	63	49	59	58	60	47	51	45	41	56.4
Ashley	Maximum	97	101	96	93	90	99	92	95	84	78	75	91	90	90	96	91	85	80	61	66	68	77	80	83	87	89	83	73	81	91	75	85.1
	Minimum	69	51	66	63	53	64	61	54	55	42	52	58	55	62	50	63	55	55	54	51	55	56	55	54	58	63	58	52	50	55	52	56.3
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Berthold Agency	Maximum	91	96	96	95	103	101	94	91	86	83	85	86	95	96	92	86	83	80	70	66	....	84	87	94	100	88	....	....	85	94	78	[c]88.8
	Minimum	62	60	60	46	64	52	60	54	49	47	57	58	48	52	61	63	62	58	51	58	....	53	64	55	58	64	....	....	42	47	45	[c]55.4
Bismarck	Maximum	92	94	95	92	95	97	91	90	84	79	78	85	92	91	89	87	83	70	65	67	72	81	80	85	90	83	76	78	82	92	63	83.8
	Minimum	72	59	66	61	67	61	60	56	59	45	63	60	57	60	64	63	60	55	56	59	58	56	62	61	65	60	55	50	52	54	46	58.8
Bottineau §§	Maximum	96	88	91	89	91	92	88	84	72	75	62	80	94	91	85	82	78	80	77	78	75	86	85	90	93	85	77	74	83	90	60	82.9
	Minimum	57	62	60	47	60	55	59	59	47	45	48	53	52	60	62	60	58	57	55	53	54	53	55	58	59	62	45	42	46	50	50	54.3
Cando	Maximum	93	94	91	91	90	92	88	86	84	65	68	76	90	88	87	82	82	83	78	79	77	85	86	74	90	88	76	75	80	89	87	83.7
	Minimum	67	69	72	61	59	55	59	55	59	43	47	54	53	54	60	55	52	49	55	52	56	50	57	61	55	62	50	45	41	48	52	55.1
Carrington	Maximum	98	95	90	96	89	87	86	80	76	68	79	90	87	92	84	81	78	60	74	73	81	83	85	89	89	76	77	80	89	78	67	82.5
	Minimum	59	61	54	57	58	59	59	52	41	58	55	53	54	55	59	52	49	54	57	51	56	57	59	60	60	53	49	50	53	50	42	54.5
Carson	Maximum	99	92	100	95	95	98	97	95	98	78	80	82	93	95	87	80	83	70	70	72	80	84	84	87	92	89	80	76	86	94	75	86.6
	Minimum	69	65	60	56	60	65	60	62	60	50	48	55	50	55	58	50	56	53	52	56	52	53	60	56	59	60	45	42	50	54	42	55.3
Crosby §§	Maximum	96	94	90	90	91	94	90	84	80	81	73	83	91	93	81	71	71	76	72	65	76	81	87	90	96	75	71	70	80	86	52	81.6
	Minimum	60	57	58	53	62	60	57	54	49	49	57	46	50	57	61	58	58	55	54	53	53	54	57	61	60	64	50	47	49	52	44	54.8
Devils Lake	Maximum	95	95	94	89	90	94	89	84	77	75	64	75	91	88	89	82	82	80	71	79	70	86	86	88	92	89	76	76	81	91	65	83.3
	Minimum	70	64	64	57	59	57	60	57	49	41	56	56	55	57	62	57	50	52	56	51	57	56	59	60	62	62	53	49	44	54	42	55.7
Dickinson §§	Maximum	96	98	92	93	99	98	92	93	87	84	90	83	92	94	90	76	78	76	61	77	81	86	84	90	97	82	77	80	85	89	52	85.8
	Minimum	47	63	64	47	48	59	58	59	55	52	53	60	48	48	55	60	58	57	50	50	58	54	55	54	55	57	49	45	46	49	45	53.5
Dunn Center §§	Maximum	96	97	93	91	99	98	91	88	84	83	90	81	94	94	88	82	67	76	67	68	80	82	83	89	95	79	76	77	82	89	89	85.5
	Minimum	62	63	64	48	61	56	58	58	52	47	58	58	49	54	60	62	60	60	50	55	60	51	62	52	60	60	50	42	51	47	46	55.4
Dunseith	Maximum	95	90	88	86	91	93	86	85	75	73	68	79	90	90	88	80	79	78	75	78	76	85	84	89	93	90	74	72	81	90	69	82.9
	Minimum	60	60	64	54	60	54	59	58	49	45	52	53	54	58	63	57	55	56	56	52	53	51	57	56	58	62	51	47	43	49	41	54.4
Edgeley	Maximum	96	100	96	93	96	102	92	93	86	79	76	91	92	93	93	88	93	84	79	73	70	80	74	85	88	89	76	71	75	90	87	86.5
	Minimum	54	53	66	61	60	65	62	65	51	37	53	59	51	63	52	59	50	59	55	55	55	55	54	54	53	53	51	59	55	57	56	56.0
Ellendale	Maximum	96	98	95	93	93	98	92	95	83	77	74	88	90	91	92	89	84	66	62	74	72	79	81	83	88	89	78	76	80	88	79	84.6
	Minimum	57	56	71	63	56	65	62	59	54	41	54	58	58	62	52	64	55	57	57	56	56	56	56	57	59	65	62	54	50	56	49	57.3
Fessenden §§	Maximum	100	98	98	94	98	92	92	89	83	78	73	84	95	91	95	88	86	83	67	78	71	86	88	92	96	91	74	80	83	93	70	86.6
	Minimum	65	69	64	53	52	55	60	58	47	40	58	55	57	55	60	60	62	52	57	57	55	48	55	55	60	60	50	49	45	47	46	55.0
Foxholm (near)	Maximum	96	93	92	90	95	94	89	86	81	78	72	80	89	92	82	84	80	81	75	67	76	81	80	87	92	88	73	71	79	90	80	83.6
	Minimum	65	67	66	50	65	56	54	58	48	42	52	54	56	55	62	57	75	55	53	55	56	55	61	56	63	59	51	45	48	55	43	55.5
Fullerton	Maximum	100	102	96	93	95	101	95	96	85	78	76	88	91	92	94	88	83	68	61	67	71	79	81	83	87	88	77	80	79	88	76	85.1
	Minimum	57	56	67	61	57	64	64	59	56	41	53	57	57	63	54	63	55	58	56	55	57	56	56	58	60	64	53	55	51	57	55	57.3
Garrison	Maximum	100	95	90	94	101	96	92	88	82	80	80	81	95	91	90	85	83	78	66	67	79	81	82	90	94	81	77	78	84	93	68	85.4
	Minimum	71	62	64	53	60	59	61	60	55	45	63	58	53	58	63	62	59	58	56	57	58	52	61	57	60	61	53	47	53	49	47	57.3
Grafton	Maximum	95	94	96	94	90	93	91	90	81	76	75	76	93	91	89	83	80	83	82	83	80	87	87	90	93	94	83	77	81	86	90	86.5
	Minimum	65	56	60	56	56	59	64	58	45	45	55	58	51	52	61	53	46	49	49	52	53	60	60	57	60	65	55	47	47	53	50	54.7
Grand Forks	Maximum	97	98	96	90	94	91	90	80	78	74	68	74	91	88	89	82	80	82	80	82	77	84	84	90	92	92	81	79	81	87	78	84.8
	Minimum	70	61	62	58	57	61	61	56	47	41	58	60	51	57	61	59	54	48	54	55	57	64	62	63	63	69	57	49	50	54	48	57.1
Granville	Maximum	98	95	93	94	96	100	91	90	80	78	75	82	96	92	90	86	84	81	70	73	79	85	80	89	94	79	76	76	82	94	74	85.5
	Minimum	63	60	60	48	62	53	57	58	48	41	57	58	53	53	72	60	54	55	57	53	55	50	60	52	60	52	51	43	41	50	42	54.1
Hansboro	Maximum	92	85	75	80	80	80	80	85	80	70	63	80	80	86	80	80	75	75	73	76	76	76	75	76	70	65	75	70	75	88	80	77.5
	Minimum	60	60	60	48	55	45	45	45	35	32	38	42	47	50	45	45	37	37	44	47	48	46	45	45	45	44	45	34	40	45	40	45.0
Hettinger §§	Maximum	97	96	91	93	95	96	94	97	87	84	87	86	90	94	85	65	78	70	71	78	79	84	81	87	94	85	76	74	85	87	60	84.8
	Minimum	56	67	67	60	61	61	58	59	61	53	58	58	49	52	57	61	61	61	55	54	55	56	62	53	54	52	50	48	53	51	46	56.4
Hillsboro	Maximum	101	101	91	90	95	94	94	89	80	72	70	68	94	94	85	85	80	80	80	80	80	83	83	84	90	90	80	78	89	89	86	85.6
	Minimum	70	67	62	60	55	63	65	56	50	45	44	50	55	62	56	58	48	54	56	50	55	65	60	66	64	67	60	48	55	62	56	57.5
Howard (near)	Maximum	100	97	89	94	94	98	97	88	85	77	84	84	95	97	84	74	70	73	75	75	78	81	86	89	95	75	73	71	81	71	55	83.4
	Minimum	64	66	60	72	54	60	57	57	54	50	55	49	54	54	58	57	48	58	50	52	50	51	51	58	60	65	44	44	49	49	39	54.5
Jamestown §§	Maximum	100	96	92	98	99	92	91	84	78	75	87	92	90	93	87	83	79	68	74	74	80	82	88	91	92	78	80	81	94	71	69	85.1
	Minimum	58	55	62	61	51	62	65	55	51	41	45	56	55	55	50	57	54	53	54	55	55	56	57	58	60	64	56	59	50	51	55	55.4
Lamoine	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Langdon §§	Maximum	90	83	90	88	90	97	87	86	85	73	66	81	91	87	83	82	81	83	79	83	79	88	84	91	95	90	72	64	70	93	64	83.1
	Minimum	56	62	60	50	57	62	58	55	46	42	56	52	50	54	58	52	50	51	52	50	55	52	55	56	60	60	50	43	44	50	50	53.2
Larimore §§	Maximum	96	101	95	92	95	95	93	84	74	76	72	71	92	91	90	88	86	84	82	83	84	87	90	92	94	90	78	77	80	88	88	86.7
	Minimum	55	60	62	57	55	56	62	56	47	42	54	51	51	55	60	54	54	50	48	49	53	57	60	60	62	63	56	48	44	48	51	54.3
Linton	Maximum	98	100	98	96	95	100	95	88	88	81	80	94	95	95	96	96	87	80	68	67	75	81	83	88	90	92	76	77	82	92	84	87.5
	Minimum	67	53	65	64	66	65	55	51	53	45	43	46	55	54	51	65	58	55	50	43	55	56	60	59	60	60	55	49	46	52	45	54.9
Lisbon §§	Maximum	90	97	94	91	95	95	92	94	82	75	73	81	89	89	92	87	85	74	63	75	74	82	84	85	89	91	78	77	80	84	78	84.4
	Minimum	59	57	61	60	52	65	64	65	54	44	52	57	56	58	51	59	54	51	57	56	55	56	56	59	62	65	63	50	52	55	56	56.9
McClusky	Maximum	96	94	95	90	94	94	89	82	82	78	82	85	95	91	93	84	88	72	69	68	78	77	86	86	90	86	80	75	81	90	85	84.5
	Minimum	56	54	52	50	55	53	58	53	50	40	52	55	56	54	51	51	53	53	52	54	53	49	57	56	58	60	55	43	47	48	43	52.3
Maddock	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Marmarth	Maximum	102	97	94	91	98	101	92	98	91	86	94	88	89	93	85	75	65	71	....	....	84	....	86	88	89	....	....	....	....	....	68	[h]79.3
	Minimum	72	67	64	56	68	67	55	64	66	56	54	63	50	53	60	60	59	61	....	....	....	....	....	65	60	....	....	....	....	....	48	[j]60.4
Minot §§	Maximum	98	91	93	92	98	95	90	87	80	79	71	82	94	91	89	84	80	79	66	67	79	83	82	89	92	80	70	74	81	93	54	83.8
	Minimum	64	60	62	46	60	49	57	56	48	47	54	55	52	50	58	60	57	57	56	56	57	51	60	55	62	62	51	45	45	50	47	51.6
Mohall	Maximum	98	90	88	93	90	98	92	81	77	74	71	82	84	95	90	84	80	79	82	70	80	85	82	88	95	82	75	78	84	82	76	84.0
	Minimum	70	68	63	64	69	68	68	64	64	65	63	64	56	61	60	57	58	66	61	54	54	60	56	63	68	52	52	53	57	46	44	60.3
Mott	Maximum	97	90	97	93	96	97	93	96	86	86	85	87	90	94	87	86	81	70	69	78	73	82	90	86	94	85	80	76	84	88	90	86.6
	Minimum	66	56	53	60	62	61	62	60	51	54	58	53	56	62	62	50	68	60	55	57	55	58	54	56	60	53	53	52	53	42	42	56.6
Napoleon §§	Maximum	98	100	96	95	97	104	94	92	85	83	71	92	93	94	98	89	86	68	64	68	72	81	82	90	92	94	79	80	82	94	69	86.5
	Minimum	73	54	67	61	51	64	57	54	53	40	53	58	55	56	53	60	54	52	53	54	54	56	58	55	60	66	55	49	51	56	50	55.9
New Salem	Maximum	95	100	95	95	98	100	92	91	85	89	82	87	95	95	92	89	85	75	70	68	75	82	83	89	95	89	77	72	82	95	87	87.2
	Minimum	70	57	66	54	66	63	62	59	54	57	61	61	55	58	57	59	62	57	58	62	56	51	61	53	59	60	51	51	52	57	45	57.9
Pembina §§	Maximum	90	90	93	92	89	92	85	84	81	84	81	79	68	79	93	85	86	76	81	84	76	84	85	88	88	88	82	73	75	91	75	83.9
	Minimum	60	62	60	62	56	54	50	54	45	48	45	62	50	46	53	58	64	62	54	50	52	54	54	55	56	66	54	46	50	49	56	54.4
Steele	Maximum	92	95	94	95	96	100	92	90	85	78	78	88	93	92	92	88	84	76	74	68	74	78	78	88	89	88	76	78	80	90	65	85.0
	Minimum	54	56	64	58	56	62	60	54	54	42	54	58	52	58	57	61	58	54	54	56	54	54	62	60	63	65	53	49	50	58	48	56.1
Towner	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Valley City	Maximum	96	101	92	93	97	98	93	93	90	78	78	79	89	91	94	91	84	82	76	76	79	84	85	87	90	93	89	80	82	92	89	87.6
	Minimum	63	53	63	60	50	63	62	53	52	43	52	53	55	54	52	66	54	52	55	55	53	56	56	57	61	64	59	47	51	52	56	55.5
Wahpeton	Maximum	102	100	102	95	96	100	98	95	90	81	79	74	91	94	97	93	85	81	76	79	80	84	86	89	93	93	90	82	86	95	92	89.6
	Minimum	66	68	75	60	57	66	65	58	55	41	50	58	58	56	54	64	58	58	59	57	57	59	56	56	57	66	67	49	49	58	57	58.5
Westhope	Maximum	98	92	94	94	93	95	90	86	79	78	68	92	96	94	87	85	82	83	73	76	82	87	86	91	95	84	79	78	84	95	56	85.5
	Minimum	60	60	60	47	61	52	52	55	46	44	54	50	52	51	50	53	56	58	55	49	53	49	59	57	58	56	49	48	38	42	43	52.2
Williston	Maximum	98	96	89	93	95	97	93	89	83	85	87	83	93	95	84	74	69	78	72	73	79	81	86	90	97	78	75	74	83	88	57	84.3
	Minimum	63	66	65	51	68	64	60	61	57	57	57	54	56	57	66	63	59	59	54	60	54	57	64	62	66	60	50	48	56	52	43	58.4
Moorhead, Minn	Maximum	98	98	94	91	95	94	91	86	79	75	69	72	89	89	92	85	81	80	69	79	77	83	85	87	90	92	80	79	82	89	88	85.1
	Minimum	69	66	71	66	62	67	67	62	53	45	56	58	58	59	60	62	54	58	61	55	56	62	57	60	61	66	61	54	51	57	48	59.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 9-26-30—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

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ILLINOIS

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIX Bismarck, N. D., September, 1930 No. 9

GENERAL SUMMARY

Generally fair weather prevailed during the first five days, and during that period combining of small grains and shock threshing made excellent headway. From the 6th to the 14th, inclusive, light to heavy showers were general, delaying threshing but greatly improving plowing and fall seeding conditions. Much corn was cut for fodder, and silo filling was nearly completed at the end of the second decade. During the last decade flax harvesting and threshing of all kinds were practically completed. Generous rains greatly improved pastures and livestock was in good condition at the close of the month.

TEMPERATURE

The mean temperature for the state was 56.2°, or 0.2° below the normal, and 3.5° higher than the mean for September, 1929. The highest mean reported was 62.1° at Wahpeton, Richland County; the lowest was 47.6° at Hansboro, Towner County. The highest temperature reported was 98° at New Salem, Morton County on the 4th; the lowest was 10° at Carrington, Foster County on the 28th. The greatest monthly range of temperature was 80° at Willow City, Bottineau County; the least was 56° at Powers Lake, Burke County. The greatest daily range in temperature was 58° at Fort Yates, Sioux County on the 20th.

PRECIPITATION

The average precipitation for the state was 1.02 inches, or 0.62 inch below the normal, and 0.63 inch less than the average for September, 1929. The greatest monthly amount reported was 3.18 inches at Park River, Walsh County; there was none at Verona, Lamoure County. The greatest amount recorded in any 24 consecutive hours was 2.70 inches at Hankinson, Richland County on the 11th. The average number of days with 0.01 inch or more of precipitation was 4.

AURORAS

Auroras were observed at Bottineau, Crosby, Foxholm, Larimore and Tagus on the 1st; at Arnegard, Bottineau, Dogden Butte, Pettibone, Tagus and Willow City on the 2d; at Bottineau and Foxholm on the 3d; at Fessenden, Napoleon and Oakes on the 4th; at Arnegard and Tagus on the 16th; at Bottineau and Foxholm on the 18th; at Tagus on the 19th; at Foxholm on the 20th and 21st; at Rugby on the 23d; at Foxholm and Velva on the 25th; at Bottineau, Crosby and Napoleon on the 26th; at Crosby, Foxholm, Napoleon, Oakes, Stanton, Tagus and Velva on the 27th; at Bottineau, Crosby, Epping, Fessenden, Foxholm, Grand Forks, Larimore, Rugby, Stanton, Tagus and Willow City on the 28th; at Arnegard, Bottineau, Bowman, Crosby, Epping, Foxholm, Grand Forks, Hannah, Hettinger, Larimore, Marmarth, Oakes, Petersburg, Rugby, Sharon, Stowers, Tagus and Willow City on the 29th; and at Dogden Butte, Napoleon and Velva on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.92	30.35	3	29.21	23	57	5,710	7.9	38§	w.	12
Devils Lake	29.91	30.40	30	29.23	23	44	5,834	8.1	51§	sw.	24
Ellendale	29.97	30.36	30	29.36	23	56	8,016	11.1	37§	sw.	23
Grand Forks	29.88	30.41	30	29.33	23	90	... ...	.....	36	sw.	23
Williston	29.91	30.32	3	29.09	23	48	4,782	6.6	32§	w.	24
Moorhead, Minn	29.92	30.41	30	29.40	23	58	5,491	7.6	27§	sw.	23
Av'ges and extremes	29.92	30.41	30	29.09	23	.....	... ...	8.3	38§	w.	12

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p'c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	255.9	376.6	68	+ 6	80	44	46	29	1
Devils Lake	251.4	377.2	67	− 1	82	42	39	20	3
Ellendale	303.2	376.0	81	+19	75	44	...	21	23
Grand Forks	.....	.....	.....	.....	84	....	58	....	....
Williston	265.0	377.2	70	+12	82	46	46	25	1
Moorhead, Minn	262.9	376.6	70	+ 8	75	40	41	22	2
Averages and extremes	267.7	376.7	71	+ 9	80	43	46	20	3

† And other dates

COMPARATIVE STATE DATA FOR SEPTEMBER

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P.cdy days	Cl'dy days	Wind Dir
1892	59.2	+2.8	101	24	0.84	−0.80	4	16	7	7	nw.
1893	57.1	+0.7	102	8	0.81	−0.83	4	18	7	5	nw.
1894	58.2	+1.8	104	18	1.38	−0.26	5	15	7	8	w.
1895	56.6	+0.2	100	12	0.77	−0.87	4	12	12	6	nw.
1896	63.6	+7.2	98	11	1.83	+0.19	6	12	8	10	nw.
1897	64.1	+7.7	109	18	0.28	−1.36	2	20	7	3	se.
1898	56.8	+0.4	98	10	1.25	−0.39	4	14	9	7	nw.
1899	55.0	−1.4	101	11	0.58	−1.06	3	17	9	4	nw.
1900	54.6	−1.8	98	17	4.95	+3.31	8	12	7	11	nw.
1901	53.6	−2.8	100	12	2.01	+0.37	7	10	8	12	nw
1902	53.6	−2.8	95	15	0.73	−0.91	4	16	8	6	nw.
1903	51.6	−4.8	90	18	2.99	+1.35	7	12	6	12	nw.
1904	54.7	−1.7	96	18	1.65	+0.01	5	14	7	9	nw.
1905	59.8	+3.4	104	23	1.63	−0.01	5	16	8	6	se.
1906	62.8	+6.4	109	20	1.20	−0.44	4	19	6	5	sw.
1907	52.1	−5.3	96	9	1.39	−0.25	6	14	8	8	nw.
1908	60.7	+4.3	104	16	1.11	−0.53	4	17	7	6	nw.
1909	59.0	+2.6	93	24	0.86	−0.78	4	16	8	6	se.
1910	55.3	−1.1	99	18	1.96	+0.32	4	14	7	9	nw.
1911	54.9	−1.5	95	21	2.49	+0.85	8	12	8	10	nw.
1912	51.5	−4.9	124	18	2.68	+1.04	10	11	6	13	nw.
1913	57.2	+0.8	108	8	1.75	+0.11	6	16	8	6	nw.
1914	59.3	+2.9	98	25	1.06	−0.58	5	16	8	6	se.
1915	54.6	−1.8	104	23	2.39	+0.75	9	10	8	12	nw.
1916	55.1	−1.3	99	15	1.62	−0.02	6	14	9	7	nw.
1917	56.4	0.0	97	16	1.08	−0.56	5	12	9	9	se.
1918	51.9	−4.5	93	11	0.39	−1.25	3	15	9	6	nw.
1919	58.6	+2.2	100	20	0.92	−0.72	5	12	10	8	nw.
1920	59.0	+2.6	99	19	2.26	+0.62	8	15	9	6	se.
1921	57.0	+0.6	101	25	3.30	+1.66	12	12	10	8	nw.
1922	59.8	+3.4	104	23	2.16	+0.52	6	16	8	6	nw.
1923	60.1	+3.7	99	15	2.39	+0.75	6	14	8	8	nw.
1924	55.0	−1.4	98	20	2.31	+0.67	7	15	7	8	nw.
1925	58.1	+1.7	103	20	2.74	+1.10	8	12	8	10	nw.
1926	52.3	−4.1	95	9	2.42	+0.78	9	11	9	10	nw.
1927	56.8	+0.4	101	10	0.93	−0.71	3	16	9	5	nw.
1928	53.9	−2.5	95	12	0.93	−0.71	5	17	7	6	nw.
1929	52.7	−3.7	105	12	1.65	+0.01	5	11	9	10	nw.
1930	56.2	−0.2	98	10	1.02	−0.62	4	16	9	5	nw.

Climatological Data for September, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr. Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Precipitation, in inches Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	Number of days With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Alpha	Golden Valley		4								1.42		0.71	0	3					H. A. Bury.
Amenia	Cass	954	34	57.1	−0.2	90	24	19	28	49	1.34	−0.63	0.70	0	6	10	19	1	nw.	I. Idso.
Arnegard (near)	McKenzie		15	56.8	0.0	90	5	23	27	45	0.16	−1.44	0.10	0	3	24	6	0	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	56.8	−0.5	85	4	21	28	42	0.39	−0.63	0.16	0	4	21	5	4	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	56.6	+0.3	82	4†	23	27	42	1.41	+0.14	0.96	0	3				nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	57.4	+0.4						0.65	−0.79								C. L. Hall.
Bismarck	Burleigh	1,674	55	57.7	−0.4	88	10	25	28	38	2.70	+1.47	1.79	0	7	15	10	5	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	38	52.8	−2.7	89	10	15	28	48	1.27	−0.30	0.51	0	6	15	14	1	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	16	56.6		88	10	24	26	43	1.92	+0.62	1.45	0	8	18	8	4	nw.	George Larsen.
Cando	Towner	1,488	29	56.0	+0.4	89	10	17	29	45	0.32	−1.11	0.24	0	2	8	15	7	w.	L. A. Swanson.
Carrington	Foster	1,579	2	56.4^{c}		89^{c}	10	10^{c}	28	41^{c}	0.77		0.45	0	6					J. W. Evens.
Carson	Grant	2,500	18																	A. J Swanson.
Cavalier	Pembina		3								2.80		1.78	0	5	20	3	7	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	24																	A. G. Hoel.
Corinth	Williams	2,180	3								0.75		0.24	0	6	19	6	5	nw.	L. S. Evenson.
Crosby	Divide	1,954	24	53.8	+0.1	83	5	20	28	44	0.30	−1.09	0.16	0	3	9	15	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	33	55.5	−0.4	90	10	17	28	39	0.96	−0.67	0.40	0	5	11	11	8	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	54.6	−1.9	89	4	20	28	55	1.52	+0.45	0.63	0	8	16	10	4	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	56.2		87	18	18	28	40	0.76		0.52	0	4	18	8	4	nw.	R. L. Williams.
Drake	McHenry	1,634		54.8		91	9	16	27	46	1.37		0.73	0	4	24	2	4	nw.	J. Rindt.
Dunn Center	Dunn	2,191	31	54.8^{a}	−2.3	86^{a}	4	24	27†	47^{a}	1.89	+0.77	1.22	0	5	15	6	9	w.	W. F. Moede.
Dunseith	Rolette	1,682	34	54.4	−0.4	87	10	20	28	39	0.58	−0.99	0.26	0	4	12	12	6	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	54.0	−1.5	90	10	11	28	50	0.66	−0.47	0.54	0	2	6	20	4	se.	C. E. Strock.
Edgeley	LaMoure	1,568	29	58.6	+1.1	86	18	20	29	46	0.20	−1.46	0.20	0	1	11	17	2	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	57.0	−1.4	85	23	22	28	43	0.29	−1.73	0.14	0	4	15	8	7	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	18	57.2		91	10	23	28	44	0.58	−0.96	0.30	0	2	13	15	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	52.9		84	4†	21	27	44	1.53	+0.07	0.79	0	4	18	9	3	nw.	A. O. Wang.
Fairfield	Billings		3								1.51		0.70	0	4	15	10	5	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	56.4	+1.3	92	4†	16	28	50	1.14	0.58	0.50	0	5	18	8	4	sw.	T. D. Monsen.
Forman	Sargent	1,249	36								0.21	−1.61	0.13	0	2	23	2	5	nw.	E. W. Bowen.
Fort Yates	Sioux	1,670	30	61.2	+1.2	92	18	22	27	58	0.42	0.55	0,23	0	3	20	6	4		P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	54.8		87	10	17	28	44	0.84		0.44	0	2	11	13	6	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12								2.17	+0.52	1.17	0	3	20	8	2	nw.	Verne King.
Fullerton	Dickey	1,439	32	57.2	+0.5	85	4†	22	28	43	0.87	−1.20	0.38	0	4	18	8	4	nw.	F. O. Alin.
Garrison	McLean	1,901	35	57.0	+0.2	94	10	23	28	46	0.32	−1.04	0.31	0	3	23	3	4	nw	W. F. Robinson.
Grafton	Walsh	827	39	57.2	+1.3	89	19	21	30	45	2.66	+0.84	1.85	0	5	14	5	11	se.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	39	56.4	+0.2	87	23	21	29	40	1.43	−0.43	0.57	0	6	10	19	1	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	55.2	+0.8	90	10	15	28	48	0.87	−0.38	0.70	0	2	18	9	3	nw.	W. A. Christianson.
Hankinson	Richland	1,068		59.0		90	3	26	27†	52	2.89		2.70	0	3	22	4	4	w.	R. G. Stock.
Hannah	Cavalier	1,568	36								1.51	−0.63	0.71	0	3					James Meier.
Hansboro	Towner	1,597	22	47.6	−6.5	85	10	11	28	46	1.15	−0.75	1.00	0	3	18	10	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	56.0	−2.0	90	11	24	28	44	1.32	+0.02	0.55	0	8	19	10	1	nw.	C. H. Plath.
Hillsboro	Traill	901	24	56.2^{c}	−2.8	86^{c}	23	22	29	47^{c}	0.40	−2.09	0.30	0	3					G. Havland.
Howard ‡‡ (near)	Williams	2,275	23	54.4	+0.6	84	5	21	27	42	0.48	−0.89	0.26	0	2	6	17	7	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	38	56.7	0.0	91	3	17	29	52	0.46	−1.07	0.27	0	5	15	12	3	n.	S. Calvelage.
Lamoine	Kidder	1,936	25																	E. V. Virgin.
Langdon	Cavalier	1,615	34	52.9	−0.6	92	10	17	28	49	1.10	−0.89	0.46	0	5	23	3	4	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	55.5	+0.3	89	4†	20	28	41	1.45	−0.44	0.60	0	6	18	4	8	n.	Reuben Gray.
Linton	Emmons	1,711	12	57.2	−1.8	90	18	20	27	42	0.93	−0.93	0.50	0	2	14	13	3	e.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	26	57.0	−0.7	89	18	20	28	50	0.71	−1.44	0.26	0	4	18	6	6		N. S. Lindstrom.
McClusky	Sheridan	1,943	12	55.2		89	10†	17	28	56	0.59	−0.78	0.28	0	5	20	5	5	se.	Edw. Tapley.
McLeod	Ransom	1,075	18	59.0	+2.1	88	3†	15	28	52	0.38	−2.16	0.14	0	3	26	4	0	sw.	J. G. Carlson.
Maddock	Benson	1,604	14	54.8	−1.4	89	10	14	28	46	1.42	−0.84	0.81	0	4	6	17	7	nw.	A. T. Felland.
Mandan	Morton	1,644	16	57.0	−1.1	89	10	24	28	43	2.17	+0.71	1.35	0	7	13	4	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27								0.51	−0.84	0.31	0	3					P. B. Anderson.
Marmarth	Slope	2,714	21	58.3	+2.7						2.15	+0.92								S. P. Grane.
Mary	McKenzie		3								0.45		0.16	0	4	17	10	3	sw.	Fred Hartman.
Max	McLean	2,093		56.5^{c}		95^{c}	10	20^{c}	29	50^{c}	0.43		0.24	0	2					A. W. Rice.
Mayville	Traill	975	34	57.0	−0.4	89	11	20	28	50	0.75	−1.53	0.30	0	5	18	0	12	w.	N. C. Burhans.
Metigoshe ‡‡	Bottineau		5																	J. A. Thorburn.
Minot	Ward	1,557	34	54.5	2.2	88	10†	17	28	49	1.17	0.41	0.75	0	4	22	5	3	w.	Julia B. Rue.
Mohall	Renville		1	56.5		85	18	19	28	48	0.50		0.50	0	1	7	21	2	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	23	56.8	+0.5	90	10	22	29	54	2.66	+1.09	1.56	0	7	13	7	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	38	56.9	0.0	92	11	17	28	43	0.70	−0.54	0.22	0	7	19	6	5	nw.	C. J Hoof.
New England	Hettinger	2,400	39																	F. S. Sleight.
New Salem	Morton	2,163	26	58.0	+0.8	98	4	23	28	57	1.58	+0.23	0.88	0	7	16	8	6	nw	J. Christiansen.
Oakes	Dickey	1,318	2	58.4		87	4	18	28	43	0.33		0.16	0	4	11	13	3	sw.	Eugene Naylor.
Park River	Walsh	998	26	56.4	−0.5	87	10	23	30	44	3.18	+1.59	2.53	0	4	11	9	10	nw.	C. B. Wright.
Parshall (near)	Mountrail		15																	C. E. Shubert.
Pembina	Pembina	789	56	55.2	+1.4	89	10	20	29†	48	1.65	−0.04	0.75	0	3	15	10	5	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1								2.18		1.04	0	5	8	11	11		Chas. Ouradnik.
Pettibone	Kidder	1,856	21	57.0	+3.3	90	10	19	28	44	0.90	−0.49	0.70	0	5	16	4	10	nw.	A. L. Carlson.
Portal	Burke	1,954	16	53.4		89	10	11	27	48	0.38	−1.19	0.15	0	4	22	4	4	e.	C. T. Holmes.
Power	Richland	1,020	36								0.10	−1.96	0.10	0	1	21	9	0	n.	Frank B. Power.
Powers Lake	Burke	2,205	16	54.6		83	1	27	15	44	0.63	−0.46	0.37	0	2	22	3	5	w.	Geo. B. Gee.
Richardton	Stark	2,467	14	57.0	+0.2	92	10	24	27	46	1.60	+0.12	0.93	0	3	17	10	3	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2								0.53		0.27	0	3	10	16	4	nw.	E. C. Erickson.
Ryder	Ward	2,108	2								0.35		0.23	0	2					E. M. Lomen.
Sanish	Mountrail	1,835		53.4^{e}		91^{e}	1	23^{e}	29	57^{e}	0.62		0.19	0	6					H. W. Monson.
Sharon	Steele	1,516	5	57.0		90	4	20	28	38	1.48		1.19	0	4	18	10	2	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6								0.79		0.33	0	4	16	9	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	31	57.4	−0.4	88	10	19	28	44	0.61	−0.63	0.47	0	3	12	14	1	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15								1.30	+0.06	0.48	0	6	13	17	0		Chas. E. Stowers.
Tagus	Mountrail	2,179	3								0.26		0.26	0	1	21	2	7	nw.	J. C. Abbott.
Tioga	Williams	2,279	4								0.94		0.38	0	4	14	10	6	nw.	Anton Carlson.
Towner	McHenry	1,482	28																	B. Bagley.
Trotters	Golden Valley		5								1.33		0.68	0	4	13	10	7		A. J. Nellermoe
Turtle Lake	McLean	1,899	15																	E. T. Kusler.
Valley City	Barnes	1,245	25	60.2	+2.0	93	4	16	28	54	0.47	−1.17	0.30	0	5	9	18	3	nw.	I. C. Robertson.
Velva	McHenry	1,511	4	56.3		88	10†	17	28	43	0.71		0.46	0	2	13	11	6	w.	Oscar Anderson.
Verona	LaMoure	1,387	36								0.00		0.00	0	0	26	2	2	nw.	W. C. Taylor.
Wahpeton	Richland	962	38	62.1	+3.5	91	23	19	28	45	0.19	−2.03	0.09	0	3	24	0	6	se.	C. G. Luick.
Washburn	McLean	1,731	28	57.8^{a}	−0.7	92^{a}	10	24^{a}	27	44^{a}	0.65	−0.54	0.30	0	4	15	11	4	se.	Fred Jeffries.
Westhope	Bottineau	1,508	26	54.8	0.0						0.47	−0.72								W. A. Meddaugh.
Williston	Williams	1,878	51	56.4	−0.2	86	10	26	27	43	0.65	−0.44	0.29	0	7	19	8	3	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	54.0	−0.3	92	10	12	28	49	0.61	−0.91	0.33	0	3	22	7	1	nw.	O. M. Sanderson.
Wilton	McLean		2	58.3^{d}		89^{d}	10†	26^{d}	26	44^{d}	0.45		0.45	0	1	21	3	6		L. Q. Perkins.
Wishek	McIntosh	2 010	10	50.8^{c}		84^{c}	16	18^{c}	29	51^{c}	0.91		0.51	0	3	7	3	20	nw.	E. W. Davis.
Zap	Mercer	1,838	2								1.17		0.51	0	4					R. A. Norton.
Moorhead, Minn.	Clay	935	49	58.8	+0.6	89	23	24	28	41	0.52	−1.70	0.33	0	3	10	15	5	nw.	U. S. Weather Bureau.
Averages				56.2	−0.2	98	4	10	28	58	1.02	−0.62	2.70	0	4	16	9	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for September, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri							.24		.47			.71																				1.42
Amenia ‖	Red	.21				.02					.70		.20		.09	.12																	1.34
Arnegard (near)	Missouri									.02		T	.04		T									.10									0.16
Ashley	Missouri						.12	.16				.05			.06																		0.39
Beach	Lit. Missouri	T								.96			.43											.02									1.41
Berthold Agency	Missouri									.25		.40																					0.65
Bismarck ***	Missouri				.02		.21	.31		.10	T	1.74	.17		.15				T					T									2.70
Bottineau ‖	Mouse	.12										.51	.15	.10		.02								.03	T								1.27
Bowman	Grand						.02	.13	.04	.05		.01	1.45		.15									.06									1.52
Cando	Devils Lake	T										.24	.08																				0.32
Carrington	James						.01				.05	.01	.45	.07	.18																		0.77
Carson	Heart																																
Cavalier	Red											1.78	.28	.43	.22		.09																2.80
Cooperstown	Sheyenne																																
Corinth	Missouri			.01					.15				.21	.10										.05	.20								0.75
Courtenay	James									T	.02	.05	.14	.21																			0.42
Crosby ‖	Mouse	.16	T							T		T	.11				T								.03								0.30
Devils Lake ***	Devils Lake									.03	.21	.19	.23		.30	T			T				T		T								0.96
Dickinson ‖	Heart	T						.32	.31	.07	.13	.03	.63	.02	.01										T								1.52
Dogden Butte	Mouse									.02		.16	.52		.06																		0.76
Drake ‖	Mouse										.73	.21	.36	.07																			1.37
Dunn Center ‖	Knife								1.22	.04		.22	.35	.06																			1.89
Dunseith	Mouse	.01										.15	.26	.16																			0.58
Eckman	Mouse											.12	.54																				0.66
Edgeley	James														.20																		0.20
Ellendale ***	James						.08	.04		T			.14		.03					T				T									0.29
Energy	Missouri											.28	.30																				0.58
Epping	Missouri								.04	T	.79		.45											.25									1.53
Fairfield	Knife							.70		.30			.40											.11									1.51
Fessenden ‖	James	.16										.20	.50	.06	.22																		1.14
Forman	Sheyenne						.13					T		.08																			0.21
Fort Yates	Missouri							.14		.23					.05																		0.42
Foxholm (near)	Mouse									T		.44	.40											T	T								0.84
Fryburg	Heart					.38		.62			T		1.17																				2.17
Fullerton	James						.12	.25	T			.38			.12																		0.87
Garrison	Missouri							.01	T	T		.08	.23	T	T																		0.32
Grafton	Red										.05	1.85	.47	.20	.09																		2.66
Grand Forks ***	Red				.16						.57	.42	.11	.01	.16																		1.43
Granville	Mouse											.37	.50																				0.87
Hankinson ‖	Red						.14					2.70		T	T				.05														2.89
Hannah	Pembina	T					T	T				.71	.12	.68																			1.51
Hansboro	Devils Lake											.10	1.00			.05																	1.15
Hettinger	Grand	.15					.03	.40	T	.01	.08		.55	T	.05										.02								1.32
Hillsboro	Red										.06		.04		.30																		0.40
Howard (near)	Missouri		T								T	T	.22						T				T	.26									0.48
Jamestown ‖	James									.09		.05	.27	.02	.03																		0.46
Lamoine	Missouri																																
Langdon ‖	Pembina	.14										.46	.16	.30	T	.04	T																1.10
Larimore ‖	Red	.06									.60	.60	.05	.02		.12																	1.45
Linton	Missouri						T	.43	T			T	.50		T																		0.93
Lisbon ‖	Sheyenne					.26		.10					.18			.17																	0.71
McClusky	Missouri							.03	.02	T		T	.28	.24		.02																	0.59
McLeod	Sheyenne	.14						.11					.13		T																		0.38
Maddock	Sheyenne										.13	.81	.24	T	.24																		1.42
Mandan ‖	Missouri					.14		.06	.34	T	.02	T	1.35	.13	.13																		2.17
Manfred	James							T	T			.07	.31		.13																		0.51
Marmarth	Lit. Missouri					.06		.08		.66		.40	.91											.01							T		2.15
Mary	Lit. Missouri						T	.08		.12			.16											.09									0.45
Max ‖	Missouri	T										.24	.19																				0.43
Mayville	Red	.10									.05		.30			.20	.10																0.75
Metigoshe	Mouse																																
Minot ‖	Mouse	.06										.75	.34	.02																			1.17
Mohall	Mouse												.50																				0.70
Mott	Cannon Ball	.09					.04		.04	1.56	.03		.80		.10																		2.66
Napoleon ‖	Missouri							.07	.19	.01		.22	.19	.01		.10																	0.79
New England	Cannon Ball																																
New Salem	Heart						.02	.44		.11	.02	.01	.88		.10									T									1.58
Oakes	James						.16					.12	.04		.01																		0.33
ark River	Red										T	2.53	.20	.15	.30																		3.18
arshall (near)	Missouri																																
embina ‖	Red	T										.70		.75		.20	T																1.65
etersburg	Red									.02	1.04	.43	.62	.01			.06														T		2.18
ettibone	James						.03	T		.01	.03		.70		.13																		0.90
ortal ‖	Mouse										T	.15	.09											.06	.08								0.38
ower	Sheyenne				T								.10		T																		0.10
owers Lake	Missouri								.37													.26											0.63
ichardton	Heart						T	.93				.13	.54																				1.60
ugby (near)	Mouse										.21		.27	.05																			0.53
yder	Missouri										.23	.12																					0.35
anish ‖	Missouri	.19						.12	.05	.03		.15	.08																				0.62
haron	Red									T	1.19	.01	.12		.16																		1.48
tanton	Missouri											.33	.31	.05	.10																		0.79
teele	Missouri						.06					.08	.47																				0.61
towers	Cannon Ball	.03						.16	T	.18			.40		.48									.05									1.30
agus	Mouse												.26																				0.26
ioga	Missouri											.38	.34											.20	.02								0.94
owner	Mouse																																
rotters	Lit. Missouri							.33		.68		.18											.14										1.33
urtle Lake	Missouri																																
alley City	Sheyenne									T	.30	.03	.05	.01	.08																		0.47
elva	Mouse											.46	.25																				0.71
erona	James																																0.00
Wahpeton	Red											.07	.03		.09																		0.19
Washburn	Missouri							.17	.03	T		T	.30		.15																		0.65
Westhope	Mouse																																
Williston ***	Missouri								.01	.05		.23	.06		.01				T				T	.27	.02								0.65
Willow City	Mouse											.23	.33			.08																	0.64
Wilton	Missouri										.45																						0.45
Wishek ‖	Missouri					.51						.32		.08																			0.91
ap	Knife							.51			.20		.40	.06																			1.17
Moorhead, Minn. ***	Red		T		T					T	.14	T	.05		.33				T				T	T									0.52

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	72	76	75	89	70	77	82	81	82	87	78	80	82	70	60	55	72	89	65	69	76	87	90	73	61	56	57	58	58	65	..	73.1
	Minimum	46	43	40	42	40	41	43	52	49	52	60	52	50	51	42	42	36	40	42	33	35	42	44	55	34	34	32	19	21	22	..	41.1
Arnegard	Maximum	70	75	82	80	90	78	75	76	77	82	76	75	75	68	68	66	79	85	59	66	80	80	66	56	55	57	55	65	67	68	..	71.7
	Minimum	35	45	52	40	47	46	49	54	57	58	59	52	49	45	44	40	34	53	41	32	42	47	41	34	27	27	23	27	31	28	..	42.0
Ashley	Maximum	65	72	76	85	75	65	70	70	74	81	81	79	73	77	73	68	73	84	74	64	77	82	82	78	60	56	54	58	60	68	..	71.8
	Minimum	44	45	40	47	40	42	46	49	56	59	58	53	51	43	45	43	35	42	42	30	36	44	63	41	35	27	24	21	23	27	..	41.7
Beach	Maximum	53	67	77	82	80	75	67	70	74	82	78	63	71	66	68	62	78	81	66	65	79	77	68	52	52	60	64	65	65	63	..	69.0
	Minimum	41	35	46	50	46	57	51	53	69	59	53	50	48	46	47	40	36	54	45	33	42	50	52	36	26	29	23	33	36	38	..	41.1
Berthold Agency	Maximum	68	75	80	85	92	80	67	72	78	90	84	80	78	68	72	68	80	88	73	65	80	85	58	72	70	65	58	60	63	68	..	74.1
	Minimum	31	48	45	45	33	55	52	55	56	55	56	50	42	48	45	45	30	56	43	30	35	43	28	28	30	32	20	22	30	34	..	40.7
Bismarck	Maximum	68	74	76	87	74	67	60	73	69	88	77	72	79	66	72	65	74	88	60	65	77	86	80	61	55	57	54	58	61	66	..	70.3
	Minimum	44	50	41	54	47	52	52	53	57	60	57	55	50	48	48	45	39	51	42	36	39	54	54	42	35	30	27	25	31	34	..	45.1
Bottineau §§	Maximum	65	70	76	83	72	80	78	76	75	89	65	73	75	62	65	64	72	82	55	63	72	82	75	49	57	52	44	53	53	72	..	68.3
	Minimum	28	33	32	37	35	41	51	45	49	53	53	53	49	48	40	38	33	34	33	25	28	49	52	39	27	22	24	15	20	30	..	37.2
Cando	Maximum	72	71	74	85	72	79	82	81	79	89	88	72	73	73	75	65	71	85	84	61	72	78	82	69	59	58	50	54	54	61	..	72.3
	Minimum	38	46	33	44	36	46	44	43	48	59	56	57	51	54	42	41	34	43	39	29	34	37	34	40	33	23	31	29	17	29	..	39.7
Carrington	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Carson	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Crosby §§	Maximum	66	68	77	78	83	76	76	71	75	81	59	69	72	73	61	63	76	81	55	61	74	72	64	40	53	51	51	56	64	67	..	67.1
	Minimum	33	35	42	44	44	49	43	45	49	55	54	53	41	43	51	39	36	37	39	36	37	47	47	37	38	29	25	20	30	36	..	40.5
Devils Lake	Maximum	65	72	75	85	70	80	79	79	75	90	65	74	77	61	68	64	70	85	58	60	70	82	81	58	57	51	42	51	53	59	..	68.5
	Minimum	41	50	36	50	36	49	49	50	49	62	59	55	52	48	47	45	36	49	41	34	38	48	57	42	35	28	26	17	22	25	..	42.5
Dickinson §§	Maximum	65	74	81	89	84	73	60	70	73	88	63	67	76	65	70	63	78	84	58	65	78	84	69	58	54	59	57	61	63	67	..	69.9
	Minimum	32	35	35	34	43	44	50	49	51	54	54	53	48	48	46	43	33	32	45	34	32	43	48	37	29	25	23	20	29	31	..	39.3
Dunn Center §§	Maximum	..	72	81	86	83	75	57	72	71	84	65	68	76	65	68	63	76	80	84	58	65	76	68	62	55	56	54	59	61	64	..	[a]69.1
	Minimum	..	..	34	44	43	50	49	52	54	55	56	52	48	50	48	42	33	41	34	35	33	35	44	39	30	25	24	24	27	29	..	[b]40.4
Dunseith	Maximum	62	67	75	80	71	80	76	75	75	87	75	73	74	71	63	62	70	85	60	60	69	80	74	61	56	54	45	52	53	54	..	68.1
	Minimum	32	43	38	47	39	46	49	46	52	53	53	54	50	49	41	42	37	46	35	29	40	47	53	38	30	27	28	20	27	29	..	40.7
Edgeley	Maximum	56	74	76	74	73	65	70	71	75	76	82	77	84	71	76	74	74	86	76	65	74	84	86	70	65	58	59	56	58	67	..	71.7
	Minimum	52	44	41	46	43	44	54	50	58	54	60	54	50	51	44	50	53	63	47	33	44	60	54	53	33	30	28	27	20	21	..	45.4
Ellendale	Maximum	66	73	75	84	68	62	70	70	76	80	82	77	79	67	75	65	72	85	62	63	75	85	85	68	55	55	51	55	57	67	..	70.1
	Minimum	45	45	48	51	43	45	51	53	61	62	59	57	49	48	43	47	42	42	37	34	43	42	59	43	37	33	27	22	24	27	..	44.0
Fessenden §§	Maximum	71	71	80	92	76	80	80	81	76	92	72	77	81	66	70	65	76	88	59	64	75	89	86	60	57	53	48	56	60	64	..	72.2
	Minimum	35	42	35	49	37	43	45	55	45	50	60	56	47	54	44	44	35	38	48	33	37	45	57	42	32	26	26	16	18	22	..	40.5
Foxholm (near)	Maximum	64	69	76	81	78	80	77	74	71	87	78	71	74	65	64	64	71	85	62	62	72	81	73	55	55	52	47	51	56	65	..	68.7
	Minimum	35	45	40	54	42	55	41	50	48	51	52	53	44	46	46	42	34	54	38	30	43	45	54	39	29	27	30	17	20	21	..	40.8
Fullerton	Maximum	66	73	74	85	69	65	72	72	77	82	80	76	78	67	75	65	71	83	70	64	76	84	85	71	56	55	51	55	56	67	..	70.7
	Minimum	46	45	42	42	41	45	48	51	60	61	58	57	49	52	43	48	38	40	48	33	41	42	67	48	38	30	29	22	23	25	..	43.7
Garrison	Maximum	66	73	80	89	80	76	73	77	69	94	68	73	78	68	69	66	78	90	70	63	78	85	75	65	57	55	54	56	60	65	..	71.7
	Minimum	36	46	38	49	44	49	51	57	54	55	58	56	45	50	48	43	32	51	43	31	40	47	43	40	30	26	24	23	29	32	..	42.4
Grafton	Maximum	73	73	76	86	71	81	78	82	79	88	76	73	75	67	70	64	70	83	89	64	70	82	86	81	61	58	49	52	53	58	..	72.3
	Minimum	41	39	33	45	40	47	50	45	46	62	60	59	46	49	36	45	43	43	44	27	39	42	63	49	38	29	31	25	26	24	..	42.2
Grand Forks	Maximum	68	73	72	82	65	78	77	78	79	86	76	76	75	64	72	63	68	85	61	62	69	82	87	66	61	52	43	49	51	58	..	69.3
	Minimum	46	44	38	49	38	45	55	50	48	62	62	60	53	48	47	48	40	45	43	36	38	45	61	41	37	32	30	22	21	23	..	43.6
Granville	Maximum	66	72	80	85	79	83	80	79	75	90	75	59	78	69	69	67	75	92	59	62	75	85	74	60	57	54	50	53	59	62	..	70.8
	Minimum	36	43	32	48	37	43	40	50	41	50	53	55	45	46	47	44	35	47	40	30	37	45	54	40	32	28	25	15	18	31	..	39.6
Hansboro	Maximum	55	67	73	65	60	60	64	64	75	85	72	70	73	65	60	60	70	70	60	55	70	75	70	45	50	40	40	40	45	50	..	61.6
	Minimum	29	38	27	32	24	32	34	34	34	48	50	45	45	45	40	38	29	38	37	28	37	37	37	37	28	22	28	11	14	30	..	33.6
Hettinger §§	Maximum	60	65	75	79	89	79	67	67	69	73	90	79	69	79	67	73	64	78	85	58	64	79	86	70	60	51	66	62	63	63	..	70.8
	Minimum	38	39	39	40	46	47	59	52	55	56	53	49	48	46	47	43	34	34	47	31	31	44	51	37	30	25	26	24	33	34	..	41.3
Hillsboro	Maximum	67	72	72	78	..	78	72	75	75	83	83	75	75	75	67	66	67	..	58	62	68	82	86	..	..	50	50	..	50	55	..	[e]69.6
	Minimum	47	44	39	48	..	37	45	45	45	60	62	56	50	43	40	40	40	..	40	35	36	35	68	..	..	35	36	..	22	24	..	[e]42.9
Howard (near)	Maximum	70	71	80	81	84	80	75	70	75	81	70	68	72	67	74	61	65	82	57	70	80	76	57	50	55	47	50	54	57	65	..	68.1
	Minimum	33	41	38	48	48	49	45	48	51	51	51	54	44	40	34	42	38	54	40	30	38	63	50	34	25	25	21	24	32	34	..	40.8
Jamestown §§	Maximum	75	78	91	73	75	74	78	75	87	80	79	82	69	75	75	76	84	65	66	76	85	84	68	60	57	50	55	57	56	64	..	72.3
	Minimum	44	43	39	42	38	42	47	48	59	57	61	57	48	51	42	44	44	39	43	29	34	43	52	45	33	28	28	18	17	19	..	41.1
Lamoine	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Langdon §§	Maximum	67	70	40	74	72	80	77	80	82	92	67	70	75	66	68	59	72	81	58	63	70	80	83	64	60	50	42	51	51	60	..	67.5
	Minimum	38	42	30	25	30	40	45	48	48	51	55	55	49	48	41	43	35	38	41	30	34	43	54	40	31	26	28	17	23	21	..	38.3
Larimore §§	Maximum	69	73	78	89	78	79	81	80	82	89	72	74	77	64	71	64	70	60	60	68	70	83	85	63	60	52	48	50	50	60	..	70.0
	Minimum	44	44	38	50	37	41	42	45	46	50	60	59	53	43	46	46	38	40	35	35	38	43	53	49	32	29	30	20	22	21	..	41.0
Linton	Maximum	67	77	78	89	79	71	68	72	70	87	85	76	81	70	74	65	76	90	78	65	70	86	86	68	55	58	56	60	61	69	..	72.9
	Minimum	44	41	36	54	39	51	50	47	57	55	58	50	45	50	40	42	30	50	45	26	31	50	55	36	28	25	20	23	28	35	..	41.4
Lisbon §§	Maximum	70	74	73	85	67	70	74	74	76	84	81	77	81	68	77	66	71	89	63	70	75	87	87	71	59	55	51	55	56	66	..	71.7
	Minimum	48	46	42	44	43	42	40	55	46	60	60	57	50	51	42	42	37	39	42	31	40	38	55	52	35	39	29	20	21	22	..	42.3
McClusky	Maximum	62	70	76	78	88	75	72	78	73	89	85	73	74	73	70	59	74	82	78	72	74	82	89	64	62	54	50	57	61	65	..	72.0
	Minimum	30	43	34	34	32	45	44	53	41	53	57	53	47	41	41	41	32	40	32	27	35	48	64	32	29	26	22	17	25	30	..	38.3
Maddock	Maximum	65	69	76	74	74	78	74	74	74	89	88	68	76	76	64	64	71	86	79	62	69	80	78	72	56	56	51	42	54	61	..	70.0
	Minimum	39	45	30	44	32	41	42	48	44	51	58	57	47	59	43	45	34	43	38	30	38	45	63	33	30	25	25	14	20	21	..	39.6
Marmarth	Maximum	68	75	77	86	77	75	71	69	77	83	81	67	76	70	70	70	78	87	62	76	77	80	70	68	53	60	62	61	64	65	..	71.8
	Minimum	38	47	41	53	41	65	51	55	60	59	55	49	47	50	51	42	36	53	32	36	45	50	53	40	29	26	31	33	35	42	..	44.8
Minot §§	Maximum	66	71	79	84	81	80	78	75	72	88	63	73	77	65	67	66	76	88	57	63	74	80	73	53	58	54	49	53	58	69	..	69.7
	Minimum	33	42	31	40	41	48	41	53	50	53	56	54	43	43	43	43	33	39	40	34	40	44	48	40	30	27	27	17	21	24	..	39.3
Mohall	Maximum	68	71	84	81	81	82	78	74	73	80	80	72	78	72	67	67	75	85	65	63	75	75	70	65	60	60	61	58	54	53	..	70.9
	Minimum	34	37	54	51	43	44	56	46	55	56	52	54	43	46	47	43	35	47	35	42	53	56	42	37	33	26	32	19	22	22	..	42.1
Mott	Maximum	89	75	78	89	78	76	65	68	66	90	76	70	78	79	80	65	77	86	60	78	79	86	76	60	53	60	62	68	60	64	..	73.0
	Minimum	35	41	42	47	45	50	51	53	52	62	48	47	47	49	45	36	37	47	33	33	34	50	39	32	26	28	24	30	22	30	..	40.5
Napoleon §§	Maximum	68	74	80	89	77	77	65	75	74	87	92	75	80	65	74	65	76	77	63	65	77	85	85	66	54	57	53	60	63	66	..	72.1
	Minimum	42	48	37	50	37	38	47	48	53	58	61	54	47	52	45	44	34	45	45	30	43	47	66	40	31	22	19	17	23	28	..	41.7
New Salem	Maximum	69	79	82	98	80	81	79	71	69	90	84	74	68	70	69	70	71	90	60	89	80	88	79	65	55	52	55	51	62	66	..	73.2
	Minimum	37	47	42	49	41	49	51	51	53	56	55	52	50	50	47	42	38	49	39	32	42	45	58	48	29	28	25	23	24	29	..	42.7
Pembina §§	Maximum	73	72	71	80	74	71	75	78	84	89	73	78	74	64	68	51	74	80	60	67	70	88	84	60	61	48	47	50	56	63	..	69.4
	Minimum	47	42	36	36	32	36	34	41	43	54	60	56	56	52	53	42	42	43	43	38	37	40	56	52	39	28	28	27	20	20	..	41.1
Steele	Maximum	66	74	75	87	73	68	64	75	73	88	78	73	78	68	74	66	74	86	62	64	77	85	87	69	65	60	60	56	59	69	..	71.8
	Minimum	40	42	43	52	40	50	50	52	53	57	62	53	45	50	44	44	34	54	46	28	38	48	67	59	29	22	22	19	23	25	..	43.0
Towner	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Valley City	Maximum	79	74	79	93	86	80	88	80	80	88	88	81	89	82	79	88	75	92	86	68	76	88	91	88	63	60	54	58	58	62	..	78.4
	Minimum	41	43	38	43	40	41	45	55	51	60	60	56	49	49	44	46	36	38	46	33	39	42	64	48	34	31	30	16	19	24	..	42.0
Wahpeton	Maximum	72	79	77	90	87	73	78	77	86	87	89	87	83	80	81	77	75	89	85	67	78	86	91	88	71	58	59	54	60	65	..	77.6
	Minimum	48	46	43	51	43	46	63	66	59	60	60	65	60	55	42	49	36	46	51	36	39	46	72	51	39	38	30	19	20	20	..	46.6
Westhope	Maximum	65	72	77	83	76	82	80	80	82	91	79	75	76	65	72	73	74	89	68	62	75	82	75	52	58	54	48	55	55	62	..	71.2
	Minimum	32	39	31	46	37	45	42	42	42	52	52	55	48	48	40	42	31	48	31	29	39	41	52	41	31	24	25	11	24	30	..	38.4
Williston	Maximum	69	71	82	82	83	77	71	74	73	86	69	66	74	67	65	64	79	82	58	65	78	75	59	51	53	54	51	60	64	65	..	68.9
	Minimum	39	48	40	51	52	56	51	57	59	53	58	50	47	44	49	41	36	51	41	34	42	48	41	38	29	28	26	31	35	39	..	43.8
Moorhead, Minn	Maximum	68	74	75	87	67	74	76	75	78	86	82	81	82	66	75	66	71	88	68	64	73	83	89	70	58	53	45	51	51	62	..	71.3
	Minimum	47	46	45	51	43	46	50	55	57	60	63	60	53	49	46	49	40	47	45	36	42	49	66	51	41	38	33	24	27	28	..	46.2

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 10-28-30—1000]

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UNNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIX BISMARCK, N. D., OCTOBER, 1930 No. 10

GENERAL SUMMARY

The weather during October, taken as a whole, was favorable. Precipitation was general during all of the first decade and also during most of the second, comprising the longest period of continuous precipitation in the climatological history of the state. As a result, practically all stations showed totals in excess of the normal. These rains greatly improved conditions for fall plowing and for seeding winter rye, and those activities continued in most sections until the close of the month. The temperature, however, averaged below the normal

TEMPERATURE

The mean temperature for the state was 40.8°, or 3.0° below the normal, and 6.0° lower than the mean for October, 1929. The highest mean reported was 46.2° at Wahpeton, Richland County; the lowest was 33.6° at Hansboro, Towner County. The highest temperature reported was 86° at Wahpeton, Richland County on the 11th; the lowest was zero at Beach, Golden Valley County on the 17th. The greatest monthly range of temperature was 87° at Wahpeton, Richland County; the least was 19° at Pembina, Pembina County. The greatest daily range in temperature was 50° at Portal, Burke County on the 22d, and at Westhope, Bottineau County on the 2d.

PRECIPITATION

The average precipitation for the state was 1.81 inches, or 0.81 inch above the normal, and 0.04 inch less than the average for October, 1929. The greatest monthly amount reported was 3.94 inches at Powers Lake, Burke County; the least was 0.40 inch at Power, Richland County. The greatest amount recorded in any 24 consecutive hours was 1.53 inches at Devils Lake, Ramsey County on the 11-12th. The average number of days with 0.01 inch or more of precipitation was 7. The average snowfall was 0.3 inch.

AURORAS

Auroras were observed at Willow City on the 2d; at Rugby on the 9th; at Foxholm on the 13th, 14th and 15th; at Williston on the 14th; at Drake on 17th; at Foxholm and Hettinger on the 18th; at Drake and Foxholm on the 19th; at Ellendale, Foxholm and Williston on the 25th; at Ellendale, Hettinger, Sharon and Williston on the 26th; at Bottineau on the 28th; at Foxholm, Velva and Westhope on the 29th; at Bottineau on the 30th; and at Williston on the 30th and 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.02	30.58	20	29.44	15	57	6,404	8.6	42§	nw.	17
Devils Lake	30.01	30.54	18	29.51	15	44	6,759	9.2	37§	nw.	17
Ellendale	30.03	30.58	21	29.51	7	56	8,985	12.1	46§	nw.	17
Grand Forks	29.98	30.51	21	29.48	7	90	....	......	35	w.	17
Williston	30.05	30.56	20	29.43	15	48	5,267	7.2	37§	w.	16
Moorhead, Minn	30.01	30.58	21	29.51	7	58	6,206	8.3	26§	nw.	17
Av'ges and extremes	30.02	30.58	20†	29.43	15	.....	....	9.1	46§	nw.	17

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	159.5	336.9	47	−12	84	62	62	32	28
Devils Lake	131.1	335.6	39	−14	93	68	75	35	26
Ellendale	163.8	338.3	48	−14	84	64	....	28	28
Grand Forks	......	......	......	......	89	.....	85	.....	....
Williston	174.0	335.6	52	− 2	86	58	62	35	6
Moorhead, Minn	102.2	336.9	30	−30	84	66	71	39	24
Averages and extremes	146.1	336.7	43	−15	87	64	71	28	28

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	47.2	+3.4	95	7	0.58	−0.42	3	15	8	8	nw.
1893	40.6	−3.2	79	0	1.05	+0.05	5	11	11	9	nw.
1894	43.0	−0.8	77	16	1.66	+0.66	6	13	7	9	nw.
1895	40.5	−3.3	85	−12	0.25	−0.75	2	16	8	7	nw.
1896	40.2	−3.6	88	5	0.78	−0.22	3	14	8	9	nw.
1897	45.9	+2.1	93	6	0.77	−0.23	4	13	9	9	nw.
1898	38.8	−5.0	84	8	1.25	+0.25	6	8	8	15	nw.
1899	42.1	−1.7	86	7	1.18	+0.18	5	11	8	12	nw.
1900	48.2	+4.4	87	14	1.54	+0.54	6	15	4	12	nw.
1901	47.5	+3.7	88	11	1.61	+0.61	5	17	7	7	nw.
1902	43.7	−0.1	87	10	1.28	+0.28	4	16	6	9	nw.
1903	47.0	+3.2	81	11	0.94	−0.06	3	19	5	7	nw.
1904	46.6	+2.8	87	10	1.03	+0.03	5	12	7	12	nw.
1905	40.3	−3.5	93	0	0.44	−0.56	5	8	12	11	nw.
1906	45.0	+1.2	89	0	0.57	−0.43	4	14	9	8	nw.
1907	44.4	+0.6	88	4	0.70	−0.30	3	21	5	5	nw.
1908	43.0	−0.8	86	8	1.58	+0.58	6	11	7	13	nw.
1909	43.1	−0.7	97	0	0.64	−0.36	3	14	8	9	nw.
1910	48.2	+4.4	95	0	0.54	−0.46	3	16	8	7	nw.
1911	42.5	−1.3	86	−10	1.32	+0.32	6	11	8	12	nw.
1912	44.4	+0.6	90	0	0.94	−0.06	4	16	6	9	nw.
1913	39.3	−4.5	90	− 2	1.63	+0.63	4	12	9	10	nw.
1914	50.0	+6.2	97	0	0.98	−0.02	4	16	8	7	nw.
1915	46.6	+2.8	87	10	1.04	+0.04	4	17	8	6	nw.
1916	40.0	−3.8	85	− 2	0.69	−0.31	4	12	8	11	nw.
1917	34.7	−9.1	82	− 4	0.77	−0.23	5	8	11	12	nw.
1918	46.2	+2.4	90	4	0.54	−0.46	4	14	8	9	nw.
1919	33.5	−10.3	84	−18	1.08	+0.08	6	11	9	11	nw.
1920	49.3	+5.5	95	6	0.46	−0.54	3	16	8	7	nw.
1921	47.3	+3.5	88	16	0.73	−0.27	4	16	8	7	nw.
1922	45.7	+1.9	98	8	0.57	−0.43	3	15	7	9	nw.
1923	44.0	+0.2	84	− 8	0.88	−0.12	4	14	7	10	nw.
1924	50.3	+6.5	86	19	2.43	+1.43	7	17	5	9	se.
1925	33.3	−10.5	66	−16	0.78	−0.22	6	8	9	14	nw.
1926	42.6	−1.2	85	4	1.49	+0.49	6	10	10	11	nw.
1927	47.0	+3.2	88	12	1.39	+0.39	5	14	8	9	nw.
1928	43.5	−0.3	85	3	0.41	−0.59	2	15	8	8	nw.
1929	46.8	+3.0	88	10	1.85	+0.85	6	17	5	9	nw.
1930	40.8	−3.0	86	0	1.81	+0.81	7	10	9	12	nw.

Climatological Data for October, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	4	......	......	......	......	......	......	......	0.58	......	0.22	0	5	......	......	......	......	H. A. Bury.
Amenia	Cass	954	34	44.0	−0.3	84	11	9	21†	45	2.48	+1.19	0.76	T.	10	8	9	14	s.	I. Idso.
Arnegard (near)	McKenzie	......	15	39.6	−2.5	77	8	7	17	41	0.72	−0.32	0.37	T.	4	17	7	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	42.3^{a}	−1.4	71^{c}	9	6	21	38^{c}	2.25	+1.19	0.70	0	9	15	4	12	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	40.3	−3.7	71	1†	0	17	40	0.77	−0.22	0.18	0	7	17	7	7	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	41.4	−3.3	75	9	4	17	42	0.86	0.00	0.38	0	4	15	5	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	41.4	−3.5	69	1	14	18	36	1.94	+1.00	0.68	T.	11	13	6	12	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	38	38.8	−2.8	72	1	7	21	42	1.45	+0.46	0.54	T.	9	7	17	7	nw.	N. D. School of Forestry.
Bowman	Bowman	2.961	16	40.2	......	75	1	5	19	40	1.52	+0.75	0.35	T.	10	16	7	8	nw.	George Larsen.
Cando	Towner	1,488	29	39.0	−4.7	73	1†	10	21	40	1.59	+0.87	0.63	T.	6	6	11	14	w.	A. J. Swanson.
Carrington	Foster	1,579	2	40.0	......	69	11	14	20	38	2.24	......	0.87	T.	6	15	4	12	nw.	L. A. Swanson.
Carson	Grant	2,500	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. W. Evens.
Cavalier	Pembina	......	3	......	......	......	......	......	......	......	2.21	......	0.55	0	7	10	7	14	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	24	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. G. Hoel.
Corinth	Williams	2,180	3	......	......	......	......	......	......	......	1.02	......	0.30	1.0	6	14	10	7	w.	W. A. Clem.
Crosby	Divide	1,954	24	38.3	−3.2	70	7	12	18	36	1.56	+0.81	0.69	1.3	5	10	8	13	nw.	John Jensen.
Devils Lake	Ramsey	1,478	33	39.6	−2.8	67	11	14	18	29	2.26	+1.01	1.53	T.	11	3	12	16	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	38.5	−5.4	74	8	10	18	45	1.44	+0.66	0.65	0.5	14	8	13	10	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	40.4	......	68	1†	8	21	37	2.12	......	0.84	T.	7	9	10	12	nw.	R. L. Williams.
Drake	McHenry	1.634	......	38.8	......	65	7	10	17†	39	2.87	......	1.50	1.0	12	5	13	13	nw.	J. Rindt.
Dunn Center	Dunn	2,191	31	39.8	−5.8	74	8	10	21	40	1.38	+0.75	0.58	0	5	9	10	12	se.	W. F. Moede.
Dunseith	Rolette	1,682	34	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	T. H. Tharalson.
Eckman	Bottineau	1,500	25	38.2	−4.5	70	1	5	21	43	1.05	+0.20	0.49	0.3	6	10	5	16	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	29	42.6	−3.3	76	11	8	21	35	2.24	+1.32	0.76	0	7	3	20	8	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	42.8	−2.8	77	11	9	21	38	1.80	+0.63	0.50	0.1	11	7	6	18	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	18	40.8	......	73	1	9	21	40	1.93	+1.23	1.00	T.	3	9	12	10	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	3	......	......	......	......	......	......	......	0.94	......	0.40	0	5	15	10	6	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	T. D. Monsen.
Forman	Sargent	1,249	36	......	......	......	......	......	......	......	2.21	+0.87	0.71	T	10	12	4	15	nw.	E. W. Bowen.
Fort Yates	Sioux	1,670	30	44.3	−2.0	75	1†	10	21	47	2.18	+1.39	0.64	0	5	10	7	14	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	37.8	......	66	8	9	18	38	1.22	......	0.62	1.2	7	13	7	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	......	......	......	......	......	......	......	1.08	−0.12	0.42	T.	5	16	9	6	nw.	Verne King.
Fullerton	Dickey	1,439	32	42.6	−1.7	77	11	10	21	36	3.09	+1.80	0.42	T.	9	7	12	12	nw.	F. O. Alin.
Garrison	McLean	1,901	35	41.1	−2.7	71	8	11	21	37	1.54	+0.64	0.65	T.	4	14	7	10	nw.	W. F. Robinson.
Grafton	Walsh	827	39	42.8^{b}	+0.1	72	11	9^{c}	31	32^{c}	1.82	+0.93	0.92	T.	7	11	8	12	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	39	41.6	−1.9	79	11	12	31	32	1.88	+0.72	0.62	0.4	11	3	11	17	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	39.6	−4.5	70	1	9	21	38	1.83	+0.95	0.54	T.	8	12	4	15	nw.	W. A. Christianson.
Hankinson	Richland	1,068	......	45.1	......	84	11	10	30	42	1.62	......	0.50	0	6	8	9	11	nw.	R. G. Stock.
Hannah	Cavalier	1,568	36	......	......	......	......	......	......	......	2.18	+1.22	1.20	0.8	8	......	......	......	......	James Meier.
Hansboro	Towner	1,597	22	33.6	−7.7	60	5†	5	21	31	2.45	+1.54	1.15	T.	5	9	15	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	40.2	−6.2	74	8	9	19	41	2.49	+1.85	1.15	T.	9	11	12	8	nw.	C. H. Plath.
Hillsboro	Traill	901	24	41.6^{a}	−4.4	75^{a}	11†	10^{a}	31	31^{a}	2.95	+1.93	0.73	0.5	8	4	10	17	n.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	23	37.7	−3.7	66	8	9	18	42	1.37	+0.56	0.45	T.	8	11	8	12	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	42.4	−2.4	74	12	7	21	32	2.07	+1.14	0.67	T.	7	5	12	14	......	S. Calvelage.
Lamoine	Kidder	1,936	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	M. W. Hutchings.
Langdon	Cavalier	1,615	34	37.1	−3.3	71	1	10	21†	46	2.62	+1.68	1.42	3.0	10	13	5	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	40.1	−3.2	73	6†	10	18†	35	2.19	+0.96	0.60	0.2	7	2	7	22	n.	Reuben Gray.
Linton	Emmons	1,711	12	40.7	−3.8	75	8	3	17	41	1.72	+0.81	0.40	T.	7	12	14	5	nw.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	26	43.3	−2.0	82	9	9	31	38	2.44	+1.42	1.02	0	11	8	7	16	......	N. S. Lindstrom.
McClusky	Sheridan	1,943	12	39.9	......	72	1	8	21	40	2.58	+1.77	0.78	T.	7	9	9	13	nw.	Edw. Tapley.
McLeod	Ransom	1,075	18	43.6	−1.9	80	10	5	30	42	1.34	+0.28	0.46	T.	5	8	6	17	sw.	J. G. Carlson.
Maddock	Benson	1,604	14	40.1	−2.5	67	1†	9	21	40	1.75	+0.96	0.97	T.	6	7	10	14	nw.	A. T. Felland.
Mandan	Morton	1,644	16	40.3	−4.6	71	9	10	21	39	2.24	+1.53	0.78	T.	10	6	4	21	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27	......	......	......	......	......	......	......	1.77	+0.96	0.86	T.	7	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	21	41.0^{a}	−3.1	75^{a}	1	8^{a}	19	34^{a}	1.02	+0.23	0.44	T.	8	7	11	13	......	S. P. Grane.
Mary	McKenzie	......	3	......	......	......	......	......	......	......	1.28	......	0.71	T.	5	15	6	10	nw.	Fred Hartman.
Max	McLean	2,093	......	39.8	......	72	8	2	21	43	1.29	......	0.66	T.	5	9	5	17	......	A. W. Rice.
Mayville	Traill	975	34	40.6	−4.3	75	13	5	31	40	1.85	+0.74	0.52	0	8	7	2	22	s.	H. B. Addicott.
Metigoshe ‡‡	Bottineau	......	5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Thorburn.
Minot	Ward	1,557	34	40.0	−3.6	69	1	10	21	41	0.86	−0.08	0.55	0	7	13	7	11	w.	Julia B. Rue.
Mohall	Renville	......	1	41.4	−0.3	69	2†	11	19†	43	3.04	+2.11	0.55	T.	10	2	23	6	ne.	E. H. Wolsey.
Mott	Hettinger	2,424	23	43.1	+0.1	71	9	15	17†	34	1.58	+0.49	0.41	2.0	7	12	6	13	w.	O. H. Opland.
Napoleon	Logan	1,955	38	41.6	−0.3	73	8	5	21	40	1.53	+0.59	0.60	T.	8	11	6	14	nw.	C. J. Hoof.
New England	Hettinger	2,400	39	42.5	−1.2	85	4	10	18†	46	1.14	+0.49	0.75	0.5	3	14	10	7	nw.	F. S. Sleight.
New Salem	Morton	2,163	26	41.4	−2.9	73	8	9	21	33	2.87	+1.92	0.96	T.	9	13	6	12	nw.	J. Christiansen.
Oakes	Dickey	1.318	2	44.2	......	80	11	7	21	40	2.18	......	0.46	T.	11	14	7	10	nw.	Eugene Naylor.
Park River	•Walsh	998	26	40.4	−3.9	67	11†	10	31	30	2.19	+1.18	0.64	T.	6	7	9	15	nw.	C. B. Wright.
Parshall (near)	Mountrail	......	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. E. Shubert.
Pembina	Pembina	789	56	41.0	+0.1	64	1†	15	31	40	1.85	+0.51	0.63	1.5	5	5	10	16	e.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	......	......	......	......	......	......	......	1.81	......	0.58	T.	6	7	5	19	......	Chas. Ouradnik.
Pettibone	Kidder	1,856	21	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. L. Carlson.
Portal	Burke	1,954	16	35.9	−5.6	66	1	9	17	50	1.49	+0.84	0.95	T.	5	15	3	13	nw.	C. T. Holmes.
Power	Richland	1,020	36	......	......	......	......	......	......	......	0.40	−1.07	0.10	T.	5	12	9	10	n.	Frank B. Power.
Powers Lake	Burke	2,205	16	43.6	......	77	1	9	18	42	3.49	+2.62	1.31	5.1	5	18	7	6	w.	Geo. B. Gee.
Richardton	Stark	2,467	14	39.8	−2.9	76	8	8	19	38	1.05	+0.34	0.34	T.	5	12	12	7	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	......	......	......	......	......	2.00	......	1.10	T.	2	8	15	8	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	......	......	......	......	......	1.03	......	......	......	......	......	......	......	......	E. M. Lomen.
Sanish	Mountrail	1,835	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. W. Monson.
Sharon	Steele	1,516	5	39.9	......	75	11	9	21†	31	2.48	......	0.65	1.0	13	6	8	17	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6	......	......	......	......	......	......	......	1.95	......	0.73	T.	5	11	6	14	nw.	J. H. Giffey.
Steele	Kidder	1,857	34	42.6	−1.4	72	9	10	18	42	2.23	+1.35	0.52	T.	7	16	11	4	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	......	......	......	......	......	......	......	3.11	+2.10	1.16	T.	6	8	9	14	......	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	......	......	......	......	......	......	......	1.29	......	0.35	0.5	8	15	4	12	sw.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	......	......	......	......	......	0.96	......	0.70	0	3	6	7	18	nw.	Anton Carlson.
Towner	McHenry	1,482	28	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	B. Bagley.
Trotters	Golden Valley	......	5	......	......	......	......	......	......	......	1.28	......	0.84	T.	5	14	4	13	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	25	42.0	−3.2	76	11	8	21†	38	2.28	+1.45	0.70	T.	8	12	6	13	e.	I. C. Robertson.
Velva	McHenry	1,511	4	40.2	......	71	8	10	21	42	1.94	......	0.70	T.	8	7	11	13	w.	Oscar Anderson.
Verona	LaMoure	1,387	36	......	......	......	......	......	......	......	2.07	......	0.97	0	4	19	4	8	sw.	W. C. Taylor.
Wahpeton	Richland	962	38	46.2	+0.3	86	11	8	31	36	1.12	−0.39	0.40	0	7	16	0	15	nw.	C. G. Luick.
Washburn	McLean	1,731	28	41.6	−2.9	73	8	11	18†	43	1.81	+0.87	0.77	T.	5	10	9	12	se.	Fred Jeffries.
Westhope	Bottineau	1,508	26	39.9	−1.5	77	2	8	21	50	0.90	+0.23	0.34	T.	7	15	9	7	nw.	W. A. Meddaugh.
Williston	Williams	1,878	51	39.4	−4.0	70	8	11	18	38	0.66	−0.20	0.32	T.	7	12	10	9	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	38.4	−3.3	73	1	7	21	36	1.93	+1.23	0.75	T.	5	15	12	4	nw.	O. M. Sanderson.
Wilton	McLean	......	2	39.5	......	75	1	11	17	32	2.36	......	1.15	0	4	14	0	17	......	L. Q. Perkins.
Wishek	McIntosh	2 010	10	42.2^{d}	......	74^{d}	9	6^{d}	21	47^{d}	1.77	......	0.41	0	10	1	9	21	nw.	E. W. Davis.
Zap	Mercer	1,838	2	......	......	......	......	......	......	......	1.33	+0.27	0.54	0	4	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	49	43.6	−0.9	84	11	12	21	32	1.37	−0.32	0.30	0.2	12	4	8	19	s.	U. S. Weather Bureau.
Averages				40.8	−3.0	86	11	0	17	50	1.81	+0.81	1.53	0.3	7	10	9	12	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for October, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			.07			T.	.11		T.	T.	.22	.11														.07						0.58
Amenia ‖‖	Red	.33			.23	.16		.16	.26			.76	.05			.52	.04													.03			2.48
Arnegard (near)	Missouri				.05				T.	.37	T.	.28	T.				T.	T.			T.							.02					0.72
Ashley	Missouri	.18	T.	.28	.14	.15		.20	.16		.02	.70	.42																				2.25
Beach	Lit. Missouri			.10			T.	.11		.06	.18	.14	.04													T.	.11						0.77
Berthold Agency	Missouri				.23			.38			.05	.20					T.	T.	T.														0.86
Bismarck ***	Missouri	.22	T.	.29	.02	.04	.41	.27	.02	T.	.01	.33	.26	T.	.07	T.	T.	T.			T.						T.	T.		T.			1.94
Bottineau‖‖	Mouse				.10			.33	.03	.12	.01	.20	.54	.01		T.	T.	T.												.11			1.45
Bowman	Grand	.06		.22	.06				.12	T.	T.	.35	.33		.02	.05											.20	.11					1.52
Cando	Devils Lake				T.			.63		.06	.08	.34		.45	.03			T.		T.	T.												1.59
Carrington	James			.35	.13	.16		.38				.87	.35					T.	T.	T.									T.				2.24
Carson	Heart																																
Cavalier	Red	.17			.29	.10		.22			.07	.51	.55																				2.21
Cooperstown	Sheyenne																																
Corinth	Missouri					.01			.27	.25	.17	.30					.02																1.02
Courtenay	James	.35	T.	T.	.37	.61	.24	T.	T.	T.	T.	.48	.64					T.	T.		T.									.12			2.77
Crosby‖‖	Mouse						T.		.69	.20	.32	.07	.28				T.				T.							T.		T.			1.56
Devils Lake ***	Devils Lake	.10	T.	.02	.03	.14		.32		.01	.01	1.15	.40			T.	T.	T.	T.	T.	T.								.02	.06			2.26
Dickinson‖‖	Heart	.02			.17			.26	.02	.03	.01	.04	.65	.07			.03	.02	T.		T.	T.					.07	.01	.04	T.	T.		1.14
Dogden Butte	Mouse	.02			.18	T.		.68	T.	.05	.04	.31	.84	T.		T.	T.	T.												T.			2.12
Drake‖‖	Mouse			.07	.03		.92		.05		.06	1.50	.06	.03		.02	.05												.03	.05			2.87
Dunn Center ‖‖	Knife				.20			.18			.12	.30	.58																				1.38
Dunseith	Mouse																																
Eckman	Mouse				.02			.28	.05	.06	T.	.15	.49			T.	T.	T.	T.											T.			1.05
Edgeley	James	.24		.53	.20			.16	.19			.76				.16																	2.24
Ellendale***	James	.19	T.	.47	.20	.08	T.	.29	T.	.01	T.	.24	.19		.01	.11		T.			T.							T.		.01	T.		1.80
Energy	Missouri	T.			.33			.60					1.00			T.	T.											T.					1.93
Epping	Missouri																																
Fairfield	Knife			.15			.16			.10	.40	.13																					0.94
Fessenden‖‖	James																																
Forman	Sheyenne	.18	.05	.23	.50	.06	T.	.04		.03			.03	.71		.38		T.												T.			2.21
Fort Yates	Missouri	.61		.41		.51		.19					.43																				2.18
Foxholm (near)	Mouse				.02			.27	.06	.09	.01	.15	.62			T.	T.	T.	T.									T.		T.			1.22
Fryburg	Heart			.10					.20	T.		.28	.42			T.	T.	T.	T.									.08					1.08
Fullerton	James	.40	T.	.37	.39	.35		.28	.34		T.	.30	.24			.42														T.			3.09
Garrison	Missouri				.16		.65				T.	.22	.51			T.												T.					1.54
Grafton	Red	.04			T.	.53		.13	.01		.03		.92				.16													T.			1.82
Grand Forks ***	Red	T.		.06	.04	.13	.10	.06	.01		.02	.54	.27			.62	T.	T.			T.									.03			1.88
Granville	Mouse				.05			.54		.07	.05	.54	.48				.04													.06			1.83
Hankinson‖‖	Red	.01		.50	.30		.30					.39				.12																	1.62
Hannah	Pembina	.02						.60	.08		.04	.07	1.20	.09	T.		T.	T.	T.	T.										.08			2.18
Hansboro	Devils Lake							1.15		.05	.10	.55	.60				T.	T.												T.			2.45
Hettinger	Grand	1.15	T.	.20	.05			.25	.05	T.	.03	.27	.47			.02																	2.49
Hillsboro	Red	.35			.51	.24		.27	.03			.12	.73				.70																2.95
Howard (near)	Missouri				.01		.04		.30	.45	.25	.14	.17			T.	T.	T.	T.	T.	T.							.01		T.			1.37
Jamestown‖‖	James	.45		.02	.51	.02		.24				.67	.16					T.	T.		T.									T.	T.		2.07
Lamoine	Missouri																																
Langdon‖‖	Pembina	.05					.35	.05	.25	T.	.05	.05	1.42	.10				.20			T.									.10			2.62
Larimore‖‖	Red					.45		.25				.60	.60			.05	.20													.04			2.19
Linton	Missouri	.39		.02	.25	.20		.36			T.	.10	.40															T.					1.72
Lisbon ‖‖	Sheyenne		.15	.02	1.02	.04	.02	.11	.10		.09	.06	.44				.39																2.44
McClusky	Missouri			T.	.38	.27		.78		.04		.28	.66		.17	T.	T.	T.															2.58
McLeod	Sheyenne	.18			.46	.29		.11					.30				T.	T.	T.	T.	T.									T.			1.34
Maddock	Sheyenne				.09	.02		.97		.02	T.	.08	.57		T.		T.	T.												T.			1.75
Mandan‖‖	Missouri	.39	T.		.34	.04		.78	.04	T.	.02	.01	.51	.04	.07		T.	T.			T.							T.	T.				2.24
Manfred	James	.10			.24	.10		.86			T.	.16	.30		T.		T.	.01	T.		T.										T.		1.77
Marmarth	Lit. Missouri	.25		.05	.07			.06	.03	T.	T.	.44		T.													.09	.03					1.02
Mary	Lit. Missouri				.07		.10			.35		.71					T.	T.			T.							.05					1.28
Max‖‖	Missouri				.15			.46	T.	.02		T.	.66	.06																			1.29
Mayville	Red					.17		.20	.10			.20	.52	.05			.50													.11			1.85
Metigoshe	Mouse																																
Minot‖‖	Mouse				.05				.02	.02	.02	.20	.55																				0.86
Mohall	Mouse					.10	.20	.16	.30	.48	.55	.44	.46	.25	.10			T.	T.	T.	T.												3.04
Mott	Cannon Ball	.40		.41				.22			T.	T.	.08	.04					.40									.03					1.58
Napoleon ‖‖	Missouri	.22	.05		.28	.10		.25		.02		.01	.60						T.			T.									T.		1.53
New England	Cannon Ball			.34								.75				.05									T.								1.14
New Salem	Heart	.80			.33			.48	.02	.02	.09	.11	.96		.06		T.	T.												T.			2.87
Oakes	James	.04		.14	.46	.13		.19	.03			.27	.46			.43	.01											T.		.02			2.18
Park River	Red	T.				.63		.20			.02	.64	.55			.15		T.												T.			2.19
Parshall (near)	Missouri																																
Pembina‖‖	Red															.23	.10	.34		.55	.63												1.85
Petersburg	Red	.22			T.	.58		.14			T.	.38	.47				T.	T.	T.	T.										.02			1.81
Pettibone	James																																
Portal‖‖	Mouse						.16	.11	.95	.05		.28	T.																				1.49
Power	Sheyenne	.08	.10		.10			T.				.08				.04		T.												T.			0.40
Powers Lake	Missouri									1.25		.34	1.31				.22	.37															3.49
Richardton	Heart	T.			.09			.31			.09	.22	.34			T.												T.					1.05
Rugby [near]	Mouse						1.10			T.	T.	.90	T.				T.	T.	T.											T.			2.00
Ryder	Missouri																																
Sanish‖‖	Missouri	.14	.02		.14	.48	T.	.18	.02	.02	.02	.65	.51			.11	.05	T.	T.		T.									.14			2.48
Sharon	Red																																
Stanton	Missouri	.02		.22				.73				.35	.63			T.																	1.95
Steele	Missouri	.49	.12	.36	.12		.52					.18	.44					T.															2.23
Stowers	Cannon Ball	1.16		.25	.18	T.		.51			T.	.18	.83				T.																3.11
Tagus	Mouse				.05			.25	.07	.13	.19	.20	.35					.05															1.29
Tioga	Missouri									.70	.06	.20																					0.96
Towner	Mouse																																
Trotters	Lit. Missouri				.02					.84		.07	.18				T.	T.	T.	T.								.17					1.28
Turtle Lake	Missouri																																
Valley City	Sheyenne	.70		T.	.40	.37			.24			.10	.18			.18	.11	T.			T.												2.28
Velva	Mouse				.14			.37	.02	.16	.02	.50	.70			.03											T.			T.			1.94
Verona	James	.55		.97			.18	.37																									2.07
Wahpeton	Red	.40		.07	.28	.19							.05			.03	.10																1.12
Washburn	Missouri			.28				.52		.02		.22	.77			T.	T.	T.															1.81
Westhope	Mouse							.19	.07	.05	.08	.34	.01																	.13			0.90
Williston ***	Missouri				.05		.01		.07	.31	.01	.13	.08			T.	T.	T.	T.		T.							T.		T.			0.66
Willow City	Mouse				.07			.75	T.		T.	.42	.57				T.	T.	T.											.12			1.93
Wilton	Missouri	.26	T.				1.15		.12			.83			T.																		2.36
Wishek‖‖	Missouri	.20	.18	T.	.41	T.	.11	.12	.12	.02	.02	.06		.53																			1.77
ap	Knife			.21			.51	.02			*	*	.56																				1.33
Moorhead, Minn ***	Red	.13	T.	.06	.14	.19	.08	.23	.01	.01	T.	.23	.02			.16		T.	T.	T.	T.							T.	T.	.11			1.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of bservation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	65	62	58	64	68	62	60	69	69	64	84	68	50	49	61	54	48	40	33	31	45	53	66	62	58	64	59	49	49	32	40	56.0
	Minimum ...	25	52	45	46	56	43	50	42	50	45	47	38	36	32	36	24	21	17	19	15	9	23	21	26	28	34	31	28	26	17	9	32.0
Arnegard	Maximum...	73	58	52	57	60	59	65	77	52	41	40	40	60	65	46	36	34	25	28	32	46	50	63	65	54	59	48	50	39	45	64	51.1
	Minimum ...	44	36	34	44	37	27	39	48	38	35	37	33	28	35	21	17	7	11	11	11	12	21	22	25	33	27	36	27	28	16	24	28.0
Ashley	Maximum...	64	55	49	57	63	61	63	62	71	63	68	45	42	53	52	..	..	..	30	28	40	50	53	60	64	58	54	49	42	35	45	[c]52.7
	Minimum ...	48	49	43	44	50	35	44	43	49	49	49	39	36	34	41	20	21	12	13	15	6	28	20	23	26	32	35	30	28	16	12	31.9
Beach	Maximum...	71	63	49	58	57	65	65	71	58	58	46	41	60	64	46	27	24	20	25	31	45	52	58	65	67	55	52	46	43	48	68	51.5
	Minimum ...	49	39	33	44	36	29	39	45	38	38	38	33	30	31	26	13	0	11	13	8	10	20	26	34	30	43	37	33	30	17	28	29.1
Berthold Agency	Maximum...	73	74	73	68	65	60	70	72	75	45	42	45	50	60	48	38	28	28	30	30	42	54	52	60	60	60	50	50	43	40	55	52.9
	Minimum ...	44	44	48	40	45	40	45	50	38	38	40	38	30	32	28	10	4	14	15	14	22	12	22	25	30	28	38	28	30	12	22	29.9
Bismarck	Maximum...	69	53	51	53	65	58	63	73	61	49	49	43	55	64	52	29	27	27	31	29	39	53	59	63	60	59	52	49	39	38	51	50.4
	Minimum ...	52	48	45	45	43	35	47	49	48	43	40	39	34	42	27	19	17	14	16	16	14	23	23	27	28	38	36	32	23	17	21	32.3
Bottineau §§	Maximum...	72	71	49	54	61	63	58	60	60	50	45	42	50	59	58	39	28	25	28	28	41	47	52	59	59	64	59	40	45	33	47	49.9
	Minimum ...	30	33	33	39	37	33	42	40	45	36	37	31	32	36	37	16	15	12	12	18	7	13	17	30	29	33	35	26	25	11	16	27.6
Cando	Maximum...	73	73	53	56	59	61	58	61	58	52	52	53	50	60	57	48	27	26	25	31	41	48	50	58	55	52	50	44	42	40	38	50.0
	Minimum ...	38	33	41	31	32	30	46	36	42	38	40	38	34	34	25	20	17	15	13	15	10	20	19	26	29	31	33	29	24	15	18	28.1
Carrington	Maximum...	48	51	62	63	57	59	64	63	48	69	42	54	61	53	31	27	26	28	29	44	50	52	61	59	61	51	46	32	33	44	54	49.1
	Minimum ...	45	43	43	49	38	45	41	45	41	42	39	35	36	39	22	19	16	16	15	14	17	23	23	26	32	37	32	32	18	15	17	30.8
Carson	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Crosby §§	Maximum...	67	61	49	63	65	48	70	48	60	45	39	38	57	63	50	26	23	20	26	28	44	42	57	59	56	53	48	47	39	40	55	47.9
	Minimum ...	31	25	28	44	42	32	42	32	36	34	33	34	35	44	25	18	17	12	19	18	21	21	23	26	33	29	38	28	27	16	26	28.7
Devils Lake	Maximum...	66	51	53	57	60	59	57	61	56	47	67	43	50	58	52	30	27	23	26	30	41	48	50	58	53	59	51	43	34	31	41	47.8
	Minimum ...	43	40	43	44	47	33	41	38	46	42	43	36	36	37	30	20	19	14	16	18	14	28	22	29	33	38	35	32	25	16	16	31.5
Dickinson §§	Maximum...	72	60	49	58	59	60	65	74	53	43	46	41	57	64	41	24	24	20	26	29	40	52	58	69	58	56	46	50	37	44	58	49.5
	Minimum ...	35	42	41	43	40	26	28	41	43	37	37	35	27	29	29	18	13	10	11	13	12	13	21	24	25	31	33	29	29	18	20	27.5
Dunn Center §§	Maximum...	70	68	59	51	60	60	66	74	51	43	41	51	57	64	47	30	26	21	29	31	41	52	60	62	56	58	48	50	39	40	60	50.5
	Minimum ...	45	39	31	44	44	31	44	46	38	37	38	34	29	36	29	13	12	16	13	16	10	18	20	22	31	29	38	28	31	14	22	29.1
Dunseith	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Edgeley	Maximum...	57	54	50	55	60	58	66	68	75	65	76	51	60	54	53	44	36	32	34	32	40	53	55	60	59	57	60	50	41	44	44	53.1
	Minimum ...	44	48	45	46	45	43	45	41	41	45	41	37	38	38	35	22	19	14	13	15	8	31	22	25	28	33	32	32	27	27	12	32.0
Ellendale	Maximum...	56	53	50	62	63	58	65	74	73	60	77	62	48	57	54	35	29	31	33	30	40	53	54	62	57	60	56	48	39	35	45	52.2
	Minimum ...	45	49	45	50	49	43	47	47	51	50	49	42	35	34	34	22	20	16	17	17	9	30	25	24	27	35	30	33	25	19	13	33.3
Fessenden §§	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Foxholm (near)	Maximum...	56	59	54	55	62	56	56	66	58	42	40	39	52	61	54	33	24	22	28	28	43	48	56	62	55	56	48	46	43	34	50	47.9
	Minimum ...	31	28	30	41	41	28	45	41	41	32	36	31	32	38	31	17	11	9	13	18	10	21	22	24	36	29	40	30	25	13	17	27.8
Fullerton	Maximum...	56	55	51	61	63	57	63	68	71	60	77	65	50	57	55	38	29	30	32	30	39	52	53	61	57	59	57	48	40	35	44	52.0
	Minimum ...	46	49	44	48	50	42	42	46	51	50	48	43	40	34	38	24	15	14	17	15	10	24	22	25	28	34	31	34	30	25	13	33.3
Garrison	Maximum...	69	60	51	53	63	53	65	71	60	52	44	43	56	64	50	31	30	25	30	32	41	53	58	64	57	58	47	49	41	40	51	50.4
	Minimum ...	50	40	45	43	43	27	50	48	48	37	40	39	31	39	30	20	20	12	14	30	11	19	21	28	35	32	37	31	31	15	20	31.8
Grafton	Maximum...	62	60	56	60	62	59	61	64	59	59	72	67	44	54	57	52	37	31	31	33	42	51	47	54	54	61	57	50	39	29	36	51.6
	Minimum ...	44	44	47	42	57	45	47	36	47	43	45	40	35	34	36	34	..	23	24	23	14	19	23	24	32	37	30	..	..	18	9	[c]34.0
Grand Forks	Maximum...	58	56	56	63	62	60	60	63	64	55	79	60	44	54	62	36	30	28	32	32	40	52	45	58	54	60	54	41	33	28	34	50.1
	Minimum ...	46	49	48	47	49	45	49	38	48	46	47	39	37	34	36	25	23	19	15	18	14	24	21	31	34	34	34	29	21	16	12	33.2
Granville	Maximum...	70	55	53	52	64	60	57	68	55	55	47	45	56	62	52	38	27	25	30	30	45	52	59	63	60	60	52	55	38	37	49	50.7
	Minimum ...	37	29	30	48	35	25	42	41	43	40	44	32	37	38	37	20	15	12	17	22	9	20	22	25	34	28	33	25	15	12	19	28.6
Hansboro	Maximum...	50	50	50	55	60	55	50	55	55	45	45	38	45	60	50	33	25	24	25	32	35	40	40	45	50	50	45	40	32	35	40	43.7
	Minimum ...	32	35	35	25	35	25	30	30	40	30	34	28	28	29	33	16	14	8	8	8	5	16	16	18	28	28	28	25	20	8	10	23.4
Hettinger §§	Maximum...	68	62	53	55	60	62	65	74	62	49	16	42	54	63	52	30	27	22	29	31	36	52	58	67	57	57	48	50	44	45	62	51.0
	Minimum ...	37	49	33	32	41	30	43	43	48	40	40	36	28	32	28	18	14	12	9	11	14	21	24	26	26	36	34	30	32	20	24	29.4
Hillsboro	Maximum...	55	54	56	61	63	63	60	60	62	62	75	75	50	52	55	55	29	28	25	24	34	45	45	50	50	..	48	48	45	30	33	[a]49.7
	Minimum ...	40	50	46	46	56	44	49	43	39	43	46	44	42	32	38	27	22	17	20	17	13	18	24	27	33	..	36	37	30	20	10	[a]33.6
Howard (near)	Maximum...	65	62	60	58	52	52	58	66	60	42	38	39	57	62	50	25	18	20	30	40	45	45	54	64	58	54	40	46	40	42	57	48.4
	Minimum ...	35	30	30	40	36	30	36	40	40	35	36	31	31	31	25	16	12	9	12	15	15	16	24	22	30	25	34	27	30	18	25	27.0
Jamestown §§	Maximum...	64	56	54	50	60	65	59	65	68	71	56	74	62	68	58	53	43	30	27	26	29	41	52	50	60	57	56	55	47	40	33	52.5
	Minimum ...	44	46	45	44	54	40	49	41	48	45	47	42	36	37	40	21	19	14	12	10	7	31	20	24	28	33	33	31	26	19	13	32.2
Lamoine	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Langdon §§	Maximum...	71	55	61	51	59	61	60	51	57	45	62	44	43	44	49	35	27	22	28	32	38	45	45	52	55	60	50	39	27	26	40	46.3
	Minimum ...	25	35	36	37	46	35	35	35	39	38	39	36	30	32	35	20	17	14	13	20	10	10	20	28	38	36	30	25	26	16	10	27.9
Larimore §§	Maximum...	58	60	55	58	60	73	61	57	60	60	73	65	44	55	43	50	29	28	29	30	40	50	50	54	58	60	53	32	28	30	37	49.7
	Minimum ...	23	45	42	45	52	45	41	36	40	41	45	38	34	32	40	22	20	10	14	20	10	35	20	22	28	30	37	32	22	14	10	30.5
Linton	Maximum...	65	63	50	64	65	59	63	75	67	63	69	48	55	63	54	34	27	29	82	33	39	50	57	61	64	60	51	49	40	38	47	52.7
	Minimum ...	49	47	45	44	47	29	34	46	49	38	45	39	31	40	33	11	3	10	12	15	4	21	17	24	23	31	26	29	22	15	12	28.7
Lisbon §§	Maximum...	70	54	55	64	58	59	62	70	82	65	81	51	50	57	53	41	30	31	33	33	41	51	54	63	61	60	55	47	38	33	45	53.1
	Minimum ...	41	45	45	46	55	46	47	47	48	49	49	45	45	31	33	25	21	16	19	15	12	26	24	25	25	37	29	33	32	19	9	33.5
McClusky	Maximum...	72	60	49	56	60	58	62	69	58	54	46	42	55	62	54	56	25	25	28	30	43	51	57	62	58	60	48	48	38	37	48	50.7
	Minimum ...	48	37	42	41	44	29	46	43	46	42	40	35	35	37	30	17	16	9	9	12	8	19	20	22	31	35	34	29	18	12	17	29.1
Maddock	Maximum...	67	67	50	55	60	58	55	57	57	53	49	49	49	59	59	44	26	25	26	27	40	46	52	63	63	54	54	46	42	32	44	49.8
	Minimum ...	43	36	43	42	49	33	47	37	50	38	40	36	34	38	39	20	20	12	19	14	9	24	20	23	31	36	39	30	26	15	14	30.9
Marmarth	Maximum...	75	63	49	61	60	59	65	71	61	51	48	45	51	61	53	30	28	26	29	31	43	51	57	67	59	55	48	46	51	45	..	[a]51.3
	Minimum ...	47	34	40	43	36	39	42	42	42	38	40	35	27	35	27	18	14	13	8	12	16	20	23	33	38	34	34	29	29	33	..	[a]30.7
Minot §§	Maximum...	69	66	52	52	64	57	59	65	65	47	42	41	57	65	60	36	28	26	25	32	45	54	60	65	57	60	47	48	44	39	51	50.9
	Minimum ...	37	32	33	42	40	23	46	43	45	34	38	32	36	40	34	21	18	11	11	21	10	22	24	24	35	28	41	30	12	12	24	29.0
Mohall	Maximum...	66	68	65	63	64	66	68	58	58	59	59	59	58	65	55	57	44	41	37	39	40	41	58	55	57	59	60	57	54	49	39	55.4
	Minimum ...	32	30	34	36	34	37	38	36	37	39	34	39	33	32	34	37	20	15	11	18	19	11	21	12	22	21	24	38	30	13	11	27.5
Mott	Maximum...	68	64	55	53	64	59	65	66	71	63	51	48	57	63	51	30	27	33	33	30	38	52	60	64	61	60	56	50	40	38	52	52.8
	Minimum ...	50	47	44	44	36	47	46	50	53	42	46	34	40	45	23	19	15	18	15	16	23	26	29	30	30	37	36	34	19	23	34	33.9
Napoleon §§	Maximum...	65	50	50	63	65	63	62	73	70	60	72	45	58	62	55	41	27	28	31	30	33	50	55	64	62	60	54	49	36	37	48	52.2
	Minimum ...	48	48	45	44	47	30	45	42	50	43	45	38	35	38	41	18	15	10	10	12	5	25	18	24	28	30	36	30	33	15	12	31.0
New Salem	Maximum...	69	62	46	53	63	57	66	73	63	51	46	41	55	63	55	34	25	27	30	30	39	54	56	63	63	60	52	50	44	45	59	51.4
	Minimum ...	50	43	41	43	44	33	43	44	48	41	41	35	28	40	31	18	15	11	13	16	9	21	25	33	36	35	32	29	30	15	29	31.4
Pembina §§	Maximum...	64	64	58	60	61	63	58	60	59	62	56	58	56	57	48	34	26	28	35	38	43	41	55	64	55	46	42	34	44	36	54	50.3
	Minimum ...	38	36	40	36	55	42	36	38	37	36	36	46	36	48	37	28	24	24	20	22	22	20	38	24	32	34	26	25	20	21	15	31.7
Steele	Maximum...	69	58	56	65	52	57	62	71	72	54	67	44	55	62	48	36	42	28	32	30	42	49	62	62	64	64	52	48	32	34	46	52.1
	Minimum ...	50	47	45	44	50	43	48	46	54	43	52	38	38	46	31	20	18	10	14	16	12	18	18	20	34	38	38	35	30	16	18	33.2
Towner	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Valley City	Maximum...	58	53	51	61	61	57	63	67	74	62	76	75	47	60	54	49	33	33	30	30	40	52	48	60	57	54	48	45	44	33	43	52.2
	Minimum ...	42	46	43	45	55	44	49	39	47	45	47	47	37	32	39	24	20	15	18	15	8	26	22	22	20	30	32	28	25	18	8	31.9
Wahpeton	Maximum...	62	58	56	64	69	71	66	70	83	82	86	82	50	62	61	53	36	32	35	35	41	50	50	62	62	64	62	54	40	36	40	57.2
	Minimum ...	41	53	46	50	58	46	55	49	47	58	57	48	39	27	42	27	21	17	19	16	10	27	23	30	32	34	30	35	30	19	8	35.3
Westhope	Maximum...	73	77	59	60	65	61	56	63	53	42	41	42	54	62	48	41	42	28	33	33	44	48	57	61	57	60	52	47	37	38	48	51.0
	Minimum ...	40	27	31	38	39	31	43	37	41	33	38	36	32	38	31	30	28	14	13	22	8	30	22	18	29	28	39	26	23	10	18	28.8
Williston	Maximum...	68	63	53	57	59	57	66	70	51	41	41	40	60	65	49	23	23	22	26	29	45	49	59	65	58	56	49	47	40	43	60	49.5
	Minimum ...	39	31	37	45	38	31	40	48	40	38	38	34	31	38	23	18	15	11	15	17	11	21	23	27	36	27	36	29	27	19	28	29.4
Moorhead, Minn	Maximum...	55	56	53	66	65	60	61	66	82	66	84	69	45	59	61	36	30	27	30	29	39	50	46	59	57	61	55	41	38	26	36	51.9
	Minimum ...	47	51	46	52	54	47	53	48	50	52	52	40	36	35	36	25	22	19	20	21	12	28	24	30	35	36	30	33	24	21	15	35.3

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 11-28-30—1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

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NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIX Bismarck, N. D., November, 1930 No. 11

GENERAL SUMMARY

Mild and pleasant weather prevailed generally during the first decade and excellent progress was made in corn picking and other late farm work. The second and third decades were much colder and light to heavy snows occurred especially in the east and south-central portions. A severe glaze and sleet storm caused much property loss and great inconvenience to telephone, telegraph, electric light and railway companies. Communication between Bismarck and Fargo was only possible by radio between stations KFYR and WDAY. Due to heavy snow, most main highways in the area mentioned were blocked at times, and many crossroads were impassable at the close of the month.

TEMPERATURE

The mean temperature for the state was 29.4°, or 2.8° above the normal, and 4.6° higher than the mean for November, 1929. The highest mean reported was 33.2° at Amenia, Cass County; the lowest was 23.6° at Langdon, Cavalier County. The highest temperature reported was 72° at Berthold Agency, McLean County on the 3d, and at Dickinson, Stark County on the 9th; the lowest was −21° at Drake, McHenry County on the 30th. The greatest monthly range of temperature was 86° at Drake, McHenry County; the least was 60° at New England, Hettinger County. The greatest daily range in temperature was 53° at Berthold Agency, McLean County on the 9th.

PRECIPITATION

The average precipitation for the state was 0.87 inch, or 0.29 inch above the normal, and 0.34 inch more than the average for November, 1929. The greatest monthly amount reported was 3.09 inches at Grand Forks, Grand Forks County; he least was a trace at three stations in the north-central part of the state. The greatest amount recorded in any 24 consecutive hours was 1.50 inches at Hankinson, Richland County on he 19th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 6.2 inches.

AURORAS

Auroras were observed at Bottineau and Williston on the 1st; t Williston on the 3d; at Bottineau, Dogden Butte, Ellendale, Villiston and Moorhead on the 4th; at Arnegard on the 14th; t Crosby on the 13th, 14th and 15th; at Howard on the 22d; t Rugby and Willow City on the 23d; at Bottineau on the 24th; t Bottineau, Foxholm, Rugby and Stanton on the 25th; at loorhead on the 26th; at Forman on the 27th; and at Williston on the 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.05	30.74	5	29.10	16	57	6,331	8.8	42§	nw.	25
Devils Lake	30.03	30.78	5	29.06	16	44	7,192	10.0	42§	nw.	25
Ellendale	30.01	30.75	5	29.08	16	56	10,784	15.0	61§	nw.	25
Grand Forks	29.99	30.75	5	28.95	16	90	....	.....	49	nw.	25
Williston	30.08	30.70	4	29.16	16	48	4,849	6.7	36§	nw.	23
Moorhead, Minn	30.00	30.79	5	28.86	16	58	6,652	9.2	28§	n.	25
Av'ges and extremes	30.02	30.79	5	28.86	16	.....	....	9.9	61§	nw.	25

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	151.1	281.1	54	+ 2	83	60	64	29	3
Devils Lake	153.2	278.2	55	+ 5	92	70	78	34	12
Ellendale	168.6	284.1	59	+ 8	77	61	....	25	6
Grand Forks	......	......	.....	.....	87	.....	68	.....	....
Williston	164.5	278.2	59	+12	83	65	70	31	3
Moorhead, Minn	152.1	281.1	54	+ 6	85	67	73	22	6
Averages and extremes	158.1	280.5	56	+ 7	84	65	71	22	6

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891	20.5	−6.1	71	−35	0.86	+0.28	4	12	8	10	nw.
1892	22.3	−4.3	75	−26	0.79	+0.21	4	8	9	13	nw.
1893	22.4	−4.2	74	−27	0.57	−0.01	3	9	0	11	nw.
1894	23.1	−3.5	71	−25	0.47	−0.11	4	10	8	12	nw.
1895	20.6	−6.0	76	−25	1.08	+0.50	5	8	9	13	nw.
1896	8.1	−18.5	62	−32	2.23	+1.65	9	8	7	15	nw.
1897	20.0	−6.6	86	−28	0.32	−0.26	3	12	9	9	nw.
1898	23.0	−3.6	69	−30	0.34	−0.24	3	13	8	9	s.
1899	36.0	+9.4	68	2	0.31	−0.27	2	15	4	11	nw.
1900	20.4	−6.2	64	−29	0.32	−0.26	5	14	7	9	nw.
1901	26.8	+0.2	70	− 7	0.19	−0.39	1	15	8	7	nw.
1902	29.6	+3.0	69	−12	0.24	−0.34	3	11	6	13	nw.
1903	25.3	−1.3	78	−20	0.26	−0.32	2	13	4	13	nw.
1904	35.7	+9.1	80	−10	0.09	−0.49	1	18	5	7	nw.
1905	31.6	+5.0	88	−38	1.54	+0.96	9	7	13	10	nw.
1906	23.8	−2.8	68	−16	1.62	+1.04	7	10	7	13	nw.
1907	30.2	+3.6	85	−15	0.09	−0.49	1	16	8	6	nw.
1908	31.1	+4.5	75	−15	0.97	+0.39	4	12	8	10	nw.
1909	29.4	+2.8	88	−23	0.43	−0.15	3	11	9	10	nw.
1910	23.9	−2.7	68	−23	0.37	−0.21	2	8	10	12	nw.
1911	16.7	−9.9	58	−33	0.65	+0.07	6	12	8	10	nw.
1912	31.8	+5.2	70	1	0.06	−0.52	1	14	9	7	nw.
1913	34.1	+7.5	77	− 2	0.22	−0.36	2	15	8	7	nw.
1914	30.7	+4.1	83	−30	0.35	−0.23	2	13	10	7	nw.
1915	28.1	+1.5	71	−10	0.91	+0.33	4	10	10	10	nw.
1916	28.8	+2.2	75	−18	0.24	−0.34	2	16	8	6	nw.
1917	36.8	+10.2	77	− 7	0.14	−0.44	1	16	6	8	nw.
1918	28.9	+2.3	71	−18	1.04	+0.46	4	13	6	11	nw.
1919	15.6	−11.0	57	−36	1.16	+0.58	5	11	8	11	nw.
1920	28.0	+1.4	65	−14	0.37	−0.21	3	10	9	11	nw.
1921	21.0	−5.6	69	−30	0.68	+0.10	5	7	8	15	nw.
1922	31.8	+5.2	65	− 8	2.33	+1.75	6	7	7	16	nw.
1923	36.5	+9.9	72	− 5	0.50	−0.08	3	13	8	9	nw.
1924	27.6	+1.0	69	−15	0.18	−0.40	2	11	9	10	nw.
1925	28.8	+2.2	69	−17	0.25	−0.33	2	14	8	8	nw.
1926	21.5	−5.1	68	−23	0.65	+0.07	5	6	7	17	nw.
1927	20.7	−5.9	59	−24	0.70	+0.12	6	7	8	15	nw
1928	31.0	+4.4	70	−11	0.48	−0.10	1	15	8	7	nw.
1929	24.8	−1.8	70	−21	0.53	−0.05	5	9	8	13	nw.
1930	29.4	+2.8	72	−21	0.87	+0.29	5	13	7	10	nw

Climatological Data for November, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches					Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	.....	4	.....	.....	.....	.....	.....	.....	.....	0.32	.....	0.26	3.0	3	.....	.....	.....	.....	H. A. Bury.
Amenia	Cass	954	34	33.2	+5.9	67	13	0	29	42	2.16	+1.62	0.63	21.6	7	10	10	10	s.	I. Idso.
Arnegard (near)	McKenzie	.....	15	28.7	−0.1	68	9	−2	27	45	0.65	+0.29	0.40	6.5	3	18	1	11	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	32.4	+4.7	68	8	−7	26	41	1.03	+0.49	0.80	10.5	5	15	0	15	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	32.2	+0.8	71	9	−2	20	45	0.47	−0.07	0.13	4.0	6	13	5	12	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	30.0	+1.2	72	3	0	26	53	0.03	−0.45	0.03	0.5	1	15	1	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	31.1	+2.6	68	3	−4	26	42	0.98	−0.41	0.70	13.1	6	14	5	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	38	27.2	+3.6	63	2	−18	27	40	1.06	+0.52	0.46	10.0	6	6	19	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2.961	16	31.4	.....	70	9	4	20†	47	0.44	+0.12	0.31	6.0	4	18	2	10	nw.	George Larsen.
Cando	Towner	1,488	29	27.8	+1.3	60	11	−12	27	33	0.55	+0.04	0.21	6.0	4	8	10	12	nw.	A. J. Swanson.
Carrington	Foster	1,579	2	26.6	.....	66	2	−15	30	42	1.03	.....	0.48	9.2	4	16	2	12	nw.	L. A. Swanson.
Carson	Grant	2,500	18	30.4	−0.3	68	3	−6	26	42	0.82	+0.26	0.30	8.2	5	18	7	5	nw.	J. W. Evens.
Cavalier	Pembina	.....	3	.....	.....	.....	.....	.....	.....	.....	1.47	.....	0.50	9.2	6	16	3	11	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. Hoel.
Corinth	Williams	2,180	3	.....	.....	.....	.....	.....	.....	.....	0.22	.....	0.20	2.2	3	18	7	5	nw.	W. A. Clem.
Crosby	Divide	1,954	24	27.8	0.0	65	3	−5	27	33	0.34	−0.37	0.18	3.5	6	14	8	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	33	27.8	+3.3	61	3	−11	30	38	0.81	+0.09	0.21	9.6	11	4	11	15	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	29.4	+0.8	72	9	2	27	52	0.45	−0.03	0.34	4.5	4	11	9	10	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	29.4	.....	63	3†	−14	26	37	0.65	.....	0.25	6.0	6	14	6	10	nw.	R. L. Williams.
Drake	McHenry	1.634	.....	26.2	.....	65	2	−21	30	42	0.52	.....	0.28	5.2	5	7	10	13	nw.	J. Rindt.
Dunn Center	Dunn	2,191	31	30.0	+1.6	67	3†	−1	27	49	T.	0.62	T.	T.	0	14	6	10	nw.	W. F. Moede.
Dunseith	Rolette	1,682	34	27.0	+0.8	64	10	−15	26†	38	0.70	+0.27	0.20	6.5	6	7	18	5	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	26.7	+0.4	66	3	−15	27†	47	0.25	−0.29	0.07	2.0	7	12	8	10	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	29	31.4	+1.0	67	8	−6	26	39	0.80	+0.46	0.50	3.0	4	4	14	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	31.0	+4.9	68	8	−3	27	41	1.39	+0.65	0.96	5.6	10	4	9	17	nw.	U. S Weather Bureau
Energy ‡‡	McLean	1,750	18	31.4	.....	68	3	−2	27	45	0.18	−0.08	0.10	3.0	3	16	8	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. O. Wang.
Fairfield	Billings	.....	3	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.20	5.0	3	12	7	11	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	26.2^{d}	−0.8	66^{d}	3	−13^{d}	29	51^{f}	0.98	+0.34	0.34	10.0	5	15	6	9	nw.	T. D. Monsen.
Forman	Sargent	1,249	36	.....	.....	.....	.....	.....	.....	.....	1.78	+1.22	0.60	2.0	5	15	5	10	nw.	E. W. Bowen.
Fort Yates	Sioux	1,670	30	33.6	+4.0	.....	.....	.....	.....	.....	1.40	+0.87	.....	.....	.....	.....	.....	.....	.....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	28.2	.....	66	11	−8	27	41	0.33	.....	0.22	2.5	4	12	7	11	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	.....	.....	.....	.....	.....	.....	.....	0.38	−0.26	0.18	4.0	3	13	8	9	w.	Verne King.
Fullerton	Dickey	1,439	32	31.0	+1.3	67	8	−4	27	42	1.88	+1.15	1.28	10.5	8	14	6	10	nw.	F. O. Alin.
Garrison	McLean	1,901	35	31.2	+4.2	66	3	−3	27	40	0.20	−0.38	0.15	2.0	2	16	7	7	sw.	W. F. Robinson.
Grafton	Walsh	827	39	29.0	+5.0	62	11	−11	28	41	2.73	+2.07	.....	10.0	7	17	5	8	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	39	28.7	+2.6	61	11	−8	30	37	3.09	+2.39	1.42	8.2	9	6	14	10	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	29.2	+3.1	66	3	−10	27	45	0.05	−0.56	0.05	0.5	1	14	6	10	nw.	W. A. Christianson.
Hankinson	Richland	1,068	.....	33.0	.....	67	10	−11	30	46	2.58	.....	1.50	6.0	7	13	4	13	nw.	R. G. Stock.
Hannah	Cavalier	1,568	36	.....	.....	.....	.....	.....	.....	.....	0.75	+0.07	0.20	7.2	8	.....	.....	.....	.....	James Meier.
Hansboro	Towner	1,597	22	25.8	−0.1	60	10	20	26	40	0.15	−0.31	0.10	2.5	2	16	6	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	32.2	−1.2	70	9	5	27	49	0.20	−0.12	0.13	2.2	2	16	5	9	nw.	C. H. Plath.
Hillsboro	Traill	901	24	27.4	−1.4	52	3†	−8	27†	30	2.40	+1.59	0.74	21.3	7	8	9	13	ne.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	23	30.2	+2.5	66	3	4	27	34	0.70	+0.19	0.70	7.0	1	11	9	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	29.8	+2.2	66	3	−11	27	42	0.73	0.00	0.50	7.2	6	12	7	11	nw.	S. Calvelage.
Lamoine	Kidder	1,936	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. W. Hutchings.
Langdon	Cavalier	1,615	34	23.6	−2.1	57	3	−18	27†	41	1.00	+0.30	0.50	10.0	3	12	12	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	27.3	+1.5	63	11	−14	30	39	1.24	+0.56	0.65	6.0	7	12	6	12	n.	Reuben Gray.
Linton	Emmons	1,711	12	29.6	+0.2	67	3	9	26	45	1.00	+0.44	0.50	10.0	2	13	11	6	sw.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	26	30.7	+0.5	65	8	−6	26	43	2.15	+1.53	0.58	2.2	7	16	2	12	.....	N. S. Lindstrom.
McClusky	Sheridan	1,943	12	28.4	.....	65	3	−12	26	43	0.75	+0.03	0.40	7.5	5	15	7	8	nw.	Edw. Tapley.
McLeod	Ransom	1,075	18	31.2	+1.5	67	8	−8	28	36	1.84	+1.25	0.84	4.0	6	19	2	9	nw.	J. G. Carlson.
Maddock	Benson	1,604	14	27.8	+0.8	59	7	−15	26	40	0.27	−0.41	0.16	3.0	3	5	11	14	nw.	A. T. Felland.
Mandan	Morton	1,644	16	29.9	0.0	67	3	−4	26	49	1.10	+0.55	0.65	10.0	4	14	1	15	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27	.....	.....	.....	.....	.....	.....	.....	0.82	+0.08	0.40	8.2	7	.....	.....	.....	.....	P. B. Anderson.
Marmarth	Slope	2,714	21	31.8	−2.2	66	3	−6	20	40	0.69	+0.36	0.57	8.5	4	10	6	14	.....	S. P. Grane.
Mary	McKenzie	.....	3	.....	.....	.....	.....	.....	.....	.....	0.12	.....	0.12	2.0	1	14	3	13	sw.	Fred Hartman.
Max	McLean	2,093	.....	29.2	.....	68	3	−7	26†	48	0.30	.....	0.30	3.0	1	8	5	17	nw.	A. W. Rice.
Mayville	Traill	975	34	27.2	−2.1	61	12	−9	27	40	1.43	+0.76	0.88	15.0	4	16	0	14	n.	H. B. Addicott.
Metigoshe ‡‡	Bottineau	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Thorburn.
Minot	Ward	1,557	34	19.2	−0.5	66	3†	−6	27	47	0.05	−0.63	0.02	0.6	3	18	6	6	w.	Julia B. Rue.
Mohall	Renville	.....	1	29.3	+4.7	66	3	−7	27	41	T.	−0.65	T.	T.	0	5	19	6	n.	E. H. Wolsey.
Mott	Hettinger	2,424	23	31.4	+0.2	66	8†	4	29	36	0.39	−0.07	0.22	4.5	3	16	4	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	38	30.2	+3.6	67	9	−15	26	43	1.15	+0.56	0.50	11.5	5	14	7	9	nw.	C. J. Hoof.
New England	Hettinger	2,400	39	30.0	−0.2	69	2	9	21†	47	0.75	+0.26	0.50	7.5	2	15	12	3	nw.	F. S. Sleight.
New Salem	Morton	2,163	26	32.4	+1.7	70	9	−3	26	42	0.63	+0.28	0.19	8.0	6	14	10	6	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	31.8	.....	66	8	−6	27	42	1.72	.....	1.06	3.5	7	13	10	7	sw.	Eugene Naylor.
Park River	Walsh	998	26	28.7	+0.7	60	3†	11	27	36	1.22	+0.46	0.40	5.5	6	14	2	14	nw.	C. B. Wright.
Parshall (near)	Mountrail	.....	15	.....	.....	.....	.....	.....	.....	.....	0.14	−0.12	0.10	0.9	4	.....	.....	.....	.....	C. E. Shubert.
Pembina	Pembina	789	56	26.4	+3.7	63	3	−14	28	40	1.00	+0.32	0.60	10.0	2	20	9	1	n.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	.....	.....	.....	.....	.....	.....	.....	1.41	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Ouradnik.
Pettibone	Kidder	1,856	21	29.2	+2.3	65	9	−12	26	40	1.61	+1.06	0.60	16.0	10	10	10	10	nw.	A. L. Carlson.
Portal	Burke	1,954	16	24.4	−1.4	64	2	−9	26	46	0.05	−0.59	0.05	0.5	1	16	6	8	w.	C. T. Holmes.
Power	Richland	1,020	36	.....	.....	.....	.....	.....	.....	.....	0.84	+0.22	.....	.....	.....	.....	.....	.....	.....	Frank B. Power.
Powers Lake	Burke	2,205	16	27.8	.....	64	2	−9	28	38	0.60	+0.04	0.30	7.1	4	20	6	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	14	30.8	+2.3	71	9	1	27	42	0.40	−0.11	0.20	4.0	2	14	6	10	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.50	7.0	3	12	9	9	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	0.5	1	.....	.....	.....	.....	E. M. Lomen.
Sanish	Mountrail	1,835	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. W. Monson.
Sharon	Steele	1,516	5	27.8	.....	62	3	−9	26†	36	1.99	.....	0.86	4.5	10	15	4	11	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6	.....	.....	.....	.....	.....	.....	.....	0.19	.....	0.10	1.6	3	17	5	8	nw.	J. H. Giffey.
Steele	Kidder	1,857	34	30.0	+1.6	66	9	−16	26	39	2.10	+1.51	0.60	21.0	5	13	6	11	nw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	.....	.....	.....	.....	.....	.....	.....	0.50	+0.04	0.50	5.0	1	14	5	11	.....	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	.....	.....	.....	.....	.....	.....	.....	0.05	.....	0.01	0.5	5	15	3	12	sw.	J. C. Abbott.
Tioga	Williams	2,279	4	.....	.....	.....	.....	.....	.....	.....	0.40	.....	0.30	4.0	2	10	3	17	nw.	Anton Carlson.
Towner	McHenry	1,482	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. Bagley.
Trotters	Golden Valley	.....	5	.....	.....	.....	.....	.....	.....	.....	0.27	.....	0.16	3.0	4	14	6	10	.....	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. T. Kusler.
Valley City	Barnes	1,245	25	30.8	+1.1	63	8	−6	26†	44	1.91	+1.29	0.72	12.0	6	18	5	7	n.	I. C. Robertson.
Velva	McHenry	1,511	4	29.6	.....	67	3	−6	27	45	0.29	.....	0.07	2.4	9	12	6	12	w.	Oscar Anderson.
Verona	LaMoure	1,387	36	.....	.....	.....	.....	.....	.....	.....	1.49	.....	0.77	0.5	4	21	0	9	nw.	W. C. Taylor.
Wahpeton	Richland	962	38	33.6	+5.3	67	10	−5	28	46	2.26	+1.57	1.08	12.0	7	17	0	13	nw.	C. G. Luick.
Washburn	McLean	1,731	28	31.4	+1.1	66	3	−4	27	40	0.34	0.30	0.22	5.0	3	15	6	9	nw.	Fred Jeffries.
Westhope	Bottineau	1,508	26	26.5	−0.3	.....	.....	.....	.....	.....	0.14	−0.44	.....	.....	.....	.....	.....	.....	.....	W. A. Meddaugh.
Williston	Williams	1,878	51	28.5	+1.3	66	3	2	20	37	0.61	+0.03	0.41	5.2	5	16	5	9	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	26.8	+4.7	63	3	−19	27	43	1.10	+0.59	0.40	11.0	3	15	11	4	nw.	O. M. Sanderson.
Wilton	McLean	.....	2	28.6	.....	68	3	−6	30	37	1.14	.....	0.80	11.4	4	20	0	10	.....	L. Q. Perkins.
Wishek	McIntosh	2 010	10	29.2^{e}	.....	66^{f}	9	−9^{e}	26	36^{g}	0.34	.....	0.11	4.0	5	2	10	18	nw.	E. W. Davis.
Zap	Mercer	1,838	2	.....	.....	.....	.....	.....	.....	.....	T.	−0.36	T.	T	0	.....	.....	.....	.....	R. A. Norton.
Moorhead, Minn.	Clay	935	49	30.4	+3.3	62	3	−6	28	35	2.56	+1.66	1.48	6.7	10	6	10	14	n.	U. S. Weather Bureau.
Averages			.....	29.4	+2.8	72	3†	−21	30	53	0.87	+0.29	1.50	6.2	5	13	7	10	nw.	.....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for November, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																		.26	.03				.03	T						T		0.32
Amenia ‖‖	Red														.05	.30	.63	.32	.03	T.	.13	.20		T.		T.	T.			T			2.16
Arnegard (near)	Missouri													.20	.40									.65									[illegible]
Ashley	Missouri															.09	T.			.11	.80			.02				.01	T		T		1.03
Beach	Lit. Missouri													.08	.10				.12	.13				.02			.02						0.47
Berthold Agency	Missouri													T					T					T	T	T	T			T	.03		0.03
Bismarck ***	Missouri																		.10	.12	.70			.02	T	T	.02		T.		.02		0.98
Bottineau‖‖	Mouse												.01	T	T.			T				.10		.01		.36	T	.46			.09		1.06
Bowman	Grand															T			.31					.10			.02				.01		0.44
Cando	Devils Lake															T	T.			.21	.10	.06				.18	T						0.55
Carrington	James															T.	T		.26	.09	.48					.20	T		T		T		1.03
Carson	Heart																		.20	.20	.30			.10			.02						0.82
Cavalier	Red															.12	.43			.50	.30			.02		.10							1.47
Cooperstown	Sheyenne																																
Corinth	Missouri													.01	.20									.01									0.22
Courtenay	James																																
Crosby‖‖	Mouse													.08	.18	.02			.02								.02				.02		0.34
Devils Lake ***	Devils Lake												T	.04	T	T.	.10		.06	.15	.16	.04		.05	.03	.12	.02		T.		.04		0.81
Dickinson‖‖	Heart													T.	.01	T.				.09	T			T	.34	T.	T.	.01			T		0.45
Dogden Butte	Mouse													.02					T.	.16	T.	.25		.02	.05	T.	T.				.15		0.65
Drake‖‖	Mouse																		.28		.17		.02		.03					.02			0.52
Dunn Center ‖‖	Knife																							T.			T.	T			T.		T.
Dunseith	Mouse																					.20		.10	.05	.10		.05			.20		0.70
Eckman	Mouse													.07	T.			.04				.06		.03		.01	T.	.01			.03		0.25
Edgeley	James																.05			.50	.20					.05							0.80
Ellendale***	James														.01	.15	.06		T.	.17	.92			.01	T.	.02	.02	.01	T		.02		1.39
Energy	Missouri																		T.	.04		.10		T.	T.		T.				.04		0.18
Epping	Missouri																																
Fairfield	Knife													.20					.10					.20									0.50
Fessenden‖‖	James																			.28	.16	.34					.18	.02					0.98
Forman	Sheyenne													T.	.40	.52					.60	.22		T.		.04			T.				1.78
Fort Yates	Missouri																																
Foxholm (near)	Mouse												T.	.22	.02			T.				.05		T.		T.	T	T.			.04		0.33
Fryburg	Heart																		T.	.18				.10	.10	T.	T.	T.			T.		0.38
Fullerton	James														.06	.04	.07		T.	T	1.28			.04	T.	.30	T.		.05		.04		1.88
Garrison	Missouri																			T.	T.	.15		.05	T.		T.	T.			T.		0.20
Grafton	Red											T.		T.	T.	.17	.35	.47		.26	*	1.03			T.		.45				T.		2.73
Grand Forks ***	Red													.05	.06	.35	1.42		T.	.13	.63	.08		.12	T.	.25	T.						3.09
Granville	Mouse												T.			T.					.05			T.			T.	T.			T.		0.05
Hankinson‖‖	Red														.25	.35	.25			1.50	.20					.02					.01		2.58
Hannah	Pembina															.03	.10	.06		.11	.03	.20			.05	.17							0.75
Hansboro	Devils Lake																				.10			.05									0.15
Hettinger	Grand																		.13	.07				T.			T				T		0.20
Hillsboro	Red													.04	.04	.20	.70	.74			.65				.03								2.40
Howard (near)	Missouri														.70											T.	T.			T.	T.		0.70
Jamestown‖‖	James														.01	T.	.12					.50					.10						0.73
Lamoine	Missouri																																
Langdon‖‖	Pembina																.20			.30		.50				T.							1.00
Larimore‖‖	Red														.10	.25	.65			.01	.03			.02		.18							1.24
Linton	Missouri															T.			T.	.50	.50			T.			T.				T.		1.00
Lisbon ‖‖	Sheyenne															.29	.28	.56			.21	.58			.15					.08			2.15
McClusky	Missouri																		T.	.20	.40	T		.05				.05			.05		0.75
McLeod	Sheyenne															.43		.45			.84					.03	.05				.04		1.84
Maddock	Sheyenne													T.						.16		.02		T.		.09		T.			T.		0.27
Mandan‖‖	Missouri																			.40	T.	.65		T.	.02			.03					1.10
Manfred	James																			.40	.10	.10		.05	.02	.05		T.	T.		.10		0.82
Marmarth	Lit. Missouri													T.					.57	.04				.06	T.		.02				T.		0.69
Mary	Lit. Missouri												T.	.12					T.					T.						T.			0.12
Max‖‖	Missouri													T.						T.		.30											0.30
Mayville	Red															.20	.15	.88				.20											1.43
Metigoshe	Mouse																																
Minot‖‖	Mouse													.02														.02			.01		0.05
Mohall	Mouse													T.	T.				T.	T			T.	T.			T.	T.					T.
Mott	Cannon Ball																		.22	.03		T.					.14						0.39
Napoleon ‖‖	Missouri															.05				.50		.50			.05			.05					1.15
New England	Cannon Ball																		.50	.25											T.		0.75
New Salem	Heart																		.06	.19	.15	.10		.10			T	.03	T				0.63
Oakes	James														.01	.02	.34			.03	1.06	.07		T.	T.	.19							1.72
Park River	Red															T.	.38	.11		.40	.15			.10		.08							1.22
Parshall (near)	Missouri													.10										.01			.01				.02		0.14
Pembina‖‖	Red																				.60	.40											1.00
Petersburg	Red																																
Pettibone	James														.01	T.			.10	.40	.60	.10		.10	T.	.10	T	.05	.05		.10		1.61
Portal‖‖	Mouse													.05																			0.05
Power	Sheyenne																																
Powers Lake	Missouri													.30	.14								.07				.09						0.60
Richardton	Heart																		.20					.20							T.		0.40
Rugby [near]	Mouse												T.	T.					.05			.50			T.			T.			.15		0.70
Ryder	Missouri													.10																			0.10
Sanish‖‖	Missouri																																
Sharon	Red													T	.06	.14	.56		.01	.15	.86	.03		.02		.14	T.	T.	T		.02		1.99
Stanton	Missouri																			.04		.10					.05						0.19
Steele	Missouri																T.		.60	.60	.60	T.	.20	.10									2.10
Stowers	Cannon Ball																		.50		T.			T.									0.50
Tagus	Mouse													.01	.01									.01			.01				.01		0.05
Tioga	Missouri													.30										.10									0.40
Towner	Mouse																																
Trotters	Lit. Missouri													.05	.16				.03									.03					0.27
Turtle Lake	Missouri																																
Valley City	Sheyenne														T.	.45	.42			T.	.72	.09				.17					.06		1.91
Velva	Mouse												T.	.07	T.					.02	.04	.05		.03	.01	.02	.01				.04		0.29
Verona	James										.12	.23						.37	.77												T.		1.49
Wahpeton	Red															.03	1.08	.65			.80			.03		.02					.05		2.26
Washburn	Missouri																		T.	.10	T	.22		T.			T.				.02		0.34
Westhope	Mouse																																
Williston ***	Missouri											.03	.10	.41	.02				T.					T.						T.	.05		0.61
Willow City	Mouse												T.	T.				T.			.40			T.		.40	T.				.30		1.10
Wilton	Missouri																		.30		.80			.02							.02		1.14
Wishek‖‖	Missouri																			.08	.03	.11					.09		.03				0.34
Zap	Knife	T.																															T
Moorhead, Minn. ***	Red														.05	.19	1.48			.03	.47	.01		.01	.04	.24					.04		2.56

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	62	62	63	54	43	40	54	64	64	65	63	65	67	45	52	42	47	37	34	33	44	34	42	32	31	26	28	24	34	27	....	45.9
	Minimum	20	28	27	22	10	5	19	27	28	24	27	30	32	23	27	27	21	23	26	27	24	26	24	22	12	6	7	8	0	12	....	20.5
Arnegard	Maximum	56	59	67	52	38	47	63	64	68	53	57	47	34	27	25	34	26	32	22	18	29	40	38	36	37	22	25	29	38	29	....	40.4
	Minimum	33	30	35	30	15	17	23	31	23	28	31	32	25	21	5	2	10	7	10	6	12	16	17	11	11	0	− 2	9	18	4	....	17.0
Ashley	Maximum	58	55	61	62	41	41	59	68	63	62	59	60	48	39	33	37	45	45	48	33	32	38	39	37	37	26	18	27	35	34	....	44.7
	Minimum	32	28	31	35	7	13	22	29	22	28	26	30	32	30	24	23	21	21	22	19	15	18	26	19	14	− 7	− 2	7	15	5	....	26.2
Beach	Maximum	55	62	66	45	45	53	61	64	71	55	60	54	40	33	40	45	38	40	18	13	30	32	36	37	38	37	22	36	34	31	....	43.0
	Minimum	31	26	34	33	20	18	30	34	26	28	29	32	30	24	12	25	23	18	4	− 2	6	15	28	32	18	14	5	13	14	18	....	21.3
Berthold Agency	Maximum	60	60	72	55	40	42	60	55	65	60	60	45	44	46	45	42	40	32	27	20	35	45	48	35	41	18	20	35	25	29	....	43.4
	Minimum	30	20	26	35	10	15	12	12	12	20	22	30	24	26	28	18	8	10	12	15	18	18	32	8	6	0	1	8	20	6	....	16.7
Bismarck	Maximum	58	58	68	45	33	40	63	66	64	61	64	46	43	35	30	42	46	34	29	24	33	43	42	34	40	22	20	25	38	30	....	42.5
	Minimum	34	29	36	21	14	15	24	26	22	27	28	34	32	29	20	14	20	22	14	15	18	22	26	16	6	− 4	1	10	15	5	....	19.7
Bottineau §§	Maximum	53	63	62	60	35	37	51	53	58	57	54	63	62	60	28	40	31	32	32	28	35	38	27	28	31	11	10	23	35	30	....	40.9
	Minimum	29	27	23	27	10	10	14	22	32	25	20	27	23	27	20	12	12	3	23	7	18	10	25	6	8	−16	−18	− 7	− 5	−10	....	13.5
Cando	Maximum	41	39	42	42	30	36	50	52	58	59	60	45	41	38	31	30	34	33	33	36	38	38	39	39	25	11	13	26	33	36	....	37.6
	Minimum	21	19	18	16	9	7	18	27	27	31	27	32	29	27	28	26	29	28	28	16	20	19	19	13	10	− 8	−12	− 6	9	11	....	17.9
Carrington	Maximum	55	66	42	27	41	62	59	60	59	61	47	43	36	28	32	43	32	29	25	31	40	35	35	17	14	11	24	35	7	23	....	37.3
	Minimum	29	28	32	9	10	14	28	25	26	28	32	32	27	25	25	17	20	21	13	18	20	26	13	13	−11	−12	−12	− 7	5	−15	....	16.0
Carson	Maximum	58	58	68	45	33	40	63	66	64	61	64	58	60	36	35	44	45	32	30	22	30	35	34	35	30	20	24	38	36	30	....	43.1
	Minimum	34	29	36	21	14	15	24	26	22	27	28	34	30	23	15	9	20	20	12	11	9	15	20	18	10	− 6	− 1	3	10	6	....	17.8
Crosby§§	Maximum	55	58	65	54	34	47	56	59	57	52	54	44	56	25	24	27	30	19	18	19	23	41	38	37	37	12	12	30	38	20	....	38.0
	Minimum	36	33	32	23	13	17	25	27	30	32	30	31	24	21	4	6	17	2	13	7	7	19	23	21	12	0	− 5	5	17	2	....	17.5
Devils Lake	Maximum	53	49	61	40	26	38	58	55	58	59	60	45	41	35	30	32	37	30	29	26	34	38	39	25	36	9	7	23	34	25	....	37.7
	Minimum	33	26	37	17	9	10	25	32	27	31	27	32	29	27	26	21	16	18	16	16	21	21	23	15	− 2	− 9	−11	− 1	13	11	....	17.8
Dickinson §§	Maximum	55	62	68	44	39	46	62	65	72	57	62	42	37	28	35	46	42	30	22	22	32	40	33	39	30	25	17	39	39	23	....	41.8
	Minimum	26	22	22	31	15	15	15	19	20	20	22	31	30	24	16	10	17	16	17	8	9	18	26	11	8	4	2	5	15	16	....	17.0
Dunn Center §§	Maximum	50	61	67	51	36	44	61	66	67	56	60	43	40	29	31	42	37	31	28	21	32	45	44	31	39	21	24	38	40	29	...	42.1
	Minimum	32	22	31	20	13	14	18	28	18	25	22	31	28	21	16	6	19	14	16	13	14	20	27	10	15	0	− 1	14	21	7	....	17.8
Dunseith	Maximum	50	48	60	55	29	32	51	57	59	64	54	47	38	28	29	34	30	34	35	30	34	38	41	54	35	8	11	18	33	32	....	37.9
	Minimum	31	28	29	28	6	7	19	30	30	33	24	28	28	22	22	17	12	13	25	13	19	16	23	10	6	−15	−15	−12	13	− 6	....	16.1
Edgeley	Maximum	60	55	66	47	48	44	58	67	64	65	64	52	44	38	34	35	45	34	32	30	30	36	41	39	37	25	8	24	31	30	....	42.8
	Minimum	31	20	29	30	9	9	22	31	32	31	30	34	21	21	27	25	20	24	28	21	17	22	28	19	12	− 6	− 4	0	12	3	...	19.9
Ellendale	Maximum	60	55	63	49	27	42	55	68	63	61	64	52	45	36	34	36	46	33	32	32	32	39	41	25	38	14	15	30	35	28	....	41.7
	Minimum	28	32	25	18	11	14	21	27	25	26	28	37	36	25	27	23	21	28	28	21	21	24	22	20	6	− 3	− 3	4	19	3	....	20.3
Fessenden §§	Maximum	57	58	66	41	28	44	63	59	65	....	....	....	....	63	30	35	45	30	28	27	31	39	33	35	22	18	16	25	37	9	....	[4]38.6
	Minimum	17	27	33	33	10	11	12	24	22	25	....	....	....	....	23	23	15	17	21	9	15	19	25	14	15	−11	−11	− 7	−13	− 6	....	[4]13.9
Foxholm (near)	Maximum	52	57	63	53	31	39	59	57	63	55	66	43	38	27	27	30	31	25	23	18	30	40	42	28	37	15	21	30	38	31	...	39.0
	Minimum	37	28	36	27	9	10	26	31	22	33	28	30	24	21	17	4	13	10	11	10	12	20	25	12	12	− 4	− 8	3	20	0	....	17.3
Fullerton	Maximum	59	53	59	47	32	41	52	67	60	57	62	50	45	36	33	34	44	34	33	32	32	38	40	29	37	14	9	28	34	29	....	40.7
	Minimum	28	30	26	32	11	13	22	25	25	28	27	35	35	24	28	25	21	27	30	23	20	23	27	20	14	− 3	− 4	2	16	5	....	21.2
Garrison	Maximum	58	59	66	57	40	35	61	64	65	59	59	61	41	33	43	43	38	32	29	24	35	46	43	30	40	15	20	32	40	33	....	43.4
	Minimum	35	29	32	28	14	12	21	25	26	33	34	35	30	30	18	10	17	14	21	13	11	21	28	10	12	− 2	− 3	− 3	18	1	....	19.0
Grafton	Maximum	53	48	61	53	29	35	55	55	55	53	62	59	45	45	42	33	34	31	32	30	33	37	49	29	30	9	9	18	34	33	...	39.4
	Minimum	27	29	30	27	11	5	18	29	23	28	21	32	33	30	30	26	21	20	26	22	25	20	25	11	7	− 6	− 6	−11	13	− 6	....	18.7
Grand Forks	Maximum	55	47	60	44	25	36	52	54	57	53	61	49	46	42	37	33	34	33	35	34	32	38	38	22	30	8	8	20	34	23	....	38.0
	Minimum	29	25	32	17	11	10	22	28	21	30	24	35	35	30	30	29	20	20	30	26	26	23	20	18	4	− 6	− 7	− 6	14	− 8	....	19.4
Granville	Maximum	55	60	66	42	30	41	62	58	65	58	60	45	35	32	38	30	35	30	30	24	33	42	45	37	42	25	17	30	40	22	....	41.0
	Minimum	28	28	35	32	10	12	25	22	20	21	25	32	28	26	20	12	9	4	14	14	17	22	27	17	8	− 5	−10	4	14	10	....	17.4
Hansboro	Maximum	45	50	55	47	35	32	40	36	57	60	55	45	35	32	32	30	36	32	32	30	34	40	33	34	30	20	30	34	32	20	....	37.4
	Minimum	28	20	28	20	20	3	10	17	24	25	20	28	25	18	20	18	14	10	14	4	18	24	17	14	10	−20	− 8	8	10	−15	....	14.1
Hettinger §§	Maximum	58	61	59	53	38	44	64	68	70	60	63	49	42	35	37	48	45	32	31	23	32	40	41	32	39	27	28	42	41	31	....	44.4
	Minimum	30	24	27	32	19	15	22	24	21	23	23	27	25	26	17	9	26	20	19	14	13	19	27	14	20	12	5	14	18	15	...	20.0
Hillsboro	Maximum	42	42	52	50	34	32	46	46	46	46	52	48	40	40	40	30	32	32	32	32	28	36	32	29	20	17	0	18	30	30	...	35.1
	Minimum	28	33	37	30	11	7	18	20	21	29	36	37	34	28	30	30	2	21	22	24	22	22	26	16	15	0	− 8	− 8	11	− 3	...	19.7
Howard (near)	Maximum	59	62	66	38	34	38	46	60	65	62	49	40	30	25	25	28	34	34	34	36	36	38	44	40	30	22	15	34	35	34	....	39.8
	Minimum	24	30	32	30	18	14	20	30	34	30	25	30	25	20	17	16	17	20	20	21	24	22	24	26	10	5	4	9	9	8	...	20.5
Jamestown §§	Maximum	44	54	66	50	30	41	61	62	61	60	64	49	45	37	35	33	45	32	34	31	32	38	41	38	40	12	14	25	34	28	...	41.2
	Minimum	33	27	31	28	10	10	19	28	22	24	23	31	33	24	25	25	15	18	27	18	19	21	26	18	10	−10	−11	− 3	12	− 1	...	18.4
Lamoine	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Langdon§§	Maximum	50	48	57	30	25	35	50	52	55	56	56	45	35	30	29	25	31	32	30	27	32	38	29	32	17	17	3	22	30	6	...	34.1
	Minimum	12	30	22	22	7	8	9	20	25	30	22	24	30	23	25	24	8	7	15	10	20	12	25	8	9	−16	−18	−18	− 5	− 4	...	13.0
Larimore §§	Maximum	48	55	60	45	25	40	58	60	59	58	63	48	45	42	30	32	32	30	30	30	32	40	30	38	25	14	0	14	25	5	...	37.1
	Minimum	25	30	30	20	9	4	20	25	30	27	24	25	31	27	25	26	21	24	25	22	21	21	22	16	16	− 9	−10	− 7	− 1	−14	....	17.5
Linton	Maximum	58	60	67	57	47	41	59	65	65	60	64	49	46	39	34	40	46	37	32	34	32	36	38	29	36	17	13	29	39	22	....	43.0
	Minimum	24	20	32	21	9	10	21	20	20	25	19	29	28	25	21	13	19	16	20	18	15	12	15	9	17	− 9	− 1	5	4	6	...	16.1
Lisbon §§	Maximum	58	58	62	45	32	42	50	65	62	64	62	53	48	46	34	42	38	35	33	33	37	38	39	30	24	10	22	33	13	28	....	41.2
	Minimum	29	28	26	32	12	10	23	22	23	21	25	36	35	31	28	28	22	25	31	20	23	24	32	26	− 5	− 6	− 4	− 4	6	3	....	20.2
McClusky	Maximum	55	58	65	44	30	41	62	63	64	60	60	48	41	44	31	37	41	30	25	25	33	40	40	27	37	16	19	24	31	34	...	40.8
	Minimum	33	24	30	19	18	12	19	22	25	25	23	27	31	24	20	12	12	14	19	9	15	16	25	15	0	−12	−11	0	12	0	....	15.9
Maddock	Maximum	51	49	57	55	38	42	59	57	53	54	57	57	44	36	32	35	37	32	30	27	31	38	35	28	21	17	26	23	34	32	...	39.6
	Minimum	33	25	32	30	8	10	19	19	21	25	25	30	30	25	23	24	15	12	24	5	16	18	14	10	10	−15	−14	− 7	10	0	....	15.9
Marmarth	Maximum	54	60	66	46	45	50	61	63	64	55	60	45	42	34	35	48	46	34	30	21	30	40	38	34	40	31	30	38	38	34	....	43.7
	Minimum	34	28	34	21	21	18	23	23	24	25	28	34	31	22	18	16	22	23	18	− 6	15	17	24	10	15	13	8	13	15	15	....	20.0
Minot §§	Maximum	54	61	66	58	38	41	61	60	66	58	59	47	40	30	28	34	33	27	25	21	33	41	44	31	40	18	22	31	39	37	....	41.4
	Minimum	22	24	35	30	10	13	21	30	19	23	23	31	27	25	17	5	15	11	16	14	11	22	28	13	17	− 1	− 6	5	11	3	...	17.1
Mohall	Maximum	44	51	66	60	60	51	63	64	63	61	58	58	52	37	33	30	34	29	30	26	37	37	33	30	26	23	18	30	30	28	...	42.1
	Minimum	21	40	36	37	30	11	28	28	22	23	21	22	22	24	17	2	10	11	14	2	19	16	13	12	18	− 2	− 7	− 2	12	− 4	...	16.5
Mott	Maximum	55	59	50	46	34	43	60	66	63	61	66	47	45	36	41	44	46	35	28	28	34	36	40	40	33	20	16	28	24	24	....	41.6
	Minimum	38	40	20	17	16	23	25	30	28	29	37	33	23	20	9	23	20	24	13	19	22	26	17	26	5	11	8	20	4	6	....	21.2
Napoleon §§	Maximum	59	60	66	45	33	42	59	65	67	64	63	48	45	32	28	38	47	43	28	23	30	39	35	37	28	15	11	25	33	18	....	40.9
	Minimum	33	26	31	35	6	12	24	31	24	28	26	26	28	20	24	19	21	16	25	16	14	22	30	17	20	−15	− 5	0	10	15	...	19.4
New Salem	Maximum	59	61	68	51	35	39	67	68	70	60	64	48	41	42	32	46	47	30	30	21	32	41	39	27	40	18	22	37	40	33	....	43.6
	Minimum	34	33	27	28	27	24	26	31	28	28	26	26	28	32	18	10	20	18	19	13	13	20	25	10	28	− 3	0	7	21	18	....	21.2
Pembina §§	Maximum	54	62	63	38	26	35	52	54	56	55	60	55	42	45	35	30	45	29	28	30	31	30	28	24	18	5	4	15	34	5	....	36.2
	Minimum	26	32	31	22	6	8	35	27	23	33	20	32	31	29	26	28	20	18	18	20	20	18	20	18	−10	−10	−12	−14	−12	− 5	....	16.6
Steele	Maximum	58	57	58	52	33	46	52	65	66	64	58	47	43	38	34	44	42	34	32	28	27	38	39	34	30	10	4	24	34	29	....	40.7
	Minimum	38	38	35	34	10	10	20	25	28	25	22	29	32	26	24	18	20	18	17	16	15	18	30	18	16	−16	− 6	0	12	10	...	19.4
Towner	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Valley City	Maximum	56	51	49	60	47	39	57	63	58	59	62	56	45	38	37	37	36	35	31	32	32	36	40	37	36	32	11	24	32	30	....	41.9
	Minimum	30	30	32	30	12	8	22	25	20	27	22	12	33	36	27	30	17	22	29	29	21	20	32	18	9	− 6	− 6	− 6	14	2	....	19.7
Wahpeton	Maximum	64	54	62	60	40	39	61	62	65	67	62	61	49	66	60	35	37	37	38	44	42	55	41	33	22	15	11	21	33	30	....	45.5
	Minimum	30	25	28	35	10	8	24	30	21	32	24	38	39	20	32	30	20	22	33	32	27	25	30	19	12	− 4	− 4	− 5	13	7	....	21.8
Westhope	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Williston	Maximum	57	61	66	45	36	45	56	62	61	55	55	40	33	27	24	31	29	26	22	17	29	40	40	38	39	26	17	28	36	28	....	39.0
	Minimum	36	26	34	21	15	20	21	28	24	28	31	31	25	17	9	14	9	8	10	2	14	23	23	14	11	5	2	16	21	3	....	18.0
Moorhead, Minn	Maximum	56	48	62	43	25	36	55	62	61	61	60	50	46	55	42	33	34	36	34	37	33	40	41	23	32	9	9	20	33	29	....	40.2
	Minimum	29	30	29	20	12	12	23	30	26	32	27	41	34	26	30	29	21	22	32	30	27	23	21	18	3	− 5	− 6	− 6	14	− 6	....	20.7

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing, ** 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXIX   Bismarck, N. D., December, 1930   No. 12

GENERAL SUMMARY

The weather during the month was mild and pleasant, no other December in the climatological history of the state having lower average precipitation combined with a higher mean temperature. This condition was particularly true of the northwestern portion of the state where no sub-zero temperatures were recorded. As a result of these favorable conditions livestock ranged freely upon pastures and harvested fields, saving much eed. Highways were generally excellent, except in the southentral portion, where a heavy snow covering from preceding nonths obtains.

TEMPERATURE

The mean temperature for the state was 19.9°, or 6.9° above he normal, and 7.4° higher than the mean for December, 929. The highest mean reported was 26.4° at Mott, Hettinger County; the lowest was 12.6° at Langdon, Cavalier County. The highest temperature reported was 53° at Hettinger, Adams County on the 8th; the lowest was −30° at Villow City, Bottineau County on the 1st. The greatest nonthly range of temperature was 69° at Willow City, Bottieau County; the least was 34° at Howard, Williams County. he greatest daily range in temperature was 50° at Cando, owner County on the 1st.

PRECIPITATION

The average precipitation for the state was 0.19 inch, or .35 inch below the normal, and 0.62 inch lower than the verage for December, 1929. The greatest monthly amount eported was 0.90 inch at Pembina, Pembina County; there as none at Edgeley, Lamoure County, Mayville, Traill ounty, Tioga, Williams County, Verona, LaMoure County, nd Zap, Mercer County. The greatest amount recorded in ny 24 consecutive hours was 0.50 inch at Willow City, Bottieau County on the 4th. The average number of days with .01 inch or more of precipitation was 3. The average snow- ll was 2.0 inches.

AURORAS

Auroras were obseved at Devils Lake, Ellendale, Moorhead Iinn.), and Willow City on the 3d; at Foxholm on the 10th; Napoleon and Tagus on the 20th; at Eckman on the 23d; at oxholm on the 24th and 25th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.10	30.66	15	29.65	10	57	5,552	7.5	36§	nw.	16
Devils Lake	30.06	30.76	15	29.57	10	44	5,878	7.9	27§	nw.	28
Ellendale	30.10	30.70	15	29.60	10	56	8,881	11.9	35§	nw.	10
Grand Forks	30.04	30.73	15	29.52	10	90	....	.....	42	nw.	31
Williston	30.08	30.53	15	29.68	10	48	4,649	6.2	27§	w.	16
Moorhead, Minn	30.09	30.75	15	29.58	10	58	5,580	7.5	27§	nw.	30
Av'ges and extremes	30.08	30.76	15	29.52	10	.....	....	8.2	42§	nw.	31

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	115.4	265.8	43	− 6	81	69	75	44	28
Devils Lake	123.2	262.1	47	0	94	85	92	63	3
Ellendale	140.6	269.6	52	−13	88	76	....	53	30
Grand Forks	....	....	.....	.....	89	....	86	.....	.....
Williston	136.1	262.1	52	+ 3	84	74	79	51	16
Moorhead, Minn	104.0	265.8	39	−10	92	79	89	47	6
Averages and extremes	123.9	265.1	47	− 5	88	77	84	44	28

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891...	16.1	+3.1	50	−41	1.33	+0.79	4	12	8	11	nw.
1892...	7.1	−5.9	60	−39	0.57	+0.03	4	13	8	10	nw.
1893...	4.7	−8.3	55	−36	0.85	+0.31	6	11	9	11	nw.
1894...	19.1	+6.1	70	−32	0.29	−0.25	2	16	7	6	nw.
1895...	13.8	+0.8	62	−32	0.29	−0.25	3	12	9	10	nw.
1896...	16.4	+3.4	53	−35	0.37	−0.17	3	13	9	9	nw.
1897...	10.8	−2.2	69	−35	0.22	−0.32	3	12	8	11	nw.
1898...	12.1	−0.9	55	−38	0.24	−0.30	3	14	9	8	uw.
1899...	12.8	−0.2	60	−26	0.32	−0.22	3	13	7	11	nw.
1900...	17.3	+4.3	58	−29	0.31	−0.23	4	13	8	10	nw.
1901...	12.4	−0.6	61	−43	0.74	+0.20	5	10	7	14	nw.
1902...	7.8	−5.2	49	−35	0.51	−0.03	4	14	7	10	nw.
1903...	11.6	−1.4	57	−33	0.77	+0.23	6	11	7	13	nw.
1904...	14.2	+1.2	55	−43	0.62	+0.08	5	7	8	16	nw.
1905...	15.3	+2.3	55	−34	0.16	−0.38	4	16	2	13	nw.
1906...	8.4	−4.6	48	−40	1.07	+0.53	6	11	7	13	nw.
1907...	20.1	+7.1	68	−26	0.30	−0.24	3	15	7	9	nw.
1908...	14.4	+1.4	62	−37	0.38	−0.16	3	13	10	8	nw.
1909...	5.2	−7.8	54	−42	1.27	+0.73	7	9	8	14	nw.
1910...	12.9	−0.1	56	−34	0.42	−0.06	4	12	8	11	nw.
1911...	14.9	+1.9	61	−33	0.39	−0.15	4	10	8	13	nw.
1912...	18.9	+5.9	72	−28	0.43	−0.09	4	14	8	9	nw.
1913...	22.7	+9.7	61	−21	0.07	−0.47	1	18	6	7	nw.
1914...	5.4	−7.6	57	−42	0.50	−0.04	4	12	9	10	nw.
1915...	15.8	+2.8	57	−27	0.52	−0.02	5	11	9	11	nw.
1916...	2.7	−10.3	61	−50	1.21	+0.73	5	15	8	8	nw.
1917...	0.7	−12.3	58	−44	0.60	+0.06	6	9	9	13	nw.
1918...	18.5	+5.5	65	−41	0.88	+0.34	5	9	8	14	nw.
1919...	7.4	−5.6	49	−38	0.46	−0.08	3	14	9	8	nw.
1920...	15.2	+2.2	59	−32	0.32	−0.22	3	11	9	11	nw.
1921...	16.5	+3.5	59	−33	0.41	−0.13	4	14	7	10	nw.
1922...	8.5	−4.5	55	−34	0.67	+0.13	5	11	8	12	nw.
1923...	22.2	+9.2	62	−36	0.32	−0.22	3	16	8	7	nw.
1924...	2.9	−10.1	58	−46	0.43	−0.11	4	12	7	12	nw.
1925...	16.5	+3.5	67	−38	0.28	−0.26	3	12	8	11	nw.
1926...	9.2	−3.8	55	−36	0.57	+0.03	3	14	8	9	nw.
1927...	−1.8	−14.8	43	−38	0.75	+0.21	5	14	7	10	nw.
1928...	20.7	+7.7	57	−30	0.28	−0.26	3	14	7	10	nw.
1929...	12.5	−0.5	59	−38	0.81	+0.27	5	12	8	11	nw.
1930...	19.9	+6.9	53	−30	0.19	−0.35	3	12	8	11	nw.

Climatological Data for December, 1930

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	4	......	......	......	......	......	......	......	0.27	......	0.17	2.7	2	......	......	......	......	H. A. Bury.
Amenia	Cass	954	34	19.4	+6.7	48	8	-16	1	47	0.13	-0.38	0.11	1.3	2	6	14	11	s.	I. Idso.
Arnegard (near)	McKenzie	......	15	24.2	+11.7	43	8	3	20	29	0.02	-0.43	0.02	0.2	1	20	2	9	w.	Chas. A. Benson.
Ashley	McIntosh	2,001	34	20.0	+6.5	39	8†	-6	1	37	0.08	-0.43	0.03	4.5	4	14	2	15	nw.	H. D. Piper.
Beach	Golden Valley	2,759	24	23.8	+7.3	47	9	4	31	29	0.29	-0.22	0.15	2.9	3	19	6	6	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	37	22.9	+7.2	52	8	-2	20	37	0.03	-0.37	0.03	0.5	1	12	3	16	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	55	22.6	+7.9	46	8	-1	1	27	0.19	-0.38	0.14	2.0	3	12	6	13	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	38	13.5	+6.8	38	8	-24	1	42	0.17	-0.32	0.15	2.0	2	10	15	6	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	16	24.5	......	49	8†	-2	20	29	0.37	+0.14	0.18	2.2	4	21	4	6	nw.	George Larsen.
Cando	Towner	1,488	29	16.4	+9.2	36	7†	-21	1	50	0.51	+0.15	0.29	5.1	4	10	7	14	nw.	A. J. Swanson.
Carrington	Foster	1,579	2	18.8	......	39	7†	-15	14	38	T.	......	T.	T.	0	18	4	9	w.	L. A. Swanson.
Carson	Grant	2,500	18	20.1	+4.1	43	9	-2	19	27	0.14	-0.40	0.10	1.5	3	15	6	10	nw.	J. W. Evens.
Cavalier	Pembina	......	3	......	......	......	......	......	......	......	0.45	......	0.30	4.5	4	17	5	9	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	24	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. G. Hoel.
Corinth	Williams	2,180	3	......	......	......	......	......	......	......	0.20	......	0.10	2.0	2	17	11	3	w.	W. A. Clem.
Crosby	Divide	1,954	24	20.6	+8.3	38	7	-7	1	29	0.04	-0.45	0.01	0.4	4	16	4	11	nw.	John Jensen.
Devils Lake	Ramsey	1,478	33	17.0	+7.5	38	8	-18	1	34	0.23	-0.31	0.11	3.0	8	8	10	13	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	38	21.6	+4.3	47	9	-7	21	33	0.37	0.05	0.25	3.7	6	11	9	11	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	4	20.4	......	41	8	-20	1	38	0.17	......	0.17	1.5	1	12	8	11	nw.	R. L. Williams.
Drake	McHenry	1,634	......	19.4	......	42	7†	-14	3	40	0.08	......	0.08	1.0	1	13	6	12	nw.	J. Rindt.
Dunn Center	Dunn	2,191	31	24.5^{a}	+4.0	48^{a}	8	-8^{a}	20	29^{a}	0.10	-0.46	0.10	1.0	1	13	6	12	w.	W. F. Moede.
Dunseith	Rolette	1,682	34	15.9	+7.6	40	8	-21	1	43	0.29	-0.12	0.10	2.9	7	9	13	9	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	25	17.0	+7.4	42	8	-21	1	43	0.19	-0.43	0.18	1.8	2	5	14	12	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	29	20.8	+4.3	38	10†	-10^{a}	1	34^{a}	0.00	-0.39	0.00	0.0	0	3	17	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	31	21.6	+4.8	43	8	-6	1	29	0.07	-0.41	0.03	1.1	5	6	10	15	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	18	22.7	......	45	18	-6	1	34	0.20	0.15	0.20	2.0	1	13	9	9	nw.	H. S. Solenberger.
Epping	Williams	2,224	22	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	3	......	......	......	......	......	......	......	0.30	......	0.10	3.0	3	17	4	10	nw.	F. R. Hecker.
Fessenden	Wells	1,610	18	19.6	+7.4	42	9	17	1	42	0.08	0.65	0.03	1.2	3	9	18	4	sw.	T. D. Monsen.
Forman	Sargent	1,249	36	......	......	......	......	......	......	......	0.09	-0.45	0.03	1.8	3	9	9	13	sw.	E. W. Bowen.
Fort Yates	Sioux	1,670	36	21.8	+3.5	......	......	......	......	......	0.00	-0.43	......	......	......	......	......	......	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	9	21.0	......	45	8	-12	1	26	0.18	......	0.16	0.8	2	9	11	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	12	......	......	......	......	......	......	......	0.53	+0.01	0.35	5.0	4	14	9	8	w.	Verne King.
Fullerton	Dickey	1,439	32	22.0	+8.3	40	8†	-8	1	25	0.11	-0.73	0.05	1.1	3	3	16	12	nw.	F. O. Alin.
Garrison	McLean	1,901	35	21.9	+8.3	44	8	-6	1	34	0.38	-0.19	0.20	2.0	2	18	3	10	nw.	W. F. Robinson.
Grafton	Walsh	827	39	15.3^{a}	+7.6	40^{a}	9	-16^{a}	1	38^{a}	0.36	-0.18	0.30	5.7	2	17	4	10	s.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	39	16.7	+6.1	40	8	-17	1	34	0.79	+0.16	0.16	8.4	11	7	12	12	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	29	19.7	+7.3	44	10	-14	15	39	0.40	-0.15	0.40	4.0	1	22	2	7	nw.	W. A. Christianson.
Hankinson	Richland	1,068	......	22.7	......	45	9	6	30	46	0.11	......	0.10	2.5	2	11	11	9	......	R. G. Stock.
Hannah	Cavalier	1,568	36	......	......	......	......	......	......	......	0.13	-0.50	0.05	1.3	4	......	......	......	......	James Meier.
Hansboro	Towner	1,597	22	15.1	+7.8	40	8†	-25	3	44	T.	-0.66	T.	T.	0	23	4	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	23	24.2	+8.4	53	8	-1	19	28	0.17	-0.17	0.10	1.0	4	17	7	7	nw.	C. H. Plath.
Hillsboro	Traill	901	24	17.8^{b}	+5.2	35^{b}	9†	-15	1	25^{b}	0.19	-0.71	0.09	2.0	3	6	14	11	......	G. Havland.
Howard‡‡ (near)	Williams	2,275	23	21.4	+9.6	38	9	4	20	23	T.	-0.82	T.	T.	0	9	18	9	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	38	19.4	+5.8	39	8†	-13	1	37	0.25	-0.50	0.20	2.5	3	11	11	9	sw.	S. Calvelage.
Lamoine	Kidder	1,936	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	M. W. Hutchings.
Langdon	Cavalier	1,615	34	12.6	+5.3	38	9	-24	3	49	0.05	-0.68	0.05	0.5	1	3	25	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	36	16.3	+5.5	43	9	-19	1	30	0.46	-0.08	0.20	4.5	4	11	7	13	n.	Reuben Gray.
Linton	Emmons	1,711	12	18.6	+4.6	41	8	-6	19	39	0.30	-0.10	0.20	3.0	2	14	8	9	sw.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	26	21.0	+6.9	41	8	-12	1	29	0.10	-0.31	0.04	1.2	4	12	2	17	......	N. S. Lindstrom.
McClusky	Sheridan	1,943	12	18.7	......	41	8†	-15	1	29	T.	-0.65	T.	T.	0	11	9	11	nw.	Edw. Tapley.
McLeod	Ransom	1,075	18	20.3	+6.0	42	10	-17	1	36	0.13	-0.32	0.07	1.3	3	11	11	9	sw.	J. G. Carlson.
Maddock	Benson	1,604	14	16.8	+7.2	37	8	-20	1	40	0.08	-0.24	0.05	0.8	2	6	12	13	nw.	A. T. Felland.
Mandan	Morton	1,644	16	21.8	+8.7	44	8	-2	1	32	0.16	-0.29	0.09	2.3	3	14	3	14	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	27	......	......	......	......	......	......	......	0.13	-0.63	0.10	1.2	4	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	21	23.9	+6.2	47	8	-3	20	29	0.40	+0.06	0.32	4.6	4	17	5	9	......	S. P. Grane.
Mary	McKenzie	......	3	......	......	......	......	......	......	......	0.06	......	0.04	1.8	2	17	5	9	sw.	Fred Hartman.
Max	McLean	2,093	......	20.4	......	52	10	-13	2	44	T.	......	T.	T.	0	5	5	21	nw.	A. W. Rice.
Mayville	Traill	975	34	17.4	+4.3	40	9	-16	1	41	0.00	-0.58	0.00	0.0	0	8	0	23	w.	H. B. Addicott.
Metigoshe‡‡	Bottineau	......	5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. A. Thorburn.
Minot	Ward	1,557	34	22.8	+10.4	46	8	-10	1	27	0.02	-0.49	0.01	0.2	2	11	9	11	w.	Julia B. Rue.
Mohall	Renville	......	1	19.0	+8.3	39	10	15	1	34	T.	-0.43	T.	T.	0	4	22	5	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	23	26.4	+12.3	43	10	7	2	23	0.36	-0.22	0.20	3.5	3	16	10	5	w.	O. H. Opland.
Napoleon	Logan	1,955	38	18.6	+6.2	40	8	-11	1	29	0.20	-0.28	0.05	2.0	4	14	4	13	sw.	C. J. Hoof.
New England	Hettinger	2,400	39	23.6	+6.2	48	9	2	19†	36	0.30	-0.11	0.15	3.0	3	20	6	5	nw.	F. S. Sleight.
New Salem	Morton	2,165	26	24.5	+9.6	46	8	-1	1	27	0.06	0.47	0.06	0.8	1	19	4	8	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	22.8	......	44	8	9	1	38	0.13	......	0.06	2.3	3	3	17	11	sw.	Eugene Naylor.
Park River	Walsh	998	26	17.2	+6.1	40	9	-20	1	33	0.24	-0.29	0.16	4.5	2	12	3	16	nw.	C. B. Wright.
Parshall (near)	Mountrail	......	15	......	......	......	......	......	......	......	0.14	-0.25	0.08	1.4	3	16	5	10	sw.	C. E. Shubert.
Pembina	Pembina	789	56	13.0	+7.0	40	9	-22	1	33	0.90	+0.14	0.40	9.0	3	7	15	9	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	......	......	......	......	......	......	......	0.15	......	0.10	1.5	3	13	5	13	......	Chas. Ouradnik.
Pettibone	Kidder	1,856	21	17.6	+7.2	36	10	-15	1	39	0.17	-0.51	0.05	1.8	4	9	6	16	nw.	A. L. Carlson.
Portal	Burke	1,954	16	18.8	+6.8	40	8	-12	2	42	0.10	-0.45	0.10	1.0	1	16	1	14	w.	C. T. Holmes.
Power	Richland	1,020	36	......	......	......	......	......	......	......	0.50	0.04	0.20	5.0	4	8	13	10	nw.	Frank B. Power.
Powers Lake	Burke	2,205	16	22.9	......	47	6	0	20	31	0.61	-0.02	0.30	7.7	4	19	7	5	w.	Geo. B. Gee.
Richardton	Stark	2,467	14	22.6	+8.7	47	8†	-7	20	27	0.20	-0.18	0.20	2.0	1	20	6	5	sw.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	......	......	......	......	......	0.40	......	0.30	4.0	2	10	6	15	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	......	......	......	......	......	0.35	......	0.30	3.5	2	......	......	......	......	E. M. Lomen.
Sanish	Mountrail	1,835	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. W. Monson.
Sharon	Steele	1,516	5	16.4	......	38	8	-19	1	32	0.16	......	0.03	1.7	9	10	8	13	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	6	......	......	......	......	......	......	......	0.15	......	0.15	1.5	1	13	6	12	nw.	J. H. Giffey.
Steele	Kidder	1,857	34	19.2	+5.6	44	9	-8	31	34	0.30	-0.23	0.20	3.0	2	13	7	11	sw.	Paul Neubauer.
Stowers‡‡	Adams	2,325	15	......	......	......	......	......	......	......	T	-0.54	T.	T	0	14	10	7	......	Chas. E. Stowers.
Tagus	Mountrail	2,179	3	......	......	......	......	......	......	......	0.04	......	0.02	0.5	2	14	3	14	sw.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	......	......	......	......	......	0.00	......	0.00	0.0	0	8	10	13	nw.	Anton Carlson.
Towner	McHenry	1,482	28	......	......	......	......	......	......	......	T.	-0.54	T.	T.	0	14	10	7	......	B. Bagley.
Trotters	Golden Valley	......	5	......	......	......	......	......	......	......	0.24	......	0.11	2.5	2	19	6	6	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	15	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	25	19.6	+5.9	38	29	13	1	42	0.19	-0.36	0.10	2.0	5	6	10	15	w.	I. C. Robertson.
Velva	McHenry	1,511	4	22.0	......	46	8	-12	1	30	0.04	......	0.04	0.5	1	8	9	14	w.	Oscar Anderson.
Verona	LaMoure	1,387	36	......	......	......	......	......	......	......	0.00	......	0.00	0.0	0	24	3	4	nw.	W. C. Taylor.
Wahpeton	Richland	962	38	21.9	+7.2	42	10	-14	1	39	0.03	-0.42	0.01	0.3	3	14	0	17	se.	C. G. Luick.
Washburn	McLean	1,731	28	24.0	+10.0	48	8†	-6	1	30	T.	-0.34	T.	T.	0	14	5	12	sw.	Fred Jeffries.
Westhope	Bottineau	1,508	26	15.1	+6.1	39	10	-18	1	36	0.14	-0.23	0.14	1.5	1	15	11	5	se.	W. A. Meddaugh.
Williston	Williams	1,878	51	24.0	+10.2	46	8	3	1	26	0.05	-0.53	0.03	0.5	2	14	8	9	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	42	13.8	+5.3	39	8	-30	1	45	0.50	-0.04	0.50	5.0	1	17	7	7	nw.	O. M. Sanderson.
Wilton	McLean	......	2	20.9	......	42	8	-2	14	25	0.19	......	0.08	2.0	3	13	2	16	......	L. Q. Perkins.
Wishek	McIntosh	2,010	10	18.0	......	40	8	-8	1†	38	0.07	......	0.07	0.7	1	7	2	22	nw.	E. W. Davis.
Zap	Mercer	1,838	2	......	......	......	......	......	......	......	0.00	......	0.00	0.0	......	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	49	19.8	+8.3	42	10	-12	1	32	0.10	-0.62	0.05	1.2	6	6	7	18	s.	U. S. Weather Bureau.
Averages		......		19.9	+6.9	53	8	-30	1	50	0.19	-0.35	0.50	2.0	3	12	8	11	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Lamoine, Tuttle; Power, Leonard; Howard, Grenora; Metigoshe, Bottineau; Stowers, Lemmon, S. D.

Daily Precipitation for December, 1930

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.17												.10																		0.27
Amenia ||	Red										T	.11	T	T				T		T	.02				T								0.13
Arnegard (near)	Missouri			.02							T									T												T	0.02
Ashley	Missouri		.02	.03										T				.02			.01									T			0.08
Beach	Lit. Missouri		.15												.12					.02													0.29
Berthold Agency	Missouri	T	.03	T							T				T																		0.03
Bismarck ***	Missouri	T	.05	.06	.08						T		T	T	T		T	T	T	T	T	T											0.19
Bottineau||	Mouse	T	T		.15	T					T	T								.02		T			T							T	0.17
Bowman	Grand	.02	.15	T									.02		.18			T			T												0.37
Cando	Devils Lake		T		.29	T					T		T	T		T		T	.01	T	.01		.20										0.51
Carrington	James			T	T						T			T			T	T	T											T		T	T
Carson	Heart		.10										.02				.02																0.14
Cavalier	Red													.02					.10	.30		.03											0.45
Cooperstown	Sheyenne																																.....
Corinth	Missouri					.10							.10																				0.20
Courtenay	James																																.....
Crosby||	Mouse				.01			.01			.01					.01																	0.04
Devils Lake ***	Devils Lake	T	T	.02	.09	T					.03	T		.01	T	T		.01	.01	.04	T	T	T		T	T				T	.02		0.23
Dickinson||	Heart	.01	T	.25	T	T									.01	.07	T	.01			.02	T											0.37
Dogden Butte	Mouse				.17						T	T			T					T													0.17
Drake||	Mouse			.08							T																						0.08
Dunn Center||	Knife		.10																														0.10
Dunseith	Mouse	.02	.05		.10						.05									.03		.02											0.29
Eckman	Mouse	.01	T		.18						T																						0.19
Edgeley	James																		T				T									.02	0.06
Ellendale***	James		.03		.01						T	T	.01	T	.01			.01	T	T	T	T			T	T				T	T		0.07
Energy	Missouri				.20													T															0.20
Epping	Missouri																																.....
Fairfield	Knife		.10	.10											.10																		0.30
Fessenden||	James	.03	.02		.03							T							T														0.08
Forman	Sheyenne		T	.03	T									.03	T			T	T		.03												0.09
Fort Yates	Missouri																																.....
Foxholm (near)	Mouse	T	T	T	.16						.02			T	T	T		T		T													0.18
Fryburg	Heart		.35												.08	.05		.05	T														0.53
Fullerton	James	T	.05											T	T	T	T		T	.03	T	T								.03			0.11
Garrison	M ssouri		T	T	.20						.18									T													0.38
Grafton	Red		T											T				T		.30	.06	T											0.36
Grand Forks ***	Red		.04		.13	.12	.10				.03		T	.02	T			.06	.09	.16		.02									.02		0.79
Granville	Mouse	T			.40						T									T													0.40
Hankinson||	Red		.01											.10					T		T	T	T										0.11
Hannah	Pembina		.03		.04	T						T			.01		T			T	.05			T	T				T		T	T	0.13
Hansboro	Devils Lake	T																		T													T
Hettinger	Grand	T	.03	.02											.10	.02																	0.17
Hillsboro	Red			.07										T				.03	.09														0.19
Howard (near)	Missouri	T									T	T								T	T		T										T
amestown||	James				.20							.03	T				T	.02											T				0.25
Lamoine	Missouri																																.....
Langdon||	Pembina																			T		.05											0.05
Larimore||	Red													.03				.03		.20	.20												0.46
Linton	Missouri		.10	T	.20											T		T															0.30
Lisbon ||	Sheyenne			.02										.01					.05			.02											0.10
McClusky	Missouri	T	T	T	T						T									T	T												T
McLeod	Sheyenne													.02	T	T			.01		.07	T	T										0.13
Maddock	Sheyenne	.03			.05	T					T	T			T	T		T	T	T	T	T							T		T		0.08
Mandan||	Missouri	.03		.04	.09							T				T		T			T	T	T							T		T	0.16
Manfred	James	T			.10						.01	T						T	.01	.01												T	0.13
Marmarth	Lit. Missouri		.03										.04		.32			.01			T												0.40
Mary	Lit. Missouri		.04												.02			T															0.06
Max||	Missouri																					T											T
Mayville	Red																																0.00
Metigoshe	Mouse																																.....
Minot||	Mouse															.01				.01													0.02
Mohall	Mouse		T	T	T	T					T					T		T			T												T
Mott	Cannon Ball		.05	.11												T	.20				T	T											0.36
apoleon ||	Missouri			.05	.05														.05		.05												0.20
ew England	Cannon Ball		.10	.05											.15	T																	0.30
ew Salem	Heart	T	.06	T	T										T	T		T															0.06
akes	James		.04											T					.06		.03	T											0.13
ark River	Red		T		.08							T						T		.16	T												0.24
arshall (near)	Missouri				.08						.03				T					.03													0.14
embina||	Red											.20			.40										.30								0.90
etersburg	Red				.10	T					.04			.01																			0.15
ettibone	James		T			.02					T					T	T	T		.05	.05	.05				T					T		0.17
ortal||	Mouse			.10							T																						0.10
ower	Sheyenne		.10														.20		.10	.10													0.50
owers Lake	Missouri								.04					.30	.14								.13										0.61
ichardton	Heart		.20																														0.20
ugby [near]	Mouse	T	T	.30							T						T	.10	T	T		T											0.40
yder	Missouri				.30																		.05										0.35
anish||	Missouri																																.....
aron	Red		T		.03	T					.01	T		T	T	T	.03	.03	.01	.02	.01	.01	T			T	T				.01	T	0.16
anton	Missouri				.15						T																						0.15
eele	Missouri		.10		.20						T				T					T	T	T											0.30
owers	Cannon Ball		T										T		T						T												T
agus	Mouse				.02																				.02								0.04
oga	Missouri																																0.00
owner	Mouse																																.....
otters	Lit. Missouri		.14												.10																		0.24
rtle Lake	Missouri																																.....
alley City	Sheyenne				.10							T						.01	.05	.01	.02												0.19
elva	Mouse				.04						T				T	T		T	T	T		T	T										0.04
erona	James																																0.00
ahpeton	Red																		.01				.01								.01		0.03
ashburn	Missouri		T		T													T		T													T
esthope	Mouse				.14														T														0.14
illiston ***	Missouri		.02	.03							T		T		T			T		T													0.05
illow City	Mouse	T			.50						T			T						T													0.50
lton	Missouri	T	.05	.06	.08						T		T	T	T		T	T	T	T	T	T											0.19
shek||	Missouri				.07																											T	0.07
p	Knife																																.....
orhead, Minn ***	Red		T		T	T					.01	T	T	.01	T	T		.01	T	.02	.03	.02	T		T	T		T		T	T	T	0.10

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of servation. || || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December, 1930

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	31	27	26	30	32	38	34	48	42	40	44	38	30	20	21	32	31	30	29	21	20	28	30	28	26	30	36	33	30	32	30	31.2
	Minimum ...	-16	-9	-8	9	14	18	14	22	21	18	23	21	20	0	-8	14	10	9	8	-6	9	8	10	12	9	8	6	4	0	2	-6	7.6
Arnegard	Maximum...	20	29	28	30	37	36	40	43	41	38	30	33	28	30	25	33	33	27	30	32	29	27	38	32	35	32	27	31	33	34	33	32.1
	Minimum ...	4	11	18	20	21	22	21	20	19	26	23	20	25	21	9	14	19	9	13	3	11	11	20	20	10	20	12	10	19	16	18	16.3
Ashley	Maximum...	10	29	26	29	31	32	34	39	39	38	38	32	31	20	17	30	31	28	22	18	22	27	30	33	29	31	28	33	32	33	33	29.2
	Minimum ...	-6	5	-5	6	12	18	20	20	21	22	23	21	18	9	-4	15	12	12	7	6	2	6	13	16	22	14	13	7	12	4	-4	10.9
Beach	Maximum...	19	29	30	31	34	35	37	46	47	41	34	35	30	28	24	38	32	26	22	23	29	30	34	33	35	31	27	31	28	31	29	31.6
	Minimum ...	7	19	15	20	16	19	20	18	20	27	29	27	22	19	9	9	22	9	5	6	10	15	23	20	12	17	10	14	13	17	4	15.9
Berthold Agency	Maximum...	18	30	16	34	40	40	40	52	40	48	28	33	28	25	25	26	40	30	22	22	30	30	42	40	34	40	35	40	40	38	34	33.5
	Minimum ...	4	8	4	14	12	18	20	15	22	0	25	22	24	10	8	12	12	12	12	-2	14	16	14	20	14	8	8	4	10	10	10	12.3
Bismarck	Maximum...	15	31	16	30	37	36	39	46	33	42	29	34	25	22	23	30	36	28	23	19	26	27	37	35	27	38	29	38	24	37	25	30.2
	Minimum ...	-1	14	5	16	15	21	22	21	17	26	23	23	22	2	2	17	18	17	13	6	12	15	17	23	19	18	15	11	13	14	12	15.1
Bottineau §§	Maximum...	18	19	12	21	32	28	26	38	37	35	26	27	25	18	12	26	31	23	18	15	21	23	21	27	29	27	24	23	25	33	22	24.6
	Minimum ...	-24	-1	-19	4	16	15	10	10	10	15	18	19	12	-14	-17	10	2	7	4	-5	-2	-3	5	4	6	3	7	-1	0	-2	-14	2.4
Cando	Maximum...	29	34	9	27	31	32	36	36	36	36	35	24	25	23	20	28	31	29	21	14	20	22	24	22	20	22	26	22	19	34	33	26.5
	Minimum ...	-21	4	-15	2	12	19	21	11	15	8	22	18	16	15	-17	13	12	13	4	1	-5	1	9	9	10	8	11	6	4	0	-13	6.2
Carrington	Maximum...	23	23	30	33	34	36	39	39	38	27	28	21	15	23	30	32	23	24	21	23	24	30	28	27	33	26	33	23	34	21	25	27.7
	Minimum ...	-14	-10	-8	16	24	19	23	24	24	24	21	19	13	-8	0	17	15	10	-2	-2	5	15	15	21	19	18	11	13	8	-7	-7	10.0
Carson	Maximum...	11	25	20	30	35	32	30	35	43	40	40	33	25	20	20	25	21	16	20	20	20	26	30	34	26	36	25	32	30	35	30	27.9
	Minimum ...	5	9	5	6	10	18	15	20	24	25	20	16	12	10	10	12	6	10	2	10	10	12	14	24	15	15	11	5	11	14	10	12.3
Crosby §§	Maximum...	18	16	25	29	37	34	38	34	29	36	27	30	28	23	24	27	32	26	22	21	24	25	24	30	21	33	29	30	27	33	28	27.7
	Minimum ...	-7	6	-4	12	17	27	12	17	14	29	23	21	23	9	10	17	20	15	11	10	14	11	14	17	10	15	16	10	11	14	8	13.6
Devils Lake	Maximum...	10	19	9	27	33	32	32	38	35	38	25	25	23	16	20	30	32	24	21	15	23	22	24	27	27	32	26	31	24	32	20	25.6
	Minimum ...	-18	-5	-14	9	19	19	15	18	20	16	20	20	15	11	-11	20	16	8	8	0	6	6	16	17	21	18	10	9	6	2	-11	8.4
Dickinson §§	Maximum...	28	34	29	29	36	35	38	45	47	40	31	36	29	20	22	31	30	26	17	19	26	29	36	34	34	33	27	33	28	32	30	31.1
	Minimum ...	4	6	9	11	8	19	20	22	15	16	24	21	23	20	11	13	13	9	9	0	-7	11	13	22	7	7	13	8	13	12	3	12.1
Dunn Center §§	Maximum...	19	32	20	29	38	39	41	48	41	44	30	36	24	24	24	34	36	32	21	21	31	28	41	34	35	36	29	38	36	....	32	[a]32.6
	Minimum ...	4	14	9	19	9	24	21	25	19	28	21	24	23	16	13	15	19	12	14	-8	12	14	24	21	10	17	14	12	29	...	12	[a]16.4
Dunseith	Maximum...	-2	18	7	23	34	36	38	40	37	33	30	21	24	16	11	26	32	36	18	12	20	20	22	25	27	30	27	35	27	31	30	25.2
	Minimum ...	-21	-2	-13	3	11	15	16	18	23	11	19	11	14	-2	-11	9	8	14	6	0	6	5	8	11	21	19	14	1	8	5	-13	6.6
Edgeley	Maximum...	4	18	16	27	29	30	32	33	31	38	31	38	37	36	35	32	32	32	25	21	25	26	31	32	30	30	35	34	32	36	32	29.7
	Minimum ...	-10	4	-7	6	10	24	19	20	20	....	....	....	....	11	13	17	18	16	13	9	7	8	15	15	18	25	18	12	13	8	-2	[d]11.9
Ellendale	Maximum...	16	29	14	30	32	37	38	43	41	40	29	30	28	19	22	34	30	27	27	20	27	30	32	34	28	39	28	35	28	36	19	29.7
	Minimum ...	-6	9	-4	14	19	16	20	20	21	27	24	24	18	3	2	19	17	16	9	8	10	9	16	18	23	16	17	11	7	7	2	13.4
Fessenden §§	Maximum...	21	22	22	31	38	38	39	41	42	40	26	29	18	11	21	29	34	27	21	24	25	26	34	27	28	37	34	35	25	36	24	29.3
	Minimum ...	-17	-14	-14	-11	18	23	20	22	21	22	24	23	17	11	-8	-1	16	15	11	1	3	7	15	15	22	18	17	15	16	11	-8	10.0
Foxholm (near)	Maximum...	8	24	12	35	39	37	39	45	41	41	28	25	24	22	20	32	34	28	22	17	25	23	35	29	25	35	30	35	31	34	29	29.2
	Minimum ...	-12	7	-5	10	21	26	25	26	20	21	20	20	19	4	-6	17	20	12	12	-2	12	13	12	18	18	17	15	13	10	13	3	12.9
Fullerton	Maximum...	10	29	21	30	33	35	36	40	38	40	32	32	30	23	19	33	29	27	28	19	26	26	32	33	39	36	32	35	29	35	20	29.6
	Minimum ...	-8	10	-4	13	20	18	20	21	25	26	26	23	22	10	2	19	18	15	9	8	10	9	17	18	24	17	19	12	14	12	0	14.4
Garrison	Maximum...	10	29	12	31	37	35	36	44	38	43	37	29	25	24	22	34	36	27	22	18	25	25	40	35	32	36	30	34	30	37	35	30.6
	Minimum ...	-6	10	4	11	14	18	18	19	15	24	23	23	22	2	10	0	11	12	14	0	13	12	13	23	19	16	17	12	14	14	12	13.2
Grafton	Maximum...	2	20	7	24	31	35	28	38	40	37	37	27	24	21	6	30	28	...	30	22	21	21	19	23	27	32	31	34	33	36	25	[a]26.3
	Minimum ...	-16	-3	-12	-7	11	19	3	16	22	13	23	21	18	-3	-15	-2	17	....	2	1	-5	-6	-6	-1	8	17	19	3	5	-2	-10	[a] 4.3
Grand Forks	Maximum...	6	21	11	26	30	37	27	40	35	38	29	25	24	20	18	31	29	30	23	22	22	12	22	26	26	33	29	33	28	31	8	25.6
	Minimum ...	-17	-4	-12	11	20	19	11	18	22	17	24	22	19	-6	-13	16	22	6	3	0	7	-7	-1	13	21	21	10	8	2	0	-9	7.8
Granville	Maximum...	15	23	17	37	40	37	38	42	34	44	28	28	25	18	25	32	35	28	24	18	25	30	35	30	27	35	32	35	28	35	26	29.9
	Minimum ...	-10	8	-12	12	14	14	12	20	12	9	22	22	15	-8	-14	17	15	10	12	-3	8	12	15	20	12	20	17	8	10	12	-5	9.5
Hansboro	Maximum...	20	26	10	30	35	35	35	40	40	38	32	28	22	12	12	30	35	28	20	17	25	30	27	20	25	35	30	32	30	32	21	27.5
	Minimum ...	-24	7	-25	-5	12	15	10	18	16	12	22	13	12	-7	-18	8	9	8	8	-9	-3	5	2	5	10	10	10	0	0	-2	-21	2.7
Hettinger §§	Maximum...	20	36	32	33	40	41	45	53	47	45	39	41	32	26	31	27	32	27	18	28	22	26	34	33	35	33	29	34	30	34	30	33.0
	Minimum ...	8	16	16	19	16	21	23	26	22	28	27	24	25	16	10	9	7	8	-1	14	16	13	23	19	8	15	14	6	15	11	2	15.4
Hillsboro	Maximum...	0	20	15	25	30	32	32	34	35	35	34	28	25	20	15	28	28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	[b]26.2
	Minimum ...	-15	-4	-10	0	22	18	9	18	22	19	20	20	20	0	-10	12	20	....	....	....	....	....	....	....	....	....	....	....	....	....	....	[b] 9.5
Howard (near)	Maximum...	18	24	30	34	33	30	37	37	38	32	34	33	28	25	22	30	33	26	19	19	25	25	32	30	28	34	30	32	28	33	28	29.3
	Minimum ...	0	5	10	18	18	17	17	17	15	21	21	21	23	15	8	15	15	8	12	4	10	8	10	20	16	14	8	18	5	15	12	13.4
Jamestown §§	Maximum...	7	27	14	32	33	33	36	39	39	39	37	30	29	19	17	31	32	29	21	11	21	24	30	29	29	35	31	34	27	35	31	28.7
	Minimum ...	-13	5	-10	6	18	19	16	20	20	19	24	21	17	0	-8	15	16	13	8	4	6	4	15	14	24	15	15	8	7	4	-6	10.2
Lamoine	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Langdon §§	Maximum...	12	16	18	26	29	30	29	33	38	30	28	24	26	4	20	25	31	25	22	20	31	21	19	24	24	27	24	20	29	22	19	23.9
	Minimum ...	-22	-15	-24	-23	5	19	6	11	15	10	10	15	14	-2	-20	14	0	10	0	6	-7	2	11	9	7	11	10	4	5	-2	-21	1.4
Larimore §§	Maximum...	-3	15	1	25	25	34	34	40	43	38	27	24	24	14	4	30	25	28	18	20	22	18	22	24	27	30	30	32	14	26	20	23.6
	Minimum ...	-19	3	-10	11	15	10	16	21	20	18	23	20	21	5	-14	10	15	11	7	10	2	-2	10	11	14	20	18	10	2	7	-10	9.0
Linton	Maximum...	9	28	26	29	34	33	32	41	35	39	34	35	31	22	20	32	33	27	24	19	23	25	34	35	29	34	28	35	33	34	31	29.8
	Minimum ...	-4	4	2	9	15	6	10	5	4	8	20	21	20	15	-5	12	10	3	-6	3	-1	5	1	9	20	10	10	-4	10	12	1	7.3
Lisbon §§	Maximum...	16	27	16	30	32	38	36	41	40	40	30	31	27	19	26	32	31	28	26	25	24	27	30	26	31	35	27	35	29	26	20	29.1
	Minimum ...	-12	4	-5	1	24	17	19	21	23	20	27	25	26	17	4	18	22	14	5	6	7	2	18	16	18	20	19	12	11	5	-3	12.9
McClusky	Maximum...	10	27	10	29	36	35	34	41	37	41	30	29	26	30	17	24	33	28	22	16	22	25	32	28	28	34	26	27	28	33	26	27.9
	Minimum ...	-15	7	-4	9	16	20	16	19	14	18	20	21	18	0	-11	13	14	10	7	2	7	7	10	18	18	14	7	7	8	7	-3	9.5
Maddock	Maximum...	3	16	14	26	34	32	31	37	35	34	32	26	27	16	15	27	30	28	18	18	19	23	25	23	26	32	30	30	28	31	29	25.6
	Minimum ...	-20	0	-15	3	11	21	14	19	16	19	21	20	15	0	-13	14	15	9	6	-4	9	5	12	15	19	11	13	7	11	6	-11	8.0
Marmarth	Maximum...	27	37	31	38	42	38	42	47	44	43	43	36	31	28	26	24	31	28	27	26	27	32	37	36	30	32	29	33	29	35	29	33.5
	Minimum ...	11	16	21	25	21	15	15	20	18	25	32	28	23	20	15	9	10	9	3	-3	17	14	13	15	3	5	13	4	12	12	2	14.3
Minot §§	Maximum...	15	26	25	36	41	38	41	46	43	40	32	27	27	26	19	35	35	30	24	18	27	25	35	33	30	35	31	37	32	37	31	31.5
	Minimum ...	-10	10	-1	12	21	21	23	26	17	22	22	22	20	3	-3	19	19	14	15	-1	10	13	12	21	20	19	17	24	13	12	4	14.1
Mohall	Maximum...	19	21	19	32	37	38	37	38	38	39	36	30	30	22	18	28	31	26	20	18	24	25	29	30	30	30	28	24	23	25	22	28.0
	Minimum ...	-15	3	-8	5	15	16	12	15	19	19	21	20	20	1	-8	11	16	10	10	-4	0	5	10	16	19	18	16	17	16	10	3	9.9
Mott	Maximum...	24	30	28	30	38	38	37	38	39	43	32	35	30	29	29	35	38	28	24	25	28	34	39	34	27	37	38	40	25	39	35	33.1
	Minimum ...	17	7	20	21	20	24	25	22	26	27	24	26	14	15	20	24	18	14	12	15	16	22	26	22	20	21	22	22	15	20	15	19.7
Napoleon §§	Maximum...	18	27	22	28	32	33	34	40	36	38	25	32	21	18	22	30	32	21	22	21	21	25	30	33	25	30	23	32	17	33	20	27.1
	Minimum ...	-11	5	-3	7	15	19	15	17	18	21	16	21	17	13	-5	15	18	16	5	5	1	6	13	17	19	14	11	4	11	5	-8	10.2
New Salem	Maximum...	20	32	22	29	35	36	39	46	45	43	39	36	33	24	20	31	32	29	29	20	26	28	44	36	32	37	30	38	36	34	39	32.9
	Minimum ...	-1	11	5	14	21	23	21	23	26	26	26	22	20	14	4	14	18	19	14	0	14	13	17	22	20	18	17	11	16	14	18	16.1
Pembina §§	Maximum...	2	15	-2	25	35	28	30	38	40	38	35	24	28	20	5	28	28	30	18	20	18	15	20	21	20	30	20	30	20	20	25	23.4
	Minimum ...	-22	-4	-22	-8	10	6	8	12	10	10	20	10	8	5	-22	-4	10	12	4	-8	2	10	-2	7	8	10	8	5	-2	2	2	2.7
Steele	Maximum...	14	24	16	34	36	35	38	38	44	40	34	36	32	34	22	30	32	31	22	21	22	22	24	32	30	32	24	22	21	22	18	28.5
	Minimum ...	12	-2	-2	0	16	15	14	16	14	15	22	20	18	16	-6	12	16	8	6	2	3	6	10	16	22	16	9	2	10	9	-8	9.9
Towner	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Valley City	Maximum...	5	20	15	29	32	34	33	37	35	37	37	35	27	20	13	31	30	30	29	28	24	28	29	31	26	34	34	34	38	35	36	29.2
	Minimum ...	-13	1	-7	2	19	15	16	20	20	16	25	22	15	6	-3	12	20	12	15	5	3	-2	12	14	19	18	14	12	8	3	-6	10.1
Wahpeton	Maximum...	10	29	21	26	31	37	38	40	41	42	40	30	30	28	22	34	30	30	31	28	24	24	26	34	30	38	33	35	35	38	35	31.3
	Minimum ...	-14	0	-4	5	20	18	19	13	26	24	26	25	23	19	19	10	24	15	6	11	1	2	12	13	18	14	20	12	11	4	-4	12.5
Westhope	Maximum...	10	17	12	32	38	28	38	38	37	39	26	27	22	20	20	32	28	22	19	18	16	22	21	22	28	27	29	26	22	26	33	25.6
	Minimum ...	-18	2	-14	11	12	10	11	12	10	7	22	22	11	-2	-14	17	12	2	12	-8	2	3	3	5	6	4	7	-1	-1	0	-3	4.6
Williston	Maximum...	21	28	29	31	39	38	34	46	37	38	30	32	29	25	27	33	34	25	22	23	26	28	37	33	37	30	28	33	29	34	34	31.3
	Minimum ...	3	9	5	24	24	22	21	25	18	27	24	23	25	16	14	19	16	13	12	9	16	13	23	20	11	15	13	11	14	18	12	16.6
Moorhead, Minn	Maximum...	6	23	11	25	31	38	33	40	38	42	32	26	26	21	19	32	30	30	27	21	22	19	24	31	25	35	30	35	28	36	9	27.3
	Minimum ...	-12	4	-6	9	23	18	18	21	27	25	26	23	20	2	-1	11	24	15	7	3	8	7	8	16	21	23	20	13	5	4	-6	12.2

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 1-30-31—1000]

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UNNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28
JUL 1 1931
UNIVERSITY OF ILLINOIS

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX   BISMARCK, N. D., JANUARY, 1931   No. 1

GENERAL SUMMARY

The weather during the month in North Dakota from a personal comfort standpoint, was the most excellent of record. The mean temperature (21.4°) was the highest of record in the climatological history of the state, the precipitation average (0.15 inch) was the third lowest of record, there were no damaging winds, and conditions were ideal for outside work and for livestock. There were but two stormy periods, both of short duration, and at the close of the month highways in all parts of the state were open, the snow covering being mostly confined to the northwest section.

TEMPERATURE

The mean temperature for the state was 21.4°, or 15.2° above the normal, and 23.3° higher than the mean for January, 1930. The highest mean reported was 29.8° at Amidon, Slope County; the lowest was 10.2° at Langdon, Cavalier County. The highest temperature reported was 68° at Carson, Grant County on the 29th; the lowest was -31° at Towner, McHenry County on the 13th and 14th. The greatest monthly range of temperature was 84° at Carson, Grant County; the least was 48° at Pembina, Pembina County. The greatest daily range in temperature was 59° at Amenia, Cass County on the 13th.

PRECIPITATION

The average precipitation for the state was 0.15 inch, or 0.32 inch below the normal, and 0.14 inch lower than the average for January, 1930. The greatest monthly amount reported was 0.91 inch at Steele, Kidder County; there was none at four stations in the northern part of the state. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Steele, Kidder County on the 11th. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall was 1.4 inches.

AURORAS

Auroras were observed at Hannah on the 7th; at Foxholm and Hannah on the 8th; at Eckman, Foxholm and Tagus on the 9th; at Foxholm and Williston on the 16th; at Bottineau, Foxholm, Rugby and Velva on the 25th; at Towner on the 26th; and at Williston on the 29th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Elevation of Anemometer	Wind				
							Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	30.03	30.55	13	29.64	2	57	4,929	6.6	29§	n.	12
Devils Lake	30.00	30.55	13	29.62	2	41	5,967	8.0	29§	n.	26
Ellendale	30.01	30.57	13	29.63	2	50	8,482	11.4	35§	nw.	12
Grand Forks	29.98	30.52	13	29.62	2	90	....	.....	31	s.	15
Williston	30.02	30.58	15	29.66	6	48	4,289	5.8	31§	w.	15
Moorhead, Minn	30.02	30.55	13	29.61	2	58	5,587	7.5	23§	nw.	20
Av'ges and extremes	30.01	30.58	13	29.61	2	....	....	7.9	35§	nw.	12

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Departure from normal, p. ct.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	169.2	279.2	61	+ 9	84	68	77	41	26
Devils Lake	133.4	275.8	49	2	95	89	94	72	15
Ellendale	188.2	282.9	67	+14	86	72	...	45	26
Grand Forks	......	......	......	......	85	....	84	....	....
Williston	191.8	275.8	70	+17	84	71	77	51	29
Moorhead, Minn	113.2	279.2	41	-12	91	76	87	51	26
Averages and extremes	159.2	278.6	58	+ 5	88	75	84	41	26

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	3.3	−2.9	58	−52	0.32	−0.15	4	15	8	8	nw.
1893...	0.8	−5.4	52	−48	0.98	+0.51	7	11	11	9	nw.
1894...	0.6	−5.6	60	−47	0.39	−0.08	4	13	9	9	nw.
1895...	−2.9	−9.1	42	−46	0.56	+0.09	5	16	8	7	nw.
1896...	5.3	−0.9	58	−42	0.70	+0.23	6	9	9	13	nw.
1897...	3.6	−2.6	49	−38	0.79	+0.32	5	11	9	11	nw.
1898...	14.6	+8.4	69	−32	0.11	−0.36	2	15	8	8	nw.
1899...	5.2	−1.0	55	−41	0.25	−0.22	3	13	9	9	nw.
1900...	15.4	+9.2	70	−30	0.22	−0.25	3	15	9	7	nw.
1901...	7.7	+1.5	68	−39	0.28	−0.19	4	14	8	9	nw.
1902...	12.7	+6.5	51	−40	0.14	−0.33	2	17	7	7	nw.
1903...	9.4	+3.2	56	−37	0.66	+0.19	5	13	8	10	nw.
1904...	3.6	−2.6	50	−52	0.37	−0.10	5	15	6	10	nw.
1905...	0.9	−5.3	48	−40	0.30	−0.17	3	15	8	8	nw.
1906...	12.2	+6.0	60	−38	0.69	+0.22	4	14	6	11	nw.
1907...	−6.2	−12.4	45	−45	1.40	+0.93	8	12	8	11	nw.
1908...	17.0	+10.8	70	−41	0.18	−0.29	2	17	8	6	nw.
1909...	3.5	−2.7	53	−48	0.42	−0.05	4	14	8	9	nw.
1910...	9.4	+3.2	49	−35	0.33	−0.14	3	16	8	7	nw.
1911...	−1.0	−7.2	56	−43	0.91	+0.44	6	11	8	12	nw.
1912...	−4.6	−10.8	63	−52	0.35	−0.12	4	16	6	9	nw.
1913...	3.2	−3.0	60	−54	0.45	−0.02	5	12	9	10	nw.
1914...	11.8	+8.6	62	−38	0.50	+0.03	4	12	8	11	nw.
1915...	5.8	−0.4	51	−48	0.29	−0.18	3	12	9	10	nw.
1916...	−6.4	−12.6	49	−56	1.38	+0.91	6	13	8	10	nw.
1917...	1.7	−4.5	47	−46	0.73	+0.26	5	13	8	10	nw.
1918...	0.5	−5.7	48	−44	0.45	−0.02	5	12	8	11	nw.
1919...	18.7	+12.5	66	−44	0.17	−0.30	2	17	8	6	nw.
1920...	2.7	−3.5	49	−44	0.93	+0.46	5	10	9	12	nw.
1921...	15.9	+9.7	58	−31	0.24	−0.23	2	13	9	9	nw.
1922...	7.0	+0.8	55	−46	0.49	+0.02	5	12	9	10	nw.
1923...	10.1	+3.9	56	−35	0.53	+0.06	5	9	9	13	nw.
1924...	2.6	−3.6	61	−42	0.23	−0.24	3	14	9	8	nw.
1925...	8.6	+2.4	52	−35	0.22	−0.25	3	11	10	10	nw.
1926...	16.3	+10.1	55	−30	0.38	−0.09	4	13	8	10	nw.
1927...	10.1	+3.9	60	−44	0.41	−0.06	4	14	8	9	nw.
1928...	13.0	+6.8	50	−41	0.21	−0.26	3	14	9	8	nw.
1929...	−4.8	−11.0	42	−42	0.63	+0.16	6	13	8	10	nw.
1930...	−1.9	−8.1	41	−43	0.29	−0.18	4	12	9	10	nw.
1931...	21.4	+15.2	68	−31	0.15	−0.32	2	15	8	8	nw.

Climatological Data for January, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		5								0.30		0.20	3.0	2					H. A. Bury.
Amenia	Cass	954	35	18.8	+13.9	50	29	-30	13†	59	0.13	-0.35	0.09	1.3	2	11	10	10	nw.	J. Idso.
Amidon	Slope		16	29.8^{a}	+15.7	64^{a}	24	-10^{a}	12	43^{a}	T.	-0.42	T.	T.	0	12	7	12	w.	R. R. Beebe.
Arnegard (near)	McKenzie		18	25.1	+16.1	55	29	-15	13	33	0.15	0.40	0.05	1.5	3	23	5	3	w.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	21.8	+13.2	49	29	-18	14	36	0.12	-0.39	0.10	2.0	3	20	2	9	sw.	H. D. Piper.
Beach	Golden Valley	2,759	25	26.2	+15.1	56	29	-14	13	29	0.09	-0.42	0.06	0.3	2	22	8	1	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	23.5	+14.9	58	31	-15	13	40	T.	-0.34	T.	T	0	15	5	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	24.6	+16.8	59	29	-9	13	30	0.05	0.40	0.02	0.6	4	18	4	9	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	39	16.2	+15.6	41	29	-17	14	35	0.10	-0.30	0.04	1.0	3	7	16	8	nw.	N. D. School of Forestry
Bowman	Bowman	2.961	17	26.1	+13.1	59	29	-13	13	36	0.31	-0.14	0.09	2.0	7	25	4	2	nw.	George Larsen.
Cando	Towner	1,488	30	15.8	+15.8						0.27	-0.15								A. J. Swanson.
Carrington	Foster	1,579	33	20.6	+13.9	46	28	-11	13	34	T.	-0.32	T.	T.	0	15	3	13	nw.	L. A. Swanson.
Carson	Grant	2,500	19	21.2	+15.2	68	29	16	13	44	0.13	-0.22	0.05	0.5	4	21	6	4	nw.	J. W. Evens.
Cavalier	Pembina		21								0.27	0.44	0.15	2.7	3	18	5	8	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	34																	A. G. Hoel.
Corinth	Williams	2,180	3								0.01		0.01	T.	1	21	10	0	w.	W. A. Clem.
Crosby	Divide	1,954	24	19.6	+16.0	41	29	-18	13	29	0.12	-0.31	0.10	1.2	3	19	10	2	sw.	John Jensen.
Devils Lake	Ramsey	1,478	34	16.7	+14.9	43	29	-14	14	35	0.19	-0.28	0.06	2.9	5	4	7	20	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	24.6	+14.1	58	29	13	14	43	0.22	0 22	0.09	0.8	6	14	14	3	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	22.6		50	29†	15	14	30	0.23		0.13	1.2	3	16	9	6	nw.	R. L. Williams.
Drake	McHenry	1.634	2	22.8		51	28	-16	12	45	0.31		0.19	5.0	4	8	8	15	nw.	J. Rindt.
Dunn Center	Dunn	2,191	32	25.4	+11.6	58	29	-14	13	39	0.12	-0.31	0.12	0.0	1	15	14	2	w.	W. F. Moede.
Dunseith	Rolette	1,682	35	16.4	+13.9	46	30	17	14	29	0.20	-0.20	0.07	2.0	5	9	11	11	w.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	18.8	+15.7	50	31	-22	13	39	0.04	0.40	0.02	0.6	3	5	12	14	nw.	C. E. Streck.
Edgeley	LaMoure	1,568	30	24.8	+16.0	52	29	-13	14	31	0.05	-0.28	0.05	T.	1	8	18	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	23.8	+13.1	53	29	-12	14	37	0.05	-0.43	0.01	0.1	2	6	13	12	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	19	25.1		60	29	-11	13	37	0.10	-0.16	0.10	T.	1	18	10	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	23																	A. O. Wang.
Fairfield	Billings		2								0.35		0.20	3.5	3	20	4	7	sw.	F. R. Hecker.
Fessenden	Wells	1,610	19	20.7	+15.2	50	29	-15	13	41	0.25	-0.23	0.13	3.0	3	13	11	7	nw.	T. D. Monsen.
Forman	Sargent	1,249	38								0.13	-0.41	0.07	1.2	2	14	5	12	nw.	E. W. Bowen.
Fort Yates	Sioux	1,670	31	23.8	+14.6	64	30	-13	14	41	T.	-0.52	T.	T	0	24	5	2		P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	22.0		52	29	-17	13	38	0.14	-0.19	0.12	1.7	2	13	9	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13								0.23	-0.22	0.10	1.5	3	25	4	2	nw.	Verne King.
Fullerton	Dickey	1,439	33	24.0	+15.1	50	29	11	14	35	0.40	-0.40	0.35	0.5	3	9	16	6	nw.	F. O. Alin.
Garrison	McLean	1,901	54	24.6	+17.0	56	29†	11	13	38	T.	-0.42	T.	T.	0	22	5	4	nw.	W. F. Robinson.
Grafton	Walsh	827	39	13.9	+11.7	42	30	18	14	40	0.22	-0.35	0.17	2.9	2	13	6	12	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	40	16.2	+12.7	41	29	-14	14	30	0.14	-0.40	0.05	1.4	4	9	13	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	22.3	+17.7	52	29†	-18	13	39	0.05	-0.35	0.05	0.5	1	20	7	4	nw.	W. A. Christianson.
Hankinson	Richland	1,068	2	23.9		55	24	-15	13	43	0.02		0.01	0.3	2	17	7	7		R. G. Stock.
Hannah	Cavalier	1,568	39								0.14^{c}	-0.54	0.10	1.4	4					James Meier.
Hansboro	Towner	1,597	23	13.3	+13.4	45	30	-25	13	35	0.10	-0.59	0.05	4.0	2	19	4	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	24	27.3	+14.3	62	29	12	13	37	T.	-0.33	T.	T.	0	23	5	3	w.	C. H. Plath.
Hillsboro	Traill	901	25	15.4	+10.8	40	29†	-15	14	27	0.13	0.45	0.08	1.3	3	8	11	12	n.	G. Havland.
Howard ‡‡ (near)	Williams	2,275	24	20.4	+16.0	47	30†	-20	13	31	T.	-0.61	T.	T.	0	23	5	3	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	21.0	+14.0	50	29	-16	14	35	0.09	-0.49	0.05	1.0	3	14	11	6	nw.	S. Calveiage.
Langdon	Cavalier	1,615	35	10.2	+11.1	38	24†	-22	1	37	0.50	-0.07	0.20	5.0	3	8	22	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	15.8	+11.7	42	29	-16	14	32	0.40	-0.25	0.40	4.0	1	8	8	15	n.	Reuben Gray.
Linton	Emmons	1,711	14	19.1	+ 9.6	52	29	-21	14	41	T.	0.43	T.	T.	0	20	8	3	se.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	22.2	+14.9	50	29	15	14	32	0.19	-0.41	0.10	2.0	4	17	4	10		N. S. Lindstrom.
McClusky	Sheridan	1,943	13	20.3		50	29†	-15	13	32	0.40	-0.05	0.20	4.0	4	13	15	3	nw.	Edw. Tapley.
McLeod	Ransom	1,075	20	22.1	+13.7	52	29	-19	14	40	0.07	-0.53	0.04	0.7	3	16	5	10	sw.	J. G. Carlson.
Maddock	Benson	1,604	16	17.2	+12.4	45	29	-18	14	34	0.07	-0.20	0.07	0.7	1	9	11	11	nw.	A. T. Feiland.
Mandan	Morton	1,750	17	23.2	+14.9	57	29	-11	14	48	0.05	-0.22	0.02	0.3	3	20	5	5	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28								0.29	-0.27	0.10	3.5	4					P. B. Anderson.
Marmarth	Slope	2,714	22	25.6^{b}	+12.8	58^{b}	29	-14^{b}	13	33	0.15	-0.22	0.04	1.5	6	17	8	6		S. P. Grane.
Mary	McKenzie		2								0.21		0.12	2.6	4	20	5	6	sw.	Fred Hartman.
Max	McLean	2,093	2	22.5		56^{c}	30	-15	13*	35	T.		T.	T.	0	13	4	14	nw.	A. W. Rice.
Mayville	Traill	975	35	16.8	+11.0	44	30	-14	14	33	T.	-0.42	T.	T.	0	11	0	20	w.	H. B. Addicott.
Minot	Ward	1,557	35	23.8	+17.6	54	29	13	13	38	0.06	-0.32	0.02	0.5	4	17	12	2	w.	Julia B. Rue.
Mohall	Renville		1	20.4	+15.8	55	30	-18	13	32	T	-0.33	T.	T.	0	8	20	3	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	24	27.8	+19.0	60	29	12	12	32	T.	-0.84	T.	T.	0	21	6	4	w.	O. H. Opland.
Napoleon	Logan	1,955	39	18.8	+12.4	47	29†	-21	14	41	0.36	-0.07	0.11	2.5	4	23	2	6	w.	C. J. Hoof.
New England	Hettinger	2,400	37	25.7	+12.3	60	31	-14	12	43	0.62	+0.12	0.50	5.0	2	20	7	4	nw.	F. S. S'eight.
New Salem	Morton	2,163	27	26.8	+17.7	60	29	-12	13	32	0.15	-0.35	0.12	2.0	3	22	5	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	24.2		54	29	-16	14	42	0.13		0.09	0.9	3	13	11	7	nw.	Eugene Naylor.
Park River	Walsh	998	27																	C. B. Wright.
Parshall (near)	Mountrail		16								0.03	-0.16	0.02	0.3	2	15	12	4	nw.	C. E. Shubert.
Pembina	Pembina	789	57	13.0	+15.4	36	24	-12	21	30	0.00	-0.62	0.00	0.0	0	3	14	14	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1								0.00		0.00	0.0	0	14	4	13		Chas. Ouradnik.
Pettibone	Kidder	1,856	22	18.6	+15.6	41	29	-18	14	36	0.75	+0.34	0.25	7.5	5	16	4	11	sw.	A. L. Carlson.
Portal	Burke	1,954	26	20.0	+17.5	50	30	-21	12	47	0.00	-0.48	0.00	0.0	0	16	6	9	w.	C. T. Holmes.
Power‡‡	Richland	1,020	37								0.50	-0.13	0.20	5.0	3	17	9	5	sw.	Frank B. Power.
Powers Lake	Burke	2,205	26	22.3		59	31	16	11	30	0.07	-0.54	0.07	2.0	1	25	4	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	26.0	+15.8	59	29	-12	13	34	T.	-0.42	T.	0.0	0	20	10	1	sw.	John Muggli.
Rugby (near)	Pierce	1,562	2								0.40		0.20	4.0	3	5	10	16	nw.	E. C. Erickson.
Ryder	Ward	2,108	2								0.10		0.08	0.2	2					E. M. Lomen.
Sanish	Mountrail	1,835																		H. W. Monson.
Sharon	Steele	1,516	7	16.6		39	29†	-17	14	33	0.09		0.03	1.0	4	11	9	11	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7								0.10		0.09	0.2	2	23	4	4	nw.	J. H. Giffey.
Steele	Kidder	1,857	37	20.8^{d}	+13.5	48^{f}	29	-15^{c}	14	32^{f}	0.91	+0.45	0.80	8.5	3				sw.	V. A. Lanes.
Stowers‡‡	Adams	2,325	16								T.	-0.36	T.	T.	0	25	4	2		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.02		0.02	0.2	1	20	5	6	sw.	J. C. Abbott.
Tioga	Williams	2,279	2								0.00		0.00	0.0	0	10	11	10	nw.	Anton Carlson.
Towner	McHenry	1,482	29	12.7	+ 8.9	49	30	-31	13†	48	0.40	-0.04	0.20	4.0	3	7	18	6	nw.	Karl Weber.
Trotters	Golden Valley		5								0.05		0.05	0.5	1	21	6	4		A. J. Nellermoe
Turtle Lake	McLean	1,899	17																	E. T. Kusler.
Tuttle	Barnes	1,245																		
Valley City	Kidder		25	20.5	+15.0	46	29	-18	14	51	0.08	-0.44	0.05	0.8	4	14	5	12	w.	I. C. Robertson.
Velva	McHenry	1,511	4	23.8		55	29†	-13	13	38	0.09		0.04	1.1	5	12	9	10	w.	Oscar Anderson.
Verona	LaMoure	1,387	3								0.07		0.04	0.3	2	21	6	4	nw.	W. C. Taylor.
Wahpeton	Richland	962	39	24.0	+15.6	52	29	-15	14	37	0.06	0.38	0.05	0.1	2	19	0	12	nw.	C. G. Luick.
Washburn	McLean	1,731	30	25.6	+18.2	58	29	-13	13	35	0.02	-0.32	0.02	T.	1	20	4	7	sw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	17.2	+15.9	47	29†	-22	13	37	0.02	-0.38	0.02	0.2	1	13	10	8	nw.	W. A. Meddaugh.
Williston	Williams	1,878	52	24.6	+18.2	54	31	-13	13	33	0.06	-0.48	0.02	0.5	3	19	8	4	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	15.0^{a}		45^{a}	29	-23^{a}	14	29^{c}	0.10		0.10	1.0	1				nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	2	18.8^{c}	+11.8	50^{c}	29	-18^{c}	14	45^{c}	0.36	-0.17	0.20	2.6	4	9	10	12	nw.	E. W. Davis.
Zap	Mercer	1,838	16								0.13	-0.21	0.13	0.0	1					R. A. Norton.
Moorhead, Minn.	Clay	935	50	19.6	+15.8	52	29	-15	14	31	0.07	-0.60	0.03	0.9	4	5	7	19	s.	U. S. Weather Bureau.
Averages				21.4	+15.2	68	29	-31	13	59	0.15	-0.32	0.80	1.4	2	15	8	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for January, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri							T.					T.						.20							T		.10					0.30
Amenia ‖	Red												.09	.04					T	T									T				0.13
Amidon	Lit. Missouri																		T														T
Arnegard (near)	Missouri							T			T									.05					.05		.05						0.15
Ashley	Missouri										T	.01	.01															.10					0.12
Beach	Lit. Missouri													T.	T				T	T					.03		.06						0.09
Berthold Agency	Missouri												T.							T					T								T
Bismarck ***	Missouri							T.			.01	T	.01						.01	T	T				T		.02						0.05
Bottineau ‖	Mouse				T.			T			T.	.04	.02							.04		T		T				T					0.10
Bowman	Grand							.09			.05		.02					.02		.06						.03	.04						0.31
Cando	Devils Lake																																
Carrington	James											T																					T
Carson	Heart										.02		.05						.05								.01						0.13
Cavalier	Red							.10				.15							.02														0.27
Cooperstown	Sheyenne																																
Corinth	Missouri																																
Courtenay	James																												.01				0.01
Crosby ‖	Mouse																	.10	.01	.01													0.12
Devils Lake ***	Devils Lake	T.	T	T.	T	T.	T.	.06				.05	.04						.01	.03			T.		T		T	T.				T.	0.19
Dickinson ‖	Heart							.09				T	T	.01					T	.05	.01					.01		.05					0.22
Dogden Butte	Mouse							.13			T	T.	.03							.07	T.												0.23
Drake ‖	Mouse						.19				.10	.01						.01															0.31
Dunn Center ‖	Knife																										.12						0.12
Dunseith	Mouse							.07				.07	.03							.02								.01					0.20
Eckman	Mouse										T.	.01	.02							.01													0.04
Edgeley	James											T.	T.														.05						0.05
Ellendale ***	James		T.	T.		T.	T.	T.			T.	T.	.01	T.						T.	T.						.04						0.05
Energy	Missouri							.10			T.	T.	T.							T							T						0.10
Epping	Missouri																																
Fairfield	Knife												.10							.20							.05						0.35
Fessenden ‖	James												.13	.03							.09												0.25
Forman	Sheyenne							T.					T.	.07		*				T.								.06					0.13
Fort Yates	Missouri												T.							T													T
Foxholm (near)	Mouse										.12	T	T.							.02													0.14
Fryburg	Heart							.05												.08							.10						0.23
Fullerton	James							T.			.02	T	.03														.35						0.40
Garrison	Missouri										T.	T	T.							T													T.
Grafton	Red		T.					T.				T.	.17	.05						T.													0.22
Grand Forks ***	Red		T.	T.				T				.05	.03	T.					.04	T.	T.	.02						T.					0.14
Granville	Mouse							T.			T.	T.	.05							T.													0.05
Hankinson ‖	Red												.01														.01						0.02
Hannah	Pembina		T.	T.	T		T.	T.	.10			T.	.02	.01					T	.01			T.				T.	T.				T.	0.14
Hansboro	Devils Lake							.05				.05																					0.10
Hettinger	Grand																									T.		T.					T.
Hillsboro	Red						.02						.08	.03																			0.13
Howard (near)	Missouri						T.	T											T.														T.
Jamestown ‖	James										.05	.02								.02							T.						0.09
Langdon ‖	Pembina						.10	.20	T.			.20																					0.56
Larimore ‖	Red											.40																					0.40
Linton	Missouri												T							T.													T
Lisbon ‖	Sheyenne												.02	.05						.02								.10					0.19
McClusky	Missouri									T.	.05		.10	.05						.20							T.						0.40
McLeod	Sheyenne			T.		.04														.02								.01					0.07
Maddock	Sheyenne				T.			.07				T.	T.							T													0.07
Mandan ‖	Missouri					*			T.			T	T.	.01						.02		T.				T		.02					0.05
Manfred	James				T.			.05				.08	.06						T.	.10													0.29
Marmarth	Lit. Missouri							.02					.04					.01		.04						.02	.02						0.15
Mary	Lit. Missouri						.01						T.						.12						.02		.06						0.21
Max ‖	Missouri							T.				T.								T													T.
Mayville	Red											T.																					T.
Minot ‖	Mouse							.01			.02		.01							.02													0.06
Mohall	Mouse						T.	T.										T.				T.											T.
Mott	Cannon Ball												T																				T.
Napoleon ‖	Missouri											.10		.10						.05								.11					0.36
New England	Cannon Ball																			.50							.12						0.62
New Salem	Heart							T.		T.	T	T.	.01							.12							.02						0.15
Oakes	James										.01	T.	T.	.03						T.								.09					0.13
Park River	Red																																
Parshall (near)	Missouri								T.				.01							.02					T								0.03
Pembina ‖	Red																																0.00
Petersburg	Red																																0.00
Pettibone	James				T	T.						.15	.25	.10						.10	.15					T.		T.					0.75
Portal ‖	Mouse																																0.00
Power	Sheyenne													.20	.10					.20								T					0.50
Powers Lake	Missouri												.07																				0.07
Richardton	Heart																										T.						T
Rugby [near]	Mouse							.20				.10	T.							.10													0.40
Ryder	Missouri						.08													.02													0.10
Sanish ‖	Missouri																																
Sharon	Red		T.	T.	.01	T		T				.03	.03	T.			T		T.	.02	T.		T		T		T	T.	T.			T.	0.09
Stanton	Missouri										T.														.01		.09						0.10
Steele	Missouri										T.	.80								.05								.06					0.91
Stowers	Cannon Ball												T.																				T
Tagus	Mouse											.02																					0.02
Tioga	Missouri																																0.00
Towner	Mouse							.10				T.	.20							.10													0.40
Trotters	Lit. Missouri							T.															T.		.05		T.						0.05
Turtle Lake	Missouri																																
Tuttle																																	
Valley City	Sheyenne											.01	.05					T		.01									.01				0.08
Velva	Mouse		T.	T.				T.			T.	.04	.01							.04													0.09
Verona	James														.03												.04						0.07
Wahpeton	Red											.01																	.05				0.06
Washburn	Missouri							T.			T.		T.							T.							.02						0.02
Westhope	Mouse													.02																			0.02
Williston ***	Missouri							T.				T.	T						T.	.02					.02		.02						0.06
Willow City	Mouse							.10					T							T.													0.10
Wishek ‖	Missouri												.20		.04					.02								.10					0.36
Zap	Knife																										.13						0.13
Moorhead, Minn ***	Red		T.	T.	T.	T.	T.	T.				.03	.02	T.	T.		T.	.01	T.						T	T.		T.	.01			T	0.07

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	28	28	25	32	25	24	30	29	30	35	25	29	29	28	39	40	32	30	25	22	28	25	38	45	40	44	39	35	50	46	38	32.7
	Minimum	5	7	0	7	8	4	5	5	6	6	-20	-29	-30	-30	9	15	12	10	9	2	-5	-5	5	20	11	21	15	25	22	28	21	4.9
Arnegard	Maximum	35	35	36	33	30	40	32	25	24	33	25	15	14	32	40	31	29	25	25	35	33	41	50	40	40	46	46	47	55	53	55	35.5
	Minimum	17	10	8	15	18	14	19	7	9	9	12	-4	-15	6	16	12	12	9	7	12	17	11	17	22	18	28	25	30	33	35	29	14.7
Ashley	Maximum	33	32	29	27	27	23	34	33	24	27	27	17	13	18	35	32	28	27	24	18	34	34	41	40	38	43	41	41	49	47	44	31.6
	Minimum	13	10	10	12	13	15	5	11	17	1	15	2	-11	18	2	18	14	10	10	2	1	2	13	25	13	25	26	32	28	34	21	12.1
Beach	Maximum	37	36	28	33	40	38	33	27	27	29	26	15	10	30	39	32	27	26	26	36	36	37	47	44	41	43	44	47	56	51	54	35.3
	Minimum	20	22	12	12	11	22	21	9	8	14	10	5	-14	5	17	10	11	5	6	17	9	26	31	30	21	30	24	34	35	33	31	17.2
Berthold Agency	Maximum	35	40	32	34	30	35	40	30	34	35	28	18	10	30	40	34	30	35	26	25	37	32	50	48	45	52	48	45	45	55	58	36.6
	Minimum	15	8	12	15	6	12	12	10	4	0	8	-8	15	5	0	15	10	7	4	8	7	8	10	22	8	20	20	28	30	28	25	10.4
Bismarck	Maximum	33	38	21	35	19	27	37	29	32	34	27	18	3	19	41	33	29	33	28	21	37	31	47	46	40	51	46	45	59	54	53	34.7
	Minimum	15	15	12	10	7	16	17	17	8	5	12	-4	-9	-8	15	19	18	12	9	7	11	10	17	24	19	29	25	30	30	33	28	14.5
Bottineau §§	Maximum	25	25	17	22	22	23	32	29	21	29	27	16	6	16	31	32	30	25	22	18	22	18	23	39	31	33	28	30	41	39	38	26.1
	Minimum	-3	8	10	3	14	12	15	3	2	-6	7	-1	-13	-17	3	20	9	-3	8	-2	-5	11	5	19	-3	13	10	20	12	25	17	6.2
Cando	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Carrington	Maximum	22	25	24	20	28	33	27	29	28	23	17	1	23	38	31	28	25	20	15	32	20	39	41	36	41	39	35	46	44	42	43	29.8
	Minimum	9	3	5	16	16	15	16	13	11	12	2	-10	-11	0	19	13	8	7	4	6	8	9	15	13	14	16	18	25	33	25	28	11.4
Carson	Maximum	30	40	30	32	25	22	34	25	30	33	30	16	15	20	42	25	23	20	15	35	40	43	36	42	44	50	45	36	68	56	55	34.1
	Minimum	15	20	15	20	5	10	15	10	17	15	15	5	-16	-8	15	15	14	5	-2	10	15	15	22	26	16	22	24	32	24	32	24	14.4
Crosby §§	Maximum	28	24	28	28	23	32	27	25	28	32	26	17	2	26	38	32	28	26	24	26	33	22	39	22	36	31	34	36	41	38	40	28.5
	Minimum	7	17	12	6	2	13	7	7	6	3	6	-8	-18	-2	16	15	9	3	3	8	15	8	11	20	13	14	12	18	31	34	31	10.3
Devils Lake	Maximum	22	14	17	24	18	27	30	19	22	24	26	14	-5	21	38	32	26	21	22	16	22	13	22	39	37	35	35	36	43	40	36	25.7
	Minimum	9	3	4	14	10	16	12	7	11	6	10	-5	13	-14	15	15	6	5	-1	-5	-2	2	7	14	8	11	9	19	19	29	24	7.7
Dickinson §§	Maximum	35	39	35	34	39	41	33	26	28	34	23	15	10	30	41	34	29	26	24	31	38	42	52	46	43	49	47	47	58	54	55	36.7
	Minimum	2	16	[illegible]	6	5	5	13	15	8	5	16	9	-11	-13	7	12	12	8	7	5	14	11	15	28	19	21	25	25	31	34	25	12.4
Dunn Center §§	Maximum	38	39	35	36	34	42	36	30	31	37	26	20	10	30	44	33	32	28	22	29	37	40	52	37	45	51	48	48	58	54	56	37.4
	Minimum	17	19	9	16	4	9	13	17	9	6	19	8	14	-3	19	13	16	8	3	10	17	6	13	21	17	24	23	30	27	31	22	13.4
Dunseith	Maximum	22	19	15	22	20	25	33	32	22	24	25	14	2	12	32	32	25	17	22	17	17	16	22	42	30	30	22	30	43	46	38	24.8
	Minimum	6	10	8	9	15	13	15	12	5	0	10	-2	-13	-17	8	25	15	0	5	-4	-7	2	2	18	5	14	8	22	14	32	22	8.1
Edgeley	Maximum	31	35	30	29	27	25	37	33	34	35	31	20	15	16	39	38	31	28	30	18	32	35	45	41	45	47	42	51	52	48	45	34.4
	Minimum	12	14	8	15	20	17	9	17	18	9	17	5	-8	-13	13	24	16	15	11	6	1	7	14	18	15	28	26	32	34	35	36	15.2
Ellendale	Maximum	33	35	28	30	23	29	35	32	37	37	26	19	1	17	42	34	30	31	26	20	40	37	46	[illegible]	41	50	44	44	53	50	38	31.0
	Minimum	13	15	11	21	19	17	11	13	10	9	15	0	-8	-12	12	21	18	12	8	3	3	7	15	22	16	23	26	26	25	31	24	13.7
Fessenden §§	Maximum	30	21	25	26	28	30	35	30	32	30	17	18	1	18	42	33	27	30	20	14	33	21	42	44	37	42	41	37	50	47	44	30.6
	Minimum	-7	8	13	11	14	15	15	12	10	9	12	1	-15	-14	1	18	14	7	15	3	-1	7	9	15	13	24	19	17	26	33	27	10.3
Foxholm (near)	Maximum	26	22	24	27	21	37	33	29	32	29	27	16	2	24	38	34	28	26	26	21	30	25	44	45	40	42	41	40	52	49	51	31.6
	Minimum	12	7	13	16	16	10	22	13	13	11	14	1	-17	-10	19	19	12	4	10	4	0	7	6	19	12	25	15	28	27	32	29	12.5
Fullerton	Maximum	32	36	25	29	26	28	33	32	34	35	29	18	14	16	39	38	37	28	26	26	38	36	42	45	39	47	42	42	50	48	36	33.5
	Minimum	12	17	11	18	21	18	11	18	11	0	14	7	-7	-11	12	15	18	12	14	7	3	8	16	24	17	25	25	31	27	32	25	14.5
Garrison	Maximum	32	35	28	33	21	34	36	31	34	31	23	19	9	25	43	39	29	33	19	21	33	32	53	45	42	45	46	44	56	52	56	34.8
	Minimum	15	15	15	9	8	14	22	13	12	9	15	4	-11	-6	16	19	15	9	10	5	6	10	15	25	14	26	19	30	30	33	28	14.3
Grafton	Maximum	17	17	17	20	18	22	26	24	27	20	27	18	8	10	36	36	30	19	12	19	15	12	28	40	31	35	24	33	40	42	33	24.4
	Minimum	-6	1	-5	-1	7	-1	11	-2	9	5	11	3	-9	-18	-4	15	13	6	-13	-5	-12	-1	4	19	6	13	5	18	11	30	18	3.4
Grand Forks	Maximum	20	15	18	21	15	21	27	21	26	28	25	16	4	16	37	33	28	15	18	19	19	16	30	37	36	36	28	33	41	40	31	24.8
	Minimum	6	1	2	12	5	4	15	8	7	4	11	1	-10	-14	13	15	11	8	2	-8	-4	0	14	20	10	10	9	17	17	26	20	7.6
Granville	Maximum	25	21	24	29	24	40	33	30	32	30	28	18	5	25	43	37	27	30	27	22	31	25	36	44	40	42	42	40	52	49	52	32.4
	Minimum	10	7	14	17	18	10	22	10	12	2	14	-3	-18	-14	12	12	10	15	15	2	4	5	10	28	10	24	17	27	28	31	26	12.2
Hansboro	Maximum	20	20	20	22	20	22	30	20	22	22	27	16	0	15	30	32	27	20	22	20	20	14	25	32	32	30	25	25	42	45	40	24.4
	Minimum	6	3	10	-5	8	10	12	3	2	-8	7	-10	-25	-20	0	15	5	-5	2	-8	10	-7	-3	13	13	8	0	18	8	30	20	2.2
Hettinger §§	Maximum	31	39	39	36	40	45	35	28	32	36	29	19	14	34	43	36	28	27	27	32	40	46	59	49	47	52	50	52	62	56	56	39.3
	Minimum	15	19	5	21	10	16	22	8	8	7	16	4	12	0	18	9	19	7	11	5	17	14	22	27	20	22	24	36	31	29	23	15.3
Hillsboro	Maximum	26	17	16	20	16	14	20	20	22	22	20	11	7	10	35	32	30	16	9	5	11	20	20	35	35	32	25	25	40	40	35	22.1
	Minimum	0	-7	0	12	4	10	11	14	12	9	8	6	-6	-15	8	19	9	9	7	2	-10	-1	15	20	14	15	10	22	19	31	22	8.7
Howard (near)	Maximum	33	32	29	29	28	34	30	24	18	24	24	16	4	27	35	25	22	20	22	22	31	28	41	41	34	34	38	38	43	47	47	29.7
	Minimum	11	18	16	10	3	14	17	3	3	12	12	6	-20	-4	10	5	5	0	3	7	15	9	18	24	14	20	20	24	24	31	31	11.1
Jamestown §§	Maximum	22	26	28	25	28	21	33	32	31	33	26	17	7	15	28	35	30	26	25	22	33	30	44	42	39	44	37	39	50	46	38	30.8
	Minimum	11	6	4	12	16	11	8	15	9	5	12	2	-11	-16	7	22	13	7	6	1	-1	4	9	26	13	29	19	29	25	33	24	11.3
Lamoine	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Langdon §§	Maximum	15	15	15	21	25	25	27	17	13	25	15	14	0	16	22	31	23	20	16	10	12	14	12	38	31	18	30	26	37	38	30	21.0
	Minimum	-22	0	-10	-8	8	2	10	-3	0	-6	5	-1	-13	-20	-12	0	5	4	2	-9	-10	-5	0	9	0	0	3	5	16	24	20	-0.5
Larimore §§	Maximum	25	23	18	20	15	20	22	20	27	24	19	14	0	12	37	33	30	22	14	4	20	14	33	40	33	27	28	32	42	38	30	23.6
	Minimum	5	10	-5	7	10	3	12	8	9	10	4	0	-8	-16	5	20	13	8	4	-3	-9	-5	5	13	18	15	6	14	18	24	22	7.0
Linton	Maximum	30	37	21	30	22	26	35	27	23	29	26	16	11	20	39	31	28	31	26	19	34	34	39	41	42	42	40	41	52	49	45	31.8
	Minimum	1	1	3	6	-2	15	1	3	-8	-10	10	0	-13	-21	0	13	11	2	10	0	0	-1	8	18	7	19	20	30	23	32	21	6.4
Lisbon §§	Maximum	32	31	25	29	28	32	31	30	32	31	19	13	2	15	36	36	31	28	22	16	34	36	41	45	40	46	36	42	50	49	43	31.6
	Minimum	2	9	5	15	16	17	9	14	12	7	12	6	-4	-15	12	27	12	8	10	2	2	4	18	24	16	25	19	24	27	33	28	12.8
McClusky	Maximum	26	27	17	27	21	26	26	26	27	26	28	20	3	16	40	30	28	28	25	19	30	30	39	39	35	43	39	40	50	49	50	30.0
	Minimum	10	12	10	12	14	12	10	10	8	4	14	0	-15	-13	13	15	10	0	5	-1	0	5	13	25	10	24	20	23	26	29	24	10.6
Maddock	Maximum	21	21	18	22	19	26	26	21	22	23	14	6	4	16	38	39	27	28	22	3	22	16	36	39	35	27	34	30	45	41	42	25.2
	Minimum	7	7	6	10	15	13	16	7	8	-5	12	-1	-17	-18	14	20	8	6	9	0	3	3	8	21	9	14	12	25	21	31	23	9.1
Marmarth	Maximum	35	38	38	37	37	37	35	26	30	34	....	25	12	32	39	....	29	22	22	37	38	41	46	46	42	45	45	48	58	50	53	[b]37.1
	Minimum	7	14	5	21	8	11	20	6	0	4	....	5	-14	5	12	....	20	1	6	7	17	9	21	22	26	29	26	35	33	28	26	[b]14.1
Minot §§	Maximum	27	23	28	31	22	39	37	28	32	32	28	18	8	25	41	37	30	36	26	23	33	25	48	43	43	44	45	43	54	52	53	33.8
	Minimum	13	11	15	18	17	15	25	13	13	8	16	1	-13	-4	18	18	12	2	12	6	4	11	10	22	10	30	18	30	24	33	24	13.9
Mohall	Maximum	20	18	29	25	24	21	29	24	32	32	21	16	11	10	30	33	24	24	20	18	30	21	29	43	40	41	43	43	45	55	50	29.1
	Minimum	10	11	11	13	14	13	18	12	13	11	7	2	-18	-8	9	17	11	12	11	0	2	11	8	20	28	16	11	11	30	32	28	11.8
Mott	Maximum	35	38	36	35	31	32	36	28	32	30	30	20	10	26	40	33	35	32	24	31	38	35	50	44	41	52	47	46	60	54	53	36.6
	Minimum	22	16	9	10	17	24	16	13	9	11	8	-12	2	15	25	17	21	23	12	20	14	18	30	28	28	28	36	33	37	31	27	19.0
Napoleon §§	Maximum	28	30	27	27	25	25	32	24	23	28	21	18	3	20	36	28	28	25	20	20	33	35	40	40	35	41	40	40	47	47	42	29.7
	Minimum	11	8	9	12	11	13	5	9	4	3	12	-5	-15	-21	13	18	8	5	12	-2	-1	3	12	23	9	26	25	30	28	31	15	10.0
New Salem	Maximum	39	41	36	35	25	33	36	30	38	35	24	17	10	20	44	30	18	35	28	26	39	41	54	44	48	54	49	47	60	59	54	37.1
	Minimum	18	20	19	20	6	15	10	17	11	10	10	5	-12	-8	24	18	16	11	10	4	20	21	22	21	26	29	27	33	30	32	29	16.6
Pembina §§	Maximum	20	28	26	24	15	20	22	20	24	18	18	20	10	22	30	35	25	18	15	-2	12	10	24	36	28	20	18	18	35	35	35	21.9
	Minimum	3	2	4	5	0	-4	15	8	-3	-8	-6	8	-8	10	8	20	2	10	-5	-5	-12	-5	5	15	5	12	2	10	8	25	5	4.1
Steele	Maximum	22	28	22	26	....	....	....	32	31	26	23	....	....	....	40	33	30	22	24	20	32	29	36	40	32	40	42	38	48	43	40	[f]32.0
	Minimum	5	8	12	13	....	....	....	7	5	0	-4	-4	-9	-15	7	13	13	4	8	2	0	3	14	22	18	23	26	28	23	24	21	[c] 9.5
Towner	Maximum	22	25	19	24	25	32	32	28	30	26	29	17	6	17	40	38	28	20	26	21	30	26	34	40	37	40	37	37	47	49	43	29.8
	Minimum	-5	0	3	-2	1	-1	4	-9	-2	-15	1	-16	-31	-31	-2	4	-6	-14	-2	-15	-16	-17	-6	7	9	8	0	9	7	7	12	-4.4
Valley City	Maximum	25	28	20	26	27	25	30	30	22	30	21	3	15	15	36	35	30	26	23	19	34	27	38	44	37	44	37	37	46	45	40	29.5
	Minimum	10	-2	2	11	15	15	7	14	11	3	15	19	9	-18	12	26	10	9	9	-1	-3	0	15	26	-14	22	16	27	22	34	37	11.5
Wahpeton	Maximum	33	35	23	28	25	25	32	33	35	38	39	22	20	16	47	36	34	31	30	19	33	32	40	47	44	51	43	41	52	50	44	34.8
	Minimum	8	9	13	18	12	6	11	16	12	9	28	5	-1	-15	12	25	14	12	12	1	-4	4	12	25	13	26	17	25	25	33	25	13.2
Westhope	Maximum	24	27	26	16	24	30	27	30	21	20	28	26	15	20	29	37	22	21	25	10	28	19	28	38	38	38	28	35	47	47	45	28.0
	Minimum	-5	10	11	6	17	15	15	2	1	-7	8	0	-22	-15	9	15	7	7	6	0	-2	2	-6	10	0	10	10	17	17	32	28	6.3
Williston	Maximum	34	35	33	32	34	36	31	25	26	32	24	15	11	30	39	31	25	24	24	29	32	35	51	44	41	41	47	45	51	50	54	34.2
	Minimum	14	15	11	17	8	11	22	12	8	9	14	-6	-13	7	16	13	11	8	7	15	16	12	18	22	16	27	24	32	32	35	28	14.9
Moorhead, Minn	Maximum	28	27	20	23	19	23	27	28	33	35	26	18	3	15	36	34	27	18	18	18	26	22	35	45	37	45	28	35	52	45	33	28.4
	Minimum	7	9	6	16	9	5	14	16	12	6	13	2	-8	-15	13	27	13	10	5	-5	-5	1	19	23	13	20	13	21	21	28	25	10.8

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 3-7-31—1000]

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX BISMARCK, N. D., FEBRUARY, 1931 No. 2

GENERAL SUMMARY

Unusually favorable weather prevailed throughout North Dakota during the month. The mean temperature was 28.0°, 17.8° above the normal, and 5.7° higher than the mean for any preceding February in the climatological history of the state. The snowfall was greatly deficient, the average being but slightly more than one-half of the normal. As a result of these conditions, outdoor work continued uninterruptedly and livestock ranged freely on pastures and harvested fields, saving much feed.

TEMPERATURE

The mean temperature for the state was 28.0°, or 17.8° above the normal, and 6.3° higher than the mean for February, 1930. The highest mean reported was 32.8° at Marmarth, Slope County; the lowest was 19.8° at Langdon, Cavalier County. The highest temperature reported was 62° at Berthold Agency, McLean County on the 19th; the lowest was -31° at Towner, McHenry County on the 9th. The greatest monthly range of temperature was 87° at Towner, McHenry County; the least was 48° at Crosby, Divide County, and Howard, Williams County. The greatest daily range in temperature was 54° at Langdon, Cavalier County on the 14th.

PRECIPITATION

The average precipitation for the state was 0.28 inch, or 0.21 inch below the normal, and 0.90 inch lower than the average for February, 1930. The greatest monthly amount reported was 1.62 inches at Fullerton, Dickey County; there was none at five stations in the northern part of the state. The greatest amount recorded in any 24 consecutive hours was 0.70 inch at Langdon, Cavalier County on the 25th. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall was 2.9 inches.

AURORAS

Auroras were observed at Rugby on the 4th; at Foxholm and Rugby on the 7th; at Rugby on the 9th; at Foxholm and Howard on the 12th; at Arnegard, Foxholm, Rugby, Sharon, Towner and Williston on the 13th; at Arnegard, Bottineau, Bowman and Dogden Butte on the 14th; at Bottineau on the 15th; at Bottineau, Devils Lake and Grand Forks on the 23d; at Ellendale and Moorhead on the 24th; and at Bottineau, Ellendale, Foxholm, Rugby, Tagus, Towner and Moorhead on the 25th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.08	30.54	9	29.58	15	57	4,639	6.9	24§	n.	8
Devils Lake	30.09	30.57	9	29.53	15	41	5,377	8.0	23§	nw.	8
Ellendale	30.10	30.52	9	29.61	15	56	7,642	11.4	38§	e.	27
Grand Forks	30.08	30.54	9	29.53	15	90	....	.....	35	nw.	9
Williston	30.06	30.54	9	29.60	15	48	3,826	5.7	31§	w.	24
Moorhead, Minn	30.11	30.58	9	29.55	15	58	4,986	7.4	22§	nw.	25
Av'ges and extremes	30.09	30.58	9	29.53	15	.....	......	7.9	38§	e.	27

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. ct.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	152.5	288.7	53	− 5	86	64	68	32	24
Devils Lake	186.1	286.9	65	+ 8	90	72	83	45	25
Ellendale	187.2	290.3	64	+ 6	90	75	....	46	15
Grand Forks	......	......	......	......	85	.....	83	...	...
Williston	183.1	286.9	64	+11	86	62	66	36	25
Moorhead, Minn	156.1	288.7	54	+ 4	91	71	76	45	14
Averages and extremes	173.0	288.3	60	+ 3	88	69	75	32	24

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	10.6	−0.2	62	−41	0.58	+0.09	4	14	7	8	nw.
1893	− 0.3	−10.5	52	−54	0.59	+0.10	4	12	7	9	nw.
1894	8.0	−2.2	55	−40	0.22	−0.27	2	14	9	5	nw.
1895	5.9	−4.3	65	−50	0.36	−0.13	4	13	7	8	nw.
1896	14.8	+4.6	64	−29	0.44	−0.05	3	12	9	8	nw.
1897	6.1	−4.1	52	−40	1.15	+0.66	7	12	7	9	nw.
1898	13.3	−3.1	65	−34	0.46	−0.03	3	13	8	7	nw.
1899	0.4	−9.8	60	−48	0.20	−0.29	3	14	8	6	nw.
1900	1.3	−8.9	46	−48	0.47	−0.02	4	12	9	7	nw.
1901	7.1	−3.1	60	−31	0.31	−0.18	3	15	7	6	nw.
1902	12.1	+1.9	51	−33	0.98	+0.49	6	10	6	12	nw.
1903	3.1	−7.1	46	−49	0.38	−0.11	3	19	4	5	nw.
1904	− 2.1	−12.3	52	−42	0.54	+0.05	5	13	6	10	nw.
1905	8.2	−2.0	64	−46	0.30	−0.19	2	19	4	5	nw.
1906	9.8	−0.4	57	−38	0.13	−0.36	2	13	8	7	nw.
1907	10.7	+0.5	58	−49	0.27	−0.22	3	15	7	6	nw.
1908	13.8	+3.6	62	−34	1.07	+0.58	5	12	7	10	nw.
1909	9.6	−0.6	56	−34	0.34	−0.15	4	11	7	10	nw.
1910	3.4	−6.8	56	−50	0.50	+0.01	4	14	7	7	nw.
1911	7.3	−2.9	55	−38	0.73	+0.24	3	15	8	5	nw.
1912	11.8	+1.6	48	−33	0.15	−0.34	2	10	9	10	nw.
1913	8.5	−1.7	64	−44	0.10	−0.39	2	12	9	7	nw.
1914	1.0	−9.2	57	−47	0.34	−0.15	3	12	8	8	nw.
1915	17.4	+7.2	50	−20	0.62	+0.13	3	9	5	14	nw
1916	6.4	−3.8	55	−39	0.46	−0.03	4	14	8	7	nw.
1917	− 0.7	−10.9	61	−48	0.66	+0.17	5	10	8	10	nw.
1918	10.8	+0.6	60	−41	0.19	−0.30	3	13	9	6	nw.
1919	7.7	−2.5	58	−40	0.66	+0.17	5	10	8	10	nw.
1920	12.5	+2.3	53	−36	0.30	−0.19	3	11	9	9	nw.
1921	19.9	+9.7	64	−33	0.39	−0.10	3	11	10	7	nw.
1922	0.7	−9.5	45	−39	1.21	+0.72	5	13	6	9	nw.
1923	4.1	− 6.1	48	−40	0.65	+0.16	4	13	7	8	nw.
1924	20.3	+10.1	67	−27	0.41	−0.08	3	14	6	9	nw.
1925	16.5	+6.3	62	−39	0.31	−0.18	3	10	9	9	nw.
1926	22.3	+12.1	58	−19	0.41	−0.08	4	9	9	10	nw.
1927	13.3	+3.1	50	−31	0.36	−0.13	4	12	7	9	nw.
1928	18.8	+8.6	59	−19	0.10	−0.39	2	14	8	7	nw.
1929	2.8	7.4	44	−44	0.29	−0.20	4	12	8	8	nw.
1930	21.7	+11.5	63	−30	1.18	+0.69	6	11	8	9	nw.
1931	28.0	+17.8	62	−31	0.28	−0.21	2	14	6	8	nw.

Climatological Data for February, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		5								0.39		0.12	4.0	6					H. A. Bury.
Amenia	Cass	954	35	28.6	+19.8	52	16	−2	9†	37	0.21	−0.33	0.16	2.1	2	14	7	7	nw.	I. Idso.
Amidon	Slope		16																	R. R. Beebe.
Arnegard (near)	McKenzie		18	30.8	+16.9	59	19	−4	9	36	0.19	−0.35	0.10	1.0	1	20	3	5	w.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	30.0	+18.9	56	15	−5	9	44	0.42	−0.10	0.16	5.5	4	16	4	8	nw.	H. D. Piper.
Beach	Golden Valley	2,759	25	31.0	+14.8	53	1	−4	9	37	0.52	+0.12	0.13	5.2	6	17	5	6	sw.	J. C. Russell.
Berthold Agency††	McLean	2,082	38	29.6	+17.4	62	19	−6	9	50	0.01	−0.46	0.01	0.2	1	10	4	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	30.4	+20.1	59	15	0	9	38	0.74	+0.30	0.44	9.9	4	12	7	9	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	39	25.2	+21.0	48	2	−17	9	40	0.08	−0.27	0.07	1.0	2	11	16	1	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	17	31.6	+13.1	57	1	−1	9	37	0.79	+0.50	0.21	4.0	7	16	4	8	nw.	George Larsen.
Cando	Towner	1,488	30	27.2	+21.6	49	15	−12	9	42	0.03	−0.34	0.02	0.5	2	15	4	9	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	25.0	+16.3	52	14	−13	8	51	0.10	−0.29	0.10	1.0	1	15	3	10	w.	L. A. Swanson.
Carson	Grant	2,500	19																	J. W. Evens.
Cavalier	Pembina		21								0.35	−0.23	0.30	3.5	2	21	1	6	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	34																	A. G. Hoel.
Corinth	Williams	2,180	3								0.03		0.03	0.3	1	22	5	1	sw.	W. A. Clem.
Crosby	Divide	1,954	24	24.1	+14.7	40	19	−8	10	33	0.04	−0.24	0.02	0.4	3	21	3	4	nw.	John Jensen.
Devils Lake	Ramsey	1,478	34	25.6	+20.5	51	15	−13	9	31	0.13	−0.37	0.12	1.4	3	10	8	10	s.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	28.6	+15.5	56	19	3	9	46	0.61	+0.18	0.25	6.1	5	12	7	9	nw.	Leroy Moomaw.
Dogden Butte††	McLean	1,880	5	29.2		53	15†	17	9	35	0.20		0.20	2.0	1	12	9	7	nw.	R. L. Williams.
Drake	McHenry	1,634	2	27.3		58	14	−15	8	51	0.07		0.06	2.0	2	13	7	8	nw.	J. Rindt.
Dunn Center	Dunn	2,191	32	29.4	+14.8	60	19	6	9	41	0.09	−0.45	0.09	1.0	1	14	6	8	w.	W. F. Moede.
Dunseith	Rolette	1,682	35	24.9	+18.3	44	2†	−16	9	33	0.14	−0.28	0.05	1.4	5	11	11	6	sw.	T. H. Tharalson.
Eckman	Bottineau	1,509	26	27.8	+20.2	55	14	20	9	39	0.05	−0.31	0.05	1.0	1	13	10	5	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	30	30.8	+18.1	58	23	−8	9	34	0.30	−0.04	0.20	3.0	2	10	9	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	28.0	+17.3	56	15	−6	9	37	0.74	+0.16	0.33	6.4	7	7	7	14	nw.	U. S. Weather Bureau
Energy ††	McLean	1,750	19	30.9		57	23	−10	9	37	0.30	−0.03	0.20	3.0	2	14	8	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	23																	A. O. Wang.
Fairfield	Billings		2								1.00		0.30	11.0	6	16	8	4	nw.	F. R. Hecker.
Fessenden	Wells	1,610	19	27.7	+17.6	57	15	−16	9	42	0.14	−0.41	0.13	1.5	2	17	4	7	sw.	T. D. Monsen.
Forman	Sargent	1,249	38																	E. W. Bowen.
Fort Yates	Sioux	1,670	31	31.8	+20.0	59	15	−1	13	36	0.20	0.42	0.20	2.0	1	12	8	7		P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	29.1		54	23	−10	9	34	0.10	−0.47	0.10	1.2	1	11	10	7	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13								0.55	+0.01	0.30	5.5	3	16	5	7	sw.	Verne King.
Fullerton	Dickey	1,439	33	28.6	+16.6	52	15	−7	9	41	1.62	+0.70	0.65	9.7	5	10	5	13	nw.	F. O. Alin.
Garrison	McLean	1,901	54	30.6	+19.7	57	23	−7	9	37	0.10	−0.40	0.10	1.0	1	17	3	8	nw.	W. F. Robinson.
Grafton	Walsh	827	39	24.0	+17.3	45	15†	−23	9	42	T.	−0.59	T.	T.	0	18	2	8	n.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	40	24.4	+16.8	46	15	−14	9	34	0.09	−0.49	0.09	1.0	2	18	5	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	29.6	+19.5	57	15	−17	9	37	0.20	−0.25	0.20	2.0	1	16	7	5	s.	W. A. Christianson.
Hankinson	Richland	1,068	2	29.4		56	14	8	8	43	0.35		0.25	7.0	2	17	5	6		R. G. Stock.
Hannah	Cavalier	1,568	39								0.11	−0.47	0.11	1.0	1					James Meier.
Hansboro	Towner	1,597	23	22.0	+16.2	45	20	−20	9	36	0.20	−0.38	0.20	3.0	1	20	2	6	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	24	30.9	+14.4	59	1	−7	13	41	0.22	−0.12	0.06	2.0	6	14	7	7	w.	C. H. Plath.
Hillsboro	Traill	901	25	24.8	+14.5	41	15	−14	9	41	0.26	−0.37	0.14	2.6	3	11	4	13	sw.	G. Havland.
Howard †† (near)	Williams	2,275	24	30.3	+21.3	57	19	9	8†	28	0.05	−0.55	0.05	0.5	1	14	9	5	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	27.8	+18.2	55	15	−14	9	43	0.78	+0.16	0.40	7.8	2	9	12	7		S. Calveiage.
Langdon	Cavalier	1,615	35	19.8	+15.0	45	20	−19	9	54	0.90	+0.28	0.70	9.0	3	18	10	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	23.6	+16.3	47	15	−13	9	40	0.00	−0.58	0.00	0.0	0	16	5	7	n.	Reuben Gray.
Linton	Emmons	1,711	14	29.3	+14.8	56	15	−2	9	42	0.30	−0.25	0.20	3.0	2	12	12	4	s.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	27.5	+16.3	51	15	−11	9	33	0.73	+0.06	0.40	7.0	3	10	6	12		N. S. Lindstrom.
McClusky	Sheridan	1,943	13	28.1		53	2	1	13	32	0.25	−0.43	0.15	2.5	2	14	7	7	nw.	Edw. Tapley.
McLeod	Ransom	1,075	20	27.4	+14.1	54	14	−12	9	40	0.19	−0.51	0.11	1.9	2	14	6	8	sw.	J. G. Carlson.
Maddock	Benson	1,604	16	27.5	+16.4	52	14	14	9	38	0.03	−0.34	0.03	0.5	1	11	7	10	nw.	A. T. Felland.
Mandan	Morton	1,750	17	29.4	+16.5	58	3†	2	9	40	0.44	+0.08	0.18	5.5	4	12	3	13	se.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	28								0.13	−0.38	0.12	1.5	2					P. B. Anderson.
Marmarth	Slope	2,714	22	32.8	+15.1	56	19	4	9	34	0.37	−0.03	0.11	2.9	8	11	6	11		S. P. Grane.
Mary	McKenzie		2								0.06		0.05	1.8	2	19	6	3	sw.	Fred Hartman.
Max	McLean	2,093	2	29.2^{a}		60^{a}	15†	13	9	60	0.10		0.10	1.0	1					A. W. Rice.
Mayville	Traill	975	35	24.1	+14.6	50	16	−13	9	44	0.00	−0.45	0.00	0.0	0	19	0	9	n.	H. B. Addicott.
Minot	Ward	1,557	35	30.6	+20.9	58	23	−9	9	37	0.05	−0.42	0.04	0.7	2	18	5	5	w.	Julia B. Rue.
Mohall	Renville		37	28.3	+21.2	56	19	−10	9	40	0.08	−0.24	0.08	0.5	1	8	17	3	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	24	32.2	+18.7	59	2	−5	7	35	0.50	−0.08	0.22	5.0	3	14	6	8	s.	O. H. Opland.
Napoleon	Logan	1,955	39	28.6	+20.3	55	15	−8	9	35	0.60	+0.17	0.40	6.0	3	15	4	9	s.	C. J. Hoof.
New England	Hettinger	2,400	37	31.0	+16.9	60	3	−2	9	39	0.70	+0.20	0.30	7.0	4	16	5	7	sw.	F. S. Sleight.
New Salem	Morton	2,163	27	30.6	+17.5	60	2†	−5	9	37	0.42	−0.02	0.18	4.0	5	12	7	9	sw.	J. Christiansen.
Oakes	Dickey	1,318	2	28.4		55	15	−11	9	42	0.64		0.30	5.2	4	10	8	10	nw.	Eugene Naylor.
Park River	Walsh	998	27	25.0	+17.3	45	15†	−13	9	32	0.02	−0.38	0.02	0.5	1	11	7	10	nw.	C. B. Wright.
Parshall (near)	Mountrail		16								0.01	−0.35	0.01	0.1	1	14	11	3	se.	C. E. Shubert.
Pembina	Pembina	789	57	20.0	+17.0	38	22	−22	9	34	0.00	−0.73	0.00	0.0	0				n.	C. W. Shumaker.
Petersburg	Nelson	1,520	1								0.00		0.00	0.0	0	13	2	13		Chas. Ouradnik.
Pettibone	Kidder	1,856	22	27.8	+19.0	51	15	−13	9	31	0.70	+0.27	0.30	7.5	3	12	3	13	sw.	A. L. Carlson.
Portal	Burke	1,954	26	27.0	+21.6	53	22	−10	8	50	0.00	−0.43	0.00	0.0	0	19	0	9	w.	C. T. Holmes.
Power††	Richland	1,020	37								1.00	+0.36	0.60	10.0	2	14	7	7	w.	Frank B. Power.
Powers Lake	Burke	2,205	26	31.5		61	1	−5	9	31	0.19	−0.29	0.16	3.5	2	19	8	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	30.0	+14.8	57	1†	−6	9	38	0.15	−0.22	0.10	1.5	2	11	9	8	se.	John Muggli.
Rugby (near)	Pierce	1,562	2								0.05		0.05	0.5	1	14	7	7	nw.	E. C. Erickson.
Ryder	Ward	2,108	2								0.11		0.08	1.1	3					E. M. Lomen.
Sanish	Mountrail	1,835																		H. W. Monson.
Sharon	Steele	1,516	7	24.9		45	15†	−13	9	34	0.05		0.05	0.5	1	12	6	10	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7								0.35		0.30	6.0	2	15	8	5	nw.	J. H. Giffey.
Steele	Kidder	1,857	37	28.0	+18.6	53	15	−6	9	43	0.35	−0.12	0.15	2.5	6	14	0	14	s.	V. A. Lanes.
Stowers††	Adams	2,325	16								0.38	−0.17	0.38	3.0	1	5	6	17		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.14		0.05	1.4	4	15	8	5	sw.	J. C. Abbott.
Tioga	Williams	2,279	2								T.		T.	T.	0	17	6	5	nw.	Anton Carlson.
Towner	McHenry	1,482	29	22.4	+14.7	56	23	−31	9	51	T.	−0.44	T.	0.0	0	5	11	12	w.	Karl Weber.
Trotters	Golden Valley		5								0.67		0.23	8.8	5	15	6	7		A. J. Nellermoe
Turtle Lake	McLean	1,899	17																	E. T. Kusler.
Tuttle	Kidder	1,936																		
Valley City	Barnes	1,245	25	27.7	+16.2	51	15	−12	9	38	0.13	−0.35	0.12	2.0	2	9	5	14	n.	I. C. Robertson.
Velva	McHenry	1,511	4	29.9		58	23	−14	9	38	0.18		0.18	3.0	1	14	6	8	w.	Oscar Anderson.
Verona	LaMoure	1,387	3								0.40		0.21	3.5	3	14	3	11	ne.	W. C. Taylor.
Wahpeton	Richland	962	39	30.2	+18.2	53	15	−11	9	44	0.87	+0.36	0.60	8.7	3	17	0	11	se.	C. G. Luick.
Washburn	McLean	1,731	30	32.0	+22.5	59	2	−6	9	43	0.30	−0.09	0.30	3.0	1	17	3	8	se.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	26.8	+19.8	53	2	−17	8	40	0.02	−0.18	0.02	0.2	1	17	5	6	nw.	W. A. Meddaugh.
Williston	Williams	1,878	52	31.0	+22.9	53	18	−2	9	37	0.19	−0.22	0.10	2.3	3	13	10	5	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	26.5	+21.7	54	23	−20	9	37	0.10	−0.42	0.10	1.0	1	17	10	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	28.3^{c}	+19.3	58^{a}	16	−6^{c}	10	31^{c}	0.15	−0.44	0.11	2.0	2	9	3	16	nw.	E. W. Davis.
Zap	Mercer	1,838	16								0.24	−0.03	0.14	2.5	2					R. A. Norton.
Moorhead, Minn.	Clay	935	50	26.2	+18.1	53	15	−12	9	37	0.30	−0.39	0.16	3.6	3	8	8	12	n.	U. S. Weather Bureau.
Averages				28.0	+17.8	62	19	−31	9	54	0.28	−0.21	0.70	2.9	2	14	6	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for February, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri						.08					.07		.03			T	.07				.12					.02		T				0.39
Amenia ‖	Red							.05														T	T					.16					0.21
Amidon	Lit. Missouri																										T						
Arnegard (near)	Missouri						T	T					T					.10				T	T										0.10
Ashley	Missouri							.10															.16				.05	.11					0.42
Beach	Lit. Missouri						.08					.10	.01					.13				.12	.08										0.52
Berthold Agency	Missouri						T	.01										T							T		T	T					0.41
Bismarck ***	Missouri						.07	T	T				T					.09				T	T				T		T				0.74
Bottineau ‖	Mouse							.07	T				.01									.11	T		T		.14						0.08
Bowman	Grand						.13					.09	.04					.21			.18						.05	.09	T				0.79
Cando	Devils Lake		T					.01	T				T					T				T		T		.02							0.63
Carrington	James						.10	T																	T		T						0.10
Carson	Heart																																
Cavalier	Red												.05													.30							0.35
Cooperstown	Sheyenne																																
Corinth	Missouri						.03																										0.03
Courtenay	James																																
Crosby ‖	Mouse						.02	.01	.01																								0.64
Devils Lake ***	Devils Lake					T	.05	.07	T				.01				T	T	T		T	T	T		T		T	T					0.13
Dickinson ‖	Heart							.13					.05					.09	T			T	.09				T	.25	T				0.61
Dogden Butte	Mouse							.20															T										0.20
Drake ‖	Mouse						.06														.01												0.07
Dunn Center ‖	Knife						T											T				T					.09						0.09
Dunseith	Mouse							.05	.03				.02												.01	.03							0.14
ckman	Mouse							.05																									0.05
dgeley	James						.16																				.20						0.39
llendale***	James		T				.18	.02	T				T				T	.01				.01	.16				.20	.13					0.74
nergy	Missouri							.20										T					T					.10					0.30
pping	Missouri																																.....
airfield	Knife						.10	.10										.20				.10					.30	.20					1.00
essenden‖	James							.13		.01																							0.14
orman	Sheyenne																																.....
ort Yates	Missouri																					.20											0.20
oxholm (near)	Mouse						T	.10	T				T									T	T										0.10
ryburg	Heart						T	.20									.30				T					.05							0.55
ullerton	James						T	.46									.03					T	.65		T		.03	.45					1.62
arrison	Missouri						.10															T				T							0.10
rafton	Red							T	T				T													T							T.
rand Forks ***	Red		T			T	.04	.05	T				T																				0.09
ranville	Mouse							.20	T				T													T							0.20
ankinson‖	Red							.10					T														.25						0.35
annah	Pembina								T	T			T						T							.11							0.11
ansboro	Devils Lake																					T				.20							0.26
ettinger	Grand						T					.05	.02	.01				.05				.06	.03					T					0.22
illsboro	Red							.14	.06																		.06						0.26
oward (near)	Missouri						T	T	T				T					.05							T		T		T				0.05
mestown‖	James							.38																			.40						0.78
angdon‖	Pembina						.10			.10																.70							0.90
arimore‖	Red																																0.00
nton	Missouri							T										.20					T					.10					0.30
sbon ‖	Sheyenne							.30																.03			.40						0.73
cClusky	Missouri							.15	.10													T					T						0.25
cLeod	Sheyenne							.11					T												.08								0.19
addock	Sheyenne							.03					T									T		T									0.03
andan‖	Missouri							.09										.05	T				.18				T	.12					0.14
anfred	James							.12	T				T									T			T			.01					0.13
armarth	Lit. Missouri						.07					.06	.03				.01	.03				.11	.03					.03					0.37
ary	Lit. Missouri						T										.01					.05					T						0.06
ax‖	Missouri							.10																									0.10
ayville	Red																																0.00
inot‖	Mouse							.04															.01										0.05
ohall	Mouse						.08																										0.08
ott	Cannon Ball					T	.12										T	.22										.16					0.50
apoleon ‖	Missouri							.10															.10				T	.40					0.60
ew England	Cannon Ball						.30					.20					.10					.10											0.70
ew Salem	Heart						.06	T										.03				.01	.14				.18						0.42
kes	James							.30		T												T	.12				.02	.20					0.64
rk River	Red							.02					T													T							0.02
rshall (near)	Missouri																								.01								0.01
mbina ‖	Red																																0.00
tersburg	Red																																0.00
ttibone	James							.15	T	T				T							T	T			T		.30	.25					0.70
rtal‖	Mouse																																0.00
wer	Sheyenne							.40																			.60						1.00
wers Lake	Missouri						.03	.16																									0.19
chardton	Heart											T						.05				T					.10						0.15
gby [near]	Mouse						.05		T			T														T							0.05
der	Missouri						.08						.01							.02													0.11
nish‖	Missouri																																.....
aron	Red					T		.05	T				T					T				T	T		T		T	T					0.05
anton	Missouri						.05											T										.30					0.35
eele	Missouri							.09					T					.02			T	T	.05		.01		.03	.15					0.35
owers	Cannon Ball							T				T						T				.38											0.38
gus	Mouse						.04		.04														.01		.05								0.14
oga	Missouri							T	T																								T.
wner	Mouse																					T	T		T								T.
otters	Lit. Missouri						.11											.16				.12	.05				.23						0.67
rtle Lake	Missouri																																.....
ttle																																	.....
lley City	Sheyenne								T	.01			T														.12						0.13
lva	Mouse						T	.18	T													T					T						0.18
rona	James						.08	T															.21				.11						0.40
hpeton	Red							.25																			.02	.60					0.87
shburn	Missouri						T	T										T					T				.30						0.30
sthope	Mouse							.02																									0.02
lliston ***	Missouri						.10	T										.06							.03				T				0.19
llow City	Mouse							.10														T											0.10
shek‖	Missouri							.11																			T	.04					0.15
o	Knife						.10										T	T	T				T	T			.14						0.24
orhead, Minn ***	Red		T			T	.01	.15	T				T														.14	T					0.30

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of ervation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the our period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for February, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	44	39	39	45	40	34	32	34	28	35	38	34	31	41	50	52	42	36	41	40	42	41	40	45	41	38	35	38	...	...	...	39.1
	Minimum	29	24	28	17	12	7	24	11	-2	-2	13	13	9	6	15	25	19	24	19	20	32	30	32	29	25	18	23	10	...	...	...	18.2
Arnegard	Maximum	52	48	46	45	40	34	33	30	30	37	44	30	39	51	51	30	40	51	59	48	37	47	56	45	13	32	38	34	...	...	...	41.9
	Minimum	29	25	22	20	15	22	22	0	-1	20	20	10	3	20	21	14	23	23	29	29	28	31	26	21	18	27	22	16	...	...	...	19.8
Ashley	Maximum	50	50	44	50	44	35	34	34	30	42	40	34	27	47	56	50	37	32	42	48	45	37	44	44	42	36	30	32	...	...	...	40.6
	Minimum	30	23	28	22	21	13	27	15	-5	10	4	20	1	3	23	21	23	23	21	23	27	31	29	29	24	24	24	8	...	...	...	19.4
Beach	Maximum	53	48	42	45	40	36	32	31	33	40	35	33	36	47	48	49	41	46	52	45	34	34	47	42	40	28	28	41	...	...	...	40.2
	Minimum	28	25	24	22	17	23	17	10	-4	20	17	13	9	18	28	26	27	25	33	32	29	26	27	27	18	25	24	23	...	...	...	21.8
Berthold Agency	Maximum	55	55	52	42	52	35	35	32	32	40	44	42	38	54	58	30	34	40	62	50	31	42	58	47	45	32	30	38	...	...	...	43.1
	Minimum	25	12	10	15	12	20	25	4	-6	12	10	8	0	16	8	15	16	22	25	25	25	26	28	27	18	22	25	10	...	...	...	16.2
Bismarck	Maximum	54	58	42	51	36	33	36	34	25	42	38	28	32	47	59	33	30	36	45	47	37	38	44	48	40	30	32	30	...	...	...	39.5
	Minimum	32	24	26	25	20	18	26	12	0	17	17	10	4	17	21	23	25	25	26	31	31	30	28	29	25	27	16	10	...	...	...	21.2
Bottineau §§	Maximum	38	48	44	43	26	28	30	31	20	37	[illegible]	35	20	45	17	34	31	32	39	43	42	37	41	44	44	36	31	32	...	...	...	36.2
	Minimum	21	20	4	7	13	10	21	6	-17	3	8	7	-5	15	11	18	10	18	23	30	24	27	25	29	17	20	12	14	...	...	...	14.1
Cando	Maximum	39	45	40	41	42	27	31	32	30	30	35	33	20	46	49	41	32	32	41	47	45	45	47	47	42	36	32	32	...	...	...	38.0
	Minimum	27	24	24	22	16	10	20	18	-12	5	12	7	-6	10	17	17	9	20	23	32	27	29	27	30	21	18	9	5	...	...	...	16.5
Carrington	Maximum	33	38	46	26	29	32	28	21	35	35	17	27	47	52	29	25	31	40	44	32	39	42	44	35	28	30	31	34	...	...	...	33.9
	Minimum	26	16	25	22	12	15	15	-13	-12	17	15	-6	-4	23	23	15	16	21	22	28	29	30	31	25	23	22	9	9	...	...	...	16.2
Crosby §§	Maximum	32	37	28	29	26	28	25	25	22	25	32	32	32	32	30	30	32	32	40	33	33	33	32	28	28	28	25	33	...	...	...	30.1
	Minimum	28	25	24	26	15	22	23	-3	-7	-8	17	16	12	18	20	15	24	20	32	29	24	26	17	14	16	17	18	26	...	...	...	18.1
Devils Lake	Maximum	39	47	35	44	30	37	31	26	13	35	31	26	17	41	51	31	23	32	39	45	32	33	46	42	35	31	27	32	...	...	...	33.7
	Minimum	27	24	27	25	15	11	21	2	-13	11	14	1	-6	13	24	18	13	22	25	32	29	30	31	32	24	19	11	8	...	...	...	17.4
Dickinson §§	Maximum	54	52	42	50	39	35	33	31	32	40	34	25	32	47	51	33	39	48	56	46	31	40	53	44	40	28	26	33	...	...	...	39.8
	Minimum	24	19	19	19	15	16	22	14	-5	-3	14	20	0	1	16	16	18	23	24	28	30	27	27	29	16	18	22	15	...	...	...	17.3
Dunn Center §§	Maximum	56	52	43	51	38	35	31	30	34	41	40	31	38	52	53	31	36	50	60	47	31	42	51	46	41	30	32	32	...	...	...	41.4
	Minimum	27	16	24	14	10	19	25	11	-6	14	10	15	-3	16	19	13	22	23	24	29	29	28	28	24	10	24	14	7	...	...	...	17.4
Dunseith	Maximum	43	44	42	43	38	25	27	27	15	41	34	30	21	44	44	44	28	28	40	41	37	32	40	36	36	34	26	30	...	...	...	34.6
	Minimum	25	20	24	19	13	9	20	10	-16	8	13	5	-8	13	20	16	11	17	21	32	23	26	25	28	18	20	9	4	...	...	...	15.2
Edgeley	Maximum	51	52	44	49	44	35	34	33	23	33	39	34	22	41	57	36	52	47	42	40	35	36	58	50	46	43	36	31	...	...	...	40.9
	Minimum	39	25	28	22	20	10	26	18	-8	3	15	17	-2	12	39	20	19	25	17	25	27	25	46	47	25	22	25	3	...	...	...	20.8
Ellendale	Maximum	52	44	42	49	33	37	36	31	13	39	36	29	21	43	56	39	27	32	45	35	36	38	46	44	38	32	31	28	...	...	...	37.0
	Minimum	30	28	25	22	17	14	27	13	-6	8	15	6	1	9	19	25	21	21	17	26	29	31	30	30	26	27	16	6	...	...	...	19.0
Fessenden §§	Maximum	46	51	40	51	32	32	32	39	19	37	40	20	31	50	57	35	27	33	46	47	33	35	47	48	39	30	33	32	...	...	...	37.9
	Minimum	30	25	27	22	18	12	14	15	-16	-5	16	14	-6	9	20	21	15	17	22	29	29	30	29	31	25	19	20	8	...	...	...	17.5
Foxholm (near)	Maximum	48	51	44	48	41	32	32	29	21	43	38	36	35	52	50	31	29	41	53	46	38	44	54	50	39	37	31	35	...	...	...	40.5
	Minimum	31	24	22	21	13	12	22	12	-10	17	18	12	2	20	28	15	15	22	28	30	23	27	23	26	17	13	9	5	...	...	...	17.7
Fullerton	Maximum	49	39	41	45	40	36	35	33	26	39	35	31	40	40	52	40	23	32	42	38	35	37	45	43	37	30	30	28	...	...	...	37.4
	Minimum	31	27	30	23	23	14	27	17	-7	2	16	16	-1	-1	20	27	20	25	16	26	28	32	32	32	27	27	21	7	...	...	...	19.9
Garrison	Maximum	53	56	42	51	43	32	33	31	29	39	42	39	35	53	55	50	30	37	51	47	44	43	57	43	36	34	32	30	...	...	...	41.7
	Minimum	29	23	24	21	18	17	25	14	7	9	13	18	-1	16	32	21	18	25	24	32	29	29	28	19	22	23	13	12	...	...	...	19.5
Grafton	Maximum	38	34	38	42	39	29	29	31	19	38	35	24	11	39	45	42	25	32	37	45	35	35	40	41	39	34	33	30	...	...	...	34.2
	Minimum	16	20	22	10	7	4	21	9	23	0	15	-2	-11	7	9	20	15	24	15	31	31	33	32	32	24	6	11	9	...	...	...	13.8
Grand Forks	Maximum	38	32	36	43	39	31	31	31	9	33	32	25	11	37	46	31	28	33	38	44	36	36	40	40	35	33	31	32	...	...	...	32.9
	Minimum	24	23	15	15	12	10	22	-3	-14	2	14	-2	-10	6	17	16	18	25	21	30	32	32	32	32	26	22	14	12	...	...	...	15.9
Granville	Maximum	52	55	42	51	40	30	32	26	20	42	40	32	35	52	57	36	28	37	50	45	35	42	52	49	40	30	34	32	...	...	...	39.9
	Minimum	24	26	25	22	12	15	23	8	-17	12	12	12	-2	16	25	20	20	23	27	29	27	30	28	29	20	20	20	8	...	...	...	18.4
Hansboro	Maximum	40	45	37	38	30	30	25	25	15	35	35	20	20	35	40	30	27	32	35	45	40	35	45	40	35	32	25	30	...	...	...	32.9
	Minimum	22	18	20	14	12	16	10	3	-20	5	15	-2	-12	14	20	5	0	16	18	28	20	20	22	23	14	-4	-4	-6	...	...	...	11.1
Hettinger §§	Maximum	59	57	45	56	39	36	35	34	33	47	39	30	29	44	55	45	39	46	56	47	40	37	53	45	40	33	28	32	...	...	...	42.1
	Minimum	25	16	24	19	13	20	27	15	-2	14	11	17	-7	11	21	29	27	17	25	26	30	29	27	30	21	27	25	20	...	...	...	19.7
Hillsboro	Maximum	35	31	30	40	40	28	35	30	27	32	32	28	18	38	41	40	26	34	35	40	40	40	40	38	37	35	25	30	...	...	...	33.7
	Minimum	20	19	25	26	18	12	15	12	-14	-2	12	7	-8	0	15	22	15	21	20	26	30	28	29	28	26	20	15	10	...	...	...	15.8
Howard (near)	Maximum	47	44	39	43	37	31	32	27	31	38	38	31	39	47	44	33	38	50	57	53	43	47	50	42	38	42	37	32	...	...	...	40.5
	Minimum	28	28	22	18	15	15	20	9	13	11	18	14	9	20	20	16	23	21	23	30	21	28	29	28	15	20	23	15	...	...	...	20.1
Jamestown §§	Maximum	40	52	41	50	36	30	35	31	29	36	34	29	21	39	55	41	29	31	40	46	37	36	45	45	35	31	30	32	...	...	...	37.0
	Minimum	32	25	28	23	21	10	22	16	-14	2	14	8	-6	10	19	23	16	24	20	29	29	30	31	30	25	24	20	7	...	...	...	18.5
Langdon §§	Maximum	38	35	32	37	20	26	30	25	15	35	36	15	13	36	38	37	33	31	36	45	30	32	38	41	33	30	32	30	...	...	...	31.4
	Minimum	20	20	16	10	15	0	0	0	-19	-18	10	5	-18	-18	5	10	17	10	20	24	27	28	26	28	15	0	-1	0	...	...	...	8.3
Larimore §§	Maximum	40	37	35	40	22	30	32	30	13	37	34	14	17	40	47	25	25	32	37	40	35	33	45	40	35	33	25	35	...	...	...	32.4
	Minimum	18	20	22	14	18	6	12	14	-13	5	12	10	-8	0	15	22	14	16	22	22	25	22	30	32	22	20	15	10	...	...	...	14.9
Linton	Maximum	52	52	44	48	36	35	36	34	29	44	39	35	29	42	56	40	32	36	45	45	39	46	47	48	43	34	32	31	...	...	...	40.3
	Minimum	22	19	25	17	18	17	27	12	-2	13	13	14	-1	12	11	20	23	24	23	27	30	20	25	25	23	22	24	6	...	...	...	18.3
Lisbon §§	Maximum	48	37	40	45	28	33	36	34	16	34	36	23	24	34	51	31	32	34	40	43	37	37	39	46	39	31	29	35	...	...	...	35.4
	Minimum	29	26	28	25	23	12	24	19	11	1	11	13	-5	5	22	26	22	25	21	26	30	32	31	31	28	21	27	8	...	...	...	19.6
McClusky	Maximum	48	53	40	49	41	30	33	29	21	27	42	27	31	42	50	42	26	36	50	45	38	36	48	40	38	30	32	31	...	...	...	37.7
	Minimum	28	24	21	21	16	14	24	13	11	14	11	14	-1	14	20	21	17	21	23	26	26	21	25	29	18	20	19	7	...	...	...	18.5
Maddock	Maximum	39	50	48	46	44	27	38	34	24	33	34	32	28	52	51	49	29	32	41	42	40	34	48	46	38	32	29	30	...	...	...	38.2
	Minimum	29	21	26	22	16	9	23	13	-14	5	11	10	-7	14	21	19	10	19	21	29	27	28	27	30	23	18	14	5	...	...	...	16.8
Marmarth	Maximum	51	42	45	49	40	38	34	37	34	44	36	34	39	49	53	45	42	52	56	47	42	39	49	45	41	37	28	39	...	...	...	42.6
	Minimum	26	23	25	23	17	24	25	13	4	14	26	24	5	17	20	20	29	25	27	30	31	30	29	34	29	27	25	25	...	...	...	23.1
Minot §§	Maximum	52	53	42	52	45	32	32	32	24	43	43	34	37	55	54	49	35	35	52	50	39	45	58	47	42	35	34	36	...	...	...	42.4
	Minimum	25	19	25	19	12	14	24	14	-9	17	13	15	0	22	25	19	19	23	30	28	28	28	27	29	15	17	16	9	...	...	...	18.7
Mohall	Maximum	50	50	48	45	34	27	38	35	30	35	38	38	24	34	35	46	33	49	56	49	38	33	48	50	44	30	29	28	...	...	...	39.1
	Minimum	25	29	25	20	20	13	20	10	-10	10	15	14	15	0	20	30	17	21	22	26	24	25	24	26	16	14	10	8	...	...	...	17.5
Mott	Maximum	55	59	43	52	39	35	30	30	28	42	40	31	38	37	54	32	36	37	47	48	46	45	47	49	40	35	30	34	...	...	...	40.7
	Minimum	26	34	27	22	24	28	-5	19	20	22	22	7	12	24	23	28	26	28	33	32	31	33	31	24	27	25	20	12	...	...	...	23.6
Napoleon §§	Maximum	48	49	40	48	36	33	35	33	24	40	41	27	29	48	55	29	28	34	46	45	32	40	43	46	39	30	29	34	...	...	...	37.9
	Minimum	31	22	25	22	18	13	27	17	-8	14	13	20	-1	15	24	21	22	16	23	26	28	28	29	28	23	23	24	-1	...	...	...	19.4
New Salem	Maximum	51	60	47	56	39	32	35	33	22	43	40	36	32	50	60	41	30	39	48	38	38	41	55	52	42	28	31	30	...	...	...	41.0
	Minimum	31	23	25	25	18	17	16	16	-5	14	15	15	5	19	25	21	21	24	26	31	30	28	28	28	22	21	22	7	...	...	...	20.2
Oakes	Maximum	51	38	43	47	39	35	37	36	24	38	36	30	19	42	55	44	29	33	42	38	35	38	40	46	40	31	31	30	...	...	...	37.0
	Minimum	28	27	29	26	23	13	27	18	-11	1	9	13	-4	8	20	25	21	26	19	27	29	32	30	30	27	25	25	8	...	...	...	19.7
Pembina §§	Maximum	32	32	28	35	33	28	32	22	12	32	30	22	15	31	36	22	31	32	35	36	34	38	36	37	36	28	20	26	...	...	...	29.7
	Minimum	15	10	20	5	8	15	10	6	-22	-18	0	0	-18	8	12	10	15	10	20	25	22	30	31	31	25	20	0	-2	...	...	...	10.3
Sharon	Maximum	40	35	36	42	35	28	30	28	11	35	34	23	14	36	45	35	23	28	34	40	32	33	45	41	35	29	28	32	...	...	...	32.4
	Minimum	28	23	25	22	17	9	21	11	-13	1	14	5	-7	9	17	21	15	22	21	30	29	30	30	32	26	21	17	11	...	...	...	17.4
Steele	Maximum	45	47	42	43	34	35	34	35	22	41	38	28	25	43	53	31	28	33	45	46	36	38	41	44	45	34	30	29	...	...	...	37.3
	Minimum	25	21	19	20	20	15	28	16	-6	10	15	18	-1	0	19	18	23	22	21	29	29	30	27	32	23	22	21	5	...	...	...	18.6
Towner	Maximum	45	52	40	48	41	30	32	33	20	40	40	32	33	49	53	44	32	37	17	47	37	38	56	46	44	39	33	35	...	...	...	40.1
	Minimum	15	12	13	10	3	0	7	-10	-31	-5	-3	-12	-11	4	5	5	5	9	14	18	16	17	15	17	9	10	2	-5	...	...	...	4.6
Valley City	Maximum	44	36	38	45	39	32	35	34	26	36	35	30	17	38	51	49	27	32	39	41	38	36	45	42	36	39	32	33	...	...	...	36.6
	Minimum	31	25	30	32	20	12	24	15	-12	0	9	10	-6	7	16	24	18	25	21	28	28	30	32	30	25	20	21	10	...	...	...	18.8
Wahpeton	Maximum	50	50	42	46	41	34	34	35	33	39	38	35	21	45	53	52	31	34	41	50	50	47	42	48	44	39	35	36	...	...	...	41.0
	Minimum	32	28	29	18	20	13	25	12	-11	-3	13	19	-4	6	23	24	20	26	26	26	27	33	29	29	26	19	28	10	...	...	...	19.4
Westhope	Maximum	45	53	47	46	35	26	32	18	35	31	36	35	19	48	45	32	33	33	40	42	43	44	42	46	40	38	39	42	...	...	...	38.
	Minimum	27	22	21	20	13	12	16	-17	5	7	7	6	-1	8	10	20	11	16	26	32	26	30	33	30	24	20	10	3	...	...	...	15.
Williston	Maximum	51	46	42	46	39	34	34	28	35	41	41	31	42	50	47	27	40	53	50	49	38	46	52	43	40	34	36	34	...	...	...	41.
	Minimum	25	22	25	19	16	25	22	4	-2	17	20	13	6	26	23	17	24	26	29	31	29	29	28	26	19	27	23	21	...	...	...	21.1
Moorhead, Minn	Maximum	45	32	38	45	32	32	33	32	7	34	34	24	13	43	53	35	30	34	39	49	45	37	39	44	38	31	37	35	...	...	...	35.4
	Minimum	30	27	20	16	14	13	23	3	-12	-3	13	1	-5	6	19	19	19	26	23	27	30	31	30	30	23	20	20	14	...	...	...	17.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 3-24-31-1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

Vol. XXXX Bismarck, N. D., March, 1931 No. 3

GENERAL SUMMARY

Favorable weather prevailed throughout North Dakota during most of the month. March was the first month since November, 1930 with precipitation above normal. Light snow fell on many days throughout the month and beneficial showers occurred at most stations during the third decade. Temperatures were above normal all month in most sections, except during the cold spell from the 25th to the 27th. Most stations reported their highest temperatures on about the 22d, and the lowest on the 26th. March was the fourth consecutive month with the temperature above normal and livestock ranged freely most of the winter, although feed was scarce. By the end of the month preparations were being made for farm work and the top soil was in good condition but a deficiency of subsoil moisture prevailed. F.J.B.

TEMPERATURE

The mean temperature for the state was 25.7°, or 1.6° above the normal, and 0.4° lower than the mean for March, 1930. The highest mean reported was 32.0° at Amidon, Slope County; the lowest was 18.2° at Pembina, Pembina County. The highest temperature reported was 63° at Portal, Burke County on the 31st; the lowest was -24° at Towner, McHenry County on the 26th. The greatest monthly range of temperature was 77° at Portal, Burke County; the least was 45° at Hillsboro, Traill County. The greatest daily range in temperature was 55° at Towner, McHenry County on the 25th.

PRECIPITATION

The average precipitation for the state was 0.94 inch, or 0.24 inch above the normal, and 0.85 inch more than the average for March, 1930. The greatest monthly amount reported was 2.33 inches at Bowman, Bowman County; the least was 0.07 inch at Westhope, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 1.25 inches at Fullerton, Dickey County on the 23d. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 4.8 inches.

AURORAS

Auroras were observed at Bottineau on the 7th; at McLeod on the 9th; at Williston on the 13th; at Foxholm, Howard, Tagus and Willow City on the 14th; at Bottineau, Eckman and Foxholm on the 23d; at Bottineau, Eckman and Howard on the 24th; and at Carson on the 25th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.16	30.82	27	29.67	31	57	6,099	8.2	28§	n.	26
Devils Lake	30.17	30.86	27	29.70	31	44	7,167	9.6	37§	ne.	25
Ellendale	30.17	30.70	15	29.56	23	56	9,934	13.4	41§	ne.	26
Grand Forks	30.17	30.76	27	29.75	22	90	... ...	.....	37	e.	13
Williston	30.18	30.95	26	29.56	31	48	5,033	6.8	31§	ne.	25
Moorhead, Minn	30.16	30.72	15	29.69	23	58	6,676	9.0	24§	n.	26
Av'ges and extremes	30.17	30.95	26	29.56	23†	.....	... ...	9.4	41§	ne.	26

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	168.0	369.9	45	−11	86	65	69	43	16
Devils Lake	201.0	369.7	54	− 4	88	68	74	39	10
Ellendale	210.5	370.0	57	+ 1	88	66	...	37	16
Grand Forks	.....	.....	.....	.....	78	...	76	.....	.....
Williston	175.6	369.7	47	− 5	86	68	68	41	24
Moorhead, Minn	208.4	369.9	56	0	86	56	63	27	29
Averages and extremes	192.7	369.8	52	− 4	85	65	70	27	29

† And other dates.

COMPARATIVE STATE DATA FOR MARCH

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	24.2	+0.1	66	−35	0.83	+0.13	4	12	8	11	se.
1893...	13.9	−10.2	68	−35	0.99	+0.27	5	13	7	11	nw.
1894...	24.8	+0.7	69	−22	1.45	+0.75	5	12	9	10	nw.
1895...	23.2	−0.9	75	−35	0.16	−0.54	2	16	10	5	nw.
1896...	15.7	−8.4	70	−35	1.18	+0.48	8	12	10	9	nw.
1897...	11.9	−12.2	58	−48	1.27	+0.57	7	15	7	9	nw.
1898...	21.3	−2.8	79	−24	0.79	+0.09	5	13	8	10	nw.
1899...	7.5	−16.6	72	−30	1.00	+0.30	5	12	10	9	nw.
1900...	20.3	−3.8	77	−24	1.01	+0.31	5	14	7	10	nw.
1901...	25.3	+1.2	85	−32	0.86	+0.16	5	15	8	8	nw.
1902...	27.4	+3.3	65	−25	2.73	+2.03	8	10	6	15	nw.
1903...	22.1	−2.0	80	−24	0.55	−0.15	3	12	6	13	nw.
1904...	18.2	−5.9	64	−26	1.33	+0.63	5	11	6	14	nw.
1905...	32.5	+8.4	81	−25	0.87	+0.17	4	11	8	12	nw.
1906...	18.5	−5.6	67	−34	0.38	−0.32	3	15	6	10	nw.
1907...	23.1	−1.0	83	−20	0.70	0.00	4	14	9	8	nw.
1908...	21.1	−3.0	68	−31	1.16	+0.46	8	10	9	12	nw.
1909...	24.0	−0.1	61	−24	0.32	−0.38	4	10	9	12	nw.
1910...	41.3	+17.2	90	− 7	0.97	+0.27	3	18	8	5	nw.
1911...	30.6	+6.5	78	−18	0.24	−0.46	2	16	10	5	nw.
1912...	15.4	−8.7	65	−28	0.33	−0.37	3	17	8	6	nw.
1913...	17.2	−6.9	70	−31	0.81	+0.11	6	12	9	10	nw.
1914...	25.5	+1.4	76	−20	0.90	+0.20	5	10	9	12	nw.
1915...	23.3	−0.8	63	−23	0.22	−0.48	2	16	6	9	nw.
1916...	20.3	−3.8	69	−45	1.48	+0.78	6	11	9	11	nw.
1917...	22.2	−1.9	67	−39	0.39	−0.31	3	13	10	8	nw.
1918...	35.0	+10.9	82	−15	0.39	−0.31	2	16	8	7	sw.
1919...	17.8	−6.3	67	−35	0.82	+0.12	4	12	9	10	nw.
1920...	22.4	−1.7	67	−32	0.79	+0.09	4	15	8	8	nw.
1921...	25.2	+1.1	75	−22	1.00	+0.30	6	9	12	10	nw.
1922...	25.8	+1.7	60	−30	0.72	+0.02	4	12	7	12	se.
1923...	18.3	−5.8	65	−35	0.41	−0.29	4	10	10	11	nw.
1924...	25.5	+1.4	58	−20	0.45	−0.25	4	10	9	12	nw.
1925...	27.4	+3.3	75	−26	0.67	−0.03	4	14	9	8	nw.
1926...	25.8	+1.7	83	−23	0.24	−0.46	3	13	10	8	nw.
1927...	30.4	+6.3	77	−10	0.74	+0.04	5	13	8	10	nw.
1928...	28.1	+4.0	85	−17	0.54	−0.16	3	15	8	8	nw.
1929...	30.5	+6.4	77	−15	0.78	+0.08	5	12	8	11	nw.
1930...	26.1	+2.0	62	−17	0.09	−0.61	1	17	8	6	nw.
1931...	25.7	+1.6	63	−24	0.94	+0.24	5	11	8	12	nw.
Av....	24.1	....	90*	-48*	0.70	....	4	13	8	10	nw.

*Extremes.

Climatological Data for March, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	5	...	...	...	...	...	...	...	0.63	...	0.38	...	6	...	...	...	...	H. A. Bury.
Amenia	Cass	954	35	28.8	+4.2	51	22	0	15†	36	0.61	+0.09	0.57	0.4	3	16	6	9	nw.	J. Idso.
Amidon	Slope	...	16	32.0^{b}	+4.1	52^{b}	15	-8^{b}	26	45	0.90	+0.17	0.30	6.0	4	...	...	...	...	R. R. Beebe.
Arnegard (near)	McKenzie	...	18	25.6	+0.3	59	18	-9	26	41	1.27	+0.55	0.55	12.5	6	17	6	8	ne.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	27.2	+2.9	52	20	-3	26	31	0.64	-0.38	0.50	13.0	4	15	2	14	se.	H. D. Piper.
Beach	Golden Valley	2,759	25	27.8	+0.6	58	21	-8	26	35	0.83	+0.20	0.40	4.0	9	14	7	10	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	26.6	+0.6	56	23	-8	26	40	0.67	-0.02	0.37	4.4	4	11	6	14	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	27.2	+3.0	50	21	-7	26	37	1.26	+0.37	0.97	4.4	6	9	9	13	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	24.2	+4.1	49	25	12	26	45	0.31	-0.38	0.18	2.5	4	11	15	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	17	28.6	+0.9	53	19	-8	26	39	2.33	+1.87	0.60	8.0	11	11	12	8	nw.	George Larsen.
Cando	Towner	1,488	30	24.2	+2.0	47	10†	-10	26	42	1.50	+0.82	0.68	7.0	6	8	12	11	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	24.2	+0.8	52	31	-7	26	45	1.00	+0.33	0.75	2.5	2	12	4	15	nw.	L. A. Swanson.
Carson	Grant	2,500	19	24.8	-1.5	52	16	-10	26	39	1.70	+1.11	0.50	7.5	6	9	9	13	nw.	J. W. Evens.
Cavalier	Pembina	894	21	...	...	...	...	...	...	...	0.95	+0.27	0.30	3.2	7	20	4	7	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	34	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. G. Hoel.
Corinth	Williams	2,180	3	...	...	...	...	...	...	...	0.70	...	0.40	7.0	4	10	13	8	sw.	W. A. Clem.
Crosby	Divide	1,954	24	21.4	-2.1	50	21	-11	26	43	0.99	+0.48	0.25	5.0	12	13	10	8	ne.	John Jensen.
Devils Lake	Ramsey	1,478	34	23.9	+4.1	47	22	-8	26	36	1.10	+0.32	0.74	3.3	10	7	9	15	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	24.8	-0.5	57	21	-11	6	36	1.08	+0.22	..47	3.8	10	4	13	14	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	25.2	...	50	24	-11	26	40	1.38	...	0.75	3.5	6	10	7	14	nw.	R. L. Williams.
Drake	McHenry	1,634	2	24.2	...	50	23	10	25†	39	1.11	...	0.82	5.6	7	9	8	14	nw.	J. Rindt.
Dunn Center	Dunn	2,191	32	25.6	+0.1	57	21	-14	6	43	1.06	+0.14	0.49	6.0	4	7	10	14	nw	W. F. Moede.
Dunseith	Rolette	1,682	35	18.8	-1.4	46	23	-14	26	35	0.51	-0.15	0.15	5.1	6	11	10	10	ne.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	23.5	+0.6	50	22†	-17	15	45	0.41	-0.07	0.20	4.5	5	5	12	14	se.	C. E. Strock.
Edgeley	LaMoure	1,568	30	27.2	-0.1	52	20†	-1	26	42	0.92	+0.26	0.71	2.0	2	8	10	13	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	26.5	+0.9	54	22	2	26	33	1.27	+0.44	0.87	4.3	6	7	7	17	ne.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	19	26.5	...	52	21	-5	27	40	1.23	+0.73	0.75	3.5	4	8	15	8	nw.	H. S. Solenberger.
Epping	Williams	2,224	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. O. Wang.
Fairfield	Billings	...	2	...	...	...	...	...	...	...	1.10	...	0.25	8.5	7	13	6	12	se.	F. R. Hecker.
Fessenden	Wells	1,610	19	25.0	+1.6	...	...	...	...	...	0.70	0.00	...	...	...	...	...	...	...	T. D. Monsen.
Forman	Sargent	1,249	38	...	...	...	...	...	...	...	1.37	+0.57	1.20	2.0	3	10	10	11	se.	E. W. Bowen.
Fort Yates	Sioux	1,670	31	29.2	+2.9	55	16	-4	26	37	1.21	+0.27	0.95	3.0	2	12	7	12	...	P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	24.3	...	51	24	13	26	44	1.20	+0.53	0.50	7.5	5	5	13	13	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13	...	...	...	...	...	...	...	0.60	-0.12	0.30	6.0	3	10	13	8	nw.	Verne King.
Fullerton	Dickey	1,439	33	27.6	+0.8	53	20†	1	26	34	1.97	+0.79	1.25	8.0	4	9	10	12	nw.	F. O. Alin.
Garrison	McLean	1,901	54	26.4	+2.6	54	24	8	26	38	1.24	+0.31	0.72	5.0	4	15	7	9	se.	W. F. Robinson.
Grafton	Walsh	827	39	24.3	+3.1	46	22	-8	27	36	1.38	+0.72	0.48	2.0	5	17	1	13	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	40	26.0	+3.6	47	31	0	15†	27	1.04	+0.31	0.54	3.4	9	15	9	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	25.2	+1.1	52	22	-12	27	44	0.50	+0.02	[illegible]	7.0	5	14	7	10	nw.	W. A. Christianson.
Hankinson	Richland	1,068	2	31.4	...	62	19	6	13	39	1.40	...	0.60	4.0	3	18	4	9	nw.	R. G. Stock.
Hannah	Cavalier	1,568	39	...	...	...	...	...	...	...	0.78	+0.12	0.44	6.5	4	...	...	...	...	James Meier.
Hansboro	Towner	1,597	23	18.5	-2.1	45	25†	-17	15†	39	0.50	-0.22	0.15	9.0	4	19	7	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	24	28.6	0.0	58	21	-8	26	35	1.12	+0.44	0.29	5.3	8	11	10	10	nw.	C. H. Plath.
Hillsboro	Traill	901	25	26.0	+0.4	45	22†	0	27	30	0.78	+0.11	0.58	...	3	11	8	12	n.	G. Havland.
Howard‡‡ (near)	Williams	2,275	24	23.9	+2.0	54	31	-14	27	36	0.10	-0.92	0.10	1.0	1	8	13	10	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	25.8	+1.8	48	16†	-4	26	36	0.99	+0.08	0.82	1.7	3	10	7	14	ne.	S. Calvelage.
Langdon	Cavalier	1,615	35	18.7	-0.9	42	20†	-15	15	38	1.14	+0.33	0.50	8.0	4	16	11	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	24.3	+2.0	46	22†	-8	27	30	1.30	+0.54	0.75	5.5	5	13	3	15	n.	Reuben Gray.
Linton	Emmons	1,711	14	27.6	-0.1	52	16†	-4	26	33	1.18	+0.70	0.96	2.0	3	11	10	10	se.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	27.8	+0.7	57	21	3	27	33	0.90	+0.38	0.35	2.0	6	7	10	14	...	N. S. Lindstrom.
McClusky	Sheridan	1,943	13	26.1	...	51	25	-10	26	41	1.04	+0.30	0.46	2.0	3	10	8	13	nw.	Edw. Tapley.
McLeod	Ransom	1,075	20	29.4	+1.7	55	20	5	14†	31	1.15	+0.61	0.87	0.6	4	16	4	11	n.	J. G. Carlson.
Maddock	Benson	1,604	16	24.3	-0.3	47	27	9	26	37	0.75	+0.36	0.48	...	5	10	6	15	ne.	A. T. Felland.
Mandan	Morton	1,750	17	25.8	-0.9	50	16†	-8	26	33	1.42	+0.91	0.98	6.5	7	6	6	19	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28	...	...	...	...	...	...	...	1.09	+0.34	0.44	4.0	8	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	22	30.4	+2.7	61	21	-6	26	35	0.76	+0.18	0.22	5.4	10	10	7	14	nw.	S. P. Grane.
Mary	McKenzie	...	2	...	...	...	...	...	...	...	0.66	...	0.30	10.5	4	12	8	11	sw.	Fred Hartman.
Max	McLean	2,093	2	25.8	...	54	16†	-12	26†	50	1.15	...	1.00	1.5	3	10	3	18	ne.	A. W. Rice.
Mayville	Traill	975	35	24.8	+0.3	50	23	-3	27	32	0.79	-0.13	0.52	0.7	3	13	0	18	n.	H. B. Addicott.
Minot	Ward	1,557	35	26.5	+3.7	52	24	-9	26	45	0.40	-0.29	0.20	4.7	6	13	3	15	nw.	Julia B. Rue.
Mohall	Renville	1,646	37	25.0	+4.1	53	31	-10	26	41	0.36	-0.32	0.34	2.4	2	0	25	6	ne.	E. H. Wolsey.
Mott	Hettinger	2,424	24	28.4	+1.5	50	24	-10	25	40	1.38	+0.46	0.96	3.5	4	9	5	17	se.	O. H. Opland.
Napoleon	Logan	1,955	39	25.2	+2.5	51	16	-6	26	37	1.57	+0.74	1.00	9.2	5	13	6	12	se.	C. J. Hoof.
New England	Hettinger	2,400	37	27.6	+2.4	57	21	-10	7	42	1.72	+0.93	0.82	9.0	4	7	12	12	nw.	F. S. Sleight.
New Salem	Morton	2,163	27	26.8	+0.9	57	16	-10	26	36	1.24	+0.41	0.47	5.3	6	8	10	13	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	28.8	...	56	22	3	27	35	0.97	...	0.83	1.0	6	9	10	12	ne.	Eugene Naylor.
Park River	Walsh	998	27	23.7	+0.6	45	10†	7	26	31	0.85	+0.22	0.58	7.0	3	14	4	13	nw	C. B. Wright.
Parshall (near)	Mountrail	...	16	...	...	...	...	...	...	...	0.57	+0.35	[illegible]	2.8	7	7	16	8	se.	C. E. Shubert.
Pembina	Pembina	789	57	18.2	0.0	40	19†	-10	15	27	0.70	-0.17	0.40	7.0	2	12	10	9	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	...	...	...	...	...	...	...	0.09	...	0.04	0.9	3	18	1	12	...	Chas. Ouradnik.
Pettibone	Kidder	1,856	22	24.4	+0.1	46	22	-7	26	31	1.45	+0.90	0.55	6.0	4	10	1	20	ne.	A. L. Carlson.
Portal	Burke	1,954	26	23.4	+5.7	63	31	-14	25	48	0.30	-0.34	0.20	3.0	3	21	1	9	n.	C. T. Holmes.
Power‡‡	Richland	1,020	37	...	...	...	...	...	...	...	0.42	-0.28	0.20	3.0	3	13	9	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	26	26.8	...	51	31	-9	25	42	0.74	-0.08	0.31	10.7	5	21	6	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	25.4	-1.7	54	21	-13	26	36	1.36	+0.83	0.47	2.7	5	5	11	15	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	...	...	...	...	...	...	...	0.62	...	0.20	3.5	5	9	6	16	ne	E. C. Erickson.
Ryder	Ward	2,108	2	...	...	...	...	...	...	...	0.57	...	0.35	2.4	6	...	...	...	...	E. M. Lomen.
Sanish	Mountrail	1,835	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. W. Monson.
Sharon	Steele	1,516	7	25.0	...	45	22	-5	26	28	0.98	...	0.61	3.9	7	14	4	13	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7	...	...	...	...	...	...	...	1.02	...	0.98	4.0	2	7	14	10	se.	J. H. Giffey.
Steele	Kidder	1,857	37	25.2	+1.9	50	16	-6	26	50	1.18	+0.37	0.90	5.0	6	15	0	16	s.	V. A. Lanes.
Stowers‡‡	Adams	2,325	16	...	...	...	...	...	...	...	1.17	+0.38	0.80	6.0	4	1	18	12	...	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	...	...	...	...	...	...	...	0.08	...	0.03	...	5	12	8	11	se.	J. C. Abbott.
Tioga	Williams	2,279	2	...	...	...	...	...	...	...	0.50	...	0.20	5.0	4	5	7	19	nw.	Anton Carlson.
Towner	McHenry	1,482	29	19.5	-2.6	51	22†	-24	26	55	0.85	+0.12	0.30	6.5	6	13	6	12	nw.	Karl Weber.
Trotters	Golden Valley	...	5	...	...	...	...	...	...	...	1.03	...	0.28	12.5	7	9	10	12	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. T. Kusler.
Tuttle	Kidder	1,936	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Valley City	Barnes	1,245	25	27.8	+1.8	53	22	-1	26	31	1.01	+0.49	0.79	6.0	4	10	7	14	e.	I. C. Robertson.
Velva	McHenry	1,511	4	26.2	...	53	24	-10	26	47	0.84	...	0.48	4.5	7	9	9	13	nw.	Oscar Anderson.
Verona	LaMoure	1,387	3	...	...	...	...	...	...	...	0.62	...	0.40	2.2	2	16	3	12	ne.	W. C. Taylor.
Wahpeton	Richland	962	39	30.6	+3.1	60	20	5	14	36	0.98	+0.20	0.75	2.0	4	21	0	10	nw.	C. G. Luick.
Washburn	McLean	1,731	30	27.4	+3.0	52	16†	-10	26	33	1.12	+0.60	0.65	4.5	4	9	9	13	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	25.2	+3.2	49	24	-10	27	38	0.07	0.39	0.04	0.7	2	17	6	8	nw.	W. A. Meddaugh.
Williston	Williams	1,878	52	25.7	+2.8	60	31	-7	26	43	1.06	+0.37	0.46	10.9	6	9	10	12	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	24.2	+4.5	50	22	-10	26	38	0.89	+0.16	0.40	8.0	5	13	8	10	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	24.6	-1.7	52	20	-3	26†	47	0.48	-0.21	0.40	0.6	4	9	9	13	ne.	E. W. Davis.
Zap	Mercer	1,838	16	...	...	...	...	...	...	...	0.83	+0.20	0.68	0.5	3	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	50	27.7	+5.0	48	20	2	15	29	0.81	-0.20	0.43	4.6	7	4	8	19	n.	U. S. Weather Bureau.
Averages	...	...	...	25.7	+1.6	63	31	-24	26	55	0.91	+0.24	1.25	4.8	5	11	8	12	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing: for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for March, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri				.09								T				.02		.02		.06		.38					.06				T.	0.63
Amenia ‖	Red																	T.			.02			.57			.02						0.61
Amidon	Lit. Missouri				.30																	.30				.10	.20						0.90
Arnegard (near)	Missouri				.55							.10	.15							.02			T.			.10	.35					T.	1.27
Ashley	Missouri																			T.	.02			.50			.08	.04					0.64
Beach	Lit. Missouri				.18	.02		T.					T	T.	.04		.02			T.	.01		.40			T.	.08	.06	.02				0.83
Berthold Agency	Missouri				.02			T				T	.02		T				T.				.37			T.	.26						0.67
Bismarck ***	Missouri		T		.09			.01					T.		T		T.			.05	T		.97	T.		.06	.08	T					1.26
Bottineau ‖	Mouse		T.	T.				T.				T	.18	T	T.	T.		T.		.06	.04					T.	.03						0.31
Bowman	Grand				.60	.30		T.				T						.02		.10	.09	.02	.60	.16		T.	.30	.09	.05				2.33
Cando	Devils Lake											T.	.20	.09			.68				.11	.06				T.	.36						1.50
Carrington	James												T.							T.			.75	.25		T.							1.00
Carson	Heart				.10															.15			.50	.45		.05	.45						1.70
Cavalier	Red											.02	.25	.30	.02			.02			.18			.16									0.95
Cooperstown	Sheyenne																																
Corinth	Missouri				.10						.10		.10														.10						0.70
Courtenay	James																						.80										0.80
Crosby ‖	Mouse				.02	.02					.02	.02	.20			.08		.02					.25		.25	.04			.02	.05		T.	0.99
Devils Lake ***	Devils Lake		.08					T.				.03	.03	.01	T.			.02		.10			.72	.02		.02	.07					T.	1.10
Dickinson ‖	Heart	T.				.21			.01			T.	T.	T.				T.		.06	.02	T.	.01	.47	.02		.22	.02	.04	T			1.08
Dogden Butte	Mouse			T								T.	.11					.10		.08			.75	.17		T.	.17						1.38
Drake ‖	Mouse		.02									.03	.03				.06			.03			.82			.12							1.11
Dunn Center ‖	Knife				.10	.06						T.							T	T.			.49	T		T.	.41						1.06
Dunseith	Mouse			T.					.03			T.	.10	.15							.15					.02	.06						0.51
Eckman	Mouse											.02	.20		.01					.16						T.	.02						0.41
Edgeley	James																							.71			.21						0.92
Ellendale***	James		T.			T.		T					T.		T.			T.	T.	.11	.02		.26	.61			.25	.02					1.27
Energy	Missouri				.08			T.				T.								.20			.75			T.	.20						1.23
Epping	Missouri																																
Fairfield	Knife				.20	.10						.10								.05			.25				.20		.20				1.10
Fessenden ‖	James																																0.70
Forman	Sheyenne												T.					T.			.06			1.20			.11	T.					1.37
Fort Yates	Missouri		T		T.																		.95				.26						1.21
Foxholm (near)	Mouse		T.		T.			T.				.05	.50	T.	.12		T.			.16						T.	.37						1.20
Fryburg	Heart				.20	.30						T.	T.															.10					0.60
Fullerton	James		T.										T.						T.	T.	.22			1.25			.20	.30					1.97
Garrison	Missouri		T.		T.			T.				T.	T.							.20	.02		.72		T.	T	.30						1.24
Grafton	Red											T.	.18	.32	.10					T.			T.	.48		T.		.30					1.38
Grand Forks ***	Red							T.	T.			T.	.16	.19	.02					.03	.03		.18	.36		.01	.06						1.04
Granville	Mouse		T.					T.			T.	T.	.20						T.	.09	.09		.07			T.	.05						0.50
Hankinson ‖	Red																						.60	.60			.20						1.40
Hannah	Pembina	T.									T.	T	.44	T.				.06			.13			T.		T.	.15						0.78
Hansboro	Devils Lake		.15										.15	.10						T.						.10							0.50
Hettinger	Grand				.02	.10														.27	.06		.20	.29			.16	.02					1.12
Hillsboro	Red													.14							.06			.58									0.78
Howard (near)	Missouri				T			T.			T.	T.	T.							T.				T.		.10	T.		T.			T.	0.10
Jamestown ‖	James												T.							.02				.82				.15					0.99
Langdon ‖	Pembina													.50			.30							.06	.28		T						1.14
Larimore ‖	Red												.05	.10										.75		.05	.35						1.30
Linton	Missouri		T.																	T	.02		T.	.96			.20						1.18
Lisbon ‖	Sheyenne													.03							.06			.35	.26		.05	.15					0.90
McClusky	Missouri		T.									T.	T.							.20	T.		.38	.46		T.							1.04
McLeod	Sheyenne			T.										T							.21	.01		.87			.06						1.15
Maddock	Sheyenne		T.									T.	.06		T.					T.	.04		.15	.48			.02						0.75
Mandan ‖	Missouri		T.	T.	T.	.15		T.	T.									T.		T.	.11			.98	.03	.02	.30	.03					1.62
Manfred	James		.06					T.			.02	.05								.02	.03		.44	.35		T.	.12						1.09
Marmarth	Lit. Missouri				.11	.05		.04												.01	.01		.22	.09			.14	.08	.01				0.76
Mary	Lit. Missouri				.09							.09	T.							T.			.30			.18							0.66
Max ‖	Missouri											T	.10		T.					.05				1.00	T.		T.						1.15
Mayville	Red																				.02			.52	.05								0.59
Minot ‖	Mouse		.01									.01	.20							.05			.03				.10						0.40
Mohall	Mouse										T.	T.	.34											T.			.02						0.36
Mott	Cannon Ball				.12															.04			.96			.26							1.38
Napoleon ‖	Missouri								.02												.05			1.00			.30	.20					1.57
New England	Cannon Ball				.40														.20				.82				.30						1.72
New Salem	Heart				.10			T.					T.							.08	T.		.47	.29		.02	.28						1.24
Oakes	James																			.02	.05	.01		.83			.05	.01					0.97
Park River	Red											T.		.18										.58			.09						0.85
Parshall (near)	Missouri				.08							.05	.05							.05			.30		.02	.02							0.57
Pembina ‖	Red													.30													.40						0.70
Petersburg	Red											.02	.04										.03										0.09
Pettibone	James		.20					T.	T.														.55	.30		T.	.40						1.45
Portal ‖	Mouse				.20								.05													.05							0.30
Power	Sheyenne																							.12			.20	.10					0.42
Powers Lake	Missouri			.31				.07												.12						.17	.07						0.74
Richardton	Heart				.20															.16			.47	.46		T.	.07						1.36
Rugby [near]	Mouse		T.					T.				.15					.10			.10			.07			.20							0.62
Ryder	Missouri							.02			.02		.10							.02			.36			.05							0.57
Sanish ‖	Missouri																																
Sharon	Red		T.									T.	.01	.08				T		.01	.02		.12	.61		T.	.13	T.					0.98
Stanton	Missouri				T.															T.			.98				.04						1.02
Steele	Missouri		T						.02					T					T	.02	.05		.10	.90			.09						1.18
Stowers	Cannon Ball				T	.02																	.30	.80			T.	.05					1.17
Tagus	Mouse				.01			.03				.01	.01													.02							0.08
Tioga	Missouri				T.			.10				.10	.20														.10						0.50
Towner	Mouse							T.				.05	.30		T	.10			.10	T.			.10			T.	.20						0.85
Trotters	Lit. Missouri				.28	.12						.20									.06		.15				.14		.08				1.03
Turtle Lake	Missouri																																
Tuttle																																	
Valley City	Sheyenne		T											.03							.11			.79			.08						1.01
Velva	Mouse		T.					T.				.03	.15		T			.02		.06	T.		.48	.01		T.	.09						0.84
Verona	James																				.40			.22									0.62
Wahpeton	Red																				.01			.75	.20		.02						0.98
Washburn	Missouri		T.		T.															.05			.65	.02	T.	T.	.40						1.12
Westhope	Mouse												.02							.04													0.07
Williston ***	Missouri				.40			T			.02	.18	.37							T.	.05		T.	T.		.01			T.			T	1.06
Willow City	Mouse		T.					T.				.10	.30					T.		.05	.04		T.				.40						0.89
Wishek ‖	Missouri																			.01				.40	.02		.02						0.48
Zap	Knife																			.10			.68					.05					0.83
Moorhead, Minn ***	Red								T.	T.			.01	.01	T.			.02	T.	T.	.01			.43		T.	.30	.03					0.81

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T, Trace or less than 0.01 inch.

Daily Temperatures for March, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	38	36	35	36	37	38	40	32	39	49	48	45	45	38	36	42	48	44	45	46	45	51	48	40	39	37	30	29	36	49	50	41.0
	Minimum	14	15	15	12	9	10	10	15	8	18	20	14	22	8	0	13	32	29	22	32	31	27	32	24	28	2	2	0	13	16	20	16.5
Arnegard	Maximum	47	45	46	33	31	27	20	24	39	45	26	18	25	22	39	42	45	59	46	39	57	49	48	55	40	3	14	24	32	37	48	36.3
	Minimum	13	24	29	23	10	-7	10	3	14	13	7	14	0	2	-2	24	26	31	31	31	23	39	30	28	2	-9	-3	8	6	11	28	14.8
Ashley	Maximum	36	38	34	31	26	34	33	30	35	44	43	34	37	35	35	50	48	44	38	52	45	50	44	44	44	24	18	25	31	36	43	37.5
	Minimum	9	15	15	16	16	6	12	16	11	16	23	13	18	21	5	19	30	24	23	30	31	27	31	26	24	-3	-2	3	8	15	22	16.8
Beach	Maximum	46	43	41	36	28	26	27	33	42	48	29	28	28	25	49	50	49	50	50	50	58	49	46	49	41	9	9	20	30	38	51	38.0
	Minimum	20	25	23	22	17	-2	9	4	16	23	11	15	15	15	14	30	26	25	30	33	28	40	32	26	9	-8	-3	3	5	12	28	17.5
Berthold Agency	Maximum	33	48	39	40	28	30	30	35	40	47	44	15	25	25	40	50	50	40	40	42	50	50	56	55	38	15	15	36	32	40	52	38.1
	Minimum	15	35	21	22	14	-4	10	5	20	10	10	8	4	12	0	25	15	22	22	32	32	35	32	28	7	-8	4	7	4	12	28	15.2
Bismarck	Maximum	39	42	35	32	27	29	31	33	39	46	37	24	32	30	39	50	46	40	35	40	50	48	47	50	39	3	16	26	33	37	46	36.2
	Minimum	19	25	25	25	14	6	12	16	20	22	15	14	14	16	9	24	27	20	28	32	33	34	33	29	2	-7	-3	5	11	19	24	18.2
Bottineau §§	Maximum	37	38	34	32	38	32	34	32	36	45	35	17	32	25	28	36	39	38	37	38	40	42	47	43	49	4	16	28	36	37	49	34.6
	Minimum	12	23	11	15	17	5	7	12	21	17	10	7	11	10	-3	18	20	18	17	31	29	30	31	20	4	-12	-7	3	10	16	22	13.7
Cando	Maximum	36	38	35	31	34	34	35	35	39	47	43	20	28	25	36	41	41	36	36	38	36	44	47	41	24	9	16	30	39	45	48	35.1
	Minimum	16	10	11	7	10	7	9	8	6	5	10	8	18	11	18	20	21	10	24	22	29	31	29	14	8	-10	-5	3	11	23	31	13.4
Carrington	Maximum	34	33	32	31	34	35	33	32	43	20	32	25	25	31	46	35	33	37	40	38	46	43	46	25	5	18	26	33	38	45	52	33.7
	Minimum	13	14	13	14	12	11	13	14	16	19	11	13	15	1	1	19	20	22	25	31	29	30	25	25	-5	-7	-1	-1	13	24	25	14.6
Crosby §§	Maximum	29	32	34	36	34	22	22	28	32	23	15	15	21	24	34	35	36	38	38	39	50	42	39	45	45	2	10	21	22	25	37	29.8
	Minimum	12	26	18	26	16	3	16	18	21	14	4	8	2	3	-2	2	16	22	30	31	31	37	26	34	2	-11	-5	-10	-5	9	12	13.1
Devils Lake	Maximum	36	32	29	32	30	35	35	30	35	44	36	32	32	21	24	43	36	36	38	33	35	47	43	44	34	2	15	24	32	38	44	33.3
	Minimum	16	15	10	11	12	12	13	7	18	20	9	9	20	4	-1	18	19	19	27	33	30	30	31	24	-2	-8	-4	5	12	16	25	14.5
Dickinson §§	Maximum	38	40	37	33	21	24	28	32	36	45	17	19	27	25	45	50	46	49	47	49	57	48	46	50	41	-1	9	21	29	34	50	35.2
	Minimum	15	14	24	24	15	-11	4	2	4	14	12	12	10	15	11	11	30	22	28	29	28	30	32	29	28	9	8	3	6	12	21	14.4
Dunn Center §§	Maximum	41	44	41	34	24	29	29	37	35	43	32	17	26	24	43	49	44	49	49	44	57	47	47	52	40	8	11	22	31	37	55	36.8
	Minimum	15	22	22	24	9	-14	9	-2	15	9	10	10	4	16	2	25	31	22	28	28	27	31	33	27	6	-10	-5	7	2	9	24	14.3
Dunseith	Maximum	30	34	34	27	26	20	18	18	22	22	15	12	18	18	12	19	37	33	34	34	36	34	46	44	44	10	-1	12	24	34	37	26.0
	Minimum	16	19	12	13	10	8	8	4	5	17	9	5	7	11	-3	9	20	17	22	26	28	28	31	18	9	-14	13	-5	6	13	20	11.5
Edgeley	Maximum	34	38	34	28	27	33	36	31	34	40	36	37	35	36	32	36	46	37	39	52	37	52	50	48	49	41	29	37	34	39	45	38.1
	Minimum	6	13	15	7	8	4	11	16	10	13	21	13	22	22	3	15	33	27	22	22	28	27	31	35	31	1	0	6	12	18	12	16.2
Ellendale	Maximum	31	37	29	27	26	33	35	29	36	42	33	37	39	28	30	50	42	32	40	54	38	54	40	41	40	19	19	26	34	39	45	35,6
	Minimum	10	13	16	9	13	8	12	16	8	19	15	15	24	15	7	17	29	25	24	31	29	29	33	28	19	2	3	9	14	22	24	17.4
Fessenden §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Foxholm (near)	Maximum	44	41	36	31	29	33	33	36	42	47	45	15	25	24	28	43	40	41	38	38	48	48	49	51	47	6	13	22	31	38	50	35.9
	Minimum	9	22	17	17	8	5	12	4	18	13	5	5	5	12	-6	21	17	18	25	30	39	34	2	22	3	-13	-12	3	9	14	21	12.7
Fullerton	Maximum	32	36	33	28	27	31	33	31	36	41	32	37	38	29	36	49	42	33	41	53	38	53	49	41	37	30	20	33	32	38	46	36.6
	Minimum	11	14	17	11	17	9	13	16	10	18	18	15	24	21	7	15	32	28	25	32	32	29	32	28	30	1	2	10	16	21	24	18.6
Garrison	Maximum	33	42	39	36	31	31	32	38	39	45	39	17	26	24	39	50	48	42	43	37	51	47	47	53	45	10	14	24	32	37	48	36.8
	Minimum	15	28	21	23	14	1	13	2	20	14	10	10	6	18	1	23	2	[illegible]	26	24	32	35	34	28	10	-8	-5	2	10	12	24	16.0
Grafton	Maximum	32	36	30	30	31	37	37	32	35	44	42	33	36	33	18	38	37	38	40	40	40	46	42	37	34	12	17	26	34	40	45	34.5
	Minimum	6	16	14	10	4	4	15	2	14	25	6	8	29	14	0	10	28	23	18	22	27	29	33	21	10	-6	-8	2	12	21	27	14.1
Grand Forks	Maximum	33	36	31	31	32	36	38	26	37	46	34	39	42	29	20	41	39	36	[illegible]	40	33	46	38	35	32	18	19	25	34	42	47	34.7
	Minimum	16	20	16	9	11	12	15	9	13	24	14	14	28	6	0	14	30	26	30	32	28	29	32	27	17	0	0	6	12	18	26	17.2
Granville	Maximum	43	38	35	34	34	35	34	40	48	37	30	20	25	33	27	40	38	40	35	40	47	52	47	50	40	30	15	25	34	45	42	36.5
	Minimum	10	22	18	15	12	7	10	9	14	10	12	10	12	11	15	20	20	18	29	30	32	34	28	22	10	10	-12	-4	8	15	28	14.0
Hansboro	Maximum	32	32	30	30	30	30	30	32	35	40	35	26	25	22	22	35	37	35	35	37	40	40	45	45	37	0	13	25	35	38	43	31.9
	Minimum	4	10	4	-4	2	2	2	-6	0	15	3	2	7	5	-17	10	0	10	14	28	22	22	27	17	-2	-17	-13	-7	0	10	20	5.1
Hettinger §§	Maximum	46	44	41	36	29	24	28	31	37	50	40	25	37	28	46	53	46	50	42	50	58	51	45	49	51	24	8	20	28	33	49	38.7
	Minimum	17	24	25	26	18	6	5	3	15	15	16	15	17	19	12	24	31	21	27	34	33	38	31	29	23	-8	-6	7	9	15	28	18.5
Hillsboro	Maximum	38	36	26	30	31	35	35	33	35	44	44	43	43	30	24	39	39	36	36	42	42	45	45	35	35	25	19	25	28	38	45	35.5
	Minimum	14	15	14	8	14	8	8	12	9	18	18	13	28	14	1	12	31	26	28	30	30	25	31	22	25	1	0	5	11	15	21	16.4
Howard (near)	Maximum	45	38	43	35	20	27	21	31	37	41	31	15	23	24	33	40	34	44	46	37	50	46	44	50	38	2	15	27	33	41	54	34.4
	Minimum	15	15	16	14	7	10	10	-3	16	19	3	3	10	10	-3	25	22	26	29	29	28	29	29	26	2	-10	-14	8	8	11	25	13.4
Jamestown §§	Maximum	34	35	31	30	28	34	32	31	33	42	37	38	34	25	32	48	43	33	38	42	37	48	42	45	41	21	19	26	35	39	40	35.3
	Minimum	8	19	13	11	16	17	10	14	13	17	15	12	19	18	3	12	28	25	23	29	31	28	31	26	16	-4	1	5	13	17	25	16.4
Langdon §§	Maximum	33	32	32	29	30	35	35	30	36	38	15	30	33	32	22	38	30	38	36	42	36	40	39	36	18	12	10	23	31	40	42	31.4
	Minimum	-5	0	0	-5	1	0	4	0	0	9	9	5	9	8	-15	7	16	4	4	16	28	24	30	18	12	-12	-11	-7	8	12	18	6.0
Larimore §§	Maximum	38	37	29	32	30	40	37	30	35	45	25	35	32	25	21	40	37	43	41	44	45	46	36	38	25	10	15	27	32	41	46	34.1
	Minimum	15	18	14	7	7	10	20	10	8	20	10	18	15	5	0	10	21	25	25	31	30	27	29	19	10	-6	-8	0	15	17	25	14.5
Linton	Maximum	38	41	36	31	28	31	33	34	37	48	41	30	36	31	38	52	48	40	36	52	49	47	47	48	46	29	17	26	32	36	44	38.1
	Minimum	14	23	20	21	17	5	10	14	12	21	21	14	15	22	5	23	27	18	25	30	31	36	31	25	17	-4	-2	0	8	14	20	17.0
Lisbon §§	Maximum	35	36	37	32	33	32	35	37	33	36	46	32	43	37	25	33	48	45	35	44	57	41	54	36	41	37	7	20	26	35	40	36.4
	Minimum	10	14	17	9	19	9	14	16	11	20	26	16	25	22	6	18	32	[illegible]	25	33	32	28	33	26	33	4	3	5	14	18	26	19.1
McClusky	Maximum	38	38	32	33	29	31	31	36	37	45	41	23	24	24	38	48	41	39	35	35	47	48	43	48	51	10	15	25	33	39	44	35.5
	Minimum	15	19	18	17	12	4	18	15	27	27	11	12	16	16	16	25	17	10	25	29	31	32	30	32	10	-10	-7	0	9	15	28	16.7
Maddock	Maximum	35	33	34	34	29	33	31	32	34	42	40	26	27	29	32	44	47	39	41	38	40	45	42	44	43	20	16	23	31	29	44	34.7
	Minimum	9	17	12	9	10	8	9	11	14	17	10	17	14	14	-5	16	27	15	21	31	30	28	30	23	11	-9	-7	2	11	13	24	13.9
Marmarth	Maximum	49	44	43	39	30	28	31	36	47	55	47	38	44	33	51	55	48	54	54	57	61	50	45	55	47	15	7	20	32	36	53	42.1
	Minimum	20	30	20	30	19	-2	13	4	20	25	13	17	22	24	18	28	28	2	32	24	26	38	34	27	15	-6	-3	3	-1	13	25	18.6
Minot §§	Maximum	45	43	38	35	32	37	35	40	42	49	46	16	26	25	37	43	41	45	42	38	50	49	48	52	50	16	15	25	34	40	48	37.9
	Minimum	12	20	22	24	12	3	12	12	22	14	8	8	7	15	-8	24	23	18	26	30	32	35	33	24	10	-9	-8	2	9	12	23	15.1
Mohall	Maximum	40	39	40	40	30	20	30	36	37	40	20	16	22	23	24	38	40	38	36	40	41	48	46	44	45	31	10	34	33	37	53	34.6
	Minimum	19	20	19	20	11	2	12	21	22	14	5	5	7	15	12	16	23	18	21	27	29	34	30	22	24	-10	-8	2	10	12	24	15.4
Mott	Maximum	40	43	37	35	26	30	34	38	40	45	26	23	34	38	40	48	44	43	38	41	41	48	46	50	30	11	15	27	32	38	49	36.5
	Minimum	27	24	26	18	5	15	20	21	24	17	15	14	21	20	26	31	22	30	32	32	33	35	27	30	-10	-6	4	8	18	23	30	20.4
Napoleon §§	Maximum	39	37	32	31	25	32	32	31	35	45	24	32	35	27	37	51	44	31	38	50	47	49	40	45	35	3	16	25	32	40	45	35.0
	Minimum	2	15	14	15	15	3	7	11	11	15	20	11	14	19	3	19	28	26	24	30	30	30	31	25	27	-6	-5	-1	4	14	22	15.3
New Salem	Maximum	39	41	40	30	26	30	30	30	32	35	22	29	30	31	29	57	46	45	35	16	52	46	47	50	38	15	10	19	37	45	45	35.7
	Minimum	14	25	24	25	14	2	25	7	19	15	15	11	18	11	17	21	28	17	26	32	30	33	32	32	10	-10	-7	6	16	25	22	17.9
Oakes	Maximum	41	39	34	30	29	36	37	32	37	46	37	39	43	33	32	54	45	36	43	55	40	56	48	44	41	30	20	28	34	42	47	39.0
	Minimum	8	13	17	6	18	9	9	17	8	20	23	16	24	24	6	19	33	29	25	32	32	27	32	28	29	5	3	10	14	19	24	18.7
Pembina §§	Maximum	28	34	25	20	20	18	25	10	15	25	25	25	30	12	17	20	25	32	40	40	30	38	40	35	25	10	15	25	22	30	34	25.5
	Minimum	8	20	10	4	8	6	10	6	8	12	10	8	5	10	-10	5	6	12	25	35	15	20	18	18	10	5	5	6	5	10	18	10.9
Sharon	Maximum	35	36	30	30	29	36	37	30	34	42	35	38	35	27	26	40	40	37	41	44	34	45	39	40	36	9	14	24	32	39	43	34.1
	Minimum	15	18	14	11	15	11	11	9	13	18	11	10	22	11	1	14	29	27	28	32	30	28	31	22	9	-5	-2	4	11	17	26	15.8
Steele	Maximum	34	36	32	30	26	32	31	34	35	43	31	30	32	26	37	50	47	38	38	42	46	48	44	47	34	21	16	24	31	42	45	35.5
	Minimum	12	17	19	20	16	4	10	15	18	19	17	11	10	10	3	0	25	20	32	30	29	28	26	27	20	-6	-4	1	2	17	10	14.8
Towner	Maximum	44	35	36	34	34	36	36	37	38	49	44	19	26	25	32	42	40	40	40	39	44	51	49	51	50	11	20	27	33	40	46	37.0
	Minimum	-1	8	0	4	-2	7	-4	3	8	4	-1	-5	0	2	-22	7	7	6	15	19	18	20	18	10	-5	-24	22	-16	-4	5	11	2.0
Valley City	Maximum	33	35	32	31	31	34	35	32	34	44	43	41	40	29	30	48	48	35	42	43	42	53	52	42	41	24	19	27	32	40	47	37.4
	Minimum	11	16	16	16	17	9	12	13	12	20	19	12	21	17	3	17	30	28	29	31	30	28	30	36	24	-1	1	8	14	17	25	18.1
Wahpeton	Maximum	38	38	35	32	34	37	39	39	37	45	46	45	45	32	46	46	52	48	49	60	53	50	46	39	48	45	25	30	39	46	48	42.3
	Minimum	12	10	15	6	17	9	14	16	9	14	27	22	22	5	15	14	34	30	26	27	32	29	34	25	29	12	10	11	14	19	29	19.0
Westhope	Maximum	43	40	36	37	38	38	38	38	42	47	42	27	23	26	27	36	38	39	34	39	42	42	48	49	38	16	26	30	37	32	48	36.6
	Minimum	10	18	17	15	17	10	9	2	22	14	9	9	9	9	-8	22	15	19	26	27	30	33	29	20	0	10	-10	-3	10	20	22	13.9
Williston	Maximum	47	45	42	34	24	28	29	34	39	44	16	16	24	22	41	41	35	49	48	41	57	49	48	53	36	6	13	23	32	40	60	36.0
	Minimum	18	16	22	23	4	-6	16	1	20	12	7	9	0	4	-2	28	24	28	32	30	27	36	31	31	-1	-7	0	10	10	15	28	15.4
Moorhead, Minn	Maximum	34	37	31	33	35	35	37	30	38	44	35	45	42	30	28	43	46	35	41	48	35	47	39	36	43	21	21	29	36	44	47	36.9
	Minimum	15	18	15	12	14	12	16	15	12	23	18	18	29	9	2	14	30	30	26	32	31	26	33	24	21	7	6	9	12	18	27	18.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing. ᵇ 2 days, etc.

[W B O, Minneapolis, 5-8-31-1000]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

THE
JUL
UNIVERSITY

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX BISMARCK, N. D., APRIL, 1931 No. 4

GENERAL SUMMARY

The month of April was warm and unusually dry. The precipitation averaged 0.43 inch, making it the second driest April since statewide records began in 1892. April, 1926 with 0.28 inch was the driest. Only two precipitation periods, from the 1st to the 3d and from the 14th to the 21st, occurred during the month. A few stations in the southeastern part of the state reported amounts slightly above normal, but in many other sections particularly in the Red River valley and in the Missouri valley the precipitation averaged more than an inch below normal. The temperature averaged above the normal, but cold periods occurred from the 2d to the 4th, and from the 19th to the 27th. April was a good month for outdoor activities and farm work made favorable progress, but the ground was too dry in most sections, particularly in the western half of the state. High winds caused dust storms on many days and some reseeding was necessary on sandy soil.

TEMPERATURE

The mean temperature for the state was 44.1°, or 2.5° above the normal, and 3.2° lower than the mean for April, 1930. The highest mean reported was 49.8° at Hankinson, Richland County; the lowest was 37.7° at Hansboro, Towner County. The highest temperature reported was 87° at Max, McLean County on the 18th; the lowest was 3° at Hansboro, Towner County on the 3d. The greatest monthly range of temperature was 79° at Eckman, Bottineau County; the least was 61° at Pembina, Pembina County. The greatest daily range in temperature was 64° at Wishek, McIntosh County on the 6th.

PRECIPITATION

The average precipitation for the state was 0.43 inch, or 0.96 inch below the normal, and 0.82 inch less than the average for April, 1930. The greatest monthly amount reported was 2.38 inches at Jamestown, Stutsman County; Minot, Ward County reported no precipitation. The greatest amount recorded in any 24 consecutive hours was 1.30 inches at Forman, Sargent County on the 2d. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall was 0.7 inch.

AURORAS

Auroras were observed at Bottineau on the 4th; at Bottineau, Devils Lake, Foxholm and Napoleon on the 17th; at Dogden Butte and New England on the 18th; at Napoleon on the 20th; and at Foxholm on the 23d.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.02	30.63	22	29.42	1	57	6,299	8.7	35§	s.	14
Devils Lake	30.02	30.61	22	29.19	1	44	7,282	10.1	28§	nw.	2
Ellendale	30.06	30.52	22	29.43	2	56	9,895	13.7	48§	nw.	8
Grand Forks	30.00	30.53	22	29.51	1	90	......	.....	37	w.	8
Williston	30.02	30.70	22	29.37	1	48	5,733	8.0	36§	nw.	8
Moorhead, Minn	30.03	30.54	22	29.48	8	58	6,927	9.6	28§	nw.	8
Av'ges and extremes	30.02	30.70	22	29.37	1	.....	....	10.0	48§	nw.	8

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	311.9	408.5	76	+17	74	39	38	13	27
Devils Lake	310.7	410.5	76	+18	71	44	45	12	18
Ellendale	315.9	407.2	78	+20	76	42	...	18	27†
Grand Forks	.....	.....	.....	.....	67	....	47	.....	....
Williston	308.8	410.5	75	+17	64	33	30	12	29
Moorhead, Minn	310.5	408.5	76	+17	68	38	43	14	30
Averages and extremes	311.6	109.0	76	+18	70	39	41	12	18†

† And other dates

COMPARATIVE STATE DATA FOR APRIL

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	37.6	−4.0	75	− 2	2.65	+1.26	7	10	6	14	ne.
1893	34.3	−7.3	77	− 8	1.73	+0.34	6	7	9	14	nw.
1894	42.8	+1.2	92	12	3.06	+1.67	9	7	9	12	se.
1895	49.6	+8.0	87	10	2.23	+0.84	5	13	8	9	nw.
1896	40.1	−1.5	92	2	4.37	+2.98	9	9	8	13	nw.
1897	40.8	−0.8	93	7	1.01	−0.38	5	12	8	10	nw.
1898	41.9	+0.3	87	− 4	1.38	−0.01	5	14	9	7	nw.
1899	38.0	−3.6	86	−22	1.36	−0.03	6	12	10	8	nw.
1900	49.3	+7.7	93	11	0.75	−0.64	3	20	6	4	se.
1901	44.5	+2.9	92	10	0.98	−0.41	4	12	9	9	se.
1902	40.2	−1.4	87	− 2	1.06	−0.33	3	12	8	10	nw.
1903	42.5	+0.9	83	8	1.23	−0.16	5	16	6	8	nw.
1904	37.4	−4.2	91	2	1.70	+0.31	5	13	5	12	se.
1905	40.2	−1.4	83	3	0.63	−0.76	3	15	8	7	nw.
1906	46.7	+5.1	88	8	1.50	+0.11	5	14	7	9	nw.
1907	31.9	−9.7	80	− 6	0.57	−0.82	4	10	9	11	nw.
1908	43.9	+2.3	91	−19	1.47	+0.08	5	16	6	8	nw.
1909	34.2	−7.4	80	3	0.81	−0.58	6	10	9	11	nw.
1910	48.0	+6.4	96	4	1.30	−0.09	4	16	8	6	nw.
1911	41.5	−0.1	90	− 5	1.30	−0.09	5	15	6	9	nw.
1912	44.4	+2.8	88	2	2.34	+0.95	7	14	8	8	nw.
1913	46.8	+5.2	94	11	0.71	−0.68	4	16	6	8	se.
1914	40.9	−0.7	84	2	1.66	+0.27	6	9	10	11	nw.
1915	50.3	+8.7	99	5	1.08	−0.31	5	15	8	7	nw.
1916	39.2	−2.4	79	− 6	1.40	+0.01	5	10	10	10	nw.
1917	37.2	−4.4	73	5	1.68	+0.29	7	9	9	12	ne.
1918	41.4	−0.2	81	0	2.15	+0.76	7	12	8	10	nw.
1919	42.3	−0.7	79	6	1.50	+0.11	6	11	9	10	ne.
1920	32.1	−9.5	63	11	0.83	−0.56	5	13	8	9	nw.
1921	41.1	−0.5	91	1	1.81	+0.42	7	14	7	9	nw.
1922	42.3	+0.7	89	− 2	0.92	−0.47	6	10	9	11	se.
1923	38.7	−2.9	89	−15	1.45	+0.06	5	13	8	9	nw.
1924	39.3	−2.3	84	6	2.55	+1.16	9	8	9	13	nw.
1925	47.8	+6.2	85	10	1.64	+0.25	6	11	10	9	se.
1926	42.8	+1.2	98	− 4	0.28	−1.11	3	17	8	5	nw.
1927	41.4	−0.2	95	7	1.70	+0.31	7	10	8	12	se.
1928	35.9	−5.7	84	− 6	0.88	−0.51	5	12	10	8	nw.
1929	41.5	−0.1	85	− 9	1.31	−0.08	6	12	9	9	nw.
1930	47.3	+5.7	86	8	1.25	−0.14	6	14	7	9	se.
1931	44.1	+2.5	87	3	0.43	−0.96	2	18	8	4	nw.
Av.	41.6	....	99	−22	1.39	....	6	12	8	10	nw.

*Extremes.

Climatological Data for April, 1931

				Temperature, in degrees Fahr.							Precipitation, in inches				Number of days					
Stations	Counties	Elevation, feet	Length of record, years	Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Alpha	Golden Valley	....	5	....	....	....	....	....	....	....	0.25	....	0.20	....	2	....	....	....	....	H. A. Bury.
Amenia	Cass	954	35	44.0	+2.0	85	17	10	3	51	0.82	0.98	0.45	0.0	4	11	14	2	nw.	I. Idso.
Amidon	Slope	....	16	48.2	+7.0	82	13†	16	23	52	T.	−1.26	T	T.	0	21	3	6	w.	R. R. Beebe.
Arnegard (near)	McKenzie	....	18	45.3	+4.2	84	17	15	21	46	0.05	−1.42	0.05	0.5	1	21	5	1	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	44.4	+1.8	80	17	10	4	43	0.66	−1.26	0.20	5.0	4	23	2	5	nw.	H. D. Piper.
Beach	Golden Valley	2,759	25	45.3	+3.3	82	17	15	21†	44	0.16	−1.06	0.11	....	2	17	9	4	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	45.0	+1.5	85	17	15	21†	52	T.	−1.09	T.	T.	0	24	0	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	45.6	+3.5	83	17	17	3	43	0.42	−1.10	0.28	0.8	4	15	13	2	nw.	U. S. Weather Bureau
Bottineau	Bottineau	1,638	39	40.9	+1.8	84	18	9	21	45	0.04	−0.85	0.02	....	3	12	14	4	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	17	45.0	+2.4	80	17	13	23	50	0.49	−0.64	0.25	T.	4	19	8	3	nw.	George Larsen.
Cando	Towner	1,488	30	43.6	+2.9	83	17	9	3	51	0.41	−0.67	0.39	4.0	2	8	15	7	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	42.3	+2.7	83	16	11	2	51	0.51	0.72	0.29	T.	3	22	3	5	nw.	L. A. Swanson.
Carson	Grant	2,500	19	43.6	+0.9	83	17	15	3†	44	0.55	−0.93	0.35	1.0	4	23	2	5	nw.	J. W. Evens.
Cavalier	Pembina	894	21	....	....	....	....	....	....	....	0.27	−0.95	0.25	....	2	21	4	5	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	34	....	....	....	....	....	....	....	0.39	−1.17	0.22	1.5	3	15	11	4	nw.	A. G. Hoel.
Corinth	Williams	2,180	3	....	....	....	....	....	....	....	0.00	....	0.00	0.0	0	20	9	1	w.	W. A. Clem.
Crosby	Divide	1,954	24	43.6	+3.4	81	17	12	3†	50	T.	−1.12	T.	T.	0	14	14	2	sw.	John Jensen.
Devils Lake	Ramsey	1,478	34	42.4	+3.6	82	17	11	3	42	0.65	0.87	0.40	1.4	5	13	9	8	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	43.3	+1.2	82	17	13	23	49	0.11	−1.12	0.08	0.3	4	18	7	5	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	44.2	....	84	17	11	3†	47	0.07	....	0.05	0.5	2	16	12	2	nw.	R. L. Williams.
Drake	McHenry	1,634	2	43.6	....	83	17	12	2	45	0.11	....	0.09	2.0	3	17	8	5	nw.	J. Rindt.
Dunn Center	Dunn	2,191	32	43.6	+1.8	82	17	15	23	47	0.65	−0.73	0.65	T.	1	15	9	6	nw.	W. F. Moede.
Dunseith	Rolette	1,682	35	40.4	+0.5	81	18	9	3	41	0.17	−0.64	0.15	1.7	2	13	15	2	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	43.6	+3.0	84	17	5	21	59	T.	−0.96	T.	0.0	0	4	21	5	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	30	45.9	+3.2	83	17	10	4	48	1.23	−0.54	0.91	1.5	3	11	13	6	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	41.8	+1.2	81	17	15	4	46	1.15	−0.95	0.90	1.7	6	9	15	6	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	19	46.0	....	84	17	15	21†	47	T.	−1.13	T.	T.	0	18	9	3	n.	H. S. Solenberger.
Epping	Williams	2,224	23	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	A. O. Wang.
Fairfield	Billings	....	2	....	....	....	....	....	....	....	0.35	....	0.25	1.0	2	17	11	2	nw.	F. R. Hecker.
Fessenden	Wells	1,610	19	42.4	+1.7	83	17†	11	4	50	0.75	−0.76	0.63	T.	3	22	3	5	nw.	T. D. Monsen.
Forman	Sargent	1,249	38	....	....	....	....	....	....	....	1.65	−0.50	1.30	T.	4	20	5	5	nw.	E. W. Bowen.
Fort Yates	Sioux	1,670	31	45.3	+0.4	81	29†	15	22	19	0.52	−1.07	0.32	0.0	2	19	4	7	....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	44.2	....	81	17	10	3	47	0.41	0.94	0.33	0.8	3	14	12	4	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13	....	....	....	....	....	....	....	T.	−1.33	T.	T.	0	20	7	3	sw.	Verne King.
Fullerton	Dickey	1,439	33	45.0	+2.2	82	17	11	4	47	1.27	0.82	1.15	T	2	22	5	3	nw.	F. O. Alin.
Garrison	McLean	1,901	54	45.4	+3.1	84	17	14	21	47	1	−1.22	T.	T.	6	23	5	2	sw.	W. F. Robinson.
Grafton	Walsh	827	39	44.4	+3.8	84	17	16	3†	51	T.	−1.40	T.	T.	0	17	10	3	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	40	43.6	+1.9	82	17	16	4	44	0.15	−1.69	0.13	T.	2	25	4	1	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	44.1	+3.3	82	17†	11	21	48	0.04	−1.01	0.04	T.	1	16	8	6	nw.	W. A. Christianson.
Hankinson	Richland	1,068	2	49.8	....	86	12	19	3	52	0.90	....	0.40	0.0	4	22	4	4	w.	R. G. Stock.
Hannah	Cavalier	1,568	39	....	....	....	....	....	....	....	0.48	−0.79	0.25	2.7	4	....	....	....	....	James Meier.
Hansboro	Towner	1,597	23	37.7	−1.2	70	6†	3	3	42	0.20	−1.29	0.10	3.0	3	18	11	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	24	43.0	+0.2	80	18	13	23	44	0.30	0.70	0.28	T.	3	22	4	3	nw.	C. H. Plath.
Hillsboro	Traill	901	25	43.4	+0.6	80	17†	11	4	46	0.05	−1.80	0.03	0.0	2	15	6	9	n.	G. Havland.
Howard‡‡ (near)	Williams	2,275	24	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	42.3	+0.2	82	17	10	4	49	2.38	+0.65	1.02	....	5	16	8	6	....	S. Calvelage.
Langdon	Cavalier	1,615	35	40.0	+2.2	80	17	8	3†	52	0.32	−1.02	0.20	2.0	2	21	7	2	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	42.2	+1.8	82	16	14	3	55	0.20	−1.48	0.06	....	4	21	0	9	n.	Reuben Gray.
Linton	Emmons	1,711	14	43.8	+1.1	83	17	12	23	53	0.51	−1.01	0.24	T	3	16	12	2	n.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	45.0	+2.6	83	17	14	4	46	1.92	+0.08	0.84	0.0	7	14	8	8	....	N. S. Lindstrom.
McClusky	Sheridan	1,943	13	43.8	....	82	17	13	3	45	0.43	−0.99	0.18	1.0	3	24	5	1	nw.	Edw. Tapley.
McLeod	Ransom	1,075	20	47.8	+3.6	82	11†	15	26	42	0.94	1.23	0.81	....	3	20	3	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	16	42.7	+1.7	82	17	11	24	50	0.33	−1.02	0.21	0.5	3	10	12	8	nw.	A. T. Felland.
Mandan	Morton	1,750	17	44.8	+2.1	83	17	10	3	42	0.43	−0.99	0.22	....	3	14	5	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28	....	....	....	....	....	....	....	0.84	−0.51	0.60	T.	6	....	....	....	....	P. B. Anderson.
Marmarth	Slope	2,714	22	44.9	+1.9	80	17†	14	22	48	0.33	−0.71	0.24	0.7	3	17	7	6	nw.	S. P. Grane.
Mary	McKenzie	....	2	....	....	....	....	....	....	....	0.21	....	0.11	1.0	2	21	6	3	nw.	Fred Hartman.
Max	McLean	2,093	2	44.7	....	87	18	10	4	47	T.	....	T.	T	0	19	4	7	nw.	A. W. Rice.
Mayville	Traill	975	35	43.0	0.0	82	17	10	3	47	0.06	−1.64	0.01	0.0	3	19	0	11	w.	H. B. Addicott.
Minot	Ward	1,557	35	44.0	+3.2	83	17	11	21†	48	0.00	−1.23	0.00	0.0	0	17	5	8	w.	Julia B. Rue.
Mohall	Renville	1,646	37	44.0	+3.5	84	30	10	3	50	T.	−0.94	T.	T.	0	8	20	2	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	24	44.6	+2.8	80	17	15	22	44	0.31	−1.09	0.21	0.0	4	22	4	4	nw.	O. H. Opland.
Napoleon	Logan	1,955	39	44.2	+2.8	83	30	11	4	45	1.40	−0.21	0.55	5.0	5	20	3	7	sw.	C. J. Hoof.
New England	Hettinger	2,400	37	46.3	+3.9	82	18	11	20	49	0.10	−0.93	0.10	0.0	1	18	8	4	se.	F. S. Sleight.
New Salem	Morton	2,163	27	45.2	+2.8	84	17	16	3	45	0.21	−1.01	0.14	0.2	1	20	7	3	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	45.5	....	81	17	14	4	46	1.44	....	0.98	....	5	12	15	3	nw.	Eugene Naylor.
Park River	Walsh	998	27	44.4^{c}	+3.1	81^{c}	17	17^{c}	3	41	0.16	−1.16	0.16	0.0	1	15	9	6	nw.	C. B. Wright.
Parshall (near)	Mountrail	....	16	....	....	....	....	....	....	....	0.46	0.68	0.30	3.0	2	15	14	1	sw.	C. E. Shubert.
Pembina	Pembina	789	57	41.0	+2.4	77	17†	16	26	48	0.10	−1.34	0.10	....	1	15	10	5	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	....	....	....	....	....	....	....	0.04	....	0.04	0.0	1	20	3	7	....	Chas. Ouradnik.
Pettibone	Kidder	1,856	22	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	A. L. Carlson.
Portal	Burke	1,954	26	45.2	+3.8	84	16†	13	25	53	0.07	−1.05	0.05	0.5	2	22	0	8	n.	C. T. Holmes.
Power‡‡	Richland	1,020	37	....	....	....	....	....	....	....	0.85	−0.95	0.40	T.	3	15	8	7	n.	Frank B. Power.
Powers Lake	Burke	2,205	26	44.2	....	81	30	13	21	48	0.63	−0.95	0.54	1.5	2	21	8	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	45.7	+4.6	83	17	13	23	41	T.	−1.48	T.	T.	0	12	13	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	....	....	....	....	....	....	....	0.29	....	0.15	T.	3	20	8	2	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	....	....	....	....	....	....	....	0.25	....	0.25	....	1	....	....	....	....	E. M. Lomen.
Sanish	Mountrail	1,835	...	44.2	....	82	17	11	24†	56	0.10	....	0.10	0.0	1	16	4	10	....	H. W. Monson.
Sharon	Steele	1,516	7	42.6	....	81	17	13	4	43	0.64	....	0.35	2.5	4	18	8	4	n.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7	....	....	....	....	....	....	....	T.	....	T.	T.	0	18	9	3	nw.	J. H. Giffey.
Steele	Kidder	1,857	37	42.4	−0.8	75	14	10	5	49	0.86	−0.33	0.60	0.5	5	24	0	6	nw.	V. A. Lanes.
Stowers‡‡	Adams	2,325	16	....	....	....	....	....	....	....	0.30	−0.86	0.30	3.0	1	20	4	6	....	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	....	....	....	....	....	....	....	0.37	....	0.26	0.0	2	22	1	7	nw.	J. C. Abbott.
Tioga	Williams	2,279	2	....	....	....	....	....	....	....	T.	....	T.	T.	0	19	9	7	nw.	Anton Carlson.
Towner	McHenry	1,482	29	44.7	+2.8	84	17	11	3	53	0.17	−0.93	0.13	0.5	3	16	13	1	nw.	Karl Weber.
Trotters	Golden Valley	....	5	....	....	....	....	....	....	....	T.	....	T.	T.	0	19	9	2	....	A. J. Nellermoe
Turtle Lake	McLean	1,899	17	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	E. T. Kusler.
Tuttle	Kidder	1,936	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Valley City	Barnes	1,245	25	45.4	+2.8	84	17	15	4	49	1.29	−0.14	0.96	0.0	5	23	5	2	w.	I. C. Robertson.
Velva	McHenry	1,511	4	45.9	....	84	17†	11	24	45	0.07	....	0.07	1.0	1	13	14	3	w.	Oscar Anderson.
Verona	LaMoure	1,387	3	....	....	....	....	....	....	....	1.29	....	0.74	0.5	2	25	2	3	nw.	W. C. Taylor.
Wahpeton	Richland	962	39	47.2	+2.8	86	12	17	4	44	0.49	−1.66	0.30	0.0	1	23	0	7	nw.	C. G. Luick.
Washburn	McLean	1,731	30	45.1	+1.3	85	17	10	20	48	0.07	−1.10	0.07	T.	1	19	7	4	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	43.6	+3.7	....	....	....	....	....	T	−0.91	....	....	....	....	....	....	....	W. A. Meddaugh
Williston	Williams	1,878	52	46.0	+4.0	82	17	18	21	42	T.	−1.20	T	T	0	15	13	2	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	42.4	+2.8	83	17	13	21†	53	0.20	−0.80	0.20	2.0	1	22	7	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	42.5	+0.6	80	17	4	4	64	1.66	+0.62	0.55	T.	5	11	3	16	nw.	E. W. Davis.
Zap	Mercer	1,838	16	....	....	....	....	....	....	....	0.19	−0.86	0.19	0.0	1	....	....	....	....	R. A. Norton.
Moorhead, Minn.	Clay	935	50	44.6	+4.0	82	17	16	4	42	0.46	−1.72	0.21	T.	5	10	11	9	n.	U. S. Weather Bureau.
Averages	....	....	....	44.1	+2.5	87	18	3	3	64	0.43	−0.96	1.30	0.7	2	18	8	4	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for April, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.05	.20												T						T												0.25
Amenia‖‖	Red		.20	.45												.05					.12												0.82
Amidon	Lit. Missouri	T																			T												T.
Arnegard (near)	Missouri	T	T																		.05												0.05
Ashley	Missouri		.15	.18											.13					.20													0.66
Beach‖‖	Lit. Missouri	.11	.05																														0.16
Berthold Agency	Missouri	T	T																		T												T
Bismarck ***	Missouri	.08	.03	.03					T											.28	T												0.42
Bottineau‖‖	Mouse		T.	.02	T				.01		T					.01						T			T								0.04
Bowman	Grand	.20	.25	.02																	.02												0.49
Cando	Devils Lake			.39												.02								T									0.41
Carrington‖‖	James	.19	.29	.03											T.						T												0.51
Carson	Heart	.10	.05																	.35	.05												0.55
Cavalier	Red	.02	.25																														0.27
Cooperstown	Sheyenne		T.	T	.15					T.						T					.22	.02			T.								0.39
Corinth	Missouri																																0.00
Courtenay	James		.50												.07					.26	T.												0.83
Crosby	Mouse		T	T																													T.
Devils Lake ***	Devils Lake	.34	.17	.03	T.		T		T	T					.09					T.	.02			T	T.	T					T		0.65
Dickinson‖‖	Heart		.08	.01						T.											.01	.01											0.11
Dogden Butte	Mouse		T.	T.	.05																.02												0.07
Drake‖‖	Mouse		.09				.01		.01																								0.11
Dunn Center‖‖	Knife		.65	T																	T.												0.65
Dunseith	Mouse		T	.15	.02			T.													T.	T.			T.								0.17
Eckman	Mouse		T.																		T.												T
Edgeley	James		.91	.15																.17													1.23
Ellendale***	James	.08	.86	.07											.02					.13	.01	T.											1.15
Energy	Missouri	T.	T	T						T																							T.
Epping	Missouri																																.....
Fairfield	Knife	.25																			.10												0.35
Fessenden‖‖	James		.63													.10					T.	.02											0.75
Forman	Sheyenne		1.30	T											.13					.07	.15												1.65
Fort Yates	Missouri	.32																		.20													0.52
Foxholm (near)	Mouse	T.	.33	.02				T								T					.06												0.41
Fryburg	Heart																				T.												T.
Fullerton	James	T.	1.15	T.											T.					.12													1.27
Garrison	Missouri	T.	T	T.																	T.												T
Grafton	Red		T.							T.																							T.
Grand Forks ***	Red		T.	T.												.02				.13				T.		T.							0.15
Granville	Mouse	.04	T.				T.		T												T.												0.04
Hankinson‖‖	Red	.10	.30												.40					.10													0.90
Hannah	Pembina		.11	.25				T								.10						.02				T.							0.48
Hansboro	Devils Lake		.10													.05					.05		T	T.	T.	T.							0.20
Hettinger‖‖	Grand		.28	.01																	.01	T.											0.30
Hillsboro	Red															.03					.02												0.05
Howard (near)	Missouri																																.....
Jamestown‖‖	James		.27	.82	.15											.12					1.02	T.											2.38
Langdon‖‖	Pembina		.20													.12						T			T.								0.32
Larimore‖‖	Red		.01	.05												.05					.09												0.20
Linton	Missouri	.10	.17	T																.24	T.												0.51
Lisbon‖‖	Sheyenne		.84	.73	.02											.06					.21	.04			.02								1.92
McClusky	Missouri	.18	.15	.10											T																		0.43
McLeod	Sheyenne			.81											T.					.10	.03												0.94
Maddock	Sheyenne	.21	.05	T.				T	T							.07																	0.33
Mandan‖‖	Missouri		.15	.06																	.22	T.											0.43
Manfred	James	.60	.07	.04											.10	.02					.01												0.84
Marmarth	Lit. Missouri	.24	.04																		.05												0.33
Mary	Lit. Missouri	.11	T.																		.10												0.21
Max‖‖	Missouri																				T.												T.
Mayville	Red		.01													.04					.01												0.06
Minot‖‖	Mouse																																0.00
Mohall	Mouse		T.																														T.
Mott	Cannon Ball	.21	.04																.02	.04													0.31
Napoleon‖‖	Missouri		.41	.55												.06					.28	.10											1.40
New England	Cannon Ball	.10																															0.10
New Salem	Heart	.03	.02	.02																.14	T												0.21
Oakes	James		.98	.08												.02				.31	.05												1.44
Park River	Red															.16																	0.16
Parshall (near)	Missouri	.16		.30																	T												0.46
Pembina‖‖	Red		.10							T	T										T.					T.							0.10
Petersburg	Red															.04																	0.04
Pettibone	James																																.....
Portal‖‖	Mouse		.05				.02																										0.07
Power	Sheyenne		.30													.15				.40	T.												0.85
Powers Lake	Missouri	.54																			.09												0.63
Richardton	Heart		T																														T.
Rugby [near]	Mouse	.12	T						.02						.15						T.												0.29
Ryder	Missouri					.25																											0.25
Sanish‖‖	Missouri		.10																		T												0.10
Sharon	Red	T	.35	.05						T						.05				.19					T	T.							0.64
Stanton	Missouri																				T												T.
Steele	Missouri	T	.05	.03												.08				.60	.10												0.86
Stowers	Cannon Ball																				.30												0.30
Tagus	Mouse	.36																			.01												0.37
Tioga	Missouri																				T.												T.
Towner	Mouse	.13	.02	.02				T	T							T					T.			T									0.17
Trotters	Lit. Missouri														T						T.												T.
Turtle Lake	Missouri																																.....
Tuttle																																	.....
Valley City	Sheyenne		.96	.08												.07				.12	.06												1.29
Velva	Mouse		.07																		T			T									0.07
Verona	James		.55	.74																													1.29
Wahpeton	Red		.02													.30				.04	.13												0.49
Washburn	Missouri	T	T.	.07																	T.												0.07
Westhope	Mouse																																.....
Williston ***	Missouri	T.	T				T		T						T.						T												T.
Willow City	Mouse	T.	.20					T	T.						T.						T.			T.									0.20
Wishek‖‖	Missouri		.53	.55												.18					.30	.10											1.66
Zap	Knife	.19																															0.19
Moorhead, Minn ***	Red	T	.11	T				T.	T.						.20	.01				.10	.01	T.		T.		T							0.46

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	55	48	39	44	55	67	72	77	67	55	69	72	68	80	74	72	85	73	58	49	43	43	51	45	40	48	64	72	69	76	..	61.0
	Minimum...	25	32	10	16	19	32	33	32	39	36	23	26	29	32	39	35	34	45	26	30	24	22	16	17	18	18	18	27	28	30	..	27.0
Arnegard	Maximum...	60	43	38	36	73	73	75	48	57	59	80	71	69	64	66	69	84	58	51	37	46	42	51	50	46	57	67	72	77	81	..	60.0
	Minimum...	33	29	18	22	33	49	41	36	32	30	34	43	39	44	32	38	40	40	26	24	15	18	19	18	22	19	21	31	33	39	..	30.6
Ashley	Maximum...	48	46	32	41	57	75	76	72	55	55	72	73	69	76	72	71	80	68	55	44	42	40	46	47	45	47	61	70	68	78	..	59.4
	Minimum...	28	31	13	10	27	32	35	34	30	35	29	37	33	43	36	38	40	47	31	28	20	22	19	24	20	18	20	33	31	36	..	29.3
Beach	Maximum...	56	42	36	54	69	71	75	72	62	60	78	70	72	69	63	68	82	72	51	35	45	42	48	55	49	56	65	72	76	77	..	61.4
	Minimum...	35	30	18	23	30	32	37	37	29	25	40	38	42	47	30	33	38	32	24	24	15	20	15	17	20	18	22	30	32	44	..	29.2
Berthold Agency	Maximum...	62	40	35	40	72	70	75	55	60	60	75	70	70	75	65	70	85	68	55	38	47	45	54	54	47	53	68	76	79	84	..	61.6
	Minimum...	35	22	20	20	20	30	30	40	32	38	36	32	35	45	32	34	42	44	25	27	15	18	15	15	15	21	18	27	27	40	..	28.3
Bismarck	Maximum...	51	39	30	49	64	73	76	57	58	54	70	68	67	77	68	70	83	65	46	38	44	42	48	49	44	52	64	72	71	80	..	59.0
	Minimum...	32	22	17	18	31	35	39	42	37	36	34	45	34	48	38	39	45	39	32	27	20	23	21	25	25	21	21	34	37	45	..	32.1
Bottineau §§	Maximum...	46	59	41	32	58	66	72	73	60	51	43	68	52	62	79	66	69	84	55	56	40	44	40	44	43	42	42	65	72	64	..	56.3
	Minimum...	30	39	10	10	28	32	33	33	30	28	25	27	29	39	35	35	39	40	22	24	9	11	15	17	18	10	10	20	32	35	..	25.5
Cando	Maximum...	42	43	27	50	61	70	71	71	64	53	60	66	69	77	78	68	83	82	65	54	41	40	42	41	40	61	63	71	71	82	..	60.2
	Minimum...	32	20	9	13	19	31	35	38	32	29	26	30	31	29	36	36	37	47	34	27	17	19	18	20	19	18	14	33	26	31	..	26.9
Carrington §§	Maximum...	36	26	47	55	72	72	61	58	47	60	65	64	78	68	70	83	59	56	39	43	39	46	43	38	48	64	70	65	79	63	..	57.1
	Minimum...	31	11	12	19	35	39	42	34	34	29	29	29	32	38	38	36	43	31	29	18	18	21	16	17	16	16	20	26	28	39	..	27.5
Crosby §§	Maximum...	47	31	35	47	62	54	73	53	53	47	76	66	68	69	65	69	81	53	52	53	47	40	50	51	43	57	64	70	75	83	..	57.8
	Minimum...	30	31	12	14	27	37	37	47	35	26	26	37	40	40	39	42	39	41	28	22	12	13	20	19	13	15	27	28	40	43	..	29.3
Devils Lake	Maximum...	42	39	24	49	54	70	70	61	57	45	59	59	62	77	65	68	82	63	56	38	41	37	42	40	35	46	63	69	63	79	..	55.2
	Minimum...	32	14	11	16	34	38	39	40	36	30	28	36	32	40	40	41	40	40	31	24	18	21	23	22	20	16	23	34	28	37	..	29.5
Dickinson §§	Maximum...	54	34	33	51	70	72	75	51	55	58	78	70	69	65	65	69	82	55	51	32	45	42	48	51	46	54	65	71	75	79	..	58.8
	Minimum...	29	34	21	19	22	30	32	38	30	29	29	39	37	38	32	31	36	41	25	28	19	20	13	18	20	16	18	24	28	37	..	27.8
Dunn Center §§	Maximum...	65	34	34	52	70	71	74	51	55	57	74	69	68	67	60	68	82	54	51	32	44	41	48	51	41	54	65	71	76	79	..	58.6
	Minimum...	30	30	22	21	28	35	35	41	32	32	31	35	34	40	32	35	35	41	25	27	17	19	15	16	20	17	18	27	29	35	..	28.5
Dunseith	Maximum...	42	49	30	33	51	61	69	71	57	54	40	63	59	60	76	65	66	81	54	53	34	41	37	41	41	36	47	61	68	64	..	53.6
	Minimum...	25	29	9	10	24	34	39	45	32	24	24	30	33	37	35	35	39	42	24	27	11	18	20	20	17	14	20	28	31	38	..	27.1
Edgeley	Maximum...	51	49	33	41	54	70	74	72	68	55	70	75	67	76	74	74	83	79	58	52	44	43	49	46	45	48	63	73	67	78	..	61.0
	Minimum...	29	32	14	10	28	52	38	39	35	35	39	36	31	34	39	38	42	49	31	31	21	23	20	26	19	19	19	36	28	30	..	30.8
Ellendale	Maximum...	52	39	30	42	56	70	75	66	59	52	75	76	69	78	69	72	81	62	46	44	42	42	45	47	44	47	60	71	65	77	..	58.4
	Minimum...	31	30	17	15	28	33	45	43	38	33	29	39	35	40	41	38	39	38	31	27	23	24	19	26	20	20	22	41	31	36	..	31.1
Fessenden §§	Maximum...	40	35	29	49	58	73	75	58	60	49	68	63	64	79	69	73	83	60	59	39	41	40	48	46	38	47	66	71	68	83	..	57.8
	Minimum...	28	33	13	11	24	33	39	39	33	33	26	32	25	32	35	34	34	43	28	27	15	18	17	15	18	15	17	33	28	33	..	27.0
Foxholm (near)	Maximum...	57	47	32	51	68	70	71	64	55	49	71	63	65	78	65	68	81	65	52	45	43	39	47	43	42	50	65	71	70	80	..	58.9
	Minimum...	30	21	10	25	32	42	40	41	33	29	24	38	31	31	38	43	43	41	29	27	13	17	22	16	16	15	25	38	29	42	..	29.4
Fullerton	Maximum...	53	43	34	40	55	70	75	67	60	52	76	77	68	78	69	71	82	65	48	44	43	43	46	47	42	47	61	70	66	78	..	59.0
	Minimum...	30	31	16	14	28	35	43	42	38	33	29	38	40	39	40	39	38	40	35	31	22	25	21	26	21	19	21	36	31	33	..	31.1
Garrison	Maximum...	53	42	35	53	69	74	76	69	57	51	72	66	77	72	71	73	84	63	53	46	45	40	49	50	49	52	67	71	74	80	..	61.1
	Minimum...	30	24	15	22	31	35	40	40	35	36	25	38	40	38	34	35	46	49	34	30	14	18	20	19	18	15	20	34	35	40	..	29.8
Grafton	Maximum...	49	48	28	48	55	70	73	73	65	56	56	58	63	79	75	68	84	83	61	54	42	43	43	43	41	47	64	70	63	80	..	59.4
	Minimum...	33	25	16	16	26	35	38	34	35	25	25	35	27	36	40	39	33	52	29	31	23	22	21	23	24	19	20	36	27	30	..	29.3
Grand Forks	Maximum...	52	51	42	40	54	70	73	75	61	47	57	64	64	78	72	69	82	76	60	43	41	39	45	41	36	46	62	70	61	76	..	58.2
	Minimum...	33	26	18	16	28	34	38	39	36	31	23	33	28	41	42	38	38	38	31	26	23	23	20	18	20	18	19	35	23	34	..	29.0
Granville	Maximum...	55	42	33	55	70	74	75	63	63	48	70	66	65	74	70	72	82	65	45	45	45	40	47	45	40	50	66	77	70	82	..	59.8
	Minimum...	35	28	13	26	32	38	36	40	36	30	28	37	30	40	40	42	38	32	25	28	11	17	20	12	20	12	17	32	22	34	..	28.4
Hansboro	Maximum...	45	35	30	45	60	70	70	55	50	40	45	54	55	70	65	64	70	60	50	38	40	45	45	45	35	45	52	50	60	70	..	51.9
	Minimum...	26	15	3	10	30	35	35	35	32	22	20	32	24	35	33	32	40	35	22	22	10	12	15	12	12	9	14	36	18	28	..	23.5
Hettinger §§	Maximum...	49	51	35	33	50	67	73	76	52	57	61	78	71	70	63	65	69	80	53	51	33	44	41	47	53	49	53	64	71	76	..	57.8
	Minimum...	32	32	21	20	21	32	34	37	31	28	29	34	38	40	32	29	39	45	30	28	18	20	13	17	18	16	19	23	30	36	..	28 1
Hillsboro	Maximum...	48	48	34	45	48	68	72	72	60	60	56	56	65	65	65	68	80	80	58	50	38	38	42	42	41	51	62	68	68	74	..	57.4
	Minimum...	30	28	20	11	28	33	40	37	38	30	22	30	26	35	45	36	50	52	30	32	22	20	19	20	20	20	25	35	24	28	..	29.5
Howard (near)	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Jamestown §§	Maximum...	44	34	24	39	59	73	75	65	60	49	60	66	65	77	69	71	82	57	53	42	42	40	47	44	40	44	63	70	67	78	..	56.6
	Minimum...	30	22	12	10	11	29	35	41	36	36	30	31	32	35	40	37	39	43	30	27	21	22	22	21	23	18	20	24	30	33	..	28.0
Langdon §§	Maximum...	45	35	24	42	52	68	72	61	56	44	55	56	60	76	66	67	80	58	55	40	40	38	40	38	30	44	62	65	62	77	..	53.6
	Minimum...	28	24	8	8	26	34	35	45	34	26	25	28	30	30	38	36	40	44	28	30	17	19	20	18	19	15	20	19	25	25	..	26.5
Larimore §§	Maximum...	40	30	48	54	71	73	70	60	40	55	47	65	79	70	70	82	60	57	40	38	38	45	40	45	34	63	70	62	78	74	..	56.6
	Minimum...	27	30	14	15	23	33	35	37	36	33	23	25	28	32	42	40	37	48	28	32	20	21	21	18	21	18	17	30	23	28	..	27.8
Linton	Maximum...	49	44	32	48	54	72	77	74	57	55	73	71	69	73	69	72	83	79	56	40	45	43	49	50	47	50	64	74	73	80	..	60.7
	Minimum...	30	31	15	13	25	30	32	36	30	31	20	37	21	35	29	25	43	46	28	22	17	21	12	22	22	14	16	24	34	47	..	26.9
Lisbon §§	Maximum...	54	38	28	43	55	69	73	72	60	48	60	75	67	78	70	72	83	64	50	48	42	42	47	[illegible]	41	47	62	69	65	78	..	58.2
	Minimum...	31	34	20	14	31	38	39	39	38	37	28	30	33	40	41	38	37	60	29	36	25	24	21	24	22	21	19	35	31	38	..	31.8
McClusky	Maximum...	48	38	31	45	60	73	73	67	51	49	66	65	64	76	66	70	82	65	55	47	42	44	47	46	40	49	63	70	69	79	..	58.0
	Minimum...	30	23	13	15	31	35	38	42	34	34	31	42	33	44	39	36	37	44	27	27	15	19	18	16	21	16	22	31	34	39	..	29.5
Maddock	Maximum...	43	42	27	48	57	70	70	70	55	52	60	62	62	76	73	68	82	80	53	45	40	40	43	42	42	48	62	69	68	81	..	57.7
	Minimum...	29	22	19	16	31	36	36	40	43	31	25	33	26	37	40	37	34	45	24	28	13	18	20	11	20	12	17	31	26	31	..	27.7
Marmarth	Maximum...	50	41	46	35	69	72	75	60	53	61	79	78	73	58	63	71	80	71	52	44	46	42	50	52	51	52	65	74	76	80	..	60.7
	Minimum...	35	31	20	22	22	30	37	29	29	28	40	40	43	43	30	28	33	32	29	26	17	24	14	19	25	19	21	26	33	37	..	29.1
Minot §§	Maximum...	58	34	33	55	72	74	75	57	57	49	73	65	66	78	67	70	83	55	55	35	44	40	47	47	47	51	66	71	70	82	..	59.2
	Minimum...	33	33	12	12	29	39	36	48	34	32	28	37	32	37	38	40	44	42	36	29	11	20	20	11	13	12	19	32	31	34	..	28.9
Mohall	Maximum...	50	35	47	60	72	73	75	59	60	48	68	65	59	72	69	70	77	58	56	39	43	41	45	42	40	50	64	73	70	84	..	58.8
	Minimum...	35	20	10	33	33	37	40	48	34	29	28	30	32	35	39	41	42	35	34	28	12	17	21	12	14	17	27	33	30	34	..	29.3
Mott	Maximum...	52	35	32	48	65	73	75	58	57	57	74	76	68	70	66	69	80	61	54	34	44	40	48	49	50	53	64	71	75	79	..	59.2
	Minimum...	32	20	20	21	22	33	35	37	29	30	33	32	42	34	34	42	46	28	26	18	20	15	26	25	28	20	30	36	43	47	..	29.9
Napoleon §§	Maximum...	53	36	23	46	58	76	75	58	58	53	72	69	67	78	69	71	82	58	50	38	41	41	47	50	44	48	62	72	70	83	..	58.4
	Minimum...	30	33	12	11	30	36	40	45	32	34	31	38	31	44	37	38	38	48	29	27	18	19	19	23	19	15	21	33	31	38	..	30.0
New Salem	Maximum...	49	41	29	54	65	73	76	73	60	55	72	69	68	78	67	71	84	73	50	48	44	41	48	45	45	51	65	71	74	82	..	60.7
	Minimum...	29	25	16	30	30	37	40	39	30	33	30	31	32	41	36	36	39	38	30	28	17	20	18	21	20	20	26	34	31	37	..	29.8
Oakes	Maximum...	56	47	35	45	56	70	76	69	60	51	76	77	68	77	70	73	81	74	53	45	42	41	47	48	42	46	61	71	67	78	..	60.1
	Minimum...	30	33	18	14	27	35	37	39	37	38	30	38	34	43	39	35	35	54	30	32	23	24	20	27	21	18	19	32	31	35	..	30.9
Pembina §§	Maximum...	36	30	20	48	50	64	52	71	55	31	51	56	68	73	69	67	77	67	63	54	36	28	45	41	33	42	64	74	68	77	..	53.7
	Minimum...	20	22	18	18	30	31	38	36	38	25	21	34	25	39	40	38	34	37	36	33	20	20	24	18	19	16	26	35	20	34	..	28.2
Sharon	Maximum...	50	41	26	47	51	71	72	66	59	46	57	60	63	77	69	68	81	69	60	43	39	40	47	43	36	45	62	70	62	76	..	56.5
	Minimum...	31	24	14	13	30	35	38	45	34	31	25	35	29	36	38	34	43	45	25	27	20	20	17	21	21	17	19	30	27	36	..	28.7
Steele	Maximum...	53	39	28	46	59	71	72	57	52	53	69	68	65	75	65	70	65	55	48	42	44	36	44	48	42	50	65	69	70	74	..	56.5
	Minimum...	26	28	12	15	10	32	37	39	32	38	32	41	33	48	32	30	40	36	30	28	18	20	19	22	23	15	20	21	31	40	..	28.3
Towner	Maximum...	55	48	34	55	65	74	74	74	60	54	71	70	65	81	75	70	84	77	65	53	45	43	48	46	44	36	66	59	69	83	..	61.4
	Minimum...	30	22	11	21	31	35	34	45	34	31	29	38	27	41	38	38	40	34	25	29	15	21	18	14	17	14	13	32	28	36	..	28.0
Valley City	Maximum...	49	50	43	40	55	68	73	71	60	67	60	68	67	80	70	71	84	78	61	44	43	41	48	45	41	48	63	71	66	79	..	60.2
	Minimum...	30	32	36	15	28	33	38	38	37	37	28	30	32	38	40	34	35	52	36	30	22	23	18	18	23	19	16	33	30	35	..	30.5
Wahpeton	Maximum...	52	52	41	46	56	69	78	83	63	61	61	86	68	80	74	75	81	71	62	53	47	46	50	50	47	48	62	74	73	77	..	62.9
	Minimum...	31	35	23	17	29	35	42	43	39	42	26	42	33	43	46	36	37	42	34	33	25	23	18	24	18	19	18	35	27	34	..	31.6
Westhope	Maximum...	59	40	30	56	70	71	75	46	57	50	70	62	65	80	68	61	84	66	57	38	41	42	45	48	44	52	58	75	76	86	..	59.5
	Minimum...	29	22	10	25	30	39	35	30	33	27	25	40	30	40	40	42	44	43	30	25	10	10	10	15	15	14	18	32	32	37	..	27.7
Williston	Maximum...	59	40	39	55	73	70	75	59	54	55	77	68	69	63	64	67	82	57	50	36	44	40	50	50	44	55	65	71	76	80	..	59.6
	Minimum...	34	26	19	24	36	37	40	41	35	32	38	46	45	43	38	43	48	33	33	25	18	19	22	18	22	19	24	29	38	47	..	32.4
Moorhead, Minn	Maximum...	51	40	29	44	56	69	73	79	61	48	58	74	66	78	70	70	82	68	52	49	42	40	45	43	36	44	61	70	63	75	..	57.9
	Minimum...	30	25	20	16	27	35	45	44	41	29	25	37	33	45	46	38	40	44	31	27	24	23	21	22	23	19	24	36	29	38	..	31.2

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. * 1 day missing [illegible]

[WBO, Minneapolis, [illegible]]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

Vol. XXXX   Bismarck, N. D., May, 1931   No. 5

GENERAL SUMMARY

The weather during the month was favorable for outdoor work, but was too dry in the western and central portions and particularly in the northwestern portion where droughty conditions prevailed Nearly normal precipitation occurred in the Red River valley, but some of the northwestern stations reported the least moisture of record for May. All months since November, 1930, except March, had precipitation below the normal. The temperature averaged slightly above normal for the state, but was slightly below normal in the eastern third and above at most places in the western two-thirds. Killing frosts from the 20th to the 22d damaged flax and gardens and retarded the growth of small grains and pastures. By the close of the month early crops and pastures were making good growth in the eastern and southern parts of the state, but it was too dry for crop growth in most northwestern counties.

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TEMPERATURE

The mean temperature for the state was 53.1°, or 0.3° above the normal, and 2.3° higher than the mean for May, 1930. The highest mean reported was 55.9° at Hankinson, Richland County; the lowest was 45.0° at Hansboro, Towner County. The highest temperature reported was 100° at Amenia, Cass County on the 15th and 26th; the lowest was 10° at Washburn, McLean County on the 5th. The greatest monthly range of temperature was 87° at Washburn, McLean County; the least was 64° at Pettibone, Kidder County. The greatest daily range in temperature was 61° at Linton, McIntosh County on the 23d.

PRECIPITATION

The average precipitation for the state was 1.41 inches, or 0.99 inch below the normal, and 1.21 inches less than the average for May, 1930. The greatest monthly amount reported was 3.40 inches at Hillsboro, Traili County; the least was a trace at Mohall, Renville County. The greatest amount recorded n any 24 consecutive hours was 1.63 inches at Edgeley, LaMoure County on the 27th. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall was 0.3 inch.

AURORAS

Auroras were observed at Bottineau, Eckman and Foxholm on the 5th; at Bottineau, Devils Lake, Eckman, Ellendale, Foxholm, Oakes, Sharon, Stanton, Tagus, Towner, and Willow City on the 6th; at Crosby, Dogden Butte, Ellendale, and Towner on the 7th; at Oakes on the 10th; at Bottineau and Willow City on the 11th; at Foxholm, Hettinger and McLeod on the 12th; at Bottineau, Foxholm and Sanish on the 13th; t Bottineau, Hettinger, Linton, Sanish, Sharon, and Tagus on the 14th; at Dogden Butte on the 15th; and at Bottineau n the 18th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.92	30.33	2	29.43	25	57	7,316	9.8	36§	w.	18
Devils Lake	29.92	30.36	2	29.47	17	44	7,707	10.4	42§	e.	27
Ellendale	29.95	30.33	22	29.44	17	56	11,077	14.9	46§	n.	27
Grand Forks	29.90	30.32	22	29.50	17	90	....	.....	38	nw.	1
Williston	29.92	30.34	11	29.37	25	48	6,011	8.1	39§	w.	18
Moorhead, Minn	29.90	30.37	22	29.45	27	58	6,822	9.2	33§	nw.	27
Av'ges and extremes	29.92	30.37	22	29.37	25	.....	7,787	10.5	46§	n.	27

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	304.3	467.3	65	+ 7	71	41	35	15	26
Devils Lake	314.0	471.0	67	+ 9	71	45	44	17	14
Ellendale	310.9	463.8	67	+ 9	74	46	....	20	3
Grand Forks	....	....	....	....	64	....	46	....	....
Williston	332.6	471.0	71	+13	61	33	31	13	14
Moorhead, Minn	315.0	467.3	67	+10	68	46	46	17	3
Averages and extremes	315.4	468.1	67	+10	68	42	40	13	14

† And other dates.

COMPARATIVE STATE DATA FOR MAY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	46.6	−6.2	96	13	2.21	−0.19	12	6	8	17	n.
1893	52.2	0.2	97	19	1.61	−0.79	6	11	8	12	se.
1894	54.6	+1.8	98	23	1.51	−0.89	5	16	9	6	ne.
1895	54.4	+1.6	101	15	2.48	+0.08	8	10	11	10	nw.
1896	56.9	+4.1	103	22	4.89	+2.49	13	6	14	11	nw.
1897	55.4	+2.6	97	16	0.71	−1.69	4	16	10	5	nw.
1898	52.7	−0.1	92	14	1.98	−0.42	5	15	9	7	n.
1899	50.6	−2.2	91	16	3.49	+1.09	8	9	9	13	se.
1900	59.2	+6.4	106	15	0.69	−1.71	3	18	8	5	se.
1901	60.0	+7.2	99	19	0.31	−2.09	2	21	4	6	se.
1902	55.9	+3.1	94	24	3.57	+1.17	10	13	6	12	se.
1903	54.3	−1.5	96	11	3.12	+0.72	4	14	8	9	s.
1904	54.2	+1.4	93	20	1.76	−0.64	6	14	9	8	nw.
1905	50.1	−2.7	88	10	3.05	+0.65	8	12	8	11	nw.
1906	50.8	−2.0	99	11	4.63	+2.23	12	9	8	14	ne.
1907	44.0	−8.8	84	6	1.11	−1.29	6	12	10	9	nw.
1908	50.8	−2.0	88	9	2.97	+0.57	8	13	7	11	ne.
1909	51.0	−1.8	98	5	4.29	+1.89	10	12	9	10	nw.
1910	50.7	−2.1	94	10	0.96	−1.44	6	12	11	8	nw.
1911	55.0	+2.2	99	6	2.88	+0.48	8	14	9	8	nw.
1912	54.2	+1.4	90	16	4.52	+2.12	11	10	10	11	nw.
1913	51.2	−1.6	100	11	1.68	−0.72	9	10	10	11	nw.
1914	55.2	+2.4	95	16	2.12	−0.28	8	16	8	7	nw.
1915	51.1	−1.7	98	15	3.16	+0.76	9	10	10	11	se.
1916	51.0	−1.8	95	7	2.22	−0.18	8	11	11	9	nw.
1917	51.2	−1.6	98	15	0.30	−2.10	2	20	7	4	ne.
1918	51.7	−1.1	99	6	2.30	−0.10	9	10	11	10	nw.
1919	55.5	+2.7	101	16	3.25	+0.85	9	16	8	7	se.
1920	53.9	+1.1	89	20	1.74	−0.66	7	13	10	8	se.
1921	53.8	+1.0	90	21	2.46	+0.06	9	13	10	8	se.
1922	56.3	+3.5	93	24	3.11	+0.71	12	10	11	10	nw.
1923	54.1	+1.3	100	13	1.77	−0.63	6	15	10	6	nw.
1924	46.9	−5.9	84	15	0.79	−1.16	5	12	10	9	nw.
1925	53.6	+0.8	111	10	1.44	−0.96	4	17	9	5	nw.
1926	58.5	+5.7	105	10	2.18	−0.22	7	13	11	7	nw.
1927	48.0	−4.8	87	13	5.62	+3.22	14	6	8	17	nw.
1928	58.2	−5.4	107	16	1.15	−1.25	5	18	7	6	nw.
1929	49.1	−3.7	92	8	2.99	+0.59	7	16	9	6	nw.
1930	50.8	−2.0	98	18	2.62	+0.22	9	12	8	11	nw.
1931	53.1	+0.3	100	10	1.41	−0.99	6	16	7	8	nw.
Av.	52.8	....	111*	5*	2.40	....	8	13	9	9	nw.

*Extremes.

Climatological Data for May, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	5	......	......	......	......	......	......	......	0.96	......	0.65	......	4	......	......	......	......	H. A. Bury.
Amenia	Cass	954	35	54.2	+0.2	100	15†	19	7	51	2.67	-0.18	0.76	T.	8	10	10	11	s.	I. Idso.
Amidon	Slope	......	16	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	R. R. Beebe.
Arnegard (near)	McKenzie	......	18	54.0	+1.3	96	25	20	6	50	0.59	-1.47	0.21	2.0	6	22	3	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	52.6	-0.9	92	15	20	6	47	2.20	0.20	1.23	0	5	19	6	6	nw.	H. D. Piper.
Beach	Golden Valley	2,759	25	55.0	+3.6	96	25	20	5	48	0.72	-1.86	0.43	T.	5	14	11	6	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	54.6^{a}	+0.5	98^{a}	25	17^{a}	6	48^{a}	0.65	-1.79	0.28	......	3	17	5	9	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	54.4	0.1	93	25	23	20	42	1.94	-0.38	1.19	0.1	8	15	9	7	n.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	51.1	-0.2	91	25	15	6	56	0.28	-1.81	0.09	T.	6	16	11	4	......	N. D. School of Forestry.
Bowman	Bowman	2,961	17	53.3	+1.1	94	25	20	5†	48	1.63	0.79	0.76	T.	6	21	7	3	nw.	George Larsen.
Cando	Towner	1,488	30	53.8	+1.8	88	15†	20	6	54	0.74	-1.58	0.33	T.	4	15	6	10	n.	A. J. Swanson.
Carrington	Foster	1,579	33	50.8	-1.7	88	24	23	1†	55	1.21	-1.42	0.50	T.	6	19	7	5	nw.	L. A. Swanson.
Carson	Grant	2,500	19	53.4	+0.3	91	25	16	21	43	2.72	+0.43	1.22	0.1	9	18	7	6	nw.	J. W. Evens.
Cavalier	Pembina	894	21	......	......	......	......	......	......	......	2.05	-0.66	0.57	1.2	8	19	4	8	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	34	......	......	......	......	......	......	......	2.02	0.36	1.00	T.	6	19	4	8	nw.	Theo. Marquardt.
Corinth	Williams	2,180	3	......	......	......	......	......	......	......	0.45	......	0.20	0	3	21	7	3	nw.	W. A. Clem.
Crosby	Divide	1,954	24	52.8	+1.6	94	25	21	20	45	0.50	1.51	0.16	0.5	5	15	12	4	nw.	John Jensen.
Devils Lake	Ramsey	1,478	34	51.4	-1.2	86	14	24	5	40	1.42	-0.61	0.58	0.5	11	13	7	11	n.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	52.8	+0.6	95	25	17	6	50	1.21	-1.15	0.36	T.	7	14	9	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	53.7	......	90	25	13	6	44	0.81	......	0.22	0.2	7	15	9	7	n.	R. L. Williams.
Drake	McHenry	1,634	2	53.1	......	92	24	17	5	54	0.81	......	0.32	0.5	9	13	4	14	nw.	J. Rindt.
Dunn Center	Dunn	2,191	32	52.9	+0.2	96	25	16	6	52	0.90	-1.62	0.22	......	7	10	14	7	s.	W. F. Moede.
Dunseith	Rolette	1,682	35	52.8	+0.7	88	25†	21	5†	49	0.10	1.74	0.16	T	1	21	5	5	ne.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	53.2	+1.8	95	25	12	6	51	0.44	-1.67	0.20	0.5	4	10	13	8	n.	C. E. Strock.
Edgeley	LaMoure	1,568	30	52.6	1.1	93	26	19	6	53	2.66	0.00	1.63	0	4	10	15	6	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	52.2	-3.5	93	15	22	6	42	1.71	-1.37	0.69	T.	8	14	4	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	19	55.1	......	95	25	15	6	47	1.04	-1.18	0.80	0	4	13	15	3	n.	H. S. Solenberger.
Epping	Williams	2,224	23	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	2	......	......	......	......	......	......	......	1.41	......	0.63	2.5	3	15	10	6	nw.	F. R. Hecker.
Fessenden	Wells	1,610	19	53.8	+1.8	98	15	22	6	52	1.65	-0.73	0.60	0	7	13	7	11	nw.	T. D. Monsen.
Forman	Sargent	1,249	38	......	......	......	......	......	......	......	2.13	0.74	1.10	0	5	18	4	9	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	31	53.8	2.3	92	25†	21	20†	50	2.64	-0.67	0.76	0	6	......	......	......	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	53.4	......	92	25	19	6	47	0.48	-1.49	0.13	0	5	11	11	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13	......	......	......	......	......	......	......	1.38	-0.86	0.66	0.5	4	20	8	3	n.	Verne King.
Fullerton	Dickey	1,439	33	52.5	1.5	92	15	21	6	45	1.75	1.45	0.68	0.2	6	19	5	7	nw.	F. O. Alin.
Garrison	McLean	1,901	54	54.9	+2.2	94	25	19	6	44	0.67	-1.56	0.28	T.	4	13	13	5	n.	W. F. Robinson.
Grafton	Walsh	827	39	53.4	+0.1	87	14†	21	6	46	2.05	-0.14	0.63	T.	7	18	3	10	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	40	52.4	-1.3	92	26	22	6	43	2.87	+0.26	1.29	0.8	8	19	3	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	53.2	+1.6	93	25	17	6	56	0.48	-1.45	0.24	T.	4	13	8	10	se.	W. A. Christianson.
Hankinson	Richland	1,068	2	55.9	......	98	14	23	6	43	3.01	......	1.10	0	9	20	0	11	w.	R. G. Stock.
Hannah	Cavalier	1,568	39	......	......	......	......	......	......	......	0.80	-1.33	0.25	2.6	7	......	......	......	......	James Meier.
Hansboro	Towner	1,597	23	45.0	5.7	85	25	15	6	50	0.40	-1.91	0.20	2.0	3	19	7	5	nw.	C. F. Blackorby.
Hettinger	Adams	2,675	24	52.6	-1.0	92	25	17	6†	51	2.00	0.35	0.88	T.	8	15	12	4	nw.	C. H. Plath.
Hillsboro	Traill	901	25	52.8^{a}	1.1	92^{a}	26	19^{a}	7	41^{a}	3.40	+0.21	1.62	T.	8	17	4	10	s.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	24	53.0	+3.2	99	25	19	20	54	0.09	-2.29	0.07	T.	3	13	10	8	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	51.8	-1.7	92	15	22	22	47	2.51	0.24	1.05	T.	8	13	9	9	......	S. Calvelage.
Langdon	Cavalier	1,615	35	49.6	-1.3	85	14	20	6	54	0.98	-1.23	0.36	T.	6	20	6	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	51.8	-0.8	91	31	23	6	48	3.31	+0.55	1.00	1.0	6	16	6	9	n.	Reuben Gray.
Linton	Emmons	1,711	14	53.1	-1.1	91	25	20	6	61	1.82	-0.46	0.71	0.2	8	13	13	5	nw.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	53.6	0.3	94	15	21	6	48	1.85	-1.18	0.75	0	5	16	6	9	......	N. S. Lindstrom.
McClusky	Sheridan	1,943	13	53.2	......	93	25	18	6†	44	0.83	1.82	0.49	T.	4	16	11	4	nw.	Edw. Tapley.
McLeod	Ransom	1,075	20	53.4	-1.1	96	15	21	5	48	1.48	-1.84	0.53	0.6	5	14	6	11	nw.	J. G. Carlson.
Maddock	Benson	1,604	16	51.4	-1.3	90	25	15	6	52	0.93	-1.27	0.26	......	5	12	9	10	nw.	A. T. Felland.
Mandan	Morton	1,750	17	53.6	-0.3	93	25	19	6	43	2.14	-0.28	1.47	T.	7	12	6	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28	......	......	......	......	......	......	......	1.08	-1.27	0.33	0	6	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	22	54.8	+3.6	94	25	22	6†	47	1.30	-1.17	0.80	T.	6	10	9	12	......	S. P. Grane.
Mary	McKenzie	......	2	......	......	......	......	......	......	......	1.24	......	0.55	1.0	5	20	6	5	nw.	Fred Hartman.
Max	McLean	2,093	2	54.0^{a}	......	98^{a}	25	15^{a}	6	51^{a}	0.57	......	0.30	T.	6	14	1	16	nw.	A. W. Rice.
Mayville	Traill	975	35	52.7	+1.4	93	26	19	7	48	2.07	-0.95	0.70	......	7	19	0	12	n.	H. B. Addicott.
Minot	Ward	1,557	35	52.6	+0.4	92	25	15	6	46	1.26	-0.78	0.52	......	8	16	2	13	w.	Julia B. Rue.
Mohall	Renville	1,646	37	54.6^{a}	+2.3	95^{a}	25	18^{a}	6	52^{a}	T.	-2.01	T.	0	0	10	18	3	n.	E. H. Wolsey.
Mott	Hettinger	2,424	24	53.5	0.0	92	25	20	5	41	1.70	0.68	0.84	0	6	12	8	11	se.	O. H. Opland.
Napoleon	Logan	1,955	39	52.8	+0.4	91	15†	20	6	47	1.75	-0.61	0.52	1.0	9	19	2	10	nw.	C. J. Hoof.
New England	Hettinger	2,400	37	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	F. S. Sleight.
New Salem	Morton	2,163	27	54.2	+1.8	95	25	20	6†	48	1.22	-1.03	0.99	T.	5	16	9	6	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	53.4	......	94	26	20	6†	47	1.44	......	0.55	T.	10	12	14	5	ne.	Eugene Naylor.
Park River	Walsh	998	27	51.8	1.2	87^{a}	14	21^{a}	5	54^{a}	1.27	-1.10	0.29	T.	7	17	4	10	nw.	C. B. Wright.
Parshall (near)	Mountrail	......	16	......	......	......	......	......	......	......	0.55	1.56	0.26	0	5	12	15	4	nw.	C. E. Shubert.
Pembina	Pembina	789	57	50.9	-1.9	90	14	17	6	52	2.55	+0.12	0.83	......	7	20	6	5	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	......	......	......	......	......	......	......	1.85	......	0.66	T.	7	18	2	11	......	Chas. Ouradnik.
Pettibone	Kidder	1,856	22	55.3	+3.5	88	15†	24	22	45	1.51	-1.11	0.40	0	8	13	5	13	ne.	A. L. Carlson.
Portal	Burke	1,954	26	52.4	+1.9	95	24	20	5	51	0.30	-1.87	0.09	1.0	5	17	6	8	n.	C. T. Holmes.
Power‡‡	Richland	1,020	37	......	......	......	......	......	......	......	2.10	-0.61	0.50	2.0	7	15	9	7	n.	Frank B. Power.
Powers Lake	Burke	2,205	26	50.7	......	88	14	14	5	41	0.47	-1.70	0.21	0	3	20	10	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	53.6	+1.0	94	25	17	21	46	1.36	-1.13	0.69	0	3	16	10	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	......	......	......	......	......	0.45	......	0.16	T.	5	17	5	9	sw.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	......	......	......	......	......	1.24	......	0.48	T.	8	......	......	......	......	E. M. Lomen.
Sanish	Mountrail	1,835	...	54.1	......	93	26	19	6	46	0.66	......	0.18	0	5	12	5	14	nw.	H. W. Monson.
Sharon	Steele	1,516	7	51.0	......	87	26	22	7	40	3.13	......	0.71	1.2	10	20	2	9	n.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7	......	......	......	......	......	......	......	1.32	......	0.99	......	3	18	7	6	nw.	J. H. Giffey.
Steele	Kidder	1,857	37	52.6	-0.8	88	25	21	6	39	1.54	-1.04	0.80	T	7	21	0	10	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	16	......	......	......	......	......	......	......	2.20	-0.18	1.05	T.	4	11	13	7	......	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	......	......	......	......	......	......	......	0.48	......	0.18	......	7	19	7	5	ne.	J. C. Abbott.
Tioga	Williams	2,279	2	......	......	......	......	......	......	......	0.33	......	0.15	0	3	15	9	7	nw.	Anton Carlson.
Towner	McHenry	1,482	29	54.6	+1.4	91	25†	18	6	52	0.59	-1.62	0.23	0.5	6	13	12	6	nw.	Karl Weber.
Trotters	Golden Valley	......	5	......	......	......	......	......	......	......	1.13	......	0.61	1.0	6	12	10	9	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	17	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. T. Kusler.
Tuttle	Kidder	1,936	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Valley City	Barnes	1,245	25	53.9	+0.4	95	15	23	5†	47	2.71	+0.03	1.44	T.	8	17	6	8	w.	I. C. Robertson.
Velva	McHenry	1,511	4	55.3	......	93	25	20	6	47	0.97	......	0.52	T.	6	9	13	9	nw.	Oscar Anderson.
Verona	LaMoure	1,387	3	......	......	......	......	......	......	......	1.93	......	0.96	..	4	20	2	9	nw.	W. C. Taylor.
Wahpeton	Richland	962	39	55.7	+0.1	98	15	22	7	51	2.75	+0.07	1.10	0	8	20	0	11	nw.	C. G. Luick.
Washburn	McLean	1,731	30	54.6	+0.8	97	24	10	5	56	0.80	-1.27	0.32	T.	6	15	7	9	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. A. Meddaugh.
Williston	Williams	1,878	52	55.2	+1.2	93	25	25	6	44	0.47	-1.59	0.16	0.5	4	17	8	6	n.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	51.8	+0.3	90	25	17	6	50	0.32	-1.60	0.10	0.1	6	19	7	5	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	52.3^{b}	+1.6	94^{b}	15	19^{b}	6	44^{b}	3.04	+0.16	1.28	T.	7	13	4	14	nw.	E. W. Davis.
Zap	Mercer	1,838	16	......	......	......	......	......	......	......	0.84	-1.55	0.45	0	3	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	50	53.2	-1.9	94	15	24	7	41	1.95	-0.94	0.63	1.2	9	11	7	13	n.	U. S. Weather Bureau.
Averages	......	......	......	53.1	+0.3	100	15†	10	5	61	1.41	-0.99	1.63	0.3	6	16	7	8	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: **Berthold Agency**, Elbowoods; Dogden Butte, near Butte; **Energy**, Underwood; **Grand Forks**, University; **Power**, Leonard; Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for May, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			T.					T	.23							T	.03	.05									.65					0.96
Amenia‖	Red					.05	T				.67						T		.76		.08	.03					.07	.28	.73				2.67
Amidon	Lit. Missouri																																
Arnegard (near)	Missouri							.04	.02		T							.16	.10	.06								.21					0.59
Ashley	Missouri				.10					.39	.30							.18										1.23					2.20
Beach‖	Lit. Missouri							.15	.03	T							T	.03		.08								.43					0.72
Berthold Agency	Missouri			T					.28										T	.15								.22			T		0.65
Bismarck ***	Missouri			.03	.39	T.			.07	.06	.06							.11		.03								1.19			T	T	1.94
Bottineau‖	Mouse				.03	T					.06	T							.09	T	.01						.05		.04			T	0.28
Bowman	Grand			T					.76	.08	T.							.01	T	.01								.74	.03				1.63
Cando	Devils Lake				T													.33		.03	T.						.19		.19				0.71
Carrington‖	James				.50					.15	.04							.07	T.	T							.12	.33					1.21
Carson	Heart			.15	.53				.55	.01	.13							.10		.01								1.22	.02				2.72
Cavalier	Red				.45	.12				.57								.35		.16	.03							.42				.03	2.05
Cooperstown	Sheyenne					.20	T				.38								.32	.03	T.						.09		1.00				2.02
Corinth	Missouri								.20									.15	.10														0.45
Courtenay	James				.31					.54	T.						T	.21		T.	T.			.13			.08	.10	[illegible]			.05	2.15
Crosby‖	Mouse								.16	.03								.16		.14								[illegible]					1.50
Devils Lake ***	Devils Lake			.01	.57	T.				.12	.01							.25	.02	.07	.01			T.			.01	.32	[illegible]		T	T	1.42
Dickinson‖	Heart				T				.36	.27	.02								.01	.01	T.							.26	.28				1.21
Dogden Butte	Mouse				.04				.17	T.								.07		.10							.22	.04	.17				0.81
Drake‖	Mouse			.06					.03	.32							.04	.09	.04							.13	T	.08			.02		0.81
Dunn Center‖	Knife								.22	.14		.03								.14							.15	.06	.16				0.90
Dunseith	Mouse					T					.10								T.														0.10
Eckman	Mouse				T.						.01							.09		.14								.20			T.		0.44
Edgeley	James									.10	.62							.31										1.63					2.66
Ellendale***	James				.01	T.			.30	.61	T.					.08		.12		T	T.						.22	.35			.02	T	1.71
Energy	Missouri			T.						.10	.06							T		T								.80	.08				1.04
Epping	Missouri																																
Fairfield	Knife								.56											.25								.63					1.44
Fessenden‖	James					.60					.28							.12	.08	.02								.05	.50				1.65
Forman	Sheyenne									.78	.05							.17			.03							1.10					2.13
Fort Yates	Missouri				.60				.40	.17									.08	T.								.76				.13	2.14
Foxholm (near)	Mouse			T.	T.				T.		.09							.09	T.	.05								.12			.13		0.48
Fryburg	Heart								.66								T	.06		.05								.61		T			1.38
Fullerton	James				.03	T.			T	.59	.15					T.		.27		.03								.68					1.75
Garrison	Missouri			.07					T.		T							.04		T.						.28		.28			T.		0.67
Grafton	Red				.63	T.	T.			.24	.20							.38	T	T.	T.				.10		.07	.43				T.	2.05
Grand Forks ***	Red				.32	T.	.02			.67								.48	T.	.07	.01			.01				1.29					2.87
Granville	Mouse			.12	T.						.24						T.	T.		.02							T.	.10			T.		0.48
Hankinson‖	Red				.10				.25	.25	.55							.40		.08	.05						1.10	.23				T.	3.01
Hannah	Pembina				T.	.14					.25								.10	.06	.06						.04		.15				0.80
Hansboro	Devils Lake				.20						.10									.10													0.40
Hettinger‖	Grand				.02				.49	.20	.10	.02						.06		T.								.23	.88				2.00
Hillsboro	Red				.04					.55								.84		.02	.02				.05			1.62	.26				3.50
Howard (near)	Missouri			T.	T.			.01	T.	T							T	.01	T.	T						T	.07						0.09
Jamestown‖	James					.19	T.			.01	.51							.17	.16	.01	T.				T		T.	.44	1.09				2.54
Langdon‖	Pembina			.10		.15					.20								.12	T.	.05								.36				0.98
Larimore‖	Red					.75					1.00								.35		.20	.01							1.00				3.31
Linton	Missouri				.57				.04	.18	.17							.05		.02								.71	.08				1.82
Lisbon‖	Sheyenne										.75								.30		.05							.46	.29				1.85
McClusky	Missouri				.12						.49									T.								.16	.06				0.83
McLeod	Sheyenne					T.				.53	.08							.39		.06							T.	.42					1.48
Maddock	Sheyenne				.20	T.					.18							.25	T.	T.							.04	.26					0.93
Mandan‖	Missouri				.28					.16	.06	T.						.07	.06	T								.04	1.47				2.14
Manfred	James				.22						.26							.19		.03								.33	.05		T.		1.08
Marmarth	Lit. Missouri			T.				.38	.04									.05	T	.02								.80		.01			1.30
Mary	Lit. Missouri								.38		T.							.22	.05	.04								.55					1.24
Max‖	Missouri				.12				T.			.02						.05	.03	T							.30		.05				0.57
Mayville	Red					.10				.10	.70								.55		.05				.05				.52				2.07
Minot‖	Mouse				.05				.01		.18							.08		.01							.38		.52			.03	1.26
Mohall	Mouse																																
Mott	Cannon Ball			.03				.48			.10							.05										.26	.84				1.70
Napoleon‖	Missouri					.52				.18	.22	.03							.06	.10	.02							.27	.35				1.75
New England	Cannon Ball																																
New Salem	Heart			T.					.05		.10							.02		T.	T.							.99	.06	T.	T.		1.22
Oakes	James					.01	.01		.02	.55	.14	.01					.02	.15			.05							.48				T.	1.44
Park River	Red				.28	T				.20	.09							.29		T.				T.			.05	.26	.10				1.27
Parshall (near)	Missouri			.01					.26		.03							.05										.20					0.55
Pembina‖	Red				T.	.30	.17					.55							.35	T	.25	.10							.83				2.55
Petersburg	Red				.66					.28								.23	.02	.12								.45				.09	1.85
Pettibone	James									.12	.10							.25	T.								.25	.40	.10		.25	.04	1.51
Portal‖	Mouse							.06	.09		.04							.07		.04													0.30
Power	Sheyenne				.10					.50	.10							.45			.20						.35	.40				T.	2.10
Powers Lake	Missouri							.09	.17									.21															0.47
Richardton	Heart			T.					.69		.06							T										.61					1.36
Rugby [near]	Mouse				.16	T.												.08		.05							.02		.14				0.45
Ryder	Missouri			.48					.11	.06								.05		.03						.05		.36			.10		1.24
Sanish‖	Missouri								.15	.18								.15		.05								.13					0.66
Sharon	Red				.49	.01				.49	.01							.35	T.	.06	.05	T.		.71			T.	.71	.25			T.	3.18
Stanton	Missouri			.18							.15							T.										.99					1.32
Steele	Missouri				.80				.02		.15							.07		.02								.08	.40				1.54
Stowers	Cannon Ball			.08						1.05	T.						.05			T.								1.02					2.20
Tagus	Mouse								.18		.08							.06		.06						.01		.07			.02		0.48
Tioga	Missouri								.15									.15	.03														0.33
Towner	Mouse				.19	T.					.23							.01	T	.05				T.			.05	T.	.06		T.		0.59
Trotters	Lit. Missouri							.16	.10								.14		.02	.10								.61		T.			1.13
Turtle Lake	Missouri																																
Tuttle																																	
Valley City	Sheyenne			.07	T.					.58	.10						.40	T.		.01							.04	1.44	.07				2.71
Velva	Mouse				.52	T			T.	T.	.27							.03		.03							.06	T.	.06		T.		0.97
Verona	James									.96						.21											.30		.46				1.93
Wahpeton	Red				.21	.11				.50	.25	.05						.43			.10							1.10					2.75
Washburn	Missouri				.03			T.	T.	.08							.02		T.									.28	.32	.07			0.80
Westhope	Mouse																																
Williston ***	Missouri							.14	.02								T.	.16	.15							T.		T.			T.		0.47
Willow City	Mouse			.02	.10						.08							.02	T	.08								.02				T.	0.32
Wishek‖	Missouri					.50				.20		.30							.21	.05								.50	1.28				3.04
Zap	Knife								.35										.04									.45					0.84
Moorhead, Minn ***	Red				.08	T.				.33	.05					T.		.63	T.	.02	.10	T.		T.			.11	.62				.01	1.95

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	70	74	84	72	65	56	59	61	54	53	62	71	81	87	100	78	67	68	59	50	47	61	83	77	83	100	80	71	64	68	85	70.6
	Minimum	32	35	33	54	27	22	19	24	35	40	35	71	40	47	51	43	48	44	33	30	30	28	34	44	40	52	55	43	44	34	41	37.7
Arnegard	Maximum	68	73	83	46	53	70	71	55	61	54	63	77	87	93	82	82	71	51	43	49	59	72	86	84	96	78	60	77	75	83	89	70.4
	Minimum	43	28	44	29	23	20	41	38	31	40	30	31	37	43	53	42	48	32	24	21	23	31	47	46	48	53	50	40	37	43	50	37.6
Ashley	Maximum	73	72	74	70	41	50	63	56	48	48	59	78	80	83	92	72	65	63	52	42	51	64	84	81	89	87	38	68	66	74	82	67.9
	Minimum	30	27	32	36	24	20	24	30	40	38	32	31	36	42	51	41	48	41	30	26	32	26	46	42	45	63	50	41	44	40	46	37.2
Beach	Maximum	69	72	79	75	52	70	68	54	57	57	59	75	82	92	84	80	74	58	43	52	58	72	86	84	96	82	65	71	72	80	86	71.1
	Minimum	41	31	42	35	20	22	34	37	31	36	33	31	42	49	52	47	58	32	26	26	21	33	50	48	53	53	43	43	40	47	49	39.0
Berthold Agency	Maximum	70	70	82	65	55	65	..	72	60	45	64	72	83	93	83	80	70	60	48	46	56	72	65	90	98	78	68	76	75	80	90	71.0
	Minimum	42	25	42	30	28	17	..	38	35	30	34	34	38	55	48	40	54	35	28	22	26	34	36	48	55	58	50	36	35	42	50	38.2
Bismarck	Maximum	68	63	79	62	48	59	66	53	55	47	61	69	76	86	87	74	69	63	46	44	53	70	90	82	93	79	63	71	70	74	84	67.9
	Minimum	41	31	41	31	26	24	31	44	40	39	37	34	41	50	56	43	52	37	30	23	34	33	50	56	51	62	47	43	44	41	53	40.8
Bottineau §§	Maximum	62	63	80	58	48	60	60	64	59	52	62	70	82	88	80	72	70	60	48	40	54	62	86	76	91	72	58	75	65	73	85	66.9
	Minimum	40	22	24	36	21	15	18	30	40	36	35	35	40	45	50	35	45	40	28	22	25	30	32	45	46	50	54	38	36	36	45	35.3
Cando	Maximum	80	62	80	68	38	56	58	66	64	64	63	70	81	87	88	72	70	70	57	34	48	66	83	81	87	84	80	81	75	79	88	70.3
	Minimum	43	26	51	31	32	20	23	30	41	38	35	33	38	48	48	35	39	43	28	27	31	24	46	49	42	54	49	41	35	41	34	37.3
Carrington §§	Maximum	61	78	58	34	52	58	61	54	48	61	68	78	86	85	69	66	65	37	37	47	66	85	78	88	81	64	71	65	72	84	82	65.8
	Minimum	23	24	43	23	24	24	27	31	39	33	31	32	44	52	35	39	42	30	26	26	29	30	44	42	47	53	43	39	35	47	51	35.7
Crosby §§	Maximum	61	64	81	34	51	67	68	54	61	53	63	73	80	92	78	79	67	48	48	47	57	69	80	82	94	71	68	73	71	75	84	67.5
	Minimum	34	30	40	30	24	25	31	39	32	39	32	35	41	47	54	47	51	45	26	21	24	31	40	40	54	51	48	44	37	42	49	38.2
Devils Lake	Maximum	61	59	78	65	35	50	57	62	54	51	60	68	80	86	76	76	65	63	42	37	45	65	82	73	85	77	62	72	64	70	84	64.5
	Minimum	36	26	40	25	24	24	28	34	41	37	34	32	41	52	47	38	50	42	28	27	31	30	47	49	44	56	48	45	38	36	52	38.2
Dickinson §§	Maximum	67	70	81	43	51	67	70	51	58	46	58	70	79	88	82	73	68	58	40	47	57	72	87	83	95	73	52	71	71	80	85	67.5
	Minimum	44	28	33	35	25	17	26	40	34	37	38	33	39	47	53	43	48	42	28	21	18	27	39	49	52	58	48	40	42	44	51	38.0
Dunn Center §§	Maximum	67	71	83	40	51	68	71	50	58	46	62	72	82	90	81	79	67	58	41	47	57	74	87	82	96	71	53	73	71	80	85	68.2
	Minimum	44	25	36	35	26	16	35	41	34	40	39	34	34	44	48	39	47	45	29	21	18	29	41	48	51	57	52	40	36	39	44	37.6
Dunseith	Maximum	80	58	61	80	34	42	52	60	64	53	49	58	69	81	87	72	78	67	59	38	52	68	83	70	88	88	78	78	86	84	85	67.8
	Minimum	38	28	37	32	21	21	27	35	43	35	35	28	39	50	49	38	48	39	27	23	36	28	45	45	65	56	41	46	38	42	36	37.8
Edgeley	Maximum	73	75	69	52	56	60	56	56	48	48	60	67	76	84	92	76	68	62	55	46	45	64	82	82	87	93	86	79	67	74	83	68.4
	Minimum	39	22	38	26	21	19	20	27	42	39	33	30	39	47	51	40	47	40	32	27	31	26	43	45	41	61	50	40	44	31	47	36.7
Ellendale	Maximum	69	61	75	64	38	55	59	51	48	47	58	66	75	84	93	71	63	65	41	40	45	64	81	80	87	91	69	68	64	74	82	65.4
	Minimum	38	29	33	32	25	22	23	29	40	41	35	34	46	44	53	43	48	41	31	29	32	25	48	52	46	59	51	47	46	39	48	39.0
Fessenden §§	Maximum	73	65	85	67	40	55	64	66	55	52	67	71	81	87	98	74	69	76	40	37	48	68	87	79	92	82	64	83	69	77	89	69.7
	Minimum	41	23	34	40	23	22	26	36	42	49	35	33	38	48	52	38	49	39	29	24	26	28	41	51	40	58	50	41	37	35	46	37.9
Foxholm (near)	Maximum	71	65	79	68	47	61	69	55	57	50	60	69	81	89	85	75	69	61	48	41	54	69	86	77	92	86	69	76	69	75	85	69.0
	Minimum	39	26	40	28	28	19	28	36	37	37	31	34	41	51	60	37	50	42	25	20	32	33	47	45	45	55	48	40	35	38	47	37.9
Fullerton	Maximum	69	61	77	69	37	55	59	55	48	48	59	68	77	85	92	72	66	64	52	38	46	66	82	79	89	91	70	69	64	75	70	66.2
	Minimum	51	28	32	37	27	21	22	28	35	40	34	32	42	46	51	42	48	42	31	28	34	26	45	53	44	56	52	48	45	38	44	38.8
Garrison	Maximum	68	65	78	64	49	63	68	56	68	52	63	73	80	89	81	76	74	61	47	43	60	70	88	83	94	89	68	76	74	75	77	70.1
	Minimum	45	30	40	31	31	19	42	44	38	39	35	36	39	50	52	40	54	42	29	21	35	31	45	48	50	58	47	42	38	40	41	39.7
Grafton	Maximum	79	59	80	79	36	47	50	63	62	56	63	70	81	87	87	70	68	67	59	39	45	62	76	78	80	83	75	71	72	67	83	67.6
	Minimum	44	30	34	35	25	21	25	29	43	42	35	36	40	55	48	40	45	44	33	29	34	26	45	54	42	59	55	48	40	31	49	39.2
Grand Forks	Maximum	73	58	77	73	35	47	56	62	47	56	61	68	80	86	82	68	65	68	45	38	44	61	80	73	80	92	72	74	68	66	79	65.6
	Minimum	39	31	34	33	26	22	26	31	41	39	33	30	41	49	54	42	50	43	33	30	34	29	45	50	42	64	49	48	41	35	50	39.2
Granville	Maximum	67	68	80	60	48	60	67	60	56	49	65	70	81	85	82	75	72	62	48	46	54	70	88	79	93	82	59	79	69	77	88	69.0
	Minimum	38	28	24	29	24	17	30	42	40	38	35	30	38	52	50	35	50	42	29	23	34	31	48	44	42	55	47	41	34	37	48	37.3
Hansboro	Maximum	55	50	74	65	40	50	50	55	50	45	50	60	65	70	60	65	65	55	40	40	40	60	70	70	85	74	60	65	60	70	80	59.0
	Minimum	35	18	30	20	18	15	18	25	34	34	25	30	36	48	28	35	47	35	22	22	27	23	42	40	35	48	46	35	25	22	40	30.9
Hettinger §§	Maximum	69	67	79	46	52	66	67	49	51	45	56	67	75	86	84	75	67	59	43	50	58	72	88	84	92	76	59	69	69	76	84	67.1
	Minimum	41	30	36	39	21	17	26	38	35	37	37	31	38	43	52	45	50	42	29	25	17	26	37	49	54	59	47	42	42	45	50	38.1
Hillsboro	Maximum	70	68	70	69	37	45	58	60	60	52	58	64	79	85	91	75	68	62	62	37	47	60	80	80	81	92	77	70	70	72	..	[a]66.6
	Minimum	47	36	40	37	24	23	19	24	42	37	34	34	43	49	50	40	42	44	34	28	34	30	40	50	54	55	57	45	42	38	..	[a]39.1
Howard (near)	Maximum	70	70	80	61	52	68	66	58	60	54	58	64	84	92	76	89	74	54	48	49	57	68	82	82	99	79	76	78	76	82	84	70.7
	Minimum	35	28	43	22	22	24	40	36	25	34	28	34	54	44	38	40	39	32	26	19	24	29	28	46	45	45	45	44	34	42	45	35.2
Jamestown §§	Maximum	67	63	76	58	42	53	61	58	48	51	60	70	78	86	92	78	66	64	41	37	46	66	83	78	81	89	67	71	63	71	81	66.0
	Minimum	40	28	36	42	24	23	23	29	40	33	39	34	37	49	52	40	47	41	29	26	28	22	36	51	43	56	51	44	42	38	45	37.7
Langdon §§	Maximum	55	79	65	61	38	48	48	62	54	50	59	69	81	85	70	68	63	60	47	40	43	65	84	70	80	76	72	74	63	69	80	63.8
	Minimum	40	25	49	25	21	20	21	28	37	39	31	30	40	44	52	34	43	40	30	27	28	27	31	44	43	44	50	44	35	31	45	35.4
Larimore §§	Maximum	74	70	79	60	40	44	59	63	49	53	63	70	81	87	82	70	64	67	40	37	42	62	82	73	81	89	70	73	61	68	91	65.9
	Minimum	42	30	31	40	25	23	24	29	39	39	34	34	40	51	55	40	45	40	34	27	30	27	35	45	41	52	55	45	40	35	46	37.8
Linton	Maximum	77	68	77	73	47	59	65	57	50	49	61	70	79	85	90	80	70	66	54	46	51	52	89	86	91	88	74	71	69	81	86	69.7
	Minimum	45	23	34	35	25	20	29	38	39	38	33	29	34	35	53	42	51	42	29	21	26	27	28	48	49	67	45	37	41	36	34	36.5
Lisbon §§	Maximum	69	67	77	68	35	49	58	69	47	50	61	73	86	86	94	76	63	66	40	40	46	63	31	79	84	93	75	70	64	73	85	66.7
	Minimum	52	35	33	50	29	21	22	28	35	41	38	52	38	47	52	45	50	44	35	30	35	25	42	39	42	56	59	49	46	36	51	40.5
McClusky	Maximum	70	62	78	74	46	59	62	65	52	50	60	69	75	85	82	73	69	62	45	40	54	67	86	83	93	83	70	74	69	76	84	68.3
	Minimum	45	25	37	30	22	18	25	31	39	37	34	32	34	49	52	44	54	44	28	18	33	31	47	49	49	60	50	40	37	40	47	38.1
Maddock	Maximum	80	62	80	79	36	54	60	64	62	55	60	69	80	86	85	73	72	63	56	37	46	66	81	74	90	78	54	72	65	71	80	67.4
	Minimum	39	22	34	33	22	15	25	30	41	38	35	29	35	47	45	33	49	42	28	25	30	28	42	45	38	46	50	40	37	30	49	35.5
Marmarth	Maximum	68	70	79	61	52	68	72	59	52	52	59	71	80	89	85	79	73	61	44	49	56	74	87	82	94	88	62	72	72	80	87	70.2
	Minimum	38	31	47	40	24	22	42	38	31	40	33	30	40	42	50	47	53	38	29	29	22	33	46	48	53	58	49	40	43	43	47	39.5
Minot §§	Maximum	67	66	79	40	49	61	68	50	47	48	62	72	83	90	78	75	79	60	48	40	55	70	87	74	92	71	56	56	69	74	85	66.2
	Minimum	43	23	40	38	24	15	32	43	38	38	33	29	38	52	59	40	48	45	29	24	30	30	47	45	50	56	54	42	37	40	46	39.0
Mohall	Maximum	70	68	74	50	40	70	70	54	..	..	58	68	82	88	78	82	74	62	46	57	68	74	85	85	95	76	84	88	78	70	88	[b]71.6
	Minimum	40	24	33	32	24	18	31	36	..	..	30	28	40	38	58	62	61	38	28	26	30	33	33	42	46	46	58	39	36	40	40	[b]37.6
Mott	Maximum	68	79	78	45	50	65	67	50	53	53	60	68	77	86	86	78	75	60	42	48	57	71	78	89	92	76	77	70	71	77	78	68.5
	Minimum	32	40	39	22	20	28	40	37	36	35	32	39	43	54	45	46	45	30	26	21	28	40	42	50	53	48	50	42	43	42	44	38.5
Napoleon §§	Maximum	68	65	78	57	43	56	64	56	50	45	60	70	76	85	91	73	66	63	38	41	50	68	86	80	91	82	61	70	67	78	85	66.5
	Minimum	45	24	31	53	23	20	25	32	39	37	32	30	42	49	54	38	48	44	28	23	31	25	47	53	47	66	49	40	41	38	49	39.0
New Salem	Maximum	70	69	80	64	49	62	67	63	63	55	62	71	73	84	88	74	71	64	45	46	55	72	90	84	95	76	70	70	68	78	79	69.6
	Minimum	44	25	44	36	24	20	28	41	35	37	36	33	44	49	54	51	49	39	27	20	25	24	52	51	51	50	44	41	48	41	44	38.9
Oakes	Maximum	69	60	75	70	40	55	57	54	45	46	58	67	76	84	93	76	66	67	55	39	42	65	81	80	87	94	84	70	66	74	84	67.1
	Minimum	52	30	31	40	27	20	20	28	43	40	34	32	36	40	56	43	50	43	33	29	22	41	53	53	40	63	55	48	46	36	50	39.8
Pembina §§	Maximum	56	78	80	55	58	46	53	63	63	54	66	78	81	90	72	69	60	69	44	30	48	63	69	73	80	81	71	74	70	79	81	66.3
	Minimum	35	26	34	46	25	17	27	29	33	32	33	28	34	43	51	36	40	46	38	28	31	28	42	43	41	49	47	42	35	28	35	35.5
Sharon	Maximum	67	60	76	64	31	48	56	59	53	50	59	68	78	84	86	67	60	65	48	37	44	60	80	72	80	87	69	71	62	64	80	64.0
	Minimum	41	27	36	31	24	23	22	29	40	39	34	37	39	45	55	40	47	40	30	27	32	26	42	51	45	57	50	45	39	36	48	38.0
Steele	Maximum	66	62	75	46	36	55	60	57	52	51	58	66	71	82	87	73	68	66	50	43	47	66	81	84	88	78	73	69	67	72	80	65.5
	Minimum	43	26	36	34	23	21	29	36	40	39	35	33	41	47	53	49	50	43	29	24	31	30	50	51	50	64	50	42	41	40	48	39.6
Towner	Maximum	82	65	81	72	49	58	65	63	56	57	63	70	82	88	88	80	70	64	49	45	52	70	88	80	91	91	72	79	75	75	89	71.3
	Minimum	41	23	38	31	24	18	30	42	41	39	28	33	39	36	52	36	54	43	29	21	33	29	46	46	44	59	53	42	34	36	52	37.8
Valley City	Maximum	68	78	75	42	58	54	58	60	55	50	60	70	78	86	95	85	75	69	63	38	49	66	85	83	86	91	78	71	69	73	84	69.3
	Minimum	30	31	38	25	22	23	30	28	43	40	33	30	34	48	54	48	48	43	32	28	33	33	43	55	40	58	49	46	43	37	49	38.5
Wahpeton	Maximum	77	62	77	78	55	53	57	57	54	49	63	70	78	85	98	97	73	69	65	41	45	60	79	80	83	96	92	79	72	69	83	70.8
	Minimum	55	31	35	49	29	25	22	30	30	41	36	34	40	45	57	46	45	45	36	30	35	28	26	56	41	63	62	50	47	40	51	40.6
Westhope	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Williston	Maximum	66	73	79	49	52	68	66	57	60	51	61	75	85	92	77	79	68	54	48	49	58	70	84	83	93	71	62	75	72	81	84	69.1
	Minimum	42	38	48	29	27	25	44	40	32	39	30	36	41	56	58	54	52	31	30	26	26	38	53	47	58	52	52	39	38	47	50	41.2
Moorhead, Minn	Maximum	66	59	76	71	32	48	55	59	53	53	61	69	78	85	94	69	65	66	45	38	44	59	79	75	81	93	78	70	61	67	82	65.5
	Minimum	41	34	35	32	28	26	24	34	43	41	37	35	46	48	55	46	49	45	31	30	34	32	42	55	48	60	52	49	47	39	52	41.0

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing. [b] 2 days, etc.

[WBO, Minneapolis, 6-20-31—1000]

UNNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

Vol. XXXX   Bismarck, N. D., June, 1931   No. 6

GENERAL SUMMARY

With the opening of June there was a general deficiency in soil moisture in all parts of the state, particularly in the west and central portions, as all months since November 1930, with the exception of March, produced less than the normal precipitation. The rainfall during June was unevenly distributed geographically, with the result that crops deteriorated rapidly in some of the western counties, and crops for the state as a whole are below normal. Spring wheat generally headed short, as did rye, oats and barley, much of these three crops being cut for hay, as the hay crop is short in many sections.

TEMPERATURE

The mean temperature for the state was 68.1°, or 5.9° above the normal, and 5.1° higher than the mean for June, 1930. The highest mean reported was 71.7° at Hankinson, Richland County; the lowest was 59.2° at Hansboro, Towner County. The highest temperature reported was 110° at Arnegard, McKenzie County on the 16th, and at Berthold Agency, McLean County on the 17th; the lowest was 27° at Hansboro, Towner County on the 7th. The greatest monthly range of temperature was 79° at Eckman, Bottineau County; the least was 60° at Mohall, Renville County, and at Washburn, McLean County. The greatest daily range in temperature was 58° at Bottineau, Bottineau County on the 18th.

PRECIPITATION

The average precipitation for the state was 2.35 inches, or .10 inches below the normal, and 0.74 inch less than the average for June, 1930. The greatest monthly amount reported was 9.27 inches at McLeod, Ransom County; the least was 0.11 inch at Powers Lake, Burke County. The greatest amount recorded in any 24 consecutive hours was 6.00 inches at McLeod, Ransom County on the 10th. The average number of days with 0.01 inch or more of precipitation was 8.

AURORAS

Auroras were observed Bottineau, Bowman, Foxholm, and Velva on the 1st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
								Average	Highest*	Direction	Date
Bismarck	29.83	30.30	4	29.38	17	57	5,959	8.3	34§	e.	21
Devils Lake	29.84	30.29	15	29.36	17	44	6,066	8.4	31§	nw.	27
Ellendale	29.86	30.27	15	29.47	17	56	8,206	11.1	48§	nw.	21
Grand Forks	29.82	30.27	15	29.48	17	90	......	.....	..	.....	...
Williston	29.82	30.29	4	29.29	17	48	5,458	7.6	37§	w.	27
Moorhead, Minn	29.85	30.28	15	29.49	17	58	5,090	7.1	24§	e.	21
Av'ges and extremes	29.84	30.30	4	29.29	17	.....	......	8.6	48§	nw.	21

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. c't.	Average per cent			Lowest observed	Date
					7 a. m.	Mean noon	7 p. m.		
Bismarck	304.0	475.1	64	+ 3	74	47	43	14	18
Devils Lake	315.3	478.7	66	+ 6	73	45	48	9	18
Ellendale	348.3	470.9	74	+13	78	54	...	28	5
Grand Forks	......	......	......	......	74	....	56	......	...
Williston	324.8	478.7	68	+ 7	66	29	34	10	16
Moorhead, Minn	357.9	475.1	75	+12	74	54	54	23	5†
Averages and extremes	330.1	475.7	69	+ 8	73	48	51	9	18

† And other dates.

COMPARATIVE STATE DATA FOR JUNE

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	60.5	−2.0	94	28	3.35	−0.10	8	11	9	10	nw.
1893	67.4	+4.9	103	33	3.38	−0.07	9	13	10	7	s.
1894	68.8	+6.3	103	25	3.44	−0.01	7	17	6	7	se.
1895	59.7	−2.8	97	29	4.67	+1.22	12	8	13	9	nw.
1896	65.6	+3.1	97	37	3.80	+0.35	9	16	9	5	s.
1897	61.7	−0.8	109	20	3.75	+0.30	9	11	10	9	se.
1898	62.6	+0.1	105	26	3.19	−0.26	9	10	10	10	nw.
1899	62.2	−0.3	105	30	3.81	+0.36	10	12	11	7	w.
1900	66.9	+4.4	109	27	1.39	−2.06	5	15	11	4	se.
1901	61.6	−0.9	95	22	6.14	+2.69	15	10	11	9	nw
1902	58.0	−4.5	97	28	3.65	+0.20	11	12	9	9	nw
1903	62.4	−0.1	96	27	1.44	−2.01	4	17	8	5	se.
1904	61.4	−1.1	100	30	5.77	+2.32	11	13	8	9	nw.
1905	59.7	−2.8	97	32	4.52	+1.07	12	10	7	13	nw.
1906	62.0	−0.5	95	32	4.06	+0.61	11	13	8	9	nw.
1907	61.9	−0.6	95	25	2.85	−0.60	10	12	10	8	nw.
1908	60.4	−2.1	93	27	3.37	−0.08	10	12	9	9	nw.
1909	62.9	+0.4	98	28	3.21	−0.24	10	12	11	7	e.
1910	67.3	+4.8	111	19	1.83	−1.62	6	16	9	5	se.
1911	66.9	+4.4	108	25	3.12	−0.33	9	13	10	7	se.
1912	61.8	−0.7	104	28	2.05	−1.40	6	16	8	6	nw.
1913	65.8	+3.3	101	27	2.35	−1.10	8	16	9	5	se.
1914	62.2	−0.3	93	29	6.26	+2.81	13	9	11	10	se.
1915	56.7	−5.8	94	20	5.00	+1.55	12	9	12	9	nw.
1916	58.0	−4.5	92	29	3.89	+0.44	11	10	11	9	nw.
1917	59.7	−2.8	103	19	2.09	−1.36	8	13	11	6	nw.
1918	63.3	+0.8	102	27	1.63	−1.82	7	14	11	5	nw.
1919	67.2	+4.7	108	22	2.31	−1.14	5	15	10	5	se.
1920	62.2	−0.3	98	26	3.62	+0.17	11	12	12	6	se.
1921	68.2	+5.7	108	30	3.51	+0.06	9	14	10	6	se.
1922	63.5	+1.0	108	30	3.78	+0.33	9	15	8	7	nw.
1923	66.1	+3.6	100	30	3.82	+0.37	8	13	12	5	se.
1924	58.6	−3.9	89	26	4.17	+0.72	11	10	12	8	nw.
1925	61.5	−1.0	98	30	6.07	+2.62	14	11	10	9	nw.
1926	60.7	−1.8	104	22	2.65	−0.80	9	13	9	8	nw.
1927	61.2	−1.3	99	22	2.84	−0.61	9	11	13	6	nw.
1928	58.2	−4.3	92	24	5.07	+1.62	12	10	10	10	nw.
1929	61.4	−1.1	98	21	1.44	−2.01	7	16	9	5	nw.
1930	63.3	+0.8	96	30	3.09	−0.36	10	13	11	6	nw.
1931	68.4	+5.9	110	27	2.35	−1.10	8	14	10	6	se.
Av.	62.5	....	111*	19*	3.45	....	9	12	10	8	nw.

*Extremes.

Climatological Data for June, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days					Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	
Alpha	Golden Valley	......	5	......	......	......	......	......	......	......	3.05	......	1.72	0	9	......	......	......	......	H. A. Bury.
Amenia	Cass	954	35	67.6	+ 4.2	100	29†	35	7	44	3.66	− 0.13	1.28	0	9	13	8	9	s.	I. Idso.
Amidon	Slope	......	16	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	R. R. Beebe.
Arnegard (near)	McKenzie	......	18	69.5	+ 7.3	110	16	40	18	48	1.83	−1.33	0.60	0	7	19	9	2	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	69.0	+ 6.6	101	29	38	5†	37	3.96	+0.42	1.70	0	7	18	10	2	se.	H. D. Piper.
Beach	Golden Valley	2,759	25	68.6	+ 6.9	106	16	38	5	43	2.41	−1.48	0.78	0	8	8	20	2	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	69.8	+ 7.0	110	17	38	5	48	2.67	− 1.21	0.97	0	5	20	4	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	69.6	+ 5.9	104	28	43	5	35	1.66	−1.69	1.21	0	9	12	12	6	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	65.8	+ 4.5	107	18	35	7	58	1.51	1.80	0.64	0	8	6	23	1	......	N. D. School of Forestry.
Bowman	Bowman	2,961	17	68.8	+ 6.3	103	16	35	5	44	1.27	2.22	0.61	0	8	17	8	5	ne.	George Larsen.
Cando	Towner	1,488	30	68.8	+ 7.3	99	17	32	8	50	1.17	−2.43	0.38	0	5	7	15	8	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	66.6	+ 3.6	101	27	34	6	39	3.30	− 0.21	1.00	0	8	18	6	6	w.	L. A. Swanson.
Carson	Grant	2,500	19	68.2	+ 5.8	102	28	35	5	46	2.46	−1.61	1.07	0	8	16	11	3	nw.	J. W. Evens.
Cavalier	Pembina	894	21	......	......	......	......	......	......	......	1.46	−1.46	0.59	0	4	18	7	5	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	34	......	......	......	......	......	......	......	1.65	−1.91	1.12	0	7	16	3	11	ne	Theo. Marquardt.
Corinth	Williams	2,180	3	......	......	......	......	......	......	......	1.07	......	0.65	0	4	20	4	6	sw.	W. A. Clem.
Crosby	Divide	1,954	24	67.6	+ 6.5	104	16	41	20	43	1.17	1.99	0.87	0	5	6	22	2	se.	John Jensen.
Devils Lake	Ramsey	1,478	34	66.8	+ 4.9	98	17	36	7	36	2.54	− 1.02	0.83	0	12	8	12	10	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	67.8	+ 6.1	106	16	37	5	48	3.46	+0.27	1.58	0	12	9	16	5	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,850	5	67.5	......	102	17	37	4†	40	2.77	......	0.65	0	10	14	10	6	......	R. L. Williams.
Drake	McHenry	1,634	2	67.4	......	103	16†	35	6	42	1.34	......	0.47	0	10	12	9	9	se.	J. Rindt.
Dunn Center	Dunn	2,191	32	68.1	+ 6.1	106	16	40	5	46	2.32	−1.69	0.78	0	10	11	11	8	e.	W. F. Moede.
Dunseith	Rolette	1,682	35	67.8	+ 6.9	105	17	33	8	47	1.67	−1.41	0.85	0	5	19	5	6	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	67.4	+ 5.8	108	17	29	4	51	0.90	−2.04	0.21	0	9	6	19	5	se.	C. E. Strock.
Edgeley	LaMoure	1,568	30	69.2^{c}	+ 6.3	101	29	34^{c}	5	40^{c}	4.43	+0.74	1.36	0	8	9	18	3	se.	O. A. Thompson.
Ellendale	Dickey	1,449	36	68.8	+ 2.8	102	28	40	7	36	3.72	−0.87	1.98	0	10	7	15	8	ne.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	19	69.6	......	102	16	39	7	42	1.34	−2.14	0.57	0	7	13	16	1	e.	H. S. Solenberger.
Epping	Williams	2,224	23	71.4^{e}	......	108^{e}	16	......	......	50^{e}	0.91	−2.66	0.25	0	6	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	2	......	......	......	......	......	......	......	2.28	......	0.91	0	6	12	15	3	se.	F. R. Hecker.
Fessenden	Wells	1,610	19	69.1	+ 7.4	103	17	34	7	46	1.75	−2.08	1.18	0	5	11	15	4	se.	T. D. Monsen.
Forman	Sargent	1,249	38	......	......	......	......	......	......	......	6.25	+2.76	3.00	0	11	21	3	6	se.	Helge Dyste.
Fort Yates	Sioux	1,670	31	71.4	+ 5.2	106	28	40	8	57	2.71	− 0.79	1.22	0	5	19	6	5	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	68.1	......	106	17	38	4†	46	1.65	−1.44	0.35	0	6	5	16	9	se	E. C. Bierbaum.
Fryburg	Billings	2,790	13	......	......	......	......	......	......	......	3.44	+0.05	1.37	0	10	12	15	3	nw.	Verne King.
Fullerton	Dickey	1,439	33	69.1	+ 5.7	104	28	39	7	38	3.35	−0.40	1.46	0	9	15	11	4	ne.	F. O. Alin.
Gackle	Logan	1,951	1	......	......	......	......	......	......	......	2.51	......	1.30	0	7	17	6	7	ne.	Geo. Hummel.
Garrison	McLean	1,901	54	69.0	+ 6.8	104	28	41	7	42	1.54	−1.88	0.48	0	8	14	7	9	ne.	W. F. Robinson.
Grafton	Walsh	827	39	68.8	+ 6.0	102	29	35	7	40	1.37	−1.99	0.40	0	7	15	10	5	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	40	67.8	+ 4.8	99	30	32	7	37	2.81	−0.61	1.07	0	13	19	7	4	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	68.0	+ 5.8	107	17	34	4	48	2.23	−0.66	0.63	0	9	10	16	4	se.	W. A. Christianson.
Hankinson	Richland	1,068	2	71.7	......	105	27†	39	6	48	4.35	......	1.18	0	10	22	2	7	s.	R. G. Stock.
Hannah	Cavalier	1,568	39	......	......	......	......	......	......	......	0.98	2.42	0.33	0	5	......	......	......	......	James Meier.
Hansboro	Towner	1,597	23	59.2	− 1.2	101	17	27	7	54	1.30	−1.79	0.45	0	5	15	9	6	se.	C. F. Backorby
Hettinger	Adams	2,675	24	69.0	+ 6.1	104	28	37	5	46	2.29	− 1.31	1.02	0	6	16	13	1	ne.	C. H. Plath.
Hillsboro	Traill	901	25	68.4	+ 4.2	98	29†	34	7	45	3.04	−0.38	0.70	0	9	15	10	5	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	24	70.8	+10.6	105	17	44	4†	47	0.97	−1.81	0.55	0	6	14	12	4	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	67.6	+ 4.4	103	28	42	5	44	2.30	−1.50	1.12	0	7	11	12	7	......	S. Calvenage.
Langdon	Cavalier	1,615	35	64.2	+ 4.1	98	17	30	7	41	2.23	−1.18	0.75	0	6	22	5	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	66.5	+ 4.1	102	28	33	7	47	1.16	− 2.78	0.40	0	8	18	3	9	n.	Reuben Gray.
Linton	Emmons	1,711	14	69.6	+ 5.3	107	29	32	5	52	2.33	−0.23	0.80	0	7	13	15	2	se.	Rev. E. J. Oberding.
Lisbon	Ransom	1,091	27	69.0	+ 5.5	101	28	37	7	34	6.67	+2.71	1.61	0	10	10	7	13	......	N. S. Lindstrom.
McClusky	Sheridan	1,943	13	67.6	......	103	17	37	7	41	2.27	−0.88	0.73	0	7	19	8	3	se.	Edw. Tapley.
McLeod	Ransom	1,075	20	68.4	+ 3.9	101	28	35	11	43	9.27	+5.15	6.00	0	12	15	7	8	se.	J. G. Carlson.
Maddock	Benson	1,604	16	67.4	+ 6.3	101	17	31	7	43	1.64	−1.74	0.61	0	7	6	15	9	nw.	A. T. Felland.
Mandan	Morton	1,750	17	68.9	+ 5.6	102	28	40	5	40	1.65	−1.68	0.92	0	8	10	4	16	e.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28	......	......	......	......	......	......	......	1.52	2.10	0.52	0	8	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	22	70.8	+ 8.8	105	16	35	5	46	1.58	−1.68	0.79	0	9	8	11	11	e.	S. P. Grane.
Mary	McKenzie	......	2	......	......	......	......	......	......	......	1.76	......	0.65	0	6	18	8	4	nw.	Fred Hartman.
Max	McLean	2,093	2	68.7	......	109	16	39	5	52	2.30	......	0.58	0	9	......	......	......	ne.	A. W. Rice.
Mayville	Traill	975	35	68.6	+ 4.6	100	30	33	7	37	2.17	−1.24	0.42	0	10	20	0	10	e.	H. B. Addcott.
Minot	Ward	1,557	35	67.6	+ 5.3	105	17	39	4†	45	1.65	−1.57	0.54	0	10	14	8	8	w.	Julia B. Rue.
Mohall	Renville	1,616	37	71.5	+10.4	108	17	48	2†	46	1.28	−2.02	0.60	0	7	6	23	1	se.	E. H. Wolsey.
Mott	Hettinger	2,424	24	69.6	+ 5.5	102	28	40	4	36	1.69	−1.85	0.92	0	8	9	9	12	se.	O. H. Opland.
Napoleon	Logan	1,955	39	68.3	+ 5.9	105	29	37	5	41	2.25	−1.28	1.28	0	8	18	5	7	se.	C. J. Hoof.
New England	Hettinger	2,400	37	70.1	+ 7.8	104	16	37	4	44	2.78	−0.12	1.06	0	9	11	14	5	se.	F. S. Seight.
New Salem	Morton	2,163	27	69.2	+ 6.3	103	16	41	5	44	3.15	−0.28	1.00	0	9	15	13	2	se.	I. Christiansen.
Oakes	Dickey	1,318	2	70.0	......	104	28	37	7	36	4.23	......	2.66	0	11	8	20	2	ne.	Eugene Naylor.
Park River	Walsh	998	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. B. Wright.
Parshall (near)	Mountrail	......	16	......	......	......	......	......	......	......	1.86	1.23	0.43	0	10	10	18	2	se.	C. E. Shubert.
Pembina	Pembina	789	57	66.2	+ 3.5	98	17†	28	7	48	1.66	−1.94	0.65	0	4	9	5	6	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	......	......	......	......	......	......	......	1.13	......	0.35	0	10	17	6	7	s.	Chas. Ouradnik.
Pettibone	Kidder	1,856	22	68.7	+ 7.2	102	28†	37	7	43	3.56	+0.40	1.48	0	7	11	7	12	ne.	A. L. Carlson.
Portal	Burke	1,954	26	67.6	+ 8.4	104	15†	36	3	48	1.50	−1.85	0.68	0	5	13	10	7	w.	C. T. Holmes.
Power‡‡	Richland	1,020	37	......	......	......	......	......	......	......	4.05	......	......	......	......	......	......	......	......	Frank B. Power.
Powers Lake	Burke	2,205	26	60.6	......	106	16	34	3	39	0.11	−3.44	0.06	0	2	19	11	0	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	68.1	+ 5.5	103	16	38	5	44	4.06	+0.61	1.81	0	10	14	11	5	ne.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	......	......	......	......	......	1.08	......	0.40	0	8	14	11	5	se.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	......	......	......	......	......	1.68	......	0.51	0	8	......	......	......	......	E. M. Loreen.
Sanish	Mountrail	1,835	......	69.6	......	107	17	41	7	45	1.27	......	0.45	0	9	5	11	14	nw.	H. W. Monson.
Sharon	Steele	1,516	7	67.2	......	99	28†	36	7	38	2.14	......	0.78	0	12	16	9	5	sw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7	......	......	......	......	......	......	......	1.23	......	0.55	0	6	18	5	7	se.	I. H. Giffey.
Steele	Kidder	1,857	37	69.1	+ 6.6	105	29	38	7	38	2.32	−1.18	1.20	0	8	20	0	10	se.	V. A. Laney.
Stowers‡‡	Adams	2,325	16	......	......	......	......	......	......	......	2.10	−1.35	0.90	0	5	1	23	6	......	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	......	......	......	......	......	......	......	0.99	......	0.40	0	10	17	9	4	nw.	J. C. Abbott.
Tioga	Williams	2,279	2	......	......	......	......	......	......	......	1.16	......	0.45	0	6	10	12	8	nw.	Anton Carlson.
Towner	McHenry	1,482	29	68.7	+ 5.9	106^{b}	17	34^{c}	7	47^{c}	1.40	−1.70	0.55	0	9	......	......	......	......	Karl Weber.
Trotters	Golden Valley	......	5	......	......	......	......	......	......	......	2.46	......	0.85	0	6	14	10	6	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	17	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. T. Kusler.
Tuttle	Kidder	1,936	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Valley City	Barnes	1,245	25	69.1	+ 6.0	101	28†	37	7	38	3.03	−0.17	0.83	0	8	15	11	4	e.	J. C. Robertson.
Velva	McHenry	1,511	4	69.4	......	107	17	35	7	47	2.22	......	0.73	0	9	10	10	10	w.	Oscar Anderson.
Verona	LaMoure	1,387	3	......	......	......	......	......	......	......	4.74	......	1.32	0	7	20	5	5	nw.	W. C. Taylor.
Wahpeton	Richland	962	39	71.0	+ 5.9	102	28†	29	7	41	5.25	+1.39	1.23	0	13	20	0	10	se.	C. G. Luick.
Washburn	McLean	1,731	30	69.4	+ 5.3	101	17	41	7	41	2.50	− 0.81	0.70	0	8	12	14	4	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	69.9^{b}	+ 7.9	109^{b}	17	35^{b}	7	51	1.56	−1.45	0.78	0	6	......	......	......	......	C. M. Condit.
Williston	Williams	1,878	52	69.4	+ 6.7	108	16	44	7	43	1.24	−2.19	0.47	0	7	14	10	6	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	66.8^{d}	+ 5.8	107^{d}	17	29^{d}	7	50^{d}	2.09	−1.02	1.37	0	9	17	10	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	67.0^{d}	+ 4.7	101^{d}	29	35^{d}	5	40^{d}	4.10	+1.18	2.15	0	7	......	......	......	ne.	E. W. Davis.
Zap	Mercer	1,838	16	......	......	......	......	......	......	......	1.66	−2.11	0.60	0	7	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	50	69.0	+ 4.6	102	30	37	7	34	2.79	1.26	1.05	0	12	7	14	9	s.	U. S. Weather Bureau.
Averages			......	68.4	+ 5.9	110	16†	27	7	58	2.35	−1.10	6.00	0	8	14	10	6	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for June, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
lpha	Lit. Missouri				T	T.	.06		T.	.04				T		T					.15	1.72	.44		.41			[illegible]	[illegible]	[illegible]			
mona || ||	Red			.09	T.			.17	T.		.31	1.13	.11										1.28		.04			[illegible]	.02				3.65
midon	Lit. Missouri																																....
rnegard (near)	Missouri						.35					T										[illegible]	[illegible]	[illegible]	[illegible]		.60			.35			[illegible]
shley	Missouri						.38				1.70	.37										.78	.20										3.96
each || ||	Lit. Missouri				T.	T	T.		.07	T				.32	.21						T	[illegible]	[illegible]	[illegible]	[illegible]		.12		[illegible]	[illegible]			2.41
erthold Agency	Missouri		.10									T			T							.65	.30		[illegible]				[illegible]				2.67
ismarck ***	Missouri		.01				.23		T	.02	.08	.02		T	T						T	[illegible]	.29	.04				T			[illegible]		1.66
ottineau|| ||	Mouse			.16					T.			.12	T.										T	.01	.25	T		.64	[illegible]	[illegible]	[illegible]		1.51
owman	Grand				.01		.05		.15	.01	.16	T							T			.61	.15							.13			1.27
ando	Devils Lake									.18	T.	.38	T.									T		T	[illegible]				.20	.05			1.17
arrington|| ||	James						T			.08	.02	.52										.62	1.00		[illegible]			[illegible]			[illegible]		3.30
arson	Heart						.42	.06			.02	.04										1.07	.10					[illegible]			[illegible]		2.46
avalier	Red					.10					.39														[illegible]			[illegible]					1.46
ooperstown	Sheyenne										.10	.05	.08		T.		.15						1.12		T			[illegible]	.12				1.65
orinth	Missouri																					.15		.65			.22		.05				1.07
ourtenay	James		.04				.03				.24	.04		.02			.02					.50	.43	.01	T	T	.03	.04					1.40
rosby || ||	Mouse	T					.02			T.	.01													.87	.21					[illegible]			1.17
evils Lake ***	Devils Lake	T.					.01	T.	T.	.08	.07	.35	.01				T.					.09	.52	.01	.04			.17	.06		[illegible]		2.54
ickinson|| ||	Heart					T.	.07	T.		.01	.37	.01				T					.01	1.58	.24	.16	.38			.13	T.	.47	[illegible]		3.46
ogden Butte	Mouse		T.	T.			.16				.04	.21										.28	.31		.06			.65	.58	.01	.11		2.77
rake|| ||	Mouse		.02							.02	.21											.47	.01	.15			.14	[illegible]		.10	.20		1.34
unn Center || ||	Knife						.38	.18				.05	.01									.78	.21	.05	.08			[illegible]		[illegible]			2.32
unseith	Mouse		T.									.20												T.	.20			[illegible]		.02	[illegible]		1.67
ckman	Mouse									.01		.19										[illegible]	.05	.03	.21			.18		.12	[illegible]		0.90
dgeley	James		1.10	.15				.18			1.36	.29		.09								.59	.67										4.42
llendale***	James		T.	.01	T.		.13		T.	1.21	.77	.02		.15	.01		T.					[illegible]	.74	T.	T.			.02	T		T.		3.72
nergy	Missouri		T.	T.			.08			T	T.	.05										.57	.35	.02				.11			.13		1.34
pping	Missouri			.06																			.25	.08	.23		.17			.12			0.91
airfield	Knife									.02												.91	.41	.06	.46					.42			2.28
essenden|| ||	James											.05											1.18	.02	.20				[illegible]				1.75
orman	Sheyenne		.37		T.		.16			T.	3.00	.98		.06	.02		.14			.25		.45	.75		T.			.07					6.25
ort Yates	Missouri						.16				1.22											.75	.52			.06							2.71
oxholm (near)	Mouse	T.	T.				T.			.31		T.										.12	T.	T.	.31			.25		[illegible]	.31		1.65
ryburg	Heart			.07	T	T.	T.		T.	.11	T.	T.			T.						.01	1.37	.24	.28	.65	T.	.05		T.	.62	.01		3.44
allerton	James		T.	.04			.20				1.46	.06		.30	.09					T.		.88	.12					.20			T.		3.35
ackle	James		.04			T				.24	.55	.01		.34	.03						1.30												2.51
arrison	Missouri		.48							.10	.10											.43	.21	.04				T.		.02	[illegible]		1.54
rafton	Red						T	T.	[illegible]	T.		.27										.02	.29		T.			[illegible]	.30	.04			1.37
rand Forks ***	Red						.05		.03	.05	.17	.30	.01	.04			.02					.54	.53		T.			.58	.01		.48		2.81
ranville	Mouse									.18	T.	.23										.19	.05		.22			.65	.10	.08	.55		2.23
ankinson|| ||	Red		.31				.10			.67	1.18	.34		.10						.10		1.05					.05				.42		4.35
annah	Pembina			T.				T.	T.			.18	.16		T.				T.			T.	T.	T	.33			.25	[illegible]				0.98
ansboro	Devils Lake		.45									.30													.30			.05			.20		1.30
ettinger|| ||	Grand						.02			.11	.48											1.02	.32								.34		2.29
illsboro	Red	.12					.24				.55	.10										.42	.55		.02			.70	.31				3.04
oward (near)	Missouri		T.				.01						.10									T.		.13	.55	.10			T	T.	.08		0.97
mestown|| ||	James	.06		.43			T.	.16			.26	.21	.06										1.12								T		2.30
ngdon|| ||	Pembina	T.		T.								.17	.30										.05		.65			.75	.31				2.23
rimore|| ||	Red										.05	.14	.18		.03										.07			.06	.23		.40		1.16
uton	Missouri			.13			.17		T.	.11	.50	T.			T.							.80	.56				.06						2.33
sbon || ||	Sheyenne							.15			.96	1.53	1.40		.25	.06					.27		1.61		.08			.36					6.67
cClusky	Missouri		.10								T.	.30	T.									.65	.73		.24			.08			.17		2.27
cLeod	Sheyenne		T.				.26				6.00	.40		.25	.22		.09			.28		.53	.78		.10			[illegible]	.07				9.27
addock	Sheyenne		T.				T.				T.	.17										.19	.61		.25		.06		.12		.21		1.64
andan|| ||	Missouri						.29				.03	.09									T.	.92	.15		.04			T	.07		.06		1.65
anfred	James		T.				.05			T.	T.	.11										.52	.45		.21			.03	.01		.11		1.52
armarth	Lit. Missouri				T.	T	.10		.09		.11	.04									T.	.79	.07		.20		T.			.14	.04		1.58
ary	Lit. Missouri						.16			T		.11		T.								.65		.12	.50			.22		T			1.76
ax|| ||	Missouri			.05							.02	.05										.35	.52		.55		.58	[illegible]	T		.08		2.30
ayville	Red	.18					.13				.10	.32	.10									.42	[illegible]		.11			.32	.10				2.17
inot|| ||	Mouse									.05	.04	.30										.18	.15	.02	.24			.12	.01	.51			1.65
ohall	Mouse							T		.10		.10											.10	.15	.18		.60			.05			1.28
ott	Cannon Ball			T			[illegible]	[illegible]	.10	.01		.05										.92		.05					T.		.04		1.69
apoleon || ||	Missouri		.21				.09				.27	.35			.03	.01							1.28	.01									2.25
ew England	Cannon Ball					.37			.03	.24											1.06	.14		[illegible]					.30	.15	.09		2.78
ew Salem	Heart						[illegible]			.14	.02	T.									T.	1.00	.22	.02	.86			.48			.27		3.15
akes	James			.21			.08				2.66	.02		.09	.03		.16					.45	.21					.02			.36		4.23
rk River	Red																					.34	.20	.02	.43			.17		.33	.16		....
rshall (near)	Missouri		.03							.15	.03																						1.56
mbina|| ||	Red											.30	.28			T.								T.	.43			.65		T			1.66
tersburg	Red						.01			.02	.05	.19					T.					.17	.35	.01	.01			.24	.08				1.13
ttibone	James						.08			T.	.12	.30		T								.73	.65						.20		1.48		3.56
rtal|| ||	Mouse											.05												.65	.16	.06			.55				1.50
wer	Sheyenne																																....
wers Lake	Missouri		.05				.06																										0.11
chardton	Heart						.19				T	.12									.09	1.81	.41	.09	.22			.67		.08	.38		4.06
gby [near]	Mouse									.11		.15										.04		.10				.40	.14	.03	.11		1.08
der	Missouri									.06	.09											.41	.17	.01	.39		.01		.51				1.68
nish|| ||	Missouri							.01		T.			.01									.24	.25	.02	.07			.45		.20	.62		1.27
aron	Red	.01					.17	T.		T	.15	.13		.01			.02					.50	.78	.03	.02				.08		.24		2.14
anton	Missouri										.05											.55	.21	.11				.20			.08		1.23
eele	Missouri			.18			.03				.12	.08			T.						T.	1.20	.40						.27		.04		2.32
wers	Cannon Ball					.12			.44													.54	.90	.10						T			2.10
gus	Mouse		.01							.40		.05										.08	.09	.02	.10			.18		.04	.02		0.99
ga	Missouri									.25													.16	.45	.16			.02		.12			1.16
wner	Mouse									.17	T.	.23										.09	.01	T.	.09			.55	.08	.02	.16		1.40
otters	Lit. Missouri									T.	.28	.03									T.	.85		.41	.41				.45	T.			2.46
rtle Lake	Missouri																																....
ttle																																	....
lley City	Sheyenne			.08			.01				.83	.42					.26					.54	.83					.06					3.03
lva	Mouse		T.				T.			.01	T.	.21										.27	.03		.41			.51	.03	.02	.73		2.22
rona	James			.11							1.06	.65		1.30	.12		.18						1.32										4.74
hpeton	Red	.05	.06	.12				.12			1.19	1.23	.01		.29						.48	.66	.80		.05			.19					5.25
ashburn	Missouri	T.	.09							T.	T.	.10										.55	.36		.15			.20	.35		.70		2.50
esthope	Mouse		.16									.24												.09	.20			.78		.09	T.		1.56
lliston ***	Missouri		T.				.47			.04		T.									T.	.16		.07	.08		.27		.15	T.	T.		1.24
llow City	Mouse		T				T.			.07		.19										.04	.03	.01	.07			1.37		.09	.22		2.09
shek|| ||	Missouri	.02					.11				.90	.60	.02			.30							2.15										4.10
p	Knife						.14			.58												.60	.17	.06			.08		.63				1.66
orhead, Minn ***	Red	T.	T.	T.			.21		T.	T.	1.05	.06	.01	.01	T.		.10			.01	T.	.47	.50		.06	T.		.24	.07		T.		2.79

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of servation. || || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	81	84	71	70	79	77	79	82	82	70	72	83	82	79	80	86	91	91	85	72	66	67	75	80	82	93	87	98	100	100	....	81.3
	Minimum	55	49	50	43	47	50	35	50	57	58	59	53	53	52	47	50	58	62	58	53	43	50	51	55	47	58	63	73	70	69	....	58.9
Arnegard (near)	Maximum	86	91	78	77	76	73	87	88	84	75	81	87	80	86	88	110	97	88	79	71	76	77	81	77	82	101	96	105	89	81	....	85.0
	Minimum	57	57	47	44	43	48	44	56	55	53	64	49	55	54	56	62	64	40	49	50	52	53	60	53	47	59	65	64	65	55	....	54.0
Ashley	Maximum	86	84	78	66	74	66	72	85	88	78	70	82	83	75	77	88	92	89	81	71	76	80	85	83	85	92	94	100	101	97	....	82.8
	Minimum	52	56	52	48	38	50	38	51	54	58	58	51	55	57	47	58	66	55	57	55	12	53	56	61	48	58	71	67	72	68	....	55.1
Beach	Maximum	82	89	69	63	75	74	85	86	86	83	80	84	80	80	87	106	93	89	78	71	71	77	87	75	86	101	89	99	81	76	....	82.7
	Minimum	53	53	48	50	38	45	44	51	54	55	53	48	48	51	55	63	69	52	48	53	49	57	62	52	54	64	66	65	66	66	....	54.4
Berthold Agency	Maximum	82	90	70	70	78	75	85	89	89	84	80	88	82	80	78	108	110	90	92	75	70	72	78	79	91	98	90	104	92	80	....	85.0
	Minimum	52	55	52	54	38	48	40	54	55	55	55	41	45	50	55	60	62	70	50	53	52	48	62	63	57	57	62	60	67	68	....	54.7
Bismarck	Maximum	81	85	69	63	74	69	74	85	84	63	74	83	76	75	80	98	99	92	82	72	68	74	83	76	89	94	98	101	100	83	....	81.6
	Minimum	53	50	55	50	43	51	43	59	58	58	58	55	57	59	49	64	73	59	58	54	49	55	57	58	55	64	73	71	73	66	....	57.6
Bottineau §§	Maximum	85	85	84	68	70	78	70	79	81	65	73	67	85	80	82	85	99	107	88	78	71	68	71	70	77	91	92	93	100	88	....	81.6
	Minimum	50	50	50	41	40	50	35	55	58	50	54	47	45	45	52	55	60	49	50	46	45	45	52	52	45	51	54	68	65	66	....	50.7
Cando	Maximum	85	85	83	87	82	79	82	82	79	70	65	89	89	82	83	86	99	97	98	90	81	75	70	77	86	93	92	95	94	93	....	84.9
	Minimum	42	47	42	37	41	45	51	32	52	52	55	49	52	51	48	54	66	62	59	55	42	45	51	62	48	53	65	70	72	74	....	52.6
Carrington §§	Maximum	85	69	69	77	68	73	82	77	63	68	82	75	79	81	89	97	91	85	75	64	63	69	78	84	90	89	101	100	95	80	....	79.9
	Minimum	48	52	39	43	47	34	46	55	55	56	52	54	56	51	51	61	60	57	46	48	47	52	56	53	54	57	68	73	69	57	....	53.2
Crosby §§	Maximum	84	92	66	72	74	72	82	84	75	78	79	79	76	85	88	101	96	83	73	73	70	84	70	73	87	101	93	102	81	76	....	81.7
	Minimum	59	57	46	48	46	51	43	50	57	48	51	50	52	54	55	61	67	50	49	41	52	52	53	54	50	60	63	62	66	62	....	53.6
Devils Lake	Maximum	83	85	69	70	78	64	70	80	64	69	61	81	77	80	83	87	98	92	83	73	62	61	68	78	85	93	91	98	94	93	....	79.1
	Minimum	54	51	48	42	46	44	36	56	54	51	56	51	58	50	50	55	70	63	55	44	45	49	54	59	51	57	68	70	76	67	....	54.4
Dickinson §§	Maximum	84	88	70	63	77	71	82	88	85	66	79	82	78	77	84	106	97	90	79	71	69	74	87	73	87	95	91	97	88	77	....	81.8
	Minimum	51	54	51	50	37	45	45	55	51	53	55	45	49	53	51	58	62	50	50	51	48	54	55	54	52	62	70	65	66	68	....	53.7
Dunn Center §§	Maximum	85	90	68	68	77	70	81	83	83	71	78	85	75	81	85	106	96	90	78	72	68	73	76	75	89	96	90	100	87	79	....	81.9
	Minimum	50	56	51	49	40	46	43	54	51	55	55	45	48	56	52	60	67	51	52	60	49	50	54	56	49	59	71	64	66	69	....	54.3
Dunseith	Maximum	80	87	72	68	71	81	88	80	74	70	68	78	82	86	85	90	105	102	84	78	80	88	77	75	88	96	97	98	101	91	....	84.0
	Minimum	41	63	49	38	40	50	47	33	50	40	53	52	47	54	51	46	62	56	49	41	56	66	52	51	41	59	64	67	70	65	....	51.7
Edgeley	Maximum	85	84	71	76	73	74	69	81	84	79	72	84	83	79	76	87	92	90	87	89	86	70	79	84	85	91	92	100	101	95	....	83.3
	Minimum	52	51	51	41	34	39	....	....	....	....	....	....	58	58	48	58	62	59	56	51	46	53	57	59	60	53	72	69	68	66	....	[f]55.0
Ellendale	Maximum	86	85	70	66	75	65	69	84	88	70	72	80	83	74	76	87	92	91	82	71	64	72	82	77	84	91	94	102	101	97	....	81.0
	Minimum	50	53	54	49	45	46	40	52	56	60	60	57	56	56	51	62	63	62	59	53	48	55	59	61	50	61	74	69	66	71	....	56.6
Fessenden §§	Maximum	86	94	71	71	82	78	78	87	91	68	68	87	75	85	87	99	103	92	92	77	65	66	71	84	87	95	95	102	101	94	....	84.4
	Minimum	48	48	54	39	42	53	34	60	54	54	52	49	51	55	45	63	69	56	56	45	47	46	51	59	49	58	68	69	70	67	....	53.8
Foxholm (near)	Maximum	83	87	81	70	76	72	84	86	80	73	71	84	80	83	86	105	106	89	83	73	69	73	72	75	89	98	91	103	96	85	....	83.4
	Minimum	53	47	49	38	50	48	38	51	51	49	51	48	50	53	51	62	75	57	53	41	45	49	54	53	51	58	63	62	67	63	....	52.8
Fullerton	Maximum	87	87	75	68	79	67	71	84	88	71	72	83	83	78	78	93	88	91	84	72	63	72	80	78	86	91	93	104	103	101	....	82.4
	Minimum	49	51	51	48	42	50	39	50	56	59	61	51	56	59	51	58	60	62	59	53	48	54	59	58	51	60	70	68	67	71	....	55.8
Garrison	Maximum	86	85	69	74	78	72	82	85	79	67	75	86	77	83	84	103	102	92	80	77	70	69	76	78	93	95	87	104	91	86	....	82.8
	Minimum	50	53	50	46	44	52	41	58	54	44	50	50	51	60	53	63	74	57	54	50	47	51	56	57	51	65	71	60	70	66	....	55.3
Grafton	Maximum	84	88	85	74	80	79	70	79	74	70	65	84	84	83	81	84	96	95	94	85	69	62	75	86	88	94	94	98	102	100	....	83.2
	Minimum	52	48	57	40	42	50	35	53	56	55	56	53	48	50	51	52	64	61	62	48	41	50	54	53	51	61	69	73	75	68	....	54.3
Grand Forks	Maximum	84	85	69	73	81	70	69	77	68	65	70	84	82	80	79	78	93	91	84	67	62	64	76	80	83	92	90	96	98	99	....	79.7
	Minimum	51	50	57	37	47	47	32	55	60	56	56	56	56	51	47	52	66	66	59	52	44	50	56	65	52	62	72	76	75	72	....	56.0
Granville	Maximum	85	88	80	72	81	83	80	86	72	72	70	75	87	84	87	103	107	92	80	75	67	72	69	79	91	98	91	98	90	81	....	83.2
	Minimum	45	48	47	34	42	35	55	53	52	50	56	50	52	54	48	62	67	55	55	42	47	52	57	58	50	51	63	65	68	66	....	52.7
Hansboro	Maximum	75	74	75	73	65	60	70	70	73	70	60	60	70	78	85	80	101	88	75	65	55	60	60	60	85	88	95	98	88	80	....	74.5
	Minimum	40	42	46	40	33	42	27	40	42	42	42	40	43	40	45	42	60	34	50	32	33	40	45	48	44	42	62	65	65	52	....	43.9
Hettinger §§	Maximum	83	86	66	58	72	70	82	92	82	68	77	80	83	77	86	101	94	90	81	77	76	79	94	77	95	101	96	104	95	78	....	82.9
	Minimum	54	55	56	49	37	45	43	55	54	56	56	46	53	55	53	60	67	53	55	54	46	52	60	55	55	64	69	58	68	66	....	55.0
Hillsboro	Maximum	80	82	82	67	72	72	68	75	75	70	70	80	80	76	78	80	92	92	91	84	67	64	75	81	93	93	91	95	98	98	....	80.7
	Minimum	35	53	55	40	46	50	34	52	55	55	55	56	55	47	48	50	63	65	64	56	54	50	50	57	69	71	78	76	71	72	....	56.1
Howard (near)	Maximum	82	88	84	82	74	78	84	86	90	88	87	88	89	80	92	98	105	98	95	72	72	68	70	72	74	87	92	96	102	88	....	85.4
	Minimum	50	60	50	44	45	44	44	52	48	48	44	68	65	68	68	72	78	70	70	68	44	55	50	54	52	51	50	58	55	58	....	56.1
Jamestown §§	Maximum	83	68	66	71	67	72	81	79	63	69	84	81	77	79	87	94	93	87	70	64	63	73	80	85	92	91	100	103	100	84	....	80.2
	Minimum	51	53	58	45	42	54	44	44	57	56	56	51	57	57	50	58	64	55	57	51	46	47	55	60	48	59	67	72	68	71	....	55.1
Langdon §§	Maximum	80	82	67	74	78	67	71	77	67	71	61	80	78	75	63	84	98	90	81	68	61	59	70	75	85	93	92	93	85	89	....	77.1
	Minimum	50	47	51	36	38	48	30	48	51	50	51	48	51	47	49	52	63	60	55	41	40	49	49	55	46	53	65	70	74	66	....	51.
Larimore §§	Maximum	86	69	73	80	70	70	80	70	65	67	84	76	80	83	80	93	94	85	70	62	62	70	80	82	94	91	98	102	99	80	....	79.8
	Minimum	54	44	46	40	50	53	33	53	56	53	55	52	54	48	46	53	64	61	58	43	40	50	48	55	50	58	69	71	71	69	....	53.
Linton	Maximum	85	89	83	67	76	73	77	87	88	68	74	84	87	80	80	96	102	97	89	88	69	77	86	83	87	93	97	103	107	95	....	85.6
	Minimum	47	46	54	53	32	51	36	55	57	56	57	45	54	53	43	60	69	45	51	53	42	54	57	47	48	62	70	69	72	70	....	53.6
Lisbon §§	Maximum	81	86	72	69	77	64	69	84	86	68	73	83	82	76	78	81	91	89	84	69	64	67	76	79	81	92	91	101	100	98	....	80.
	Minimum	50	52	61	48	47	54	37	51	57	60	60	56	56	60	51	56	69	63	61	55	48	53	56	67	50	59	71	71	75	76	....	57.
McClusky	Maximum	83	85	69	62	75	78	71	85	82	61	68	72	83	87	83	99	103	92	88	76	70	65	67	76	87	92	93	102	99	84	....	81.
	Minimum	50	54	51	40	40	52	37	54	55	56	55	57	50	57	48	61	71	51	52	46	47	51	55	56	48	59	61	70	69	68	....	54.0
Maddock	Maximum	84	87	72	69	77	75	74	83	81	67	65	82	79	79	83	81	101	93	94	79	73	63	62	78	86	94	95	100	98	89	....	81.4
	Minimum	46	45	52	38	44	51	31	59	55	52	55	46	52	50	45	57	72	59	55	41	46	49	53	59	47	58	62	68	78	78	....	53.4
Marmarth	Maximum	85	88	80	81	74	74	84	92	86	73	80	83	85	80	85	105	96	91	81	78	72	82	92	79	91	101	94	102	90	80	....	85.5
	Minimum	53	48	55	65	35	50	39	50	58	55	48	50	48	50	57	76	68	45	52	55	50	57	65	55	65	70	66	67	68	63	....	56.1
Minot §§	Maximum	85	85	67	72	80	71	81	85	61	72	72	86	78	84	85	104	105	92	89	74	65	73	70	78	92	97	93	103	89	80	....	82.4
	Minimum	47	51	51	39	49	51	39	52	59	50	53	48	50	52	56	60	70	51	54	45	47	47	53	55	47	52	67	60	66	67	....	52.9
Mohall	Maximum	84	82	72	82	83	75	82	86	76	84	76	86	84	85	86	107	108	102	92	89	84	84	74	77	98	100	92	103	91	86	....	87.0
	Minimum	50	48	49	48	48	49	55	52	54	56	52	57	51	53	50	68	88	56	54	52	48	50	56	56	52	60	60	64	70	65	....	56.0
Mott	Maximum	82	86	67	60	73	74	80	90	83	68	76	81	82	83	80	100	96	91	82	78	76	80	87	77	92	106	96	102	96	80	....	83.3
	Minimum	54	56	50	40	49	43	44	54	57	60	51	55	51	51	62	70	63	58	54	56	48	56	60	55	64	70	67	69	66	62	....	56.5
Napoleon §§	Maximum	83	85	67	68	77	57	77	85	84	62	70	82	80	80	79	92	99	92	86	75	66	75	85	77	86	91	93	101	105	96	....	81.8
	Minimum	49	48	57	45	37	50	38	54	54	55	57	51	55	55	45	59	68	51	52	51	49	53	55	65	48	59	69	69	75	72	....	54.8
New Salem	Maximum	77	85	77	62	75	71	78	86	87	67	74	84	81	86	85	103	100	95	84	76	74	73	80	75	88	94	92	93	92	90	....	82.8
	Minimum	49	51	50	47	41	51	44	67	59	49	55	52	52	65	48	59	69	59	51	52	48	52	57	56	51	61	71	64	68	66	....	55.5
Oakes	Maximum	89	85	77	66	77	72	69	84	86	84	70	81	86	78	77	85	91	90	82	78	70	70	79	80	85	93	95	104	103	102	....	82.9
	Minimum	55	51	61	47	42	49	37	50	59	59	60	55	56	59	50	59	65	61	60	55	51	54	56	72	49	60	72	69	72	71	....	57.2
Pembina §§	Maximum	84	86	75	73	76	73	76	83	71	75	75	84	85	78	81	87	98	95	80	67	64	62	75	80	87	94	97	94	98	94	....	81.0
	Minimum	45	46	56	35	41	48	28	39	43	50	53	55	55	43	51	52	63	62	68	42	43	43	48	50	52	52	49	74	70	70	....	50.9
Sharon	Maximum	82	81	73	72	79	68	60	78	70	62	66	85	81	80	80	80	93	95	89	75	69	64	69	78	80	89	87	99	97	99	....	79.7
	Minimum	54	52	57	41	43	49	36	52	57	53	55	50	55	54	49	56	64	57	51	53	42	50	55	62	47	61	69	70	70	70	....	54.0
Steele	Maximum	81	85	83	66	74	73	71	83	81	72	73	85	82	78	81	95	102	92	85	78	66	68	72	78	87	93	97	103	105	93	....	82.7
	Minimum	50	52	55	45	39	52	38	57	55	57	56	50	55	54	47	61	71	54	56	49	46	54	57	60	51	60	70	72	73	69	....	55.5
Towner	Maximum	86	88	84	72	82	74	81	87	82	70	67	85	81	83	88	102	106	99	92	80	71	72	74	80	91	....	....	101	99	89	....	[b]84.5
	Minimum	42	48	53	35	40	51	34	52	55	51	56	50	52	50	50	61	75	52	53	42	48	51	56	57	....	....	....	66	79	69	....	[c]52.9
Valley City	Maximum	82	85	83	68	81	81	73	84	84	76	71	85	87	79	80	82	92	92	89	85	69	63	72	77	84	92	92	101	101	99	....	83.0
	Minimum	52	50	56	45	44	50	37	51	58	55	57	53	52	58	47	53	65	59	56	52	45	53	56	66	46	59	70	70	68	73	....	55.2
Wahpeton	Maximum	89	85	82	72	80	78	67	89	86	85	79	80	86	81	80	81	91	93	92	79	69	70	78	82	85	94	93	102	101	102	....	84.4
	Minimum	53	61	55	42	43	52	39	51	59	60	59	62	58	60	51	55	67	88	65	57	49	52	52	61	52	62	60	61	72	73	....	57.
Westhope	Maximum	....	92	86	75	82	78	86	87	85	77	75	....	88	87	92	104	109	87	85	75	71	80	80	78	94	101	92	104	97	86	....	[b]86.9
	Minimum	....	43	49	41	43	41	35	50	58	52	57	....	47	45	53	62	69	58	54	42	45	51	55	56	50	58	64	68	69	66	....	[b]52.9
Williston	Maximum	84	87	65	68	73	72	86	87	73	75	79	84	76	83	86	108	94	86	75	71	68	77	80	74	90	100	94	101	85	77	....	81.9
	Minimum	58	59	50	45	48	50	44	57	59	55	60	53	55	58	61	65	68	57	53	48	55	54	61	55	52	68	64	66	67	57	....	56.8
Moorhead, Minn	Maximum	81	83	72	67	78	66	65	80	84	67	73	80	83	78	79	79	91	92	84	68	66	68	75	80	83	93	88	98	100	102	....	80.
	Minimum	58	54	53	45	44	45	37	52	59	61	59	60	58	61	55	54	66	69	66	54	48	51	55	63	54	61	72	72	73	73	....	57.1

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX BISMARCK, N. D., JULY, 1931 No. 7

GENERAL SUMMARY

The droughty conditions that prevailed generally over North Dakota up to the close of June were more or less relieved during the fore part of July, though not to a sufficient extent to anything like a normal condition. Light to heavy showers were quite general from the 3d to the 8th, inclusive, and also on the 11th, 18th and the last few days of the month. While the mean temperature was only 2.2° above the normal, one of the most outstanding periods of extreme heat in the history of the state prevailed from the 13th to the 27th, inclusive. No severe winds were reported, and less than the usual number of hailstorms.

TEMPERATURE

The mean temperature for the state was 70.6°, or 2.2° above the normal, and 1.7° lower than the mean for July, 1930. The highest mean reported was 75.6° at Hankinson, Richland County; the lowest was 62.4° at Hansboro, Towner County. The highest temperature reported was 111° at Fort Yates, Sioux County on the 26th, and at Napoleon, Logan County and Westhope, Bottineau County on the 25th; the lowest was 37° at Linton, Emmons County on the 5th. The greatest monthly range of temperature was 73° at Linton, Emmons County; the least was 55° at Moorhead, Clay County, Minn. The greatest daily range in temperature was 59° at Sanish, Mountrail County on the 28th.

PRECIPITATION

The average precipitation for the state was 3.03 inches, or 0.61 inch above the normal, and 1.99 inches less than the average for July, 1930. The greatest monthly amount reported was 5.36 inches at Petersburg, Nelson County; the least was 0.18 inch at Power, Richland County. The greatest amount recorded in any 24 consecutive hours was 2.55 inches at Grafton, Walsh County on the 1st. The average number of days with 0.01 inch or more of precipitation was 8.

AURORAS

Auroras were observed at Bowman on the 9th; at Eckman and Foxholm on the 16th; at Dogden Butte and Howard on 17th; at Eckman and Willow City on the 20th; at Rugby on the 22d; at Bottineau, Foxholm and Howard on the 23d; at Bottineau, Devils Lake and Velva on the 24th; at Bismarck on the 25th; and at Towner on the 29th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Wind					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, miles per hour			
								Average	Highest*	Direction	Date
Bismarck	29.86	30.22	3	29.44	15	57	5,959	8.0	32§	sw.	18
Devils Lake	29.86	30.33	3	29.46	[illegible]	41	5,692	7.7	24§	n.	18
Ellendale	29.91	30.17	3	29.48	5	56	[illegible]	11.6	40§	n	27
Grand Forks	29.88	30.17	3	29.44	5†	90	.....	.....	.....	.....	.....
Williston	29.86	30.21	3	29.42	15	48	5,512	7.4	36§	w.	6
Moorhead, Minn	29.86	30.19	3	29.46	5	58	5,314	7.1	25§	s.	14
Av'ges and extremes	29.86	30.33	3	29.42	15	.....	.....	8.4	40§	n.	27

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. c't.	Average per cent			Lowest observed	Date
					7 a. m.	Mean noon	7 p. m.		
Bismarck	335.1	479.2	70	− 1	76	46	43	18	26
Devils Lake	333.3	483.1	69	− 2	79	51	50	21	24
Ellendale	384.8	475.2	81	+10	78	42	....	18	26
Grand Forks	.....	.....	.....	.....	79	....	56	.....	...
Williston	365.0	483.1	76	+ 6	67	38	38	14	25†
Moorhead, Minn	353.9	479.2	74	+ 7	76	45	48	26	26
Averages and extremes	354.4	480.0	74	+ 4	76	44	47	14	25†

† And other dates.

COMPARATIVE STATE DATA FOR JULY

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Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cldy days	Cl'dy days	
1892	68.7	+0.3	108	31	3.23	+0.81	8	19	8	4	se.
1893	69.5	+1.1	112	35	2.04	−0.38	7	17	10	4	nw.
1894	71.7	+3.3	107	38	0.63	−1.79	3	20	8	3	nw.
1895	[illegible]	[illegible]	102	29	2.90	+0.48	8	14	11	6	s.
1896	67.5	[illegible]	107	31	1.59	−0.83	6	15	10	6	nw.
1897	68.9	+0.5	109	38	4.43	+2.01	9	13	11	7	s.
1898	67.6	−0.8	106	28	2.49	+0.07	7	15	11	5	nw.
1899	68.3	−0.1	109	32	2.34	−0.08	6	18	9	4	nw.
1900	67.9	−0.5	107	33	2.25	−0.17	6	16	10	5	nw.
1901	70.8	+2.4	110	40	4.28	+1.86	6	18	7	6	se.
1902	67.6	−0.8	106	34	2.15	−0.27	5	20	7	4	nw.
1903	66.7	−1.7	109	26	2.23	−0.19	7	17	8	6	nw.
1904	64.4	−4.0	102	34	2.49	+0.07	6	17	8	6	nw.
1905	65.6	−2.8	100	32	3.90	+1.48	8	17	9	5	nw.
1906	66.9	−1.5	102	34	1.97	−0.45	11	13	8	10	nw.
1907	65.8	−2.6	103	31	3.14	+0.72	9	16	11	4	nw.
1908	68.6	+0.2	103	31	2.10	−0.32	6	19	9	3	nw.
1909	67.1	−1.3	99	34	2.89	+0.47	8	15	9	7	nw.
1910	70.0	+1.6	114	33	1.60	−0.82	5	18	9	4	nw.
1911	65.1	−3.3	107	23	1.82	−0.60	6	18	10	3	nw.
1912	66.0	−2.4	106	30	3.54	+1.12	10	12	13	6	nw.
1913	65.6	−2.8	103	35	2.30	−0.12	8	17	8	6	nw.
1914	72.1	+3.7	109	36	2.31	−0.11	6	19	9	3	se.
1915	62.3	−6.1	97	30	3.01	+0.59	11	12	11	8	nw.
1916	73.1	+4.7	105	33	3.16	+0.74	7	19	9	3	se.
1917	70.9	+2.5	114	27	1.66	−0.76	7	17	11	3	nw.
1918	65.5	−2.9	102	34	2.71	+0.29	7	14	10	7	se.
1919	71.2	+2.8	105	37	1.81	−0.61	5	18	10	3	se.
1920	68.3	−0.1	103	31	2.16	−0.26	7	18	11	2	nw.
1921	71.4	+3.0	110	35	3.07	+0.65	7	17	10	4	se.
1922	65.6	−2.8	100	30	2.43	+0.01	8	16	11	4	nw.
1923	71.2	+2.8	103	35	3.14	+0.72	8	16	11	4	se.
1924	65.5	−2.9	99	32	1.95	−0.47	6	18	9	4	nw.
1925	66.7	−1.7	106	29	1.34	−1.08	6	18	9	4	nw.
1926	70.3	+1.9	108	32	2.00	−0.42	7	18	8	5	se.
1927	65.4	−3.0	97	28	2.85	+0.43	9	15	10	6	nw.
1928	67.4	−1.0	96	38	5.05	+2.63	10	16	10	5	nw.
1929	70.6	+2.2	109	34	1.27	−1.15	5	21	8	2	nw.
1930	72.3	+3.9	107	34	1.04	−1.38	5	21	8	2	nw.
1931	70.6	+2.2	111	37	3.03	+0.61	8	17	8	6	nw.
Av.	68.4	....	114	23	2.42	....	7	17	9	5	nw.

*Extremes.

Climatological Data for July, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	5	......	......	...	...	...	...	......	2.47	......	1.03	0	7	......	......	......	......	H. A. Bury.
Amenia	Cass	954	35	70.8	+2.1	108	27	44	9	49	4.49	+1.60	2.00	0	9	11	15	5	nw.	I. Idso.
Amidon	Slope	......	16	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	R. R. Beebe.
Arnegard (near)	McKenzie	......	18	71.9	+2.6	110	25	45	1	44	2.03	+0.27	1.18	0	7	22	5	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	72.2	+3.5	107	25	43	5	50	3.25	+0.42	1.37	0	9	23	2	6	nw.	H. D. Piper.
Beach	Golden Valley	2,759	25	70.7	+2.2	106	25	44	8	45	2.24	+0.42	1.05	0	10	11	15	5	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	71.0	+1.8	110	27	45	9	50	3.97	+1.80	1.37	0	7	19	8	4	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	71.6	+1.8	107	27	47	5	40	3.39	+1.15	1.28	0	11	18	8	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	68.8	+2.2	108	26	42	5	50	2.07	−0.23	0.82	0	6	14	14	3	......	N. D. School of Forestry.
Bowman	Bowman	2,961	17	70.8^{1}	+1.4	108	25	45	5†	43^{e}	3.67	+1.30	1.55	0	8	23	3	5	nw.	George Larsen.
Cando	Towner	1,488	30	70.4	+3.6	101	27	44	5	42	2.75	+0.23	1.15	0	7	10	16	5	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	67.9	−0.8	105	26	46	4	50	4.29	+1.75	1.04	0	8	20	4	7	w.	L. A. Swanson.
Carson	Grant	2,500	19	70.0	+1.2	109	25	42	5	51	4.04	+2.10	2.08	0	8	20	7	4	nw.	J. W. Evens.
Cavalier	Pembina	894	21	......	......	...	...	...	...	......	3.00	+0.27	1.13	0	8	22	3	6	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	34	......	......	...	...	...	...	......	3.28	+0.73	1.72	0	9	16	9	6	nw.	Theo. Marquardt.
Corinth	Williams	2,180	3	......	......	...	...	...	...	......	1.82	......	0.87	0	5	19	6	6	nw.	W. A. Clem.
Crosby	Divide	1,954	24	69.2	+2.4	105	25	46	8	43	2.39	+0.24	1.33	0	5	15	12	4	nw.	John Jensen.
Devils Lake	Ramsey	1,478	34	69.3	+1.9	105	25	46	5	41	3.01	+0.44	0.96	0	7	13	10	8	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	69.2	+1.0	109	27	45	5†	45	2.80	+0.55	0.87	0	9	14	11	6	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	69.0	......	103	25†	46	5†	43	4.02	......	1.16	0	8	20	7	4	nw.	R. L. Williams.
Drake	McHenry	1,634	2	69.2	......	106	26	42	8	45	3.51	......	1.48	0	12	17	6	8	nw.	J. Rindt.
Dunn Center	Dunn	2,191	32	69.6	+1.6	108	25	43	6	44	2.72	+0.54	0.85	0	8	17	8	6	nw.	W. F. Moede.
Dunseith	Rolette	1,682	35	69.6	+3.7	103	24	43	9	44	1.72	−0.72	0.85	0	9	18	9	4	w.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	70.0	+3.2	108	24	42	9	55	1.87	−0.40	0.86	0	8	10	17	4	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	30	72.2	+3.4	110	25	45	9	48	2.36	−0.38	0.63	0	7	12	14	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	72.4	+1.7	108	25	46	5	47	2.03	−1.12	0.55	0	9	13	14	4	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	19	71.0	......	109	25	46	5†	50	3.95	+1.69	1.60	0	9	16	12	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	23	70.2	......	108	25	42	8	46	1.61	−0.40	0.62	0	7	19	7	5	nw.	A. O. Wang.
Fairfield	Billings	......	2	......	......	...	...	...	...	......	3.17	......	1.36	0	7	19	8	4	nw.	F. R. Hecker.
Fessenden	Wells	1,610	19	70.0	+2.2	108	24†	43	9	47	3.52	+1.40	1.16	0	11	18	7	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	38	......	......	...	...	...	...	......	1.49	−1.46	0.48	0	7	25	5	1	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	31	75.1	+3.4	111	27	44	5	49	2.86	+0.44	1.61	0	5	16	7	8	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	70.0	......	106	27	44	7	42	2.04	−0.19	0.84	0	7	11	11	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13	......	......	...	...	...	...	......	3.39	+1.39	1.36	0	8	18	6	7	nw.	Verne King.
Fullerton	Dickey	1,439	33	72.6	+3.6	107	27	46	5	47	2.24	−0.95	0.90	0	10	25	3	3	nw.	F. O. Alin.
Gackle	Logan	1,951	1	......	......	...	...	...	...	......	3.16	......	1.57	0	8	22	1	8	nw.	Geo. Hummel.
Garrison	McLean	1,901	54	71.2	+3.0	108	27	46	4	44	3.79	+1.59	1.06	0	8	19	6	6	nw.	W. F. Robinson.
Grafton	Walsh	827	39	71.8	+4.1	105	25	46	8	44	5.15	+2.66	2.55	0	8	10	16	5	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	40	71.0	+3.5	103	25	47	8	41	2.38	−0.35	0.60	0	8	19	8	4	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	69.3	+1.8	102	24†	47	7†	45	3.95	+1.85	1.54	0	9	16	10	5	nw.	W. A. Christianson.
Hankinson	Richland	1,068	2	75.6	......	109	14†	49	7	40	2.28	......	0.87	0	9	23	5	3	nw.	R. G. Stock.
Hannah	Cavalier	1,568	39	......	......	...	...	...	...	......	1.77	−0.66	0.50	0	9	......	......	......	......	James Meier.
Hansboro	Towner	1,597	23	62.4	−2.8	100	25	38	5	50	3.56	+1.12	1.90	0	7	21	5	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	24	70.8	+0.7	106	25	47	7†	45	4.39	+1.84	2.01	0	9	19	7	5	ne.	C. H. Plath.
Hillsboro	Traill	901	25	71.6	+2.0	103	25	49	5†	42	2.69	+0.26	1.33	0	7	20	6	5	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	24	69.6	+3.6	108	25	44	3†	47	1.86	+0.08	0.97	0	5	14	12	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	71.0	+2.5	109	24	45	9	53	2.91	+0.19	1.36	0	8	11	14	6	s.	S. Calvelage.
Langdon	Cavalier	1,615	35	64.1	−0.5	105	25	42	5	46	1.27	−1.20	0.48	0	7	22	4	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	70.4	+3.4	106	26	46	5†	40	3.43	+0.20	0.90	0	12	18	5	8	n.	Reuben Gray.
Linton	Emmons	1,711	14	72.6	+1.3	110	25	37	5	53	2.88	+0.82	0.87	0	9	12	15	4	s.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	73.0	+3.7	104	24†	46	5	47	2.15	−1.15	0.68	0	7	18	3	10	......	N. S. Lindstrom.
McClusky	Sheridan	1,943	13	69.4	......	106	25	43	3†	44	4.22	+1.90	0.91	0	7	21	6	4	nw.	Edw. Tapley.
McLeod	Ransom	1,075	20	72.4	+2.2	107	25	43	9	47	2.22	−0.71	0.73	0	10	20	4	7	se.	J. G. Carlson.
Maddock	Benson	1,604	16	69.9	+2.3	106	27	43	9	50	3.85	+1.45	1.05	0	9	11	11	9	nw.	A. T. Felland.
Mandan	Morton	1,750	17	71.2	+0.6	108	27	45	5	44	4.26	+1.61	0.94	0	12	15	4	12	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28	......	......	...	...	...	...	......	2.80	+0.66	0.62	0	8	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	22	71.0	+1.6	107	24†	43	8	48	3.42	+1.58	1.06	0	9	16	6	9	......	S. P. Grane.
Mary	McKenzie	......	2	......	......	...	...	...	...	......	3.39	......	0.99	0	7	23	3	5	nw.	Fred Hartman.
Max	McLean	2,093	2	70.8^{d}	......	108^{d}	25	44^{d}	9	48^{d}	2.90	......	2.12	0	8	......	......	......	nw.	A. W. Rice.
Mayville	Traill	975	35	73.0	+1.5	107	26	45	5	44	4.32	+1.53	1.43	0	9	16	0	15	n.	H. B. Addicott.
Minot	Ward	1,557	35	69.9	+2.0	108	27	44	9	49	1.79	0.08	1.20	0	9	22	5	4	nw.	Julia B. Rue.
Mohall	Renville	1,646	37	72.7	+6.4	106	24†	46	4	50	1.89	−0.34	1.60	0	4	8	22	1	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	24	73.4	+3.1	108	25†	46	5	43	5.09	+2.50	2.12	0	8	18	7	6	se.	O. H. Opland.
Napoleon	Logan	1,955	39	70.9	+2.3	111	25	41	2†	48	4.18	+1.68	1.18	0	12	19	6	6	w.	C. J. Hoof.
New England	Hettinger	2,400	37	70.8	+2.0	110	26†	47	7	50	4.03	+2.08	1.58	0	7	15	11	5	nw.	F. S. Sleight.
New Salem	Morton	2,163	27	72.6	+2.7	108	25	47	7	45	3.95	+1.92	1.23	0	9	22	6	3	......	J. Christiansen.
Oakes	Dickey	1,318	2	72.4	......	106	15†	44	5	46	2.45	......	1.05	0	10	13	15	3	ne.	Eugene Naylor.
Park River	Walsh	998	27	67.0	−0.9	...	...	...	...	......	3.71	+1.20	......	......	......	......	......	......	......	C. B. Wright.
Parshall (near)	Mountrail	......	16	......	......	...	...	...	...	......	3.07	+1.26	1.00	0	10	16	10	5	se.	C. E. Shubert.
Pembina	Pembina	789	57	68.0	+0.5	99	26	42	7	40	1.90	−0.56	0.95	0	6	20	4	7	s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	......	......	...	...	...	...	......	5.36	......	1.30	0	13	15	11	5	w.	Chas. Ouradnik.
Pettibone	Kidder	1,856	22	72.2	+4.2	107	27	42	5†	45	4.35	+1.65	0.97	0	10	15	10	6	nw.	A. L. Carlson.
Portal	Burke	1,954	26	68.5^{c}	+2.3	107^{c}	22	44^{c}	7	48^{c}	2.96	+1.06	1.65	0	4	......	......	......	......	C. T. Holmes.
Power‡‡	Richland	1,020	37	......	......	...	...	...	...	......	0.18	−3.11	0.18	0	1	24	6	1	s.	Frank B. Power.
Powers Lake	Burke	2,205	26	68.6	......	108	25	41	6†	45	3.42	+1.20	1.10	0	6	16	14	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	70.9	+0.8	108	24†	45	5†	43	3.97	+1.93	1.27	0	10	21	5	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	...	...	...	...	......	2.32	......	1.06	0	8	18	8	5	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	...	...	...	...	......	3.18	......	1.28	0	9	......	......	......	......	E. M. Lomen.
Sanish	Mountrail	1,835	...	70.4	......	110	28	46	9	59	1.93	......	0.76	0	6	12	7	12	nw.	H. W. Monsen.
Sharon	Steele	1,516	7	70.5	......	105	25	43	5	43	4.35	......	1.12	0	13	20	5	6	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7	......	......	...	...	...	...	......	4.24	......	1.23	0	8	21	3	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	37	73.2	+3.8	107	25	44	5	42	4.11	+1.21	1.50	0	13	18	0	13	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	16	......	......	...	...	...	...	......	3.52	+1.79	1.58	0	6	6	17	8	......	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	......	......	...	...	...	...	......	1.95	......	1.00	0	7	20	8	3	nw.	J. C. Abbott.
Tioga	Williams	2,279	2	......	......	...	...	...	...	......	2.11	......	0.78	0	6	18	8	5	nw.	Anton Carlson.
Towner	McHenry	1,482	29	71.0	+3.0	108	27	44	9	49	2.99	+0.73	1.16	0	7	16	9	6	w.	Karl Weber.
Trotters	Golden Valley	......	5	......	......	...	...	...	...	......	2.13	......	0.79	0	6	21	4	6	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	17																	E. T. Kusler.
Tuttle	Kidder	1,936																		
Valley City	Barnes	1,245	25	72.2	+3.5	105	25†	43	9	46	3.27	+0.59	0.92	0	9	21	4	6	w.	I. C. Robertson.
Velva	McHenry	1,511	4	70.6	......	106	27	46	9	48	2.91	......	1.34	0	7	13	13	5	w.	Oscar Anderson.
Verona	LaMoure	1,387	3	......	......	...	...	...	...	......	1.86	......	0.80	0	4	27	1	3	nw.	W. C. Taylor.
Wahpeton	Richland	962	39	74.6	+4.8	107	25	47	8†	48	3.12	−0.34	0.55	0	11	20	0	11	nw.	C. G. Luick.
Washburn	McLean	1,731	30	71.2	+1.7	110	25	45	5†	46	3.46	+1.27	0.76	0	11	18	5	8	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	71.4	+4.6	111	25	47	5†	49	1.65	−0.58	0.96	0	7	23	6	2	nw.	C. M. Condit.
Williston	Williams	1,878	52	71.0	+2.1	105	25	46	1	40	1.83	−0.06	0.71	0	11	19	8	4	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	68.8	+3.1	105	24†	41	5†	48	2.46	+0.37	0.93	0	8	21	7	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	69.5^{c}	+0.9	106^{c}	26	42^{c}	9	43^{c}	4.00	+1.38	0.94	0	11	4	10	17	nw.	E. W. Davis.
Zap	Mercer	1,838	16	......	......	...	...	...	...	......	3.59	+1.63	1.63	0	9	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	50	72.5	+4.4	105	25	50	8	37	5.19	+1.76	1.71	0	14	10	14	7	s.	U. S. Weather Bureau.
Averages		......	......	70.6	+2.2	111	25†	37	5	59	3.03	+0.61	2.55	0	8	17	8	6	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for July, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.37	.09	.27		.28				T						.03														.40	1.03	2.47
Amenia ‖ ‖	Red	.03				T	.03		.05			2.60	.15		.38			.20				.05										1.60	4.19
Amidon	Lit. Missouri																																
Arnegard (near)	Missouri			T	.25	T	.06	.15	.04			.03					.32												T		T	[illegible]	2.63
Ashley	Missouri				.44		.07		.33			.18							.16	.29										.08	1.37	.33	3.25
Beach ‖ ‖	Lit. Missouri		.11	.03	.08		.20	.05				.01					.35												.06		.32	1.03	2.24
Berthold Agency	Missouri		.01	1.35		.25	.10									.45									T						.44	1.37	3.97
Bismarck ***	Missouri	T	.03	.13	.45	.14	.17	T	.36			.43					.26		T									.02		T	1.15	.21	3.29
Bottineau ‖ ‖	Mouse	.08			.82	.68		.24					.15	T			.10		T		T											T	2.07
Bowman	Grand		.05	.29	.46		.21				T	.25					T													.32	1.55	.51	3.67
Cando	Devils Lake			.22	1.15		.14					.74					.28				.04											.18	2.75
Carrington ‖ ‖	James			.33	.21		.46					.75					.72		.03												.75	1.04	4.29
Carson	Heart			.31	.14		.40					.55					.03													.07	2.08	.16	[illegible]
Cavalier	Red	.45			.42		.24					1.13					.18		.07									.38				.13	3.00
Cooperstown	Sheyenne	T			.05	.40	.35	.02	.20				.40				.05			T		T					T		.09			1.72	3.28
Corinth	Missouri			.10	.87		.10										.25										T	T	T	T		.50	1.82
Courtenay	James	.01	.01	T	.09		.28	.06				.55		.13	T	T	.02														.50	.65	2.36
Crosby ‖ ‖	Mouse				1.35	T		.11	.22							.02	.71								T			T	T			T	2.59
Devils Lake ***	Devils Lake		T	.82	.23	T	.23	T	.03			.95		T			.33	T		T	T							T	T		T	.12	3.01
Dickinson ‖ ‖	Heart	T		.11	.72	T	.27	.12	T			.19					.18										.04			T	.30	.87	2.80
Dogden Butte	Mouse			.65	1.13		.21					.56					.15											.15	T		.18	.95	4.02
Drake ‖ ‖	Mouse		.04	1.48	.08	.14	.10	.09			.14	.40				.12												.10		T	.40	.42	3.51
Dunn Center ‖ ‖	Knife			.20	.84		.30	.08	.15								.12														.18	.85	2.72
Dunseith	Mouse			.19	.85		.10	.05				.20		.04			.10		T	T	.08											.20	1.72
Eckman	Mouse			.05	.86			.11	.04			.23					.04	.02														.52	1.87
Edgeley	James				.34		.07		.20										.10										.50		.52	.63	2.36
Ellendale***	James	T			.36		T	T	.55			.36	T		T	T			.09								T	.13	.01	.12	.39	.62	2.63
Energy	Missouri		.02	.90	1.00		.15	T				.38					.14												.02		.55	.79	3.95
Epping	Missouri			.20	.62	.06		.18	.01		T						.10															.44	1.61
Fairfield	Knife			.38	.23		.46	.02									.22														.50	1.36	3.17
Fessenden ‖ ‖	James	.19		.08		.13	.31	.13	.01				.81				.55			.08									.07			1.16	3.52
Forman	Sheyenne				T				.13			.48			T	.16		.17		.05									.30	T	.20		1.49
Fort Yates	Missouri				.50	.14						.39																		1.61	.20		2.86
Foxholm (near)	Mouse			.16	.77		T		.07	.02			.09				.09			T								T	T		T	.84	2.04
Fryburg	Heart		T	.06	.70	.03	.38	.12			.06																				.68	1.36	3.39
Fullerton	James				.90			.02	.25			.04	.12			.04			.10										.25	T	.37	.15	2.24
Gackle	James						.35	.25		.12			.42		T					.10									.10		.25	1.57	3.16
Garrison	Missouri			.80	1.06	T	T	.19	.17			.24					.12											T	T	T	.31	.96	3.79
Grafton	Red	2.55		.72	.20	.05	.30		T			.90	.01						T								T					.42	5.15
Grand Forks ***	Red			.21	.04		.37					.33		T			T		.07		.25							.60				.51	2.38
Granville	Mouse		.02	.48	1.22		.12	.09	.02			.26					.20											T			T	1.54	3.95
Hankinson ‖ ‖	Red				.20				.01			.87					.27		.42									.09		.15	.08	.16	2.28
Hannah	Pembina	.06			.50	.30	.14	.08					.40	.05			.22		T										.02				1.77
Hansboro	Devils Lake			.27	1.90		.10		.03			.60					.16															.50	3.56
Hettinger ‖ ‖	Grand			.16	.67		.21					.63			.01		.09			.04											2.01	.57	4.39
Hillsboro	Red	.22			.03		.42		.12				.38															T			.19	1.33	2.69
Howard (near)	Missouri		T	T			.12	.10			T					.07	.60			T								T			T	.97	1.86
Jamestown ‖ ‖	James				.26	.28	T					.48		.23			T									.15		.04			.11	1.36	2.91
Langdon ‖ ‖	Pembina	.11			.48		.21	.13						.06			.12												.16				1.27
Larimore ‖ ‖	Red	.40			.28	.25	.35			.04			.90	.03			.15	.02		.07									.24			.70	3.43
Linton	Missouri			.03	.31		.19	T	.19		.87								.15										T	.11	.87	.16	2.88
Lisbon ‖ ‖	Sheyenne	.10								.28			.68				.02												.47		.16	.44	2.15
McClusky	Missouri			.27	.73		.25			T		.65				.91												T	T		.76	.65	4.22
McLeod	Sheyenne				.05				.36			.73			.16			.32		.03								.07	.09		.19	.22	2.22
Maddock	Sheyenne			1.05	.35		.24	.05	.08			.83					.58											T	T		.11	.56	3.85
Mandan ‖ ‖	Missouri			.15	.57	.02	.35	.02	.41			.65	.22				.49											T	.02		.42	.94	4.26
Manfred	James			.44		.36		.04				.51					.47												.04		.32	.62	2.80
Marmarth	Lit. Missouri		.42	.55	.47		.22				.01						T									.05				.07	.57	1.06	3.42
Mary	Lit. Missouri			.28	.50		.26	.12									.89														.35	.99	3.39
Max ‖ ‖	Missouri	.04			2.12	.10		T	.05			.10	.20				.18															.11	2.90
Mayville	Red			.56			1.41		.16			.07	.14				.04												.25		1.43	.26	4.32
Minot ‖ ‖	Mouse				1.20	.05	.06	.03	.01			.20					.20														.01	.03	1.79
Mohall	Mouse				1.00							.20					.15															.54	1.89
Mott	Cannon Ball			.28	.85		.20		.02			1.00					.20														2.12	.42	5.09
Napoleon ‖ ‖	Missouri				.11	.19	.24	.02	.53		.12	.73					.02			.42									.12		.50	1.18	4.18
New England	Cannon Ball		.11	.96		.30						.35																		1.58	.58	.15	4.03
New Salem	Heart		.04	.24	.61		.23	T	.18			.53					.55								T			T		T	1.23	.31	3.95
Oakes	James	.01			.15				.31			1.05	.01				T			.05									.55	.02	.19	.11	2.45
Park River	Red																																
Parshall (near)	Missouri		.01	.76	.47	.08	.10		.12			.03					.45														.05	1.00	3.07
Pembina ‖ ‖	Red	.30						.25	.10				.95	T			.15	.15		T									T				1.90
Petersburg	Red	.61		.44	.33	.01	.34		.01	.01	T	.94					1.30		.21	.08	T						T	T	.32			.76	5.36
Pettibone	James			.05	.32	.03	.35	T				.97		.08			.25			T								T	.80		.90	.60	4.35
Portal ‖ ‖	Mouse			1.65	T		.25				.06																					1.00	2.96
Power	Sheyenne								T			.18			T		T																0.18
Powers Lake	Missouri			.65	1.05		.20	.07									.35															1.10	3.42
Richardton	Heart		.06	.23	1.13		.26	.04				.27					.10												T	.03	1.27	.58	3.97
Rugby [near]	Mouse			.26	1.06		.12		.03		.33						.08			T								.12				.32	2.32
Ryder	Missouri				1.17	.17		.05	.05			.16					.16									.05					.09	1.28	3.18
Sanish ‖ ‖	Missouri			T	.76		.10	.04	.54								.44															.05	1.93
Sharon	Red			.08	.48	.03	.43		.10			.45					.07		.27	.05							.06	T	.53		.68	1.12	4.35
Stanton	Missouri		T	1.23	.90		.21	.05				.23					.11												T		.59	.92	4.24
Steele	Missouri	.05	T	.09	.15		.43	.15	.10			.99	.02				.10		T							T			.07	.01	1.50	.45	4.11
Stowers	Cannon Ball			.87	.13	T	T					.40																		.42	1.58	.12	3.52
Tagus	Mouse			.35	.35			.05	.01			.05					.14															1.00	1.95
Tioga	Missouri				.78		.07	.06				.04					.55															.61	2.11
Towner	Mouse			.49	1.16		.10		.02			.46					.12															.64	2.99
Trotters	Lit. Missouri				.10	.20	.16										.74														.14	.79	2.13
Turtle Lake	Missouri																																
Tuttle																																	
Valley City	Sheyenne				.24		.31		.04			.15			.90		.05			.03					T				T		.63	.92	3.27
Velva	Mouse		T	.32	1.34		.11	T				.22					.18											T	T		.02	.72	2.91
Verona	James				.59																								.80		.27	.20	1.86
Wahpeton	Red	.41			.16	.11			.12			.55	.55		.35			.07		.42									.27		.11		3.12
Washburn	Missouri			.35	.76		.12	.10	.03			.46					.19											.17	.02		.53	.73	3.46
Westhope	Mouse			.04	.96		.04		.03			.20								.08												.30	1.65
Williston ***	Missouri		T	.46	.25	.03	.10	.15			T	.03			.05	.01	.03											T	.03	T	T	.69	1.83
Willow City	Mouse			.31	.93		.15		.01			.29		.01			.11			T												.65	2.46
Wishek ‖ ‖	Missouri	.30				.22	.36		.87			.08		.50	.10														.06		.94	.57	4.00
Zap	Knife			T	1.63	.08		.38				.10					.12											.25	.03		.55	.45	3.59
Moorhead, Minn ***	Red		T		.66		T	T	.19	.07		1.71		.12	.01		.16		.18	.01		.09			T	T	T	.28	.01		.80	.90	5.19

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	82	83	71	80	84	75	76	74	82	88	73	81	87	93	98	93	88	98	83	91	81	86	88	101	104	101	108	85	83	68	70	85.8
	Minimum ...	67	52	53	55	46	55	52	47	44	47	55	54	53	60	65	70	59	54	56	56	54	51	51	52	59	68	61	68	53	54	56	55.7
Arnegard (near)	Maximum...	79	79	64	69	74	65	72	76	86	95	89	81	97	100	99	85	80	97	85	92	97	97	101	108	110	104	107	86	81	68	64	86.7
	Minimum ...	45	49	50	49	48	47	48	46	47	59	54	74	60	65	71	61	54	63	50	56	56	60	57	67	66	62	76	59	57	58	56	57.1
Ashley	Maximum...	83	82	85	68	88	83	71	73	80	86	80	84	94	99	101	96	90	100	84	90	88	88	90	101	107	104	105	103	82	67	77	88.0
	Minimum ...	61	62	54	54	43	50	49	48	44	52	60	51	58	62	64	70	55	50	54	55	55	53	49	58	68	78	60	66	55	56	55	56.4
Beach	Maximum...	79	71	65	68	71	65	74	77	83	95	82	86	94	101	98	88	88	93	89	89	96	95	103	105	106	100	105	85	73	69	59	85.5
	Minimum ...	52	47	52	48	47	48	45	44	47	54	62	48	55	69	69	61	55	64	50	51	51	60	64	64	66	58	77	60	54	59	53	55.9
Berthold Agency	Maximum...	82	76	69	66	80	65	70	75	83	90	83	82	93	95	103	83	88	98	85	90	92	91	97	107	108	99	110	82	81	68	63	85.6
	Minimum ...	50	46	52	52	48	52	47	49	45	56	65	53	66	60	71	67	56	61	51	52	53	60	58	69	58	62	70	64	47	58	55	56.5
Bismarck	Maximum...	84	74	64	64	84	67	71	73	81	90	78	83	94	98	96	86	86	98	82	88	90	90	92	102	106	99	107	81	72	63	63	84.1
	Minimum ...	57	52	54	52	47	52	51	52	49	60	63	57	66	64	71	68	59	64	56	56	58	63	55	69	66	70	70	65	55	58	55	59.2
Bottineau §§	Maximum...	81	80	75	59	65	75	66	69	72	80	85	78	80	89	90	88	85	82	99	82	89	85	85	91	104	108	95	104	80	85	75	83.2
	Minimum ...	50	50	52	52	42	50	46	45	45	46	60	50	60	58	65	65	55	65	49	50	50	50	56	62	66	65	65	58	49	55	56	54.4
Cando	Maximum...	89	80	77	61	79	67	68	72	78	83	84	88	87	88	87	89	85	95	96	92	88	84	86	98	100	98	101	97	82	82	70	84.9
	Minimum ...	54	54	51	52	44	53	47	51	48	50	61	60	51	60	65	65	55	55	61	59	57	52	52	56	63	65	67	59	52	60	56	56.0
Carrington §§	Maximum...	77	60	65	84	63	70	72	80	85	71	78	89	83	91	84	82	96	80	87	84	84	90	104	103	96	105	80	82	65	62	61	81.4
	Minimum ...	53	53	53	46	53	47	47	47	52	53	53	54	60	60	63	59	59	53	57	50	54	51	51	63	66	61	61	45	48	54	55	54.4
Crosby §§	Maximum...	77	76	65	67	69	63	67	71	80	90	79	84	88	95	86	80	79	83	85	86	87	89	99	102	105	96	101	77	87	76	59	82.2
	Minimum ...	52	52	52	50	50	51	49	46	49	55	62	52	64	64	66	60	56	59	52	54	55	59	61	68	62	62	64	55	47	56	58	56.2
Devils Lake	Maximum...	82	77	65	66	81	67	67	71	79	84	70	77	89	89	86	83	83	98	82	86	80	83	88	102	105	94	104	80	82	72	62	81.7
	Minimum ...	59	57	52	50	46	54	48	52	49	54	59	55	62	62	68	65	59	58	54	55	52	52	53	61	64	69	63	61	52	62	57	56.9
Dickinson §§	Maximum...	78	70	57	64	78	63	70	72	79	89	79	81	93	96	97	83	86	98	83	89	95	93	97	107	108	100	109	83	73	60	57	83.5
	Minimum ...	48	46	52	49	45	48	46	45	46	51	57	48	59	64	69	65	52	58	50	48	50	61	57	62	66	57	75	63	54	57	53	54.9
Dunn Center §§	Maximum...	79	73	55	69	77	63	70	74	79	88	81	83	93	96	96	84	87	96	82	88	93	90	98	105	108	96	106	80	76	64	57	83.4
	Minimum ...	49	47	51	51	48	43	47	47	45	54	63	48	60	62	70	65	52	59	50	51	52	59	54	74	64	68	71	63	50	57	52	55.7
Dunseith	Maximum...	88	87	74	54	77	75	74	70	87	83	83	78	86	88	87	84	80	96	88	85	82	84	90	103	102	91	101	100	85	81	71	84.3
	Minimum ...	56	53	50	50	44	49	44	46	43	48	56	53	57	60	67	64	55	57	51	53	52	54	56	63	69	65	62	65	50	59	55	55.0
Edgeley	Maximum...	85	83	75	72	87	84	72	74	80	87	84	79	94	98	99	96	90	100	87	90	88	86	89	103	110	104	106	101	78	70	75	87.9
	Minimum ...	62	50	52	50	46	53	52	48	45	51	50	52	53	61	65	69	67	55	57	58	51	54	49	56	63	76	58	66	60	58	57	56.4
Ellendale	Maximum...	84	83	85	68	86	71	72	73	79	86	74	83	92	98	105	100	90	100	81	90	86	85	87	102	108	102	106	87	80	71	82	87.0
	Minimum ...	61	55	57	52	46	54	51	47	49	53	60	58	55	66	69	70	61	59	59	60	56	57	52	55	62	71	62	62	57	60	58	57.9
Fessenden §§	Maximum...	86	82	62	60	86	70	73	76	84	89	75	81	92	96	93	86	88	102	85	91	86	88	73	108	108	98	107	34	88	71	63	84.9
	Minimum ...	53	51	53	53	44	51	46	50	43	50	60	52	60	62	69	67	56	55	48	52	50	54	50	61	64	68	60	63	48	59	54	55.0
Foxholm (near)	Maximum...	80	76	71	62	74	67	68	72	80	87	79	82	92	94	92	84	82	97	83	88	87	87	91	104	104	100	106	91	85	75	67	84.2
	Minimum ...	49	53	50	50	48	50	44	48	48	58	64	52	66	60	68	64	58	58	52	58	52	55	53	71	62	65	67	58	48	48	54	55.8
Fullerton	Maximum...	87	84	85	68	88	71	72	74	81	85	78	83	95	98	106	100	90	100	83	90	89	85	87	101	104	102	107	90	81	69	80	87.5
	Minimum ...	64	52	56	58	46	53	52	50	47	53	60	53	56	64	70	70	61	58	58	57	55	57	52	55	66	72	60	65	56	59	57	57.8
Garrison	Maximum...	80	83	68	72	79	67	70	73	82	87	82	82	94	95	81	84	87	101	85	90	93	88	93	107	107	100	108	93	81	70	63	85.4
	Minimum ...	51	52	52	46	47	50	47	48	47	56	64	53	66	65	72	67	57	58	53	52	56	60	55	67	63	68	67	63	49	58	55	56.9
Grafton	Maximum...	95	81	80	69	85	83	70	73	80	86	83	79	89	89	92	91	85	93	90	86	85	84	87	97	105	102	99	99	87	86	74	86.6
	Minimum ...	67	58	56	56	47	56	53	46	47	50	63	55	58	63	67	66	56	57	57	56	52	50	52	58	61	68	57	63	51	62	58	57.0
Grand Forks	Maximum...	82	82	63	75	85	72	71	74	82	83	73	81	92	92	100	86	86	98	83	88	79	84	86	97	103	98	102	79	84	72	63	83.7
	Minimum ...	67	57	56	57	48	56	52	47	48	51	63	55	56	65	75	68	57	58	56	57	52	51	50	58	69	77	61	64	53	62	59	58.2
Granville	Maximum...	82	78	68	60	77	68	70	73	81	87	79	81	92	91	92	84	84	101	79	85	83	82	89	102	102	92	103	78	80	66	61	82.3
	Minimum ...	49	52	52	55	49	52	47	48	47	54	60	51	66	59	69	68	59	56	52	53	19	56	54	69	59	67	68	60	47	61	56	56.3
Hansboro	Maximum...	75	65	55	60	65	60	60	60	70	78	70	75	80	83	85	85	86	85	80	78	80	75	85	95	100	95	96	80	76	76	72	76.9
	Minimum ...	45	43	42	48	38	44	44	44	44	44	56	55	55	48	48	48	50	50	48	45	42	42	45	45	58	62	62	52	42	46	52	48.0
Hettinger §§	Maximum...	82	77	71	64	82	66	72	75	83	93	79	82	98	97	96	87	90	97	82	88	96	95	95	105	106	101	105	85	68	61	58	85.0
	Minimum ...	55	48	53	50	48	48	47	47	52	54	59	54	58	62	66	68	53	63	49	48	51	58	60	65	64	[illegible]	72	66	59	58	55	56.5
Hillsboro	Maximum...	98	82	78	66	80	80	70	72	80	81	81	80	88	95	100	97	85	98	88	79	85	82	87	96	103	101	98	95	80	80	78	85.9
	Minimum ...	70	56	56	50	49	55	50	51	49	50	59	51	60	64	78	76	60	56	54	53	53	50	50	55	66	78	60	57	53	52	52	57.2
Howard (near)	Maximum...	79	76	60	68	66	64	60	74	92	90	78	85	90	99	88	80	80	87	80	87	91	92	99	103	108	100	100	100	90	70	65	83.9
	Minimum ...	45	48	44	53	54	50	45	44	45	54	60	45	58	60	61	56	52	58	50	54	57	61	62	66	64	65	67	65	57	60	57	55.4
Jamestown §§	Maximum...	85	69	69	89	71	73	74	85	87	68	83	95	95	97	91	89	101	85	91	86	87	90	104	109	97	106	81	83	62	68	64	85.0
	Minimum ...	62	53	54	56	53	53	49	48	45	52	62	52	57	62	69	68	58	58	56	56	55	54	54	56	57	72	62	67	53	57	55	56.9
Langdon §§	Maximum...	71	69	57	54	71	58	58	60	68	74	61	61	74	85	89	71	72	85	71	88	76	80	89	100	105	90	100	77	86	65	65	75.3
	Minimum ...	58	52	50	52	42	52	47	45	45	49	58	50	54	59	65	64	52	54	51	50	46	46	50	54	61	67	60	59	48	54	45	52.9
Larimore §§	Maximum...	80	81	61	60	82	70	71	73	81	86	71	79	90	94	95	82	85	100	81	86	86	80	84	87	100	106	98	103	85	90	75	83.9
	Minimum ...	65	55	56	53	46	54	50	51	46	51	58	56	56	71	65	67	52	60	56	57	50	50	50	57	67	75	61	63	52	53	58	56.8
Linton	Maximum...	87	83	77	67	90	78	74	76	85	91	88	85	97	100	96	94	93	102	91	91	94	93	94	104	110	106	109	104	79	62	72	89.4
	Minimum ...	58	42	64	52	37	50	49	41	41	57	58	50	58	62	70	67	52	64	53	46	52	50	51	65	65	75	70	66	54	55	54	55.8
Lisbon §§	Maximum...	83	82	78	79	84	73	73	74	80	84	76	82	88	93	103	95	88	97	84	89	85	85	86	104	99	104	103	86	79	69	78	85.9
	Minimum ...	68	55	57	59	46	55	52	49	48	50	65	55	56	68	73	78	67	61	59	56	58	53	55	57	78	63	78	67	57	62	57	60.1
McClusky	Maximum...	81	78	80	79	80	74	76	78	80	82	76	79	86	94	91	84	83	97	86	83	86	88	85	104	106	98	103	90	82	78	60	84.7
	Minimum ...	51	50	43	49	43	50	48	45	46	48	52	50	60	60	69	64	55	53	50	51	51	51	50	60	63	71	65	62	49	58	54	54.1
Maddock	Maximum...	83	81	72	57	71	70	68	70	79	89	89	78	88	93	89	86	84	98	97	88	86	85	89	105	105	104	106	86	86	80	65	84.7
	Minimum ...	77	54	50	50	45	52	46	48	43	46	60	52	60	59	66	66	57	53	51	54	49	50	51	55	61	69	62	61	45	61	55	55.1
Marmarth	Maximum...	81	75	65	66	82	66	71	77	81	95	82	85	97	100	95	89	91	98	84	90	97	100	100	107	107	101	106	96	72	65	61	86.5
	Minimum ...	53	45	54	49	47	48	46	43	47	51	62	50	59	62	69	63	52	64	50	47	49	58	65	67	65	56	74	63	58	53	55	55.6
Minot §§	Maximum...	82	72	59	66	72	67	69	72	83	88	80	85	95	94	95	84	85	100	85	89	90	88	94	106	106	98	108	82	84	71	60	84.2
	Minimum ...	47	52	52	52	45	50	46	47	44	54	64	50	63	57	69	66	54	58	50	56	51	58	52	68	57	68	69	59	47	62	56	55.6
Mohall	Maximum...	91	83	78	74	71	68	71	81	92	91	82	84	95	95	92	83	87	95	90	90	93	90	97	106	106	97	105	91	90	76	70	87.5
	Minimum ...	48	51	48	46	48	50	53	68	50	62	61	51	70	62	70	66	56	64	54	67	53	55	54	56	64	68	70	60	68	48	54	57.9
Mott	Maximum...	84	82	76	78	80	66	72	74	83	88	82	82	93	97	96	88	89	85	98	98	95	93	95	105	108	101	108	105	91	73	68	88.2
	Minimum ...	50	55	53	48	46	52	50	50	51	56	55	56	63	67	69	66	63	62	61	58	62	60	64	66	70	68	67	62	58	56	53	58.7
Napoleon §§	Maximum...	85	85	72	65	89	68	73	73	83	72	81	88	96	96	95	92	89	104	82	89	90	90	95	105	111	102	108	83	74	60	69	85.9
	Minimum ...	57	44	54	53	44	51	48	48	45	53	53	58	63	63	66	66	54	56	52	54	54	55	50	60	71	74	65	65	53	50	54	55.9
New Salem	Maximum...	86	77	70	73	82	72	70	69	80	90	89	81	92	95	95	93	95	97	95	90	90	90	98	105	108	100	107	100	89	65	61	87.2
	Minimum ...	56	51	51	51	48	48	47	51	50	51	61	53	64	63	68	62	68	67	65	67	55	56	59	62	63	63	66	67	54	56	53	57.9
Oakes	Maximum...	81	82	83	70	85	80	74	73	81	84	78	82	89	94	106	97	89	98	87	91	85	85	87	99	104	102	106	91	78	69	80	86.8
	Minimum ...	65	52	57	59	44	54	51	47	46	51	63	53	57	64	72	71	60	56	58	56	56	56	51	54	67	76	60	70	57	61	57	58.1
Pembina §§	Maximum...	94	84	82	65	70	78	71	63	72	80	85	74	78	78	90	84	81	87	83	85	78	85	83	87	87	99	93	91	84	85	78	81.7
	Minimum ...	65	58	48	54	45	46	42	45	45	45	45	55	68	54	62	68	52	57	56	55	52	48	52	53	63	65	56	63	52	52	58	54.2
Sharon	Maximum...	83	81	65	67	82	70	72	75	81	84	74	79	92	92	98	86	86	98	83	90	83	84	88	99	105	100	102	95	83	77	60	84.3
	Minimum ...	64	52	53	53	43	53	48	50	53	51	61	52	58	63	69	67	58	55	54	53	52	52	54	59	69	72	59	64	52	60	55	56.7
Steele	Maximum...	84	82	60	64	86	70	71	76	82	89	87	81	94	97	95	90	87	100	96	92	87	89	92	103	107	98	106	88	79	70	64	85.8
	Minimum ...	57	50	54	55	44	53	48	51	48	57	62	54	63	78	78	73	68	72	75	72	71	58	51	65	65	69	65	64	50	57	53	60.6
Towner	Maximum...	84	78	72	60	79	68	70	72	83	88	81	84	104	103	91	88	84	101	91	91	86	87	92	107	106	100	108	85	87	82	70	86.5
	Minimum ...	50	55	52	52	46	53	47	48	44	52	62	51	55	59	71	68	56	56	51	53	49	50	52	64	59	67	68	61	49	61	56	55.6
Valley City	Maximum...	87	86	80	72	86	84	72	74	82	86	86	83	94	93	98	91	87	95	93	89	87	86	90	101	105	98	105	82	84	77	69	87.2
	Minimum ...	66	58	52	57	44	52	49	49	43	47	62	53	55	62	71	70	59	55	56	56	56	54	51	55	67	79	64	68	52	62	52	57.3
Wahpeton	Maximum...	99	85	86	80	81	81	75	75	82	86	85	82	89	94	105	103	100	97	95	91	90	85	87	98	107	105	104	97	82	77	81	89.8
	Minimum ...	68	55	56	62	49	57	51	47	47	50	61	59	58	67	71	72	65	57	60	57	60	52	50	50	65	80	61	73	65	63	60	69.5
Westhope	Maximum...	83	79	63	62	73	67	75	77	86	92	82	84	94	98	90	88	86	97	92	94	92	90	98	110	111	98	108	83	92	80	66	86.8
	Minimum ...	50	55	49	53	47	51	47	47	47	52	63	51	65	62	70	66	55	58	50	54	51	57	55	64	62	66	67	58	48	57	58	55.9
Williston	Maximum...	78	75	59	70	71	63	68	74	85	91	79	85	90	99	92	83	87	91	83	87	96	93	102	104	105	100	101	76	78	67	62	83.7
	Minimum ...	46	53	50	50	53	51	49	47	49	61	64	52	62	68	69	61	55	61	54	59	61	67	66	73	65	66	71	60	51	62	53	58.4
Moorhead, Minn	Maximum...	82	83	77	79	81	73	72	72	80	84	72	82	87	92	102	95	88	95	82	89	80	82	86	96	105	98	101	87	78	69	73	84.6
	Minimum ...	65	60	60	58	50	57	53	50	52	52	60	56	57	69	77	72	64	60	60	59	58	57	54	59	68	77	65	67	58	61	57	60.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 8-31-31—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX   BISMARCK, N. D., AUGUST, 1931   No. 8

GENERAL SUMMARY

Although the mean temperature and average precipitation for the state were nearly normal, occasional periods of high temperature occurred and practically all precipitation was confined to the first decade and the 27-28th. Harvesting was completed during the month and much threshing done. Much small grain was cut for feed as the yields would not warrant harvesting and threshing costs. Some fall plowing and seeding of winter rye were accomplished, but the ground was mostly too dry at the close for good results. Pastures were in need of rain in practically all sections.

TEMPERATURE

The mean temperature for the state was 67.0°, or 0.8° above the normal, and 3.4° lower than the mean for August, 1930. The highest mean reported was 70.4° at Wahpeton, Richland County; the lowest was 64.4° at Bottineau, Bottineau County, and Wishek, McIntosh County. The highest temperature reported was 105° at McLeod, Ransom County on the 4th; the lowest was 30° at Pembina, Pembina County on the 30th and 31st. The greatest monthly range of temperature was 74° at McLeod, Ransom County; the least was 50° at Dogden Butte, McLean County. The greatest daily range in temperature was 53° at Fullerton, Dickey County on the 4th.

PRECIPITATION

The average precipitation for the state was 2.09 inches, or 0.05 inch above the normal, and 0.64 inch more than the average for August, 1930. The greatest monthly amount reported was 4.95 inches at Cando, Towner County; the least was 0.36 inch at Alpha, Golden Valley County. The greatest amount recorded in any 24 consecutive hours was 3.11 inches at Cando, Towner County on the 27th. The average number of days with 0.01 inch or more of precipitation was 6.

AURORAS

Auroras were observed at Devils Lake on the 1st; at Devils Lake, Eckman, Grafton, Howard, Rugby, Tagus, and Willow City on the 8th; at Napoleon on the 9th; at Bottineau, Carson, Devils Lake, Foxholm, Howard, Oakes, Sanish, Tagus, and Willow City on the 10th; at Foxholm and Parshall on the 11th; at Eckman on the 14th; at Devils Lake, Foxholm, Howard, and Rugby on the 15th; at Foxholm on the 16th; at Carson, Devils Lake and Rugby on the 18th; at Howard on the 21st; at Devils Lake, Foxholm, Sanish, and Sharon on the 24th; and at Howard on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.99	30.37	10	29.43	26	57	5,764	7.7	31§	n.	22
Devils Lake	30.00	30.35	10	29.46	27	44	5,972	8.0	30§	nw.	28
Ellendale	30.02	30.32	16	29.51	27	56	8,412	11.3	37§	nw.	28
Grand Forks	29.95	30.26	24	29.40	27†	90	....	.....	40	nw.	28
Williston	29.96	30.42	10	29.39	26	48	5,011	6.7	39§	nw.	7
Moorhead, Minn	29.98	30.29	11	29.50	27	58	5,374	7.2	33§	nw.	28
Av'ges and extremes	29.98	30.42	10	29.39	26	.....	....	8.1	40§	nw.	28

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	266.2	439.4	61	− 8	82	52	51	24	23
Devils Lake	300.5	442.0	68	+ 3	84	47	51	26	14†
Ellendale	324.3	437.4	74	+ 9	85	49	....	22	26
Grand Forks	....	....	......	......	82	....	49	....	....
Williston	301.0	442.0	68	+ 1	77	44	42	22	3†
Moorhead, Minn	291.6	439.4	66	0	81	50	50	30	30
Averages and extremes	296.7	440.0	67	+ 1	82	48	49	22	3†

† And other dates.

COMPARATIVE STATE DATA FOR AUGUST

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	67.3	+1.1	105	24	2.39	+0.35	8	15	10	6	se.
1893	66.7	+0.5	109	29	1.31	−0.73	3	20	7	4	nw.
1894	68.8	+2.6	102	30	1.14	−0.90	4	17	10	4	nw.
1895	64.5	−1.7	104	24	1.57	−0.47	5	17	11	3	nw.
1896	64.7	−1.5	107	21	1.39	−0.65	5	17	10	4	nw.
1897	64.1	−2.1	106	29	1.18	−0.86	5	15	10	6	nw.
1898	65.4	−0.8	104	24	1.69	−0.35	5	15	11	5	nw.
1899	65.2	−1.0	97	32	2.83	+0.79	6	15	11	5	se.
1900	70.4	+4.2	114	33	5.06	+3.02	10	14	11	6	se.
1901	66.9	+0.7	100	32	1.77	−0.27	6	18	8	5	nw.
1902	64.3	−1.9	96	26	2.30	+0.26	8	16	9	6	s.
1903	63.7	−2.5	103	35	4.68	+2.64	10	13	7	11	se.
1904	63.3	−2.9	102	31	1.67	−0.37	6	17	7	7	nw.
1905	67.5	+1.3	107	34	2.62	+0.58	7	17	8	6	nw.
1906	66.3	+0.1	105	31	1.90	−0.14	7	17	6	8	se.
1907	64.5	−1.7	104	26	1.89	−0.15	6	18	9	4	nw.
1908	63.2	−3.0	104	25	2.28	+0.24	7	17	8	6	nw.
1909	69.8	+3.6	109	27	2.25	+0.21	6	18	9	4	se.
1910	63.1	−3.1	109	24	1.41	−0.63	5	14	8	9	nw.
1911	62.2	−4.0	98	23	3.55	+1.51	8	12	11	8	nw.
1912	63.4	−2.8	118	32	2.95	+0.91	10	11	10	10	nw.
1913	68.9	+2.7	106	30	2.62	+0.58	6	16	10	5	nw.
1914	64.2	−2.0	101	26	2.18	+0.14	7	13	11	7	nw.
1915	64.4	−1.8	100	19	1.18	−0.86	4	19	8	4	se.
1916	66.0	−0.2	100	26	2.75	+0.71	8	16	10	5	nw.
1917	65.2	−1.0	105	25	0.82	−1.22	4	17	10	4	nw.
1918	66.5	+0.3	102	34	3.35	+1.31	8	15	11	5	nw.
1919	67.9	+1.7	101	30	1.62	−0.42	5	18	10	3	nw.
1920	68.8	+2.6	108	28	1.56	−0.48	5	22	6	3	se.
1921	67.2	+1.0	108	31	1.99	−0.05	6	18	10	3	nw.
1922	69.8	+3.6	115	33	1.36	−0.68	6	18	9	4	se.
1923	63.0	−3.2	97	28	1.90	−0.14	8	14	12	5	nw.
1924	63.8	−2.4	102	28	1.65	−0.39	6	17	9	5	nw.
1925	67.9	+1.7	110	29	1.07	−0.97	5	20	8	3	nw.
1926	65.6	−0.6	105	36	2.43	+0.39	7	14	8	9	nw.
1927	63.4	−2.8	96	28	3.23	+1.19	8	18	8	5	nw.
1928	64.8	−1.4	105	25	3.30	+1.26	8	17	9	5	nw.
1929	68.5	+2.3	106	26	0.77	−1.27	4	20	9	2	nw.
1930	70.4	+4.2	104	32	1.45	−0.59	6	15	9	7	se.
1931	67.0	+0.8	105	30	2.09	+0.05	6	16	9	6	nw.
Av.	66.2	....	118*	19*	2.04	....	6	16	9	6	nw.

*Extremes.

Climatological Data for August, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		5								0.36		0.11	0	5					H. A. Bury.
Amenia	Cass	954	35	66.4	-0.1	103	4	33	30	51	2.58	+0.03	1.25	0	5	7	16	8	s.	I. Idso.
Amidon	Slope		16																	R. R. Beebe.
Arnegard (near)	McKenzie		18	69.0	+1.7	98	4†	40	28	46	0.37	-1.08	0.19	0	5	24	1	6	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	67.4	+0.9	101	4	37	30	40	3.78	+1.34	1.85	0	6	22	3	6	nw.	H. D. Piper.
Beach	Golden Valley	2,759	25	68.7	+2.3	97	26	38	29	40	0.78	-0.99	0.40	0	4	18	11	2	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	67.7	0.0	94	12	43	28	40	2.45	+0.72	0.75	0	7	12	13	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	67.5	+0.2	99	4	45	30	36	1.58	-0.24	0.86	0	8	13	12	6	s.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	64.4	+0.3	94	4	35	24	48	2.69	+0.50	1.20	0	7	17	13	1	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	17	67.8	+0.1	97	12	40	28	47	1.44	+0.08	0.48	0	6	18	11	2	se.	George Larsen.
Cando	Towner	1,488	30	66.8	+1.9	97	4	33	27	53	4.95	+2.82	3.11	0	4	8	18	5	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	64.8^{a}	-2.0	97^{a}	3	38^{c}	24†	45^{a}	2.51	+0.39	0.61	0	7	23	1	7	w.	L. A. Swanson.
Carson	Grant	2,500	19	65.9	-2.0	98	4	40	28	42	2.06	+0.54	0.85	0	6	23	2	6	s.	J. W. Evens.
Cavalier	Pembina	894	21								2.33	+0.07	1.17	0	7	17	5	9	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	34								3.35	+1.09	1.87	0	6	12	10	9	sw.	Theo. Marquardt.
Corinth	Williams	2,180	3								1.70		1.20	0	2	19	9	3	sw.	W. A. Clem.
Crosby	Divide	1,954	24	65.6	+1.0	94	16†	42	28†	41	3.17	+1.25	1.40	0	5	9	16	6	nw.	John Jensen.
Devils Lake	Ramsey	1,478	34	66.2	+1.4	100	4	40	30	36	3.89	+1.41	2.73	0	8	9	11	11	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	65.8	-0.5	94	12†	41	28	43	2.05	+0.26	0.91	0	8	10	14	7	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	67.4		92	4†	42	30	35	1.95		1.03	0	6	16	8	7	s.	R. L. Williams.
Drake	McHenry	1,634	2	65.4		99	3	40	28†	47	2.47		1.85	0	7	19	3	9	se.	J. Rindt.
Dunn Center	Dunn	2,191	32	65.4	-0.8	92	22	43	28†	41	3.58	+2.17	1.05	0	6	21	5	5	se.	W. F. Moede.
Dunseith	Rolette	1,682	35	66.6	+2.7	97	21	39	29	44	2.13	-0.25	0.95	0	7	15	13	3	sw.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	66.4	+2.2	97	12†	39	11	48	1.41	-0.66	0.48	0	7	7	18	6	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	30	66.8	-0.1	100	4	35	30	42	2.11	-0.15	0.80	0	5	10	16	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	68.0	-0.8	101	4	40	30	45	2.15	-0.93	1.00	0	9	11	12	8	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	19	67.8		95	4	42	11†	39	1.35	-0.50	0.53	0	6	15	12	4	s.	H. S. Solenberger.
Epping	Williams	2,224	23	67.8		97	20†	36	29	45	0.68	-1.02	0.37	0	3	17	11	3	nw.	A. O. Wang.
Fairfield	Billings		2								1.81		0.83	0	5	18	10	3	se.	F. R. Hecker.
Fessenden	Wells	1,610	19	66.1	+0.2	99	4	36	30	47	3.71	+1.54	0.98	0	8	18	7	6	se.	T. D. Monsen.
Forman	Sargent	1,249	38								1.45	-1.29	0.55	0	4	20	7	4	se.	Helge Dyste.
Fort Yates	Sioux	1,670	31	68.1	-1.2						2.71	+0.71								P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	66.6		93	21	41	28	40	1.60	-0.14	0.68	0	5	10	11	10	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13								0.56	-0.90	0.26	0	4	23	6	2	se.	Verne King.
Fullerton	Dickey	1,439	33	68.6	+1.5	103	4	36	30	53	1.75	0.83	0.90	0	4	22	6	3	nw.	F. O. Alin.
Gackle	Logan	1,951	1								2.35		1.00	0	7	11	11	6	nw	Geo. Hummel.
Garrison	McLean	1,901	54	67.2	+1.1	95	4	42	30	38	1.25	-0.77	0.46	0	5	18	8	5	nw.	W. F. Robinson.
Grafton	Walsh	827	39	68.4	+3.2	99	4	34	30	41	2.80	+0.33	0.98	0	6	14	11	6	s.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	40	67.8	+2.4	102	4	36	30	42	2.01	-0.47	0.85	0	8	13	12	6	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	65.1	+0.2	92	21	40	24	46	1.06	-0.79	0.58	0	6	15	9	7	nw.	W. A. Christianson.
Hankinson	Richland	1,068	2	69.0		104	4	32	28	39	2.21		1.20	0	8	21	4	6	se.	R. G. Stock.
Hannah	Cavalier	1,568	39								3.61	+1.79	1.28	0	9					James Meier.
Hansboro	Towner	1,597	23	64.7	+2.3	95	16†	35	30	47	4.01	+1.81	1.75	0	9	15	11	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	24	66.6	-2.2	96	4	39	29	44	1.85	+0.55	0.64	0	9	23	2	6	se.	C. H. Plath.
Hillsboro	Traill	901	25	67.1^{b}	-0.4	101^{b}	4†	33^{b}	28	42	1.64	-0.85	0.60	0	4	17	9	5	s.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	24	65.5	+0.6	95	21	34	31	47	2.85	+1.34	1.65	0	6	16	10	5	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	66.7	+0.3	101	4	34	30	44	2.23	-0.30	1.19	0	6	15	11	5	n.	S. Calvelage.
Langdon	Cavalier	1,615	35																	R. T. Burke.
Larimore	Grand Forks	1,134	38	66.2^{a}	+1.2	95^{a}	21	34^{a}	30	38^{a}	3.02	+0.38	1.05	0	6	22	3	6	se.	May Walsh.
Linton	Emmons	1,711	14	67.5	-1.7	104	4	42	30	46	3.38	+1.37	2.15	0	5	15	12	4	e.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	67.2	+0.2	100	4	33	30	46	2.97	+0.63	1.21	0	7	17	10	4		N. S. Lindstrom.
McClusky	Sheridan	1,943	13	65.8		97	4	39	30	46	3.08	+1.33	1.36	0	9	18	8	5	se.	Edw. Tapley.
McLeod	Ransom	1,075	20	68.3	+0.4	105	4	31	30	49	1.97	-0.18	1.27	0	3	19	5	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	16	66.2	+0.5	100	4	32	30	45	4.23	+2.02	2.65	0	6	12	12	7	nw.	A. T. Felland.
Mandan	Morton	1,750	17	67.2	-0.9	99	4	42	30	37	1.07	-0.43	0.33	0	6	12	5	14	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28								2.91	+0.56	2.05	0	6					P. B. Anderson.
Marmarth	Slope	2,714	22	68.5^{b}	+1.2	97^{b}	12	38^{b}	29	42^{b}	0.68	-1.06	0.28	0	5	16	6	9		S. P. Grane.
Mary	McKenzie		2								0.42		0.42	0	1	24	1	6	se.	Fred Hartman.
Max	McLean	2,093	2	66.8^{b}		99^{b}	26	40^{b}	28	46	1.57		1.14	0	5	12	10	9	nw.	A. W. Rice.
Mayville	Traill	975	35	68.0	+1.0	101	4	33	30	42	2.03	-0.59	0.82	0	7	16	0	15	w.	H. B. Addicott.
Minot	Ward	1,557	35	66.6	+1.6	95	21	43	28	44	3.31	+1.30	1.65	0	8	22	2	7	w.	Julia B. Rue.
Mohall	Renville	1,646	37	68.9	+5.0	97	17	40	29	43	1.86	+0.05	0.96	0	3	13	17	1	s.	E. H. Wolsey.
Mott	Hettinger	2,424	24	67.2	+0.1	98	5	38	9	45	1.65	-0.12	0.78	0	5	14	7	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	39	66.2	-0.2	102	4	39	30	42	3.18	+0.85	1.20	0	10	16	7	8	s.	C. J. Hoof.
New England	Hettinger	2,400	37	66.8	-0.1						0.81	-0.78								F. S. Sleight.
New Salem	Morton	2,168	27	68.9	+1.7	99	4	40	30	40	1.50	0.08	0.73	0	7	19	8	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	68.4		102	4	36	30	44	2.49		1.45	0	6	9	10	12	nw.	Eugene Naylor.
Park River	Walsh	998	27	67.5^{c}	+1.3	101^{c}	4	35^{c}	30	42^{c}	1.84	-0.44	1.57	0	2	16	5	10	se.	C. B. Wright.
Parshall (near)	Mountrail		16								1.01	-0.82	0.44	0	3	6	20	5	se.	C. E. Shubert.
Pembina	Pembina	789	57	65.8	+1.5	97	4	30	30†	46	3.30	+1.04	1.10	0	8				s.	C. W. Shumaker.
Petersburg	Nelson	1,520	1								1.82		1.12	0	7	12	14	5	se.	T. M. Rykken.
Pettibone	Kidder	1,856	22	66.6	-1.7	96	4	38	30	39	2.04	-0.39	0.86	0	6	13	8	10	nw.	A. L. Carlson.
Portal	Burke	1,954	26	65.4	+1.2	99	15	38	31	47	1.56	-0.37	1.01	0	5	22	5	4	s.	C. T. Holmes.
Power‡‡	Richland	1,020	37								3.10	+0.73	1.75	0	3	24	6	1	n.	Frank B. Power.
Powers Lake	Burke	2,205	26	65.0		95	18†	40	6	47	1.71	+0.22	0.61	0	4	18	11	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	66.3	-1.8	95	22	41	28	42	1.04	-0.53	0.28	0	8	15	9	7	se.	John Muggli.
Rugby (near)	Pierce	1,562	2								2.26		1.80	0	3	18	9	4	sw.	E. C. Erickson.
Ryder	Ward	2,108	2								0.83		0.38	0	5					E. M. Lomen.
Sanish	Mountrail	1,835		67.6		95	22	44	28†	42	1.55		0.97	0	7	7	10	14	se.	H. W. Monson.
Sharon	Steele	1,516	7	65.8		99	4	37	30	38	3.16		1.89	0	6	15	9	7	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	7								1.48		0.85	0	6	18	6	7	se.	J. H. Giffey.
Steele	Kidder	1,857	37	65.8	-0.9	95	4	39	30	38	2.50	+0.13	0.90	0	9	17	0	14	s.	V. A. Laney.
Stowers‡‡	Adams	2,325	16								1.32	+0.01	0.61	0	6	18	10	3		Chas. E. Stowers.
Tagus	Mountrail	2,179	2								0.71		0.23	0	5	20	5	6	sw.	J. C. Abbott.
Tioga	Williams	2,279	2								1.14		0.34	0	4	15	11	5	nw.	Anton Carlson.
Towner	McHenry	1,482	29	67.6	+2.2	97	4	38	24	44	1.84	-0.05	0.98	0	4	21	6	4	w.	Karl Weber.
Trotters	Golden Valley		5								0.81		0.75	0	3	15	10	[illegible]		A. J. Nellermoe
Turtle Lake	McLean	1,899	17																	E. T. Kusler.
Tuttle	Kidder	1,936																		
Valley City	Barnes	1,245	25	67.2	+0.4	100	4	32	30	45	2.38	+0.40	2.12	0	4	17	9	5	nw.	I. C. Robertson.
Velva	McHenry	1,511	4	67.7		95	21	41	24†	43	1.52		0.53	0	6	10	12	9	nw.	Oscar Anderson.
Verona	LaMoure	1,387	3								1.90		0.87	0	4	23	0	8	ne.	W. C. Taylor.
Wahpeton	Richland	962	39	70.4	+2.5	104	4	34	30	43	3.00	+0.25	1.79	0	7	22	0	9	se.	C. G. Luick.
Washburn	McLean	1,731	30	67.4	0.0	97	4	41	28	40	1.17	-0.17	0.49	0	7	15	10	6	sw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	67.9	+3.2	102	12	41	11†	49	1.87	-0.17	0.68	0	6	24	4	3	nw.	C. M. Condit.
Williston	Williams	1,878	52	69.0	+2.9	96	21	41	28	39	1.10	-0.37	0.72	0	4	15	10	6	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	65.6	+2.0	97	21	32	24	48	1.18	-0.82	0.75	0	4	19	8	4	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	64.4	-1.4	100	4	37	30	44	4.06	+1.95	1.95	0	7	10	6	15	nw.	E. W. Davis.
Zap	Mercer	1,838	16								1.69	-0.13	0.70	0	6					R. A. Norton.
Moorhead, Minn.	Clay	935	50	67.6	+1.5	102	4	36	30	42	1.85	-1.04	1.61	0	6	7	11	13	s.	U. S. Weather Bureau.
Averages				67.0	+0.8	105	4	30	30†	53	2.09	+0.05	3.11	0	6	16	9	6	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; **Energy, Underwood; Grand Forks, University; Power, Leonard;** Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for August, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.02				.04	.09	.11							.10																		0.36
Amenia ‖‖	Red		.03					.45	1.25															.15				.70					2.58
Amidon	Lit. Missouri																																
Arnegard (near)	Missouri	.07				.07	.19	T.	.02	T													.02					T.					0.37
Ashley	Missouri	.01					1.20	.39									.07	1.85										.26					3.78
Beach ‖‖	Lit. Missouri					.11	.20	.07	.40																								0.78
Berthold Agency	Missouri	.17				.05	.63		.33															.75				.50		.02			2.45
Bismarck ***	Missouri	.06				.03	.26	.77	.06	T.				T.	T.								.03				.31	.06	T.	T.		T.	1.58
Bottineau ‖‖	Mouse	1.20	.20	.30				.05	.03		T.				T.			T.										.66	.25				2.69
Bowman	Grand	.02	.35			T.	.15	.48	.12						.32								T.				T.						1.44
Cando	Devils Lake	1.05						T.			T.								T	.61			T					3.11	.18				4.95
Carrington ‖‖	James	.55						.20	.35	.02									.20									.58	.61				2.51
Carson	Heart		.10			.03	.57	.44																			.85	.07					2.06
Cavalier	Red	.50	.20						.02	.05									.27									1.17	.12				2.33
Cooperstown	Sheyenne	.05	.06	T.			T.	.30	.77		T.																	1.87	.30	T.			3.35
Corinth	Missouri						.50												1.20														1.70
Courtenay	James	.10				.12	.25	.64	T.	T.														.08				1.02					2.21
Crosby ‖‖	Mouse	.80	T.					.45	1.40		T.								.51		.01		T.					T.					3.17
Devils Lake ***	Devils Lake	.39	T.			T.	T.	.03	.01	.06				T.		T.				.59			T.	T.			1.13	1.61	.07				3.89
Dickinson ‖‖	Heart	.91	.18			.01	.15	.07	.69						.01	T.												T.	.03				2.05
Dogden Butte	Mouse	.23					.12	.03												.46								1.03	.08				1.95
Drake ‖‖	Mouse						.05	.01		.01									.25	.15						1.85	.15						2.47
Dunn Center ‖‖	Knife	.95	.09				.18	.70	.61															1.05									3.58
Dunseith	Mouse	.95	T.				T.	.25	.06	T.	.03								.04				T.					.60	.20				2.13
Eckman	Mouse	.48					.05		.03	.02										.38								.42	.03				1.41
Edgeley	James	.24					.60	.80										.37									.10						2.11
Ellendale ***	James	.02	T.		.03		.69	.03	T.	T.	T.			T.	.01	.02	.31	.04		T.			T.					1.00		T.		T.	2.15
Energy	Missouri	.15				T.	.37	.10	.10															.10				.53					1.35
Epping	Missouri	.06					.37		.25		T.																T.						0.68
Fairfield	Knife		.11			.05	.83	.05	.77																								1.81
Fessenden ‖‖	James	.98	.03				.03	.09	.46											.35								.82	.95				3.71
Forman	Sheyenne					T.	.40	.15			T							.35										.55				T.	1.45
Fort Yates	Missouri																																
Foxholm (near)	Mouse	.44					.13	T	.04	T.				T.						.68			T.					.31	T.				1.60
Fryburg	Heart	.07				.26	.12	.11																							T.	T.	0.56
Fullerton	James	.03					.90	T.	T.		T.					T	.67							T.				.15					1.75
Gackle	James	.10				.02	.44	1.00	.27		.02																	.50					2.35
Garrison	Missouri	.23					.46	.05	.19															T.			.32						1.25
Grafton	Red	.88	.13	.05						T.									.48									.98	.28				2.80
Grand Forks ***	Red	.26	.10				.14	.25	.02	.04	T.									.35								.85					2.01
Granville	Mouse	T.	T			.02	.04	.02		T.										.37								.58	.03		T.		1.06
Hankinson ‖‖	Red					.17	1.20	.02		.02							.52									.22	.04				.02		2.21
Hannah	Pembina	.96	.18	.28			T.		.12		.06									T.	.15		T.					.50	1.28	.08			3.61
Hansboro	Devils Lake	1.75						.25		.03								.05	.03	.05	.20							1.45	.20				4.01
Hettinger ‖‖	Grand	.12	.07				.21	.08	.64						.48	.07											.10		.08				1.85
Hillsboro	Red	.60				T.	.26	.46																				.32					1.64
Howard (near)	Missouri	.16					.96	.06	1.65	.01				T.								T.						.01	T.				2.85
Jamestown ‖‖	James	.03	.03				.08	.52	1.19												T.							.38					2.23
Langdon ‖‖	Pembina																																
Larimore ‖‖	Red	.90						.15	1.05		.02																	.75	.15				3.02
Linton	Missouri	T.					.87	2.15							.14	.04	.18																3.38
Lisbon ‖‖	Sheyenne		.03				.15	1.21	.71							.03		.20										.64					2.97
McClusky	Missouri	.34				.07	.05	.13	.47	.02										.61								1.36	.03				3.08
McLeod	Sheyenne	T.			T.			1.27										.40										.30	T.				1.97
Maddock	Sheyenne	1.00				.04	T.	.04	.03	T.										.47			T.					2.65					4.23
Mandan ‖‖	Missouri	.07					.24	.09	.30							T.								.04				.33	T.				1.07
Manfred	James	.37	.02			.01	T.	.15													.31							2.05					2.91
Marmarth	Lit. Missouri	T.			.14		.02	.28	.13						.11												T.						0.68
Mary	Lit. Missouri						.42																										0.42
Max ‖‖	Missouri	1.14						.10	.03																			.25	.05				1.57
Mayville	Red	.23						.38	.82												.09							.49	.01	.01			2.03
Minot ‖‖	Mouse	1.65						.12	.05											.75	.02			.20				.50	.02				3.31
Mohall	Mouse	.55																		.96								.35	T.				1.86
Mott	Cannon Ball			.06			.20	.78							.19												.42						1.65
Napoleon ‖‖	Missouri		.06				.35	1.05	1.20						.03	.02		.01						.06				.30	.10				3.18
New England	Cannon Ball																																
New Salem	Heart	.03				.04	.17	.73	.30															.15				.08					1.50
Oakes	James	T.					.53	.14								.02		.34										1.45	.01				2.49
Park River	Red	.27																										1.57					1.84
Parshall (near)	Missouri	.43				T.	.44	T.			T.								T.					T.				.14					1.01
Pembina ‖‖	Red	.28	1.10	.30							.10								.05			T.						.40	1.02		.05		3.30
Petersburg	Red	.24	.04			T	T.	.22		.02										.05								1.12	.13				1.82
Pettibone	James	.15	T.			.05	.23	.70												.05			T.					.86					2.04
Portal ‖‖	Mouse	.06					.24	1.01												.15							.10						1.56
Power	Sheyenne						.60	1.75							T.	T.												.75					3.10
Powers Lake	Missouri	.22					.41	.47	.61																								1.71
Richardton	Heart	.13	.03			.15	.04	.27	.07												.07						.28						1.04
Rugby (near)	Mouse	.23			T.				T.	T.																	1.80	.23	T.				2.26
Ryder	Missouri	.05		.04		.31	.04																					.38					0.82
Sanish ‖‖	Missouri	.97	T.				.02	.43	.04										.03					T.				.04	.02				1.55
Sharon	Red	.20				T.	.16	.84	.06	T.	.01			T.									T.					1.89	T.				3.16
Stanton	Missouri	.17				.05	.13	.10	.18														T.					.85					1.48
Steele	Missouri	.07	.01			.15	.40	.90	.03	T.					T.					.02			T.		T.			.90	.02				2.50
Stowers	Cannon Ball	.03					.27	.26							.61		.09										.06						1.32
Tagus	Mouse	.23					.18	.04															.06					.20					0.71
Tioga	Missouri	.29					.34		.20										.31														1.14
Towner	Mouse	.40				T.	T.	T.		T.										.39								.98	.07	T.			1.84
Trotters	Lit. Missouri	.02				.04			.75																								0.81
Turtle Lake	Missouri																																
Tuttle																																	
Valley City	Sheyenne	.09					.03	2.12	T.																			.14					2.38
Velva	Mouse	.53	T.				T.	.03	.05		T.									.34								.53	.04	T.			1.52
Verona	James					.38	.87											.09										.56					1.90
Wahpeton	Red	.06					.20	1.79										.31										.55		.01		.08	3.00
Washburn	Missouri	.06				.03	.09	.29	.19	T.														.02				.49					1.17
Westhope	Mouse	.68	.04						.15										.09	.25							.66						1.87
Williston ***	Missouri	.04		T.		T	.72	.15		T.									T.				.19					T.	T.				1.10
Willow City	Mouse	.34					.06	T.	.03	T.									T.	T.								.75					1.18
Wishek ‖‖	Missouri	.12	.03				.50	1.95	.16						T.			.15										1.15	T.	T.			4.06
Zap	Knife	.23					.20	.70	.25														.08					.23					1.69
Moorhead, Minn ***	Red	T.	T.			T.	.02	1.61	T.	.03	T.			T	.01					T.				T.				.17	.01				1.85

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	76	74	89	103	85	70	70	71	70	70	78	85	78	80	90	93	87	91	86	89	93	92	83	71	80	87	72	68	67	75	75	80.6
	Minimum ...	57	56	51	52	61	54	55	60	51	52	46	48	55	62	54	56	60	57	58	56	58	58	60	48	42	41	45	48	39	33	47	52.3
Arnegard (near)	Maximum...	63	74	94	98	75	62	69	72	66	74	87	98	91	82	92	91	95	93	95	96	97	95	80	83	89	94	70	72	79	85	75	83.4
	Minimum ...	52	56	53	52	52	54	55	53	47	45	46	54	71	63	54	58	64	69	70	67	63	70	50	45	45	50	50	40	45	50	45	54.5
Ashley	Maximum...	72	74	91	101	92	69	78	80	76	67	76	83	91	85	86	83	83	86	82	85	87	88	83	74	77	86	85	69	68	75	74	80.8
	Minimum ...	58	48	52	61	57	56	58	60	50	49	41	51	62	62	54	57	59	59	57	59	62	61	61	48	46	47	55	44	48	37	51	53.9
Beach	Maximum...	61	77	91	90	78	75	73	69	65	68	88	92	88	75	87	90	87	93	96	94	94	92	90	85	90	97	72	71	76	88	78	82.9
	Minimum ...	53	52	54	58	52	56	59	53	45	45	49	60	70	54	56	54	55	60	63	68	61	66	50	52	52	59	53	42	38	52	48	54.5
Berthold Agency	Maximum...	64	75	91	92	81	69	65	72	65	70	81	94	90	79	88	90	88	90	90	92	93	93	85	75	84	92	73	71	71	83	78	81.4
	Minimum ...	55	51	54	71	55	54	56	52	48	47	46	54	65	50	52	56	55	64	61	64	58	65	54	46	48	57	51	43	49	46	45	54.0
Bismarck	Maximum...	66	74	90	99	71	61	70	74	65	70	78	88	90	74	85	85	84	90	86	89	88	88	79	73	83	91	69	69	68	77	78	79.1
	Minimum ...	54	52	54	64	57	56	58	58	51	52	48	57	68	61	51	60	55	61	66	65	62	65	54	45	50	59	53	47	49	45	54	55.9
Bottineau §§	Maximum...	67	71	90	94	74	65	68	72	60	72	78	92	87	81	86	92	88	89	85	90	92	88	78	74	82	87	64	65	64	68	72	78.5
	Minimum ...	50	50	49	65	53	53	55	55	46	40	45	48	55	49	49	55	55	58	60	42	60	65	55	35	40	50	55	40	40	42	43	50.2
Cando	Maximum...	61	60	86	97	93	72	67	74	72	73	76	87	86	80	86	89	92	89	87	87	93	91	90	89	89	86	86	64	65	71	72	81.0
	Minimum ...	50	51	48	57	58	50	58	58	56	45	40	50	61	55	50	54	52	58	62	59	59	62	61	42	43	52	33	45	48	54	61	52.6
Carrington §§	Maximum...	72	87	97	69	64	65	75	66	70	76	85	81	79	85	..	..	..	..	..	88	90	87	81	70	82	88	78	68	64	71	75	[a]77.4
	Minimum ...	50	52	57	56	53	53	59	49	51	47	48	50	58	50	56	..	..	..	..	..	60	65	60	38	40	43	48	38	45	41	49	[a]52.3
Crosby §§	Maximum...	65	74	91	81	71	65	66	65	61	69	84	85	86	81	83	94	89	87	87	94	94	84	75	78	86	86	55	70	71	79	71	78.3
	Minimum ...	53	54	54	56	51	53	55	53	51	43	46	54	56	49	50	53	59	61	62	64	63	64	51	48	51	53	53	42	42	44	48	52.8
Devils Lake	Maximum...	60	72	89	100	71	65	67	76	65	73	76	87	81	82	90	92	90	89	84	87	91	87	77	73	82	87	62	64	62	68	75	78.3
	Minimum ...	54	50	55	64	54	51	57	54	50	49	46	55	61	58	54	61	57	64	62	61	63	66	53	46	47	55	46	46	42	40	50	54.0
Dickinson §§	Maximum...	63	73	91	92	62	61	69	71	64	67	83	94	87	70	86	84	84	90	88	90	91	93	78	80	86	94	63	70	73	87	79	79.5
	Minimum ...	53	52	50	56	55	54	56	54	45	44	45	51	56	55	50	53	54	59	60	63	55	61	55	47	48	52	51	41	43	46	52	52.2
Dunn Center §§	Maximum...	62	73	90	91	64	60	65	70	63	68	82	91	87	84	86	86	84	89	86	90	90	92	75	73	81	88	60	69	68	87	76	78.4
	Minimum ...	54	53	52	59	55	54	56	52	46	45	45	52	58	52	51	54	52	61	63	61	57	62	56	45	47	51	54	43	45	46	43	52.4
Dunseith	Maximum...	64	69	88	88	85	72	65	70	65	70	88	95	90	85	86	96	91	88	84	92	97	94	87	76	86	86	84	70	68	68	72	81.3
	Minimum ...	50	48	52	60	55	50	55	56	48	43	44	51	60	52	55	59	55	62	63	61	59	64	53	42	46	52	49	41	39	40	49	52.0
Edgeley	Maximum...	73	74	90	100	97	69	75	78	73	70	76	78	88	86	86	86	85	87	80	87	89	90	85	75	81	89	86	68	70	76	75	81.4
	Minimum ...	59	55	52	60	58	56	60	62	49	51	43	43	60	49	54	56	59	59	57	53	53	60	60	41	40	47	54	47	40	35	45	52.2
Ellendale	Maximum...	72	74	93	101	82	63	80	79	70	69	78	88	93	82	87	88	86	89	86	88	90	92	82	75	82	91	78	66	67	76	72	81.3
	Minimum ...	57	52	49	56	60	57	62	61	55	49	42	57	66	64	60	58	62	61	59	59	60	60	54	45	44	50	53	49	44	40	52	54.8
Fessenden §§	Maximum...	67	74	89	99	74	67	67	77	66	73	78	89	89	79	91	93	92	95	85	91	93	92	82	76	86	91	60	66	65	74	78	80.6
	Minimum ...	53	50	52	60	58	51	54	57	49	46	40	51	60	55	51	55	51	59	61	59	59	61	61	42	39	46	53	42	46	36	43	51.6
Foxholm (near)	Maximum...	60	72	89	91	79	71	66	71	66	70	79	92	91	81	86	92	89	91	85	89	93	86	79	74	84	91	84	68	64	74	74	80.0
	Minimum ...	51	50	55	65	53	51	55	52	50	45	46	54	62	51	53	52	61	61	62	61	65	65	53	43	46	60	49	41	45	45	48	53.2
Fullerton	Maximum...	70	75	93	103	81	63	79	78	68	79	75	87	88	82	87	90	85	88	85	88	90	93	83	73	85	89	80	67	68	76	73	81.4
	Minimum ...	62	52	49	50	63	57	61	65	53	58	53	55	65	65	59	58	62	63	60	59	60	58	63	45	50	45	55	48	51	36	49	55.8
Garrison	Maximum...	62	75	91	95	85	67	67	73	65	71	79	92	91	77	89	90	89	92	87	92	84	93	81	73	85	92	68	70	69	79	76	80.6
	Minimum ...	55	51	53	59	57	54	56	53	48	48	46	54	65	55	52	53	54	63	63	63	59	63	56	44	47	57	53	43	50	42	49	53.7
Grafton	Maximum...	62	72	86	99	98	76	67	82	80	75	78	86	84	84	91	94	91	88	89	88	96	95	87	75	80	87	85	64	64	69	79	82.3
	Minimum ...	50	54	54	59	65	50	60	59	50	52	42	55	65	63	50	55	61	62	60	61	63	65	65	50	45	49	57	48	42	34	48	54.6
Grand Forks	Maximum...	64	72	88	102	77	71	67	80	68	72	77	85	78	82	90	93	87	88	88	86	94	92	79	72	78	84	70	64	64	70	77	79.3
	Minimum ...	58	59	55	60	60	53	61	61	52	54	47	56	66	64	53	60	60	65	58	62	62	64	64	55	45	49	62	48	40	36	52	56.2
Granville	Maximum...	58	70	84	90	68	60	63	70	59	90	88	90	89	78	85	90	88	84	75	87	92	85	75	75	84	89	60	63	60	67	77	77.2
	Minimum ...	54	52	55	59	56	54	58	52	50	44	48	58	60	49	49	50	62	64	65	64	63	62	50	40	44	56	52	43	46	41	44	53.0
Hansboro	Maximum...	64	72	90	94	83	70	74	73	61	72	76	87	90	85	90	95	94	95	90	87	94	94	75	74	83	84	70	65	63	64	72	80.1
	Minimum ...	42	50	57	62	56	45	56	58	48	42	42	48	50	52	48	48	57	54	58	57	58	58	52	37	37	45	50	41	38	35	47	49.3
Hettinger §§	Maximum...	65	74	91	96	70	66	71	73	67	67	84	95	88	67	84	77	84	89	85	84	86	91	79	80	83	94	65	69	76	85	78	79.5
	Minimum ...	55	53	54	55	57	56	57	58	45	49	47	52	59	60	54	56	55	58	60	64	57	62	59	48	50	54	52	42	39	41	53	53.6
Hillsboro	Maximum...	65	..	..	101	101	70	68	64	60	71	77	82	82	80	89	90	91	91	90	88	91	91	87	70	74	86	86	65	65	70	75	[b]80.0
	Minimum ...	60	..	..	68	60	53	64	43	58	44	43	55	61	63	54	60	63	60	58	60	61	68	59	55	48	44	55	33	36	34	53	[b]54.2
Howard (near)	Maximum...	65	75	92	80	70	65	68	65	60	70	85	90	85	80	83	94	88	93	81	94	95	94	75	80	84	90	66	73	73	78	81	79.7
	Minimum ...	52	52	56	50	50	50	56	51	49	44	45	54	65	50	50	53	55	61	60	63	61	61	52	44	50	50	48	36	48	40	34	51.3
Jamestown §§	Maximum...	64	73	91	101	75	63	66	76	66	70	78	87	81	75	89	91	89	89	85	89	92	88	80	72	81	89	66	66	66	75	75	79.0
	Minimum ...	55	50	50	57	57	54	54	60	55	51	43	50	57	62	53	56	59	62	62	61	66	65	66	49	46	53	60	47	50	34	41	54.4
Langdon §§	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
Larimore §§	Maximum...	65	72	88	..	..	70	65	80	69	71	70	83	76	83	90	92	88	88	88	88	95	88	81	73	80	84	68	53	61	69	76	[b]77.7
	Minimum ...	54	52	54	60	..	..	60	59	50	52	46	53	62	61	52	61	59	62	60	60	62	65	64	49	43	47	58	48	42	34	50	[b]54.6
Linton	Maximum...	64	75	93	104	85	63	73	76	67	70	79	88	88	85	87	85	85	90	86	86	89	88	86	77	84	90	84	69	73	74	77	81.3
	Minimum ...	57	46	47	58	54	55	58	51	46	49	44	55	66	60	53	55	57	59	62	64	60	61	57	46	54	57	55	45	49	42	43	53.7
Lisbon §§	Maximum...	71	74	89	100	83	70	74	77	68	68	77	86	80	80	86	88	84	86	84	84	89	90	80	70	78	87	69	67	63	74	73	79.0
	Minimum ...	62	51	51	54	63	57	62	62	53	53	41	55	62	62	61	55	58	59	61	59	58	65	66	48	45	50	61	49	49	33	51	55.5
McClusky	Maximum...	62	71	82	97	78	66	66	73	69	71	75	85	87	73	86	88	87	91	84	88	89	88	86	72	84	88	83	66	66	72	75	79.0
	Minimum ...	56	50	51	51	55	54	56	56	47	46	45	54	65	58	50	52	54	59	62	62	57	62	56	41	45	55	49	41	49	39	52	52.5
Maddock	Maximum...	62	72	89	100	74	71	67	76	78	72	79	92	86	89	90	96	92	92	88	89	94	89	90	76	82	92	88	68	64	69	77	82.0
	Minimum ...	52	49	50	56	57	48	55	62	48	42	36	47	61	54	50	52	48	60	62	59	58	61	57	37	39	51	48	43	43	32	48	50.5
Marmarth	Maximum...	65	75	92	81	..	72	74	74	70	67	81	97	89	79	..	86	86	92	95	92	91	93	86	86	88	96	77	73	80	90	79	[b]83.0
	Minimum ...	55	51	53	54	..	57	51	55	46	41	52	55	67	61	..	53	51	56	63	60	58	60	55	59	50	58	55	42	38	53	55	[b]54.0
Minot §§	Maximum...	63	74	92	93	74	63	67	73	64	72	79	94	93	81	90	94	91	92	74	91	95	89	77	75	86	90	57	69	68	73	76	79.6
	Minimum ...	52	50	52	64	56	53	55	51	51	47	48	58	63	49	55	50	51	61	64	62	65	66	54	44	46	53	55	43	47	45	45	53.5
Mohall	Maximum...	72	73	93	91	80	82	70	71	70	76	76	95	93	94	90	93	97	93	85	98	94	90	85	91	85	88	75	68	67	71	75	83.3
	Minimum ...	50	52	61	60	54	61	56	48	46	54	56	54	66	60	56	61	65	66	63	65	68	64	52	48	44	48	44	42	40	46	41	54.5
Mott	Maximum...	70	74	90	88	98	76	76	72	67	70	88	94	92	83	84	85	84	90	85	86	87	90	78	80	82	93	66	68	78	83	77	81.7
	Minimum ...	54	53	57	57	58	55	57	56	38	40	43	54	61	60	66	55	57	62	64	60	61	47	50	51	53	52	41	39	41	43	52	52.8
Napoleon §§	Maximum...	66	72	91	102	75	62	68	75	65	68	78	86	82	76	87	85	87	91	83	87	90	89	78	75	85	89	62	67	69	75	74	78.7
	Minimum ...	56	48	54	60	53	55	57	62	49	50	41	54	64	60	53	57	56	56	57	57	61	63	58	42	43	55	57	44	51	39	50	53.6
New Salem	Maximum...	64	73	90	99	78	60	73	75	65	75	79	90	90	75	91	88	85	90	90	88	90	89	83	76	82	91	70	69	71	80	71	80.4
	Minimum ...	56	55	63	67	62	60	62	48	42	53	49	51	70	55	68	56	62	69	64	65	69	65	55	53	58	55	54	43	55	40	54	57.4
Oakes	Maximum...	76	74	91	102	84	75	78	79	73	68	77	87	84	82	87	91	86	89	86	87	91	93	84	76	84	92	84	65	67	78	71	82.0
	Minimum ...	62	53	49	58	61	56	61	62	53	52	39	52	63	62	60	56	61	61	60	59	60	57	65	44	45	50	56	49	51	36	50	54.9
Pembina §§	Maximum...	63	67	87	97	75	74	71	74	72	75	78	81	79	84	90	95	94	93	92	93	98	92	72	73	82	84	70	62	62	74	76	80.0
	Minimum ...	52	53	55	62	63	46	53	56	55	58	46	42	52	48	51	54	55	58	56	62	62	68	62	45	46	48	54	47	35	30	30	51.7
Sharon	Maximum...	63	74	88	99	80	63	63	76	67	69	74	83	74	83	87	89	85	89	84	84	94	88	83	70	77	83	73	65	65	68	74	77.9
	Minimum ...	55	52	50	62	57	52	57	58	48	51	45	52	60	61	55	59	56	62	61	61	64	62	61	46	45	53	50	46	41	37	46	53.7
Steele	Maximum...	63	70	87	95	75	71	68	72	61	68	76	85	87	82	84	85	85	88	87	88	87	88	83	72	82	87	72	63	65	73	76	78.3
	Minimum ...	54	47	51	60	55	56	57	56	45	48	43	56	64	58	53	59	55	58	61	63	59	63	58	41	44	57	52	43	50	39	51	53.4
Towner	Maximum...	63	74	91	97	82	68	67	76	67	73	80	96	92	81	90	96	92	94	83	94	96	91	88	75	86	91	88	68	66	72	76	82.4
	Minimum ...	53	50	52	57	57	52	58	65	48	45	44	54	62	50	50	52	55	60	64	64	62	62	56	38	44	56	53	43	47	41	46	52.9
Valley City	Maximum...	69	74	89	100	95	73	67	77	69	72	77	86	83	80	88	91	87	90	84	86	92	90	89	78	80	85	78	67	68	74	72	81.0
	Minimum ...	58	52	50	55	59	55	64	60	50	51	42	53	58	59	53	53	57	58	60	60	61	60	64	45	45	50	56	47	48	32	45	53.5
Wahpeton	Maximum...	81	76	92	104	102	84	75	81	79	71	77	83	82	84	88	92	89	89	86	89	92	91	90	81	79	86	84	69	69	74	76	83.7
	Minimum ...	63	58	51	61	68	59	62	62	54	54	45	54	62	64	64	60	63	61	63	61	58	58	65	49	45	49	62	43	45	34	64	57.0
Westhope	Maximum...	61	76	93	95	77	75	69	72	64	78	83	102	94	85	92	100	97	97	87	96	100	94	81	80	90	93	63	70	68	72	77	83.3
	Minimum ...	53	52	53	58	54	52	59	56	51	44	41	53	63	50	51	53	57	62	63	63	60	62	53	42	45	56	50	42	45	41	43	52.5
Williston	Maximum...	63	77	94	85	74	61	68	69	63	71	89	92	88	83	88	95	91	94	91	96	96	90	77	80	88	91	62	70	75	83	69	81.1
	Minimum ...	54	56	58	59	55	58	57	54	50	46	53	57	65	54	56	56	63	67	72	70	69	66	54	53	53	60	52	41	48	56	48	56.8
Moorhead, Minn	Maximum...	76	73	88	102	81	67	71	79	67	70	76	82	76	80	89	90	86	88	87	85	90	89	82	69	77	83	72	66	65	72	74	79.1
	Minimum ...	60	57	55	60	62	57	61	62	54	53	47	54	64	66	62	60	63	64	62	60	60	58	58	53	47	48	52	50	44	36	54	56.2

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 9-30-31—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX BISMARCK, N. D., SEPTEMBER, 1931 No. 9

GENERAL SUMMARY

Unusually high temperature and deficient precipitation prevailed over most of the state during the first decade. The second decade, though somewhat cooler, continued dry. During these two decades threshing and late flax harvesting made excellent progress, though the ground was mostly too dry for fall plowing and seeding of winter rye, and pastures deteriorated considerably. The last decade was, however, both cooler and wet, improving conditions for fall plowing and potato digging. Early planted winter rye germinated quite favorably. Corn shocking and silo filling were mostly completed at the close of the month.

TEMPERATURE

The mean temperature for the state was 61.4°, or 5.0° above the normal, and 5.2° higher than the mean for September, 1930. The highest mean reported was 68.4° at Wahpeton, Richland County; the lowest was 56.4° at Bottineau, Bottineau County. The highest temperature reported was 107° at three stations in the central part of the state on the 6th, 7th and 9th; the lowest was 27° at three stations on the 17th and 24th. The greatest monthly range of temperature was 78° at Jamestown, Stutsman County, and Linton, Emmons County; the least was 61° at Powers Lake, Burke County. The greatest daily range in temperature was 59° at Pembina, Pembina County on the 7th.

PRECIPITATION

The average precipitation for the state was 2.14 inches, or 0.49 inch above the normal, and 1.12 inches more than the average for September, 1930. The greatest monthly amount reported was 4.63 inches at Park River, Walsh County; the least was 0.35 inch at Power, Richland County. The greatest amount recorded in any 24 consecutive hours was 1.75 inches at Garrison, McLean County on the 20th. The average number of days with 0.01 inch or more of precipitation was 6. A trace of snow fell at Howard, Williams County.

AURORAS

Auroras were observed at Trotters on the 2d; at Arnegard, Bismarck, Bottineau, Carson, Cooperstown, Devils Lake, Ellendale, Foxholm, Howard, McClusky, Napoleon, Oakes, Parshall, Rugby, Sharon, Tagus, Trotters, Willow City and Moorhead on the 3d; at Bottineau, Ellendale, McLeod, Napoleon, Oakes, Parshall, Rugby, Towner and Willow City on the 4th; at Crosby, Dogden Butte, Foxholm, McLeod, Rugby and Stowers on the 5th; at Arnegard, Dogden Butte, Foxholm, McLeod and Rugby on the 6th; at Devils Lake, Foxholm, Oakes and Rugby on the 7th; at Foxholm, Rugby, Tagus and Willow City on the 8th; at Eckman, Foxholm and Rugby on the 9th; at Crosby on the 10th; at Bottineau on the 11th; at Trotters on the 12th; at Arnegard, Bismarck, Bottineau, Devils Lake, Eckman, Foxholm, Grafton, Howard, Rugby, Sharon, Trotters and Willow City on the 14th; at Carson, Fessenden, Foxholm, McLeod, Rugby and Towner on the 15th; at Bismarck, Bottineau, Car-on, Ellendale, Fessenden, Foxholm, Hettinger, Rugby, San-sh, Sharon, Tagus, Trotters, Velva and Willow City on the 6th; at Ellendale, Grand Forks and McLeod on the 17th; at Trotters on the 20th; at Foxholm, Howard and Rugby on the 3d; at Towner on the 25th and 26th; at Velva on the 28th; nd at Eckman on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.85	30.39	23	29.38	20	57	5,692	7.9	31§	nw.	29
Devils Lake	29.86	30.33	23	29.35	20	44	5,575	7.7	28§	ne.	8
Ellendale	29.88	30.34	23	29.44	20	56	8,120	11.3	34§	sw.	11
Grand Forks	29.83	30.25	23	29.33	20	90	......	.....	31	sw.	11
Williston	29.85	30.46	23	29.44	19	48	5,161	7.1	31§	se.	19
Moorhead, Minn	29.86	30.33	23	29.34	20	58	5,210	7.2	36§	sw.	11
Av'ges and extremes	29.86	30.40	23	29.33	20	....	....	8.2	34§	sw.	11

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	291.2	377.6	77	+15	80	47	48	16	7
Devils Lake	263.5	377.2	70	+ 2	86	51	59	28	8†
Ellendale	297.7	376.0	79	+17	83	42	...	25	8†
Grand Forks	......	......	......	......	83	.....	56	......	...
Williston	268.7	377.2	71	+ 9	77	44	43	20	4†
Moorhead, Minn	277.5	376.6	74	+ 8	81	46	51	20	11
Averages and extremes	279.7	376.7	74	+10	82	46	51	16	7

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	59.2	+2.8	101	24	0.84	−0.81	4	16	7	7	nw.
1893	57.1	+0.7	102	8	0.81	−0.84	4	18	7	5	nw.
1894	58.2	+1.8	104	18	1.38	−0.27	5	15	7	8	w.
1895	56.6	+0.2	100	12	0.77	−0.88	4	12	12	6	nw.
1896	63.6	+7.2	98	11	1.83	+0.18	6	12	8	10	nw.
1897	64.1	+7.7	109	18	0.28	−1.37	2	20	7	3	se.
1898	56.8	+0.4	98	10	1.25	−0.40	4	14	9	7	nw.
1899	55.0	−1.4	101	11	0.58	−1.07	3	17	9	4	nw.
1900	54.6	−1.8	98	17	4.95	+3.30	8	12	7	11	nw.
1901	53.6	−2.8	100	12	2.01	+0.36	7	10	8	12	nw.
1902	53.6	−2.8	95	15	0.73	−0.92	4	16	8	6	nw
1903	51.6	−4.8	90	18	2.99	+1.34	7	12	6	12	nw.
1904	54.7	−1.7	96	18	1.65	0.00	5	14	7	9	nw.
1905	59.8	+3.4	104	23	1.63	−0.02	5	16	8	6	se.
1906	62.8	+6.4	109	20	1.20	−0.45	4	19	6	5	sw.
1907	52.1	−4.3	96	9	1.39	−0.26	6	14	8	8	nw.
1908	60.7	+4.3	104	16	1.11	−0.54	4	17	7	6	nw.
1909	59.0	+2.6	93	24	0.86	−0.79	4	16	8	6	se.
1910	55.3	−1.1	99	18	1.96	+0.31	4	14	7	9	nw.
1911	54.9	−1.5	95	21	2.49	+0.84	8	12	8	10	nw.
1912	51.5	−4.9	124	18	2.68	+1.03	10	11	6	13	nw.
1913	57.2	+0.8	108	8	1.75	+0.10	6	16	8	6	nw.
1914	59.3	+2.9	98	25	1.06	−0.59	5	16	8	6	se.
1915	54.6	−1.8	104	23	2.39	+0.74	9	10	8	12	nw.
1916	55.1	−1.3	99	15	1.62	−0.03	6	14	9	7	nw.
1917	56.4	0.0	97	16	1.08	−0.57	5	12	9	9	se.
1918	51.9	−4.5	93	11	0.39	−1.26	3	15	9	6	nw.
1919	58.6	+2.2	100	20	0.92	−0.73	5	12	10	8	nw.
1920	59.0	+2.6	99	19	2.26	+0.61	8	15	9	6	se.
1921	57.0	+0.6	101	25	3.30	+1.65	12	12	10	8	nw.
1922	59.8	+3.4	104	23	2.16	+0.51	6	16	8	6	nw.
1923	60.1	+3.7	99	15	2.39	+0.74	6	14	8	8	nw.
1924	55.0	−1.4	98	20	2.31	+0.66	7	15	7	8	nw.
1925	58.1	+1.7	103	20	2.74	+1.09	8	12	8	10	nw.
1926	52.3	−4.1	95	9	2.42	+0.77	9	11	9	10	nw.
1927	56.8	+0.4	101	10	0.93	−0.72	3	16	9	5	nw.
1928	53.9	−2.5	95	12	0.93	−0.72	5	17	7	6	nw.
1929	52.7	−3.7	105	12	1.65	0.00	5	11	9	10	nw.
1930	56.2	−0.2	98	10	1.02	−0.63	4	16	9	5	nw.
1931	61.4	+5.0	107	27	2.14	+0.49	6	18	7	5	nw.
Av.	56.4	....	124	8	1.65	....	6	14	8	8	nw.

Climatological Data for September, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	....	5	....	....	....	....	....	....	....	1.37	....	0.72	0	3	....	....	....	....	H. A. Bury.
Amenia	Cass	954	35	62.4	+4.9	102	7†	30	24	48	1.32	0.79	0.45	0	8	13	13	4	s.	J. Idso.
Amidon	Slope	....	16	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	R. R. Beebe.
Arnegard (near)	McKenzie	....	18	61.1	+4.8	101	6	33	24	45	1.48	+0.05	0.82	0	4	20	7	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	63.6	+6.3	104	7	30	24	48	0.79	−0.66	0.42	0	5	21	5	4	se.	H. D. Piper.
Beach	Golden Valley	2,759	25	61.0	+4.6	....	....	....	....	....	1.72	+0.49	....	....	....	....	....	....	....	J. C. Russell.
Berthold Agency††	McLean	2,082	38	60.2	+3.3	99	7	31	26	49	2.65	+1.19	1.70	0	5	18	6	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	63.2	+5.1	105	7	37	26	46	2.81	+1.58	0.84	0	8	21	5	4	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	56.4	+1.5	102	8†	30	23	45	2.49	+0.87	0.98	0	5	17	11	2	....	N. D. School of Forestry.
Bowman	Bowman	2,961	17	61.4	+4.6	98	4†	32	23	44	2.40	+1.20	0.80	0	9	22	4	4	nw.	George Larsen.
Cando	Towner	1,488	30	61.0	+4.8	95	6†	32	24	44	2.42	+0.80	0.96	0	4	12	9	9	w.	A. J. Swanson.
Carrington	Foster	1,579	33	60.6	+4.0	103	7	35	23†	47	2.34	+0.80	0.50	0	8	....	....	....	....	L. A. Swanson.
Carson	Grant	2,500	19	60.8	+4.4	104	7	28	23	48	2.05	+0.31	0.95	0	5	21	1	5	nw.	J. W. Evens.
Cavalier	Pembina	894	21	....	....	....	....	....	....	....	3.81	+1.87	0.98	0	9	20	7	3	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	34	....	....	....	....	....	....	....	1.22	−0.57	0.48	0	7	25	3	2	nw.	Theo. Marquardt.
Corinth	Williams	2,180	3	....	....	....	....	....	....	....	1.36	....	0.50	0	6	18	7	5	se.	W. A. Clem.
Crosby	Divide	1,954	24	57.2	+3.1	93	6	31	18	43	1.59	+0.19	1.01	0	6	11	11	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	34	60.4	+4.5	99	7	36	24	38	2.72	+1.09	0.98	0	7	15	9	6	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	58.9	+2.9	98	6	32	23†	52	3.02	+1.83	0.97	0	9	18	7	5	nw.	Leroy Moomaw.
Dogden Butte††	McLean	1,880	5	60.8	....	101	7	33	15†	52	2.88	....	1.19	0	8	21	4	5	s.	R. L. Williams.
Drake	McHenry	1,634	2	59.2	....	....	....	....	....	....	3.03	....	....	....	....	....	....	....	....	J. Rindt.
Dunn Center	Dunn	2,191	32	57.6	+1.4	94	6	32	23†	48	3.39	+2.06	1.42	0	5	18	7	5	w.	W. F. Moede.
Dunseith	Rolette	1,682	35	59.0	+4.6	102	7	32	21	42	3.22	+1.51	1.10	0	8	15	8	7	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	58.9	+3.7	104	7	27	17	54	2.43	+1.03	1.15	0	8	11	15	4	nw.	C. E. Stroek.
Edgeley	LaMoure	1,568	30	63.6	+6.0	105	7	30	21	50	1.16	−0.66	0.53	0	3	10	17	3	se.	O. A. Thompson.
Ellendale	Dickey	1,449	36	61.2	+5.8	103	10	33	24	49	0.89	1.13	0.58	0	6	17	9	4	nw.	U. S. Weather Bureau
Energy ††	McLean	1,750	19	62.0	....	103	7	34	17†	51	2.84	+1.37	1.44	0	6	17	9	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	23	60.5^{e}	....	97^{e}	6	32	24	46^{e}	0.81	−0.80	0.52	0	3	18	8	4	....	A. O. Weng.
Fairfield	Billings	....	2	....	....	....	....	....	....	....	3.10	....	1.20	0	6	20	6	4	nw.	F. R. Hecker.
Fessenden	Wells	1,610	19	60.4	+4.7	106	7	31	15†	49	2.22	+0.43	0.70	0	6	18	7	5	sw.	T. D. Monsen.
Forman	Sargent	1,249	38	....	....	....	....	....	....	....	0.67	−1.27	0.30	0	4	26	0	4	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	31	65.0	+5.2	107	9	31	26	49	1.40	+0.15	0.80	0	2	18	5	7	....	P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	58.8	....	99	7	32	18	44	2.29	+0.79	1.22	0	7	10	12	8	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13	....	....	....	....	....	....	....	2.72	+1.03	1.10	0	5	22	5	3	se.	Verne King.
Fullerton	Dickey	1,439	33	64.6	+7.4	102	8	33	24	49	1.19	−0.97	0.51	0	5	23	2	5	nw.	F. O. Alin.
Gackle	Logan	1,951	1	....	....	....	....	....	....	....	1.39	....	0.55	0	5	19	8	3	se.	Geo. Hummel.
Garrison	McLean	1,901	54	61.5	+6.6	102	7	33	17	47	3.37	+1.93	1.75	0	7	21	3	6	nw.	W. F. Robinson.
Grafton	Walsh	827	39	62.0	+5.7	101	7	33	15†	43	4.14	+2.08	1.32	0	7	13	14	3	s.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	40	62.0	+5.6	100	7	35	21	40	2.44	+0.59	0.68	0	9	14	12	4	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	57.2	+2.4	101	7	30	15	47	2.37	+0.88	1.57	0	4	16	11	3	nw.	W. A. Christianson.
Hankinson	Richland	1,068	2	67.4	....	104	8†	30	23	43	0.76	....	0.48	0	7	21	5	4	s.	R. G. Stock.
Hannah	Cavalier	1,568	39	....	....	....	....	....	....	....	3.19	+0.98	0.94	0	5	....	....	....	....	James Meier.
Hansboro	Towner	1,597	23	57.8	+4.3	95	7	27	17	43	3.13	+1.13	1.40	0	6	18	8	4	nw.	C. F. Backorby.
Hettinger	Adams	2,675	24	61.2	+3.6	101	7	32	23†	49	1.98	+0.48	0.70	0	7	22	4	4	nw.	C. H. Plath.
Hillsboro	Traill	901	25	63.3^{c}	+4.7	99^{c}	7	31^{c}	24†	42^{c}	1.84	0.38	0.47	0	7	19	7	4	nw.	G. Hovland.
Howard †† (near)	Williams	2,275	24	57.6	+3.3	96	6	34	22†	45	1.12	−0.42	0.84	T	2	10	14	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	61.4	+4.9	107	6	29	24	58	1.33	−0.40	0.63	0	6	15	12	3	....	S. Calvelage.
Langdon	Cavalier	1,615	35	58.0	+5.7	101	7	32	24	40	3.18	+0.89	1.12	0	7	21	8	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	61.0	+5.7	100	7	34	24†	42	2.75	+0.67	0.98	0	7	16	6	8	nw.	May Walsh.
Linton	Emmons	1,711	14	64.0	+5.5	106	7†	28	26	53	1.81	+0.03	1.01	0	6	15	13	2	se.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	63.2	+5.7	101	8	27	24	43	1.10	−1.07	0.70	0	5	22	7	1	....	N. S. Lindstrom.
McClusky	Sheridan	1,943	13	60.9	....	103	7	32	23	46	3.00	+1.69	0.90	0	8	22	4	4	se.	Edw. Tapley.
McLeod	Ransom	1,075	20	65.8	+6.8	105	8	29	24	51	0.70	−1.66	0.48	0	4	24	1	5	sw.	J. G. Carlson.
Maddock	Benson	1,604	16	61.0	+5.3	99	7	30	24	48	2.90	+0.87	0.99	0	9	13	11	6	nw.	A. T. Felland.
Mandan	Morton	1,750	17	63.0	+5.6	104	7	36	23†	51	3.11	+1.65	0.97	0	10	17	2	11	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28	....	....	....	....	....	....	....	2.18	+0.61	0.83	0	7	....	....	....	....	P. B. Anderson.
Marmarth	Slope	2,714	22	62.2	+5.7	98	6	33	23	49	2.50	+1.15	1.58	0	6	16	6	8	....	S. P. Grane.
Mary	McKenzie	....	2	....	....	....	....	....	....	....	1.70	....	....	....	....	....	....	....	....	Fred Hartman.
Max	McLean	2,093	2	60.3^{a}	....	106^{a}	7	32^{a}	23†	50^{a}	2.78	....	1.69	0	7	16	7	7	nw.	A. W. Rice.
Mayville	Traill	975	35	63.8	+6.4	100	7†	30	24	48	1.97	−0.23	0.53	0	6	17	0	13	s.	H. B. Addicott.
Minot	Ward	1,557	35	58.8	+2.9	100	7	30	15	45	2.78	+1.17	1.30	0	6	22	4	4	w.	Julia B. Rue.
Mohall	Renville	1,646	37	58.4	+4.4	100	7	31	22	43	1.83	+0.28	0.75	0	5	7	20	3	ne.	E. H. Wolsey.
Mott	Hettinger	2,424	24	62.0	+5.4	102	5	33	22†	46	2.42	+0.94	0.80	0	6	15	5	10	se.	O. H. Opland.
Napoleon	Logan	1,955	39	63.6	+6.9	107	7	32	23†	48	1.15	0.29	0.55	0	8	23	4	3	s.	C. J. Hoof.
New England	Hettinger	2,400	37	64.3^{c}	+7.9	99^{c}	16	33^{c}	23†	50^{c}	2.58	+1.30	0.91	0	6	....	....	....	....	F. S. Sleight.
New Salem	Morton	2,163	27	63.4	+5.9	105	7	35	22	52	2.65	+1.28	1.20	0	8	20	6	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	65.0	....	102	8	31	24	48	1.11	....	0.39	0	9	10	16	4	sw.	Eugene Naylor.
Park River	Walsh	998	27	61.0	+4.4	99	7	35	15†	40	4.63	+2.64	1.30	0	5	11	5	14	nw.	C. B. Wright.
Parshall (near)	Mountrail	....	16	....	....	....	....	....	....	....	2.44	+0.88	1.03	0	8	14	12	4	nw.	C. E. Shubert.
Pembina	Pembina	789	57	59.4	+5.3	100	7	35	15†	59	3.00	+1.00	1.30	0	4	....	....	....	e.	C. W. Shumaker.
Petersburg	Nelson	1,520	1	....	....	....	....	....	....	....	2.53	....	0.93	0	7	18	7	5	ne.	T. M. Rykken.
Pettibone	Kidder	1,856	22	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	A. L. Carlson.
Portal	Burke	1,954	26	60.3	+5.9	104	6	29	17	53	1.22	−0.25	0.89	0	4	22	1	7	sw.	C. T. Holmes.
Power††	Richland	1,020	37	....	....	....	....	....	....	....	0.35	1.71	0.25	0	2	24	2	4	s.	Frank B. Power.
Powers Lake	Burke	2,208	26	57.1	....	95	7	34	14†	36	2.52	+1.25	1.30	0	3	20	7	3	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	61.6	+4.8	99	6†	30	23	50	3.30	+1.95	2.14	0	7	20	5	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2	....	....	....	....	....	....	....	2.29	....	1.13	0	4	14	12	4	nw.	E. C. Erickson.
Ryder	Ward	2,108	2	....	....	....	....	....	....	....	2.23	....	1.10	0	6	....	....	....	....	S. C. Schellenbaum.
Sanish	Mountrail	1,835	....	58.7	....	97	5	33	26	46	1.08	....	0.69	0	5	6	12	12	nw.	H. W. Monson.
Sharon	Steele	1,516	7	61.2	....	99	7	32	24	41	1.95	....	0.44	0	8	18	7	5	se.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7	....	....	....	....	....	....	....	3.12	....	1.68	0	6	21	5	4	nw.	J. H. Giffey.
Steele	Kidder	1,857	37	62.9	+6.0	103	7	30	23	46	2.69	+1.24	0.60	0	8	14	12	4	s.	V. A. Laney.
Stowers††	Adams	2,325	16	....	....	....	....	....	....	....	1.04	−0.25	0.54	0	5	26	2	2	....	Chas. E. Stowers.
Tagus	Mountrail	2,179	2	....	....	....	....	....	....	....	1.75	....	0.61	0	6	18	9	3	sw	J. C. Abbott.
Tioga	Williams	2,279	2	....	....	....	....	....	....	....	1.05	....	0.60	0	3	12	9	9	nw.	Anton Carlson.
Towner	McHenry	1,482	29	60.8	+4.6	103	7	32	15	49	2.82	+1.05	1.26	0	7	14	11	5	nw.	Karl Weber.
Trotters	Golden Valley	....	5	....	....	....	....	....	....	....	1.03	....	0.67	0	7	22	2	6	....	A. J. Nellermoe
Turtle Lake	McLean	1,899	17	....	....	....	....	....	....	....	2.83	+1.53	1.49	0	6	....	....	....	....	E. T. Kusler.
Tuttle	Kidder	1,936	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Valley City	Barnes	1,245	25	63.4	+5.2	103	7	28	24	50	1.28	−0.61	0.50	0	8	20	6	4	nw.	I. C. Robertson.
Velva	McHenry	1,511	4	60.7	....	103	7	30	15	49	2.83	....	1.24	0	6	10	14	6	w.	Oscar Anderson.
Verona	LaMoure	1,387	3	....	....	....	....	....	....	....	1.63	....	0.92	0	2	25	0	5	se.	W. C. Taylor.
Wahpeton	Richland	962	39	68.4	+9.2	105	10	33	21	45	0.72	−1.54	0.40	0	3	22	0	8	se.	C. G. Luick.
Washburn	McLean	1,731	30	62.8	+4.3	103	7	33	23†	48	2.36	+1.19	0.94	0	6	15	12	3	sw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	59.6	+4.7	104	7	32	23	49	2.04	+0.69	0.98	0	7	21	6	3	se.	C. M. Condit.
Williston	Williams	1,878	52	60.8	+4.2	99	6	36	23	42	1.23	+0.14	1.01	0	8	19	7	4	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	59.5^{e}	+5.3	96^{k}	7	29	15	53^{k}	2.91	+1.19	1.35	0	6	17	9	4	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	61.0^{c}	+5.4	101^{c}	7	29^{c}	24	48^{c}	0.66	−0.69	0.40	0	5	12	5	13	se.	E. W. Davis.
Zap	Mercer	1,838	16	....	....	....	....	....	....	....	3.23	+2.00	1.39	0	5	....	....	....	....	R. A. Norton.
Moorhead, Minn	Clay	935	50	61.9	+6.7	101	7	31	24	40	1.64	−0.58	0.75	0	11	14	11	5	s.	U. S. Weather Bureau.
Averages				61.4	+5.0	107	6†	27	17†	59	2.14	+0.49	1.75	T.	6	18	7	5	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Lemmon, S. D.

Daily Precipitation for September, 1931

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																																
Aneta ‖	Red																.04				.72	T	T		.61								1.37
Amidon	Lit. Missouri													.25	.01	.04					[illegible]	.24	.15			.45	.05						1.32
Arnegard (near)	Missouri																																
Ashley	Missouri													T			.20			.05	T			.82	.11								1.18
Beach ‖	Lit. Missouri																				.18	.08	.04		.42	.07							0.79
Berthold Agency	Missouri																																
Bismarck ***	Missouri		T				.02					.05					.16				1.70				.50	.36							[illegible]
Bottineau ‖‖	Mouse											T	T	T			.38		T	.45	.65	.06			.79	.05				.38			2.51
Bowman	Grand		T.									.05					.98		T		.03	.88		T		.55	T				T.		2.49
Cando	Devils Lake										.03			.01		.06		.15			[illegible]	.15	.05		.80	.10							2.46
Carrington ‖‖	James																.46			.53		.56			T	.53							2.42
Carson	Heart																.12			.30	.11	.35	.65		.30	.15				.16			2.14
Cavalier	Red																.60				.95	.22	.01		.27								2.05
Cooperstown	Sheyenne						.14						.03				.56			.98	.95	.22	.20			.49					.18		3.81
Corinth	Missouri		.06														.23		T	T.	.05	.26	.68	T		.48	.04				.18		1.22
Courtenay	James														.01					.28	.50				.50					.61			1.36
Crosby ‖	Mouse			.01																													.....
Devils Lake ***	Devils Lake			T		T	T	T								.10				T	.41		.03	.03		1.01							1.59
Dickinson ‖‖	Heart			.01								T	T		T	T.	.98			.62	.57	.03	T		.45	.06				.61			2.72
Dogden Butte	Mouse						.02	T				T			T		.22		T	.01	.75	.92	.63	T.	.10	.97	.01						3.62
Drake ‖	Mouse																.12			.25	1.19	.28	.04		.61	.37							2.88
Dunn Center ‖‖	Knife																																.....
Dunseith	Mouse																.14				.73	1.42			.03	1.08							3.39
Eckman	Mouse											.02					.75	.05		.30	1.10	.40			.07	.53							3.22
Edgeley	James											.13					.15	.02			1.15	.08	.04	T	.53	.33							2.43
Ellendale***	James	T.	T.					.62	T						.01	T.	T.	T		T	.17				.53	.46							1.16
Energy	Missouri																				.20	.08			.37	.21							0.89
Epping	Missouri																.07			.30	1.44	T	.07		.74	.22							2.84
Fairfield	Knife																							.06	.52	.23							0.81
Fessenden ‖‖	James											.32								.41	.95		.11		1.20	.11							3.10
Forman	Sheyenne		T.					T.									.32				.25	.61	.04			.70					.30		2.22
Fort Yates	Missouri																T.			.06	.03				.30	.28							0.67
Foxholm (near)	Mouse																				.80	.50											1.30
Fryburg	Heart										T.	.06					.26	T.		.01	1.22		.01		.59	.20							2.29
Fullerton	James							T.						T.						.60	.82	.10			1.10	.10					T		2.72
Gackle	James														T						.12	.02			.51	.27					.27		1.19
Garrison	Missouri							T.							.04						.24		.16		.55	.40					T.		1.39
Grafton	Red											T.		T	T.		.07			.34	1.75	.04	.02		.85	.30							3.37
Grand Forks ***	Red								T.				T.			T	1.32			1.16	.36	.41	.13			.65				T.	.11		4.14
Granville	Mouse																.35			.38	.68	.19	.06		.47	.15				.06	.10		2.44
Hankinson ‖‖	Red											.02									1.57				.64	.14							2.37
Hannah	Pembina											.01		.01		.02	.12			.10					.48	.02							0.76
Hansboro	Devils Lake											T.			T.		.94				.88	.82	.05	T.		.50							3.19
Hettinger ‖‖	Grand											.05					.33			.65	1.40	.15				.55							3.13
Hillsboro	Red								.09						.01		.15		T.	T.	.70	.25	.22	T.	.04	.51							1.98
Howard (near)	Missouri										T		.20		T.		.27				.35		.35		.47		.11						1.84
Jamestown ‖‖	James											T.						T		T.	T	T.	T		.84	.28							1.12
Langdon ‖‖	Pembina														.01		.13				.25		.26		.63	T				.05			1.33
Larimore ‖‖	Red					.22		.17				T					.50				1.12	.62	.05			.50					T.		3.18
Linton	Missouri																.98				.25	.55	.11			.67	.05				.14		2.75
Lisbon ‖‖	Sheyenne														T.		.12				1.01		.07		.42	.09					.10		1.81
McClusky	Missouri																				.03	.02	.09			.70	.26						1.10
McLeod	Sheyenne																.14			.62	.90	.12	.11		.80	.23					.08		3.00
Maddock	Sheyenne													.03			T		.07		.12				.48								0.70
Mandan ‖‖	Missouri					.02				T.							.13			.99	.61	.24	.11		.29	.37					.14		2.90
Manfred	James						.03										.41			.43	.48	.44	.10		.06	.97	.01				.18		3.11
Marmarth	Lit. Missouri		T.														.38			.20			.83	.04	.07	.56	.16				T.		2.18
Mary	Lit. Missouri											.02					.09		.05		1.58	.10	T.		.66								2.50
Max ‖‖	Missouri																																.....
Mayville	Red																.05			.08		1.69	.07	.01		.85	.03						2.78
Minot ‖‖	Mouse																.42			.31	.36	.07	.28			.53							1.97
Mohall	Mouse											.10					.45			.01	.05	1.30				.87							2.78
Mott	Cannon Ball															T.		T.		.10	.75	.08	T.		.60	.30							1.83
Napoleon ‖‖	Missouri																.33		.18		.80	.25			.75	.11							2.42
New England	Cannon Ball														.06		.03				.15	.18	.15			.55	.02				.01		1.15
New Salem	Heart																.10		.67		.80	.05			.05	.91							2.58
Oakes	James															.15		.12	.64	1.20	.20	.02		.80	.12								2.65
Park River	Red							.01						T.	.01		.01		.02		.21	.03	.05		.35	.39					T.		1.11
Parshall (near)	Missouri																1.27			1.30	.96		.12			.98							4.63
Pembina ‖‖	Red										T.	.21					.14			.14	1.03	.02	.03		.68	.19							2.44
Petersburg	Red						T.										.80				1.30	.25	T			.65							3.00
Pettibone	James																.93			.48	.32		.13		.26	.29					.12		2.53
Portal ‖‖	Mouse		.03																														.....
Power	Sheyenne										T.				.10			T.			.20	T.			.89								1.22
Powers Lake	Missouri																								.25	.10							0.35
Richardton	Heart																				.41			1.30		.81							2.52
Rugby [near]	Mouse																		.15	.06	2.14	.04	.02		.77	.12							3.30
Ryder	Missouri																.07	T.		.55	1.13		T.		.54								2.29
Sanish ‖‖	Missouri										.10					.13			.10		1.10		.04		.76								2.23
Sharon	Red											.01					.10					.25	T	.03		.69							1.08
Stanton	Missouri											T.					.29	.01		.39	.40		.10		.44	.17					.15		1.95
Steele	Missouri																.18			.08	1.68	.28			.76	.14							3.12
Stowers	Cannon Ball		T.														.40		T.	.45	.60	.02	.15		.60	.45					.02		2.69
Tagus	Mouse			.02													.04			.04	.22	.20			.54	T.							1.04
Tioga	Missouri											.11					.17				.61				.59	.25							1.75
Towner	Mouse		T.				T.					.05													.60	.40							1.05
Trotters	Lit. Missouri		.05									.01					.27			.15	1.26	.38		T.	.50	.25							2.82
Turtle Lake	Missouri																.01			.08	.03	.14			.67	.05							1.03
Tuttle																	.20				1.49	.10			.93	.05					.06		2.83
Valley City	Sheyenne																																.....
Velva	Mouse												.06		.09		.67	.08			.17		.30		.50	.01							1.28
Verona	James								T.					T			.36			.16	1.24	.11	T.		.70	.26							2.83
Wahpeton	Red																					.71			.92								1.63
Washburn	Missouri																			.15					.40	.17							0.72
Westhope	Mouse																.15			T.	.94	.12	.12		.71	.32							2.36
Williston ***	Missouri						T.					.06					.10			.03	.98	.15			.30	.42							2.04
Willow City	Mouse											.01		T.		.07		T.		.06	.02	.04	.02		.94	.07				T.			1.23
Wishek ‖‖	Missouri											T.					.33	T.		.47	1.35	.27	T		.35	.14							2.91
Zap	Knife														.04		.02					.14	.06			.40	T.						0.66
Moorhead, Minn ***	Red		T.				T.	T.								.07				.30	1.39	.17			1.30								3.23
												.01	.75		.10		.01	.01		.19	.02	.05	.01		.43	.06				T.			1.64

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	76	78	82	90	84	92	102	102	99	92	102	95	82	75	80	78	73	80	69	70	75	63	60	60	56	50	77	82	85	70	....	79.3
	Minimum ...	50	42	44	42	43	50	59	55	58	56	56	53	49	53	39	40	36	37	51	54	47	45	36	30	32	33	35	43	43	51	....	45.4
Arnegard (near)	Maximum...	74	83	79	96	94	101	92	87	82	74	74	82	68	66	81	69	76	81	76	67	75	57	62	63	61	73	83	86	77	70	....	77.0
	Minimum ...	47	46	52	53	49	64	57	57	52	47	46	42	39	40	39	47	46	38	61	51	37	38	36	33	36	38	41	44	44	44	....	45.2
Ashley	Maximum...	75	80	80	93	86	87	104	101	100	101	94	91	76	72	78	75	75	82	74	67	74	59	59	56	48	70	77	80	82	82	....	79.3
	Minimum ...	47	42	50	46	52	54	64	60	57	53	68	48	49	49	37	59	37	47	58	57	46	43	35	30	42	33	38	43	49	47	....	48.0
Beach	Maximum...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Berthold Agency	Maximum...	75	82	83	97	90	96	99	86	83	80	78	83	70	68	81	75	78	59	60	80	80	55	60	48	58	75	80	85	80	70	....	76.5
	Minimum ...	44	50	45	48	47	58	56	57	54	46	57	36	44	37	34	50	33	40	35	45	40	40	37	38	42	31	38	45	50	40	....	43.9
Bismarck	Maximum...	74	82	80	99	86	90	105	96	99	85	84	83	69	69	78	69	79	80	71	64	58	55	57	46	54	71	78	83	88	70	....	76.7
	Minimum ...	54	51	52	53	53	62	67	65	58	53	53	43	54	50	39	48	41	48	61	50	47	42	37	41	41	37	46	50	51	48	....	49.8
Bottineau §§	Maximum...	72	65	80	74	90	78	85	102	80	77	70	76	80	68	62	68	63	64	65	62	65	60	50	45	50	58	69	72	82	79	....	70.4
	Minimum ...	40	42	46	50	45	52	50	65	52	48	49	38	42	40	33	40	34	36	42	52	42	40	30	32	35	30	35	48	46	35	....	42.3
Cando	Maximum...	73	76	77	87	87	95	94	95	87	87	84	86	84	84	69	69	69	68	68	67	62	58	53	52	55	67	76	80	81	82	....	75.7
	Minimum ...	38	43	50	48	49	51	64	60	53	51	58	61	52	41	34	52	34	39	56	54	47	41	36	32	41	34	40	39	48	44	....	46.3
Carrington §§	Maximum...	72	80	82	91	82	86	103	87	95	84	91	82	71	69	75	66	73	80	67	63	67	57	55	50	50	70	78	81	87	70	....	75.4
	Minimum ...	47	53	50	52	51	52	56	60	54	50	50	48	51	48	37	39	36	36	43	58	44	42	35	35	37	37	40	43	45	46	....	45.8
Crosby§§	Maximum...	70	82	78	88	87	93	87	77	74	73	70	78	69	59	78	62	63	69	67	55	56	48	57	49	61	71	78	83	68	76	....	70.8
	Minimum ...	41	46	50	51	49	51	63	48	49	41	42	41	43	41	35	38	37	31	52	50	42	39	35	36	40	39	39	47	47	40	...	43.5
Devils Lake	Maximum...	67	77	74	88	78	81	99	87	89	82	89	78	69	66	71	64	70	73	63	61	63	55	51	53	53	67	76	80	84	69	....	72.6
	Minimum ...	46	46	51	50	53	55	65	64	55	52	59	49	51	45	38	45	38	42	57	52	50	40	36	36	40	39	43	48	52	46	....	48.2
Dickinson §§	Maximum...	76	82	83	97	90	98	97	88	82	82	76	82	69	67	79	68	79	81	77	55	52	50	57	47	57	74	79	82	80	69	....	75.2
	Minimum ...	50	45	45	46	44	46	50	57	52	48	49	34	35	40	40	43	40	45	46	52	42	41	32	32	39	32	33	39	39	41	....	42.6
Dunn Center §§	Maximum...	72	80	79	93	86	94	93	82	79	75	74	79	67	65	79	66	75	78	71	55	53	51	57	46	58	72	76	79	77	69	....	72.7
	Minimum ...	46	44	47	45	47	50	51	55	52	47	45	36	41	38	36	49	36	40	45	53	41	41	32	34	40	32	34	39	40	42	....	42.6
Dunseith	Maximum...	71	80	74	92	89	85	102	100	78	75	77	80	75	64	67	67	63	66	64	58	62	58	52	52	56	68	72	82	78	74	....	72.7
	Minimum ...	46	42	51	50	53	52	60	62	51	47	52	40	45	43	38	50	33	39	54	51	42	38	34	32	38	35	43	46	52	38	....	45.2
Edgeley	Maximum...	78	80	81	95	85	95	105	103	100	97	98	93	87	74	79	78	76	81	71	78	74	64	60	53	53	70	77	81	85	81	....	81.1
	Minimum ...	41	43	51	45	45	55	60	60	53	53	73	45	48	48	35	61	36	41	49	53	44	44	34	30	31	34	39	41	45	48	....	46.2
Ellendale	Maximum...	77	79	80	96	84	94	100	101	100	103	98	93	77	73	77	78	78	81	69	69	76	61	59	48	51	72	76	80	85	73	....	79.6
	Minimum ...	50	44	51	47	56	52	67	61	62	56	62	54	51	46	38	49	40	50	63	51	42	40	36	33	43	38	40	44	51	47	....	48.8
Fessenden §§	Maximum...	73	82	77	92	84	88	106	90	96	85	91	82	74	71	79	67	79	81	68	62	64	61	58	50	53	71	81	85	89	71	....	77.1
	Minimum ...	45	45	50	43	50	51	58	58	53	50	50	41	49	43	31	42	33	34	43	55	41	40	33	31	39	31	36	43	45	44	....	43.6
Foxholm (near)	Maximum...	69	81	77	94	81	88	99	84	80	72	76	79	73	62	76	71	63	73	68	60	56	53	56	50	57	66	76	81	79	68	....	72.3
	Minimum ...	45	51	51	52	51	57	55	54	51	43	54	48	45	42	33	47	34	32	58	50	44	38	34	37	38	37	40	51	47	42	....	45.4
Fullerton	Maximum...	77	79	80	92	84	97	101	102	99	99	98	94	77	73	79	77	78	82	72	68	77	61	58	50	52	68	75	80	84	75	....	79.6
	Minimum ...	47	44	48	48	56	54	65	63	62	50	75	53	48	47	37	61	40	49	62	58	42	46	35	33	44	36	40	43	50	50	....	49.5
Garrison	Maximum...	73	84	80	97	86	91	102	84	83	92	80	84	70	68	77	75	79	81	74	61	55	52	60	48	60	74	79	83	84	70	....	76.3
	Minimum ...	48	48	50	50	51	57	60	64	54	48	58	41	47	42	38	47	33	43	61	53	43	42	35	39	37	35	41	44	50	42	....	46.7
Grafton	Maximum...	76	75	77	86	87	67	101	100	96	93	95	82	73	72	72	71	70	71	70	60	70	65	56	57	53	76	73	77	85	81	....	76.7
	Minimum ...	50	39	49	45	58	51	65	66	58	55	52	48	46	44	33	50	40	40	57	57	41	44	37	33	44	35	40	45	47	49	....	47.3
Grand Forks	Maximum...	70	73	80	86	77	92	100	89	96	88	96	82	75	73	72	74	70	75	64	63	73	62	56	57	51	68	73	77	82	70	....	75.5
	Minimum ...	47	40	53	46	49	55	66	60	58	56	60	49	48	45	37	48	40	40	58	58	53	46	37	35	42	36	42	47	55	50	....	48.5
Granville	Maximum...	65	79	71	92	77	84	101	84	82	72	81	80	65	60	72	67	71	72	65	62	55	50	52	45	54	67	75	71	72	75	....	70.6
	Minimum ...	43	49	48	47	47	50	54	50	50	44	53	45	44	40	30	40	31	39	45	45	47	42	43	34	41	38	38	41	48	50	....	43.9
Hansboro	Maximum...	71	75	77	86	85	84	95	80	93	72	83	80	67	65	68	65	62	66	65	65	65	60	55	65	60	68	72	80	78	70	....	72.6
	Minimum ...	45	36	45	50	50	50	54	54	50	50	48	44	40	38	30	52	27	28	55	50	44	38	36	40	35	28	34	42	50	44	....	42.9
Hettinger §§	Maximum...	77	82	84	97	90	98	101	97	80	83	78	80	69	69	77	70	84	82	82	55	50	53	58	53	56	75	80	80	86	69	....	76.8
	Minimum ...	51	48	48	48	50	51	52	54	55	52	52	40	42	49	46	47	46	49	49	52	46	41	32	39	41	32	34	38	38	43	....	45.5
Hillsboro	Maximum...	75	78	75	88	88	90	99	97	94	94	98	86	75	74	73	73	66	77	77	70	74	74	61	52	60	65	....	....	....	70	....	[c]77.9
	Minimum ...	50	44	49	46	54	63	62	61	55	55	66	52	50	52	37	54	40	43	56	53	50	46	37	31	40	31	....	....	...	39	....	[c]48.7
Howard (near)	Maximum...	78	82	78	91	80	96	87	77	74	82	78	72	70	73	80	75	70	75	70	60	55	48	56	46	60	77	81	83	70	68	....	73.1
	Minimum ...	38	41	46	52	47	62	47	46	44	48	47	46	42	35	35	43	39	40	38	36	38	34	34	35	38	38	46	44	40	40	....	42.0
Jamestown §§	Maximum...	81	78	91	81	92	107	91	97	88	97	88	78	71	77	73	71	81	71	65	72	61	57	49	49	69	79	80	85	71	84	....	77.8
	Minimum ...	55	44	48	42	54	49	53	63	60	54	55	43	46	51	34	40	34	37	45	58	44	45	35	29	34	32	33	41	44	45	....	44.9
Langdon§§	Maximum...	61	80	85	85	77	87	101	82	82	82	82	71	70	70	73	60	64	68	58	58	68	55	56	52	53	71	76	81	79	68	....	71.6
	Minimum ...	40	40	50	45	51	51	65	65	53	53	51	48	40	42	33	38	35	35	38	54	46	40	36	32	35	34	36	49	50	45	....	44.3
Larimore §§	Maximum...	69	76	79	86	79	86	100	90	97	84	92	79	73	71	72	71	69	78	60	60	74	58	53	52	49	71	73	78	85	71	....	74.5
	Minimum ...	48	39	52	44	55	53	62	64	56	54	60	49	46	47	35	50	39	43	47	57	50	43	37	34	39	34	41	47	49	48	....	47.4
Linton	Maximum...	79	85	84	99	87	89	106	102	106	96	94	89	76	74	80	75	80	81	77	69	68	59	61	50	54	77	78	79	89	78	....	80.7
	Minimum ...	42	47	42	46	47	62	67	66	60	50	54	45	49	47	40	60	39	49	60	52	43	42	32	36	43	28	29	46	53	44	....	47.3
Lisbon §§	Maximum...	74	76	79	90	81	93	100	101	97	94	99	91	78	72	78	77	74	80	66	69	78	64	59	56	69	75	66	79	75	74	....	78.8
	Minimum ...	50	43	47	42	52	50	60	58	67	55	70	55	49	42	38	46	37	45	58	59	47	45	35	27	39	41	42	37	45	50	....	47.7
McClusky	Maximum...	71	81	75	94	84	87	103	94	98	81	83	81	79	66	78	69	78	80	69	65	62	53	56	47	55	70	77	79	84	69	....	75.6
	Minimum ...	47	46	47	51	53	56	60	58	52	47	55	44	43	44	38	53	33	45	58	51	42	41	32	36	41	34	40	46	50	43	....	46.2
Maddock	Maximum...	77	79	78	91	89	84	99	92	91	83	86	83	76	73	76	78	76	80	76	67	61	68	52	52	53	68	78	82	86	83	....	77.2
	Minimum ...	43	43	50	43	48	57	59	61	52	49	55	38	47	45	32	49	32	39	60	55	44	40	34	30	40	32	36	42	47	43	....	44.8
Marmarth	Maximum...	79	81	86	93	97	98	97	88	83	81	77	83	69	70	81	76	82	83	83	67	54	51	56	59	60	76	80	82	80	70	....	77.4
	Minimum ...	54	48	45	55	48	63	55	60	50	50	58	34	46	45	48	54	46	48	59	48	45	40	33	45	40	36	36	38	44	41	....	47.1
Minot §§	Maximum...	70	82	76	91	82	88	100	83	85	74	79	82	68	65	75	64	71	75	64	56	58	53	57	50	59	73	79	83	84	81	....	73.6
	Minimum ...	41	48	48	48	50	58	58	55	52	46	47	45	43	42	30	39	32	37	45	53	41	39	36	34	39	34	37	46	48	44	...	43.9
Mohall	Maximum...	70	75	77	71	75	80	100	85	82	85	75	70	75	72	70	70	70	70	74	60	68	67	69	58	70	73	75	78	70	76	....	78.7
	Minimum ...	44	45	62	53	56	53	57	57	56	44	46	44	39	37	34	34	32	33	44	48	33	31	33	35	34	37	40	44	42	45	....	43.1
Mott	Maximum...	76	82	83	99	102	98	98	97	94	84	80	81	80	68	73	70	82	78	79	80	60	54	58	52	55	65	80	87	69	72	....	77.9
	Minimum ...	50	50	50	53	56	56	58	56	53	52	41	44	43	45	44	45	48	45	47	46	43	33	38	42	33	38	36	46	45	46	....	46.1
Napoleon §§	Maximum...	75	85	80	95	87	90	107	102	100	95	95	90	75	70	79	73	79	81	77	63	67	60	68	47	51	72	81	85	90	72	....	79.7
	Minimum ...	49	44	50	47	50	57	70	62	55	50	49	46	50	47	38	60	34	43	60	57	45	43	32	32	40	34	41	44	48	44	....	47.4
New Salem	Maximum...	79	85	89	101	81	93	105	92	96	84	84	85	70	80	71	81	80	78	68	54	55	55	55	58	73	80	82	83	89	71	....	78.6
	Minimum ...	54	57	41	49	49	59	61	62	54	49	58	44	46	36	56	41	46	60	58	46	41	35	37	40	40	43	45	50	47	43	....	48.2
Oakes	Maximum...	77	78	79	90	83	94	100	102	100	101	97	93	80	75	78	80	78	83	72	68	78	64	61	50	52	71	76	82	84	80	....	80.2
	Minimum ...	47	43	49	42	55	53	64	60	66	56	77	53	47	55	38	62	36	50	61	59	45	44	34	31	44	35	39	45	50	50	....	49.7
Pembina §§	Maximum...	64	75	81	84	84	89	100	88	84	79	95	80	78	79	70	78	68	77	62	61	77	54	54	58	54	74	76	70	82	68	....	74.8
	Minimum ...	48	38	40	45	48	52	41	64	48	48	44	54	48	47	35	35	38	36	36	55	51	54	37	35	35	35	36	38	45	53	....	44.0
Sharon	Maximum...	71	76	78	85	78	86	99	89	93	83	93	82	74	73	72	70	69	77	65	60	71	58	55	52	48	68	75	76	85	75	....	74.5
	Minimum ...	45	43	56	44	54	49	64	65	55	53	57	52	49	48	42	53	37	43	57	57	47	43	33	32	42	33	42	48	51	46	....	48.0
Steele	Maximum...	74	82	78	93	84	90	103	99	100	85	90	82	76	77	77	69	75	80	75	63	64	55	55	50	52	65	75	80	86	72	....	76.9
	Minimum ...	51	44	44	47	50	60	69	71	55	51	70	46	52	48	38	59	39	45	60	55	44	42	30	37	45	32	44	43	50	45	....	48.9
Towner	Maximum...	69	82	79	96	90	90	103	95	96	80	82	84	70	67	76	72	73	74	73	61	63	57	55	51	58	71	77	84	82	80	....	76.3
	Minimum ...	41	47	50	47	49	55	55	56	54	47	58	41	45	39	32	52	33	42	58	54	45	39	36	34	41	33	40	46	49	42	....	45.3
Valley City	Maximum...	74	80	77	90	89	91	103	100	97	94	95	92	80	78	77	75	68	81	77	65	75	73	59	55	50	69	77	79	83	79	....	79.4
	Minimum ...	53	41	48	40	58	51	58	58	58	55	63	47	47	50	36	55	39	46	52	58	44	43	35	28	42	32	35	41	61	47	....	47.4
Wahpeton	Maximum...	80	79	85	88	87	93	101	103	96	105	101	95	88	83	80	84	76	82	77	77	82	77	65	61	50	68	76	79	86	84	....	83.0
	Minimum ...	62	42	61	45	57	64	72	67	72	60	74	60	50	50	38	60	38	61	59	59	48	50	36	33	45	37	42	49	68	54	....	53.8
Westhope	Maximum...	71	86	79	94	85	92	104	85	80	69	77	84	70	69	73	67	66	70	68	63	59	57	60	51	62	74	80	85	83	71	....	74.5
	Minimum ...	41	50	50	45	49	55	59	55	53	45	55	45	41	42	34	48	33	34	53	53	45	41	32	33	40	34	42	45	51	42	....	41.8
Williston	Maximum...	73	82	81	94	93	99	89	81	79	75	72	80	67	61	80	66	66	78	72	59	57	52	61	49	61	73	81	86	73	70	....	73.7
	Minimum ...	44	50	50	60	51	65	60	59	54	48	54	44	44	44	44	48	46	46	59	47	44	40	36	39	40	38	44	45	49	46	....	47.9
Moorhead, Minn	Maximum...	73	74	80	87	79	89	101	97	94	92	100	85	75	72	77	76	73	80	64	70	78	62	56	57	52	66	75	79	87	73	....	77.4
	Minimum ...	51	46	50	47	58	56	73	66	67	59	72	57	54	52	47	54	45	52	57	58	50	46	39	31	45	38	41	49	57	54	....	52.4

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 10-30-31—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX BISMARCK, N. D., OCTOBER, 1931 No 10

GENERAL SUMMARY

Mild and pleasant weather prevailed in all sections of the state throughout the greater portion of the month. The mean temperature for October was exceeded on but four occasions in the climatological history of North Dakota. During the first two decades only light scattered precipitation occurred, allowing fall work on farms, consisting mostly of fall plowing, seeding winter rye, potato digging and corn husking, to progress rapidly, and at the close of the month these activities were nearing completion, though the ground in some sections was too dry for best results for plowing. During the last decade quite generous showers occurred, bringing the average precipitation for the month above the normal.

TEMPERATURE

The mean temperature for the state was 47.7°, or 4.2° above he normal, and 6.9° higher than the mean for October, 1930. The highest mean reported was 52.8° at Wahpeton, Richland County; the lowest was 44.2° at Langdon, Cavalier County. The highest temperature reported was 90° at Wahpeton, Richand County on the 2d; the lowest was 10° at Washburn, McLean County on the 29th. The greatest monthly range of emperature was 73° at Washburn, McLean County; the least vas 40° at Powers Lake, Burke County. The greatest daily ange in temperature was 54° at Amenia, Cass County on the 9th.

PRECIPITATION

The average precipitation for the state was 1.39 inches, or .35 inch above the normal, and 0.42 inch less than the verage for October, 1930. The greatest monthly amount eported was 3.94 inches at Sharon, Steele County; the least vas a trace at Howard, Williams County. The greatest amount ecorded in any 24 consecutive hours was 1.61 inches at Lisbon, Ransom County on the 22d. The average number of days with .01 inch or more of precipitation was 6. The average snowall was 0.2 inch.

AURORAS

Auroras were observed at Carson, Eckman, Foxholm, Grand orks and Rugby on the 1st; at Eckman and Foxholm on the d; at Pembina on the 3d; at Arnegard, Carson, Devils Lake, llendale, Hettinger, Oakes, Stowers, Trotters, Willow City nd Moorhead on the 4th; at Bottineau, Bowman, Ellendale, oxholm and McLeod on the 5th; at Arnegard and Oakes on e 7th; at Carson, Eckman and Foxholm on the 8th; at Ellenale and Foxholm on the 9th; at Foxholm on the 11th; at rosby and Foxholm on the 13th; at Arnegard, Crosby and owner on the 14th; at Eckman, Foxholm, Pembina and Tagus the 15th; at Devils Lake, Ellendale, Foxholm, Hettinger nd Velva on the 16th; at Devils Lake, Ellendale, Foxholm, anish, Tagus, Velva, Williston and Willow City on the 17th; Devils Lake, Dogden Butte, Ellendale, Foxholm and Pemna on the 18th; at Dogden Butte and Sanish on the 19th; Carson and Oakes on the 23d; and at Towner on the 24th

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	29.98	30.59	11	29.26	26	57	6,330	8.5	38§	nw.	27
Devils Lake	29.93	30.55	11	29.21	27	44	6,821	9.2	36§	nw.	27
Ellendale	29.98	30.58	11	29.32	26	56	9,635	13.0	43§	nw.	27
Grand Forks	29.92	30.51	11	29.16	27	90	......	.....	39	nw.	10
Williston	29.99	30.52	11	29.39	27	48	5,377	7.2	32§	nw.	27
Moorhead, Minn	29.95	30.60	11	29.16	27	58	6,173	8.3	36§	nw.	27
Av'ges and extremes	29.96	30.60	11	29.16	27	.....	....	9.2	43§	nw.	27

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	198.7	336.9	59	0	83	58	62	31	20
Devils Lake	187.2	335.6	56	+ 3	87	58	68	27	1
Ellendale	176.5	338.3	52	−10	87	57	....	22	1
Grand Forks	......	......	......	......	88	....	68	....	....
Williston	214.4	335.6	64	+10	78	47	53	25	2
Moorhead, Minn	168.8	336.9	50	−10	84	57	63	22	1
Averages and extremes	189.1	336.7	56	− 2	84	55	63	22	1

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	47.2	+3.7	95	7	0.58	−0.46	3	15	8	8	nw.
1893	40.6	−2.9	79	0	1.05	+0.01	5	11	11	9	nw.
1894	43.0	−0.5	77	16	1.66	+0.62	6	13	7	9	nw.
1895	40.5	−3.0	85	−12	0.25	−0.79	2	16	8	7	nw.
1896	40.2	−3.4	88	5	0.78	−0.26	3	14	8	9	nw.
1897	45.9	+2.6	93	6	0.77	−0.27	4	13	9	9	nw.
1898	38.8	−4.7	84	8	1.25	+0.21	6	8	8	15	nw.
1899	42.1	−1.4	86	7	1.18	+0.14	5	11	8	12	nw.
1900	48.2	+4.7	87	14	1.54	+0.50	6	15	4	12	nw.
1901	47.5	+4.0	88	11	1.61	+0.57	5	17	7	7	nw.
1902	43.7	+0.2	87	10	1.28	+0.24	4	16	6	9	nw.
1903	47.0	+3.5	81	11	0.94	−0.10	3	19	5	7	nw.
1904	46.6	+3.1	87	10	1.03	−0.01	5	12	7	12	nw.
1905	40.3	−3.2	93	0	0.44	−0.60	5	8	12	11	nw.
1906	45.0	+1.5	89	0	0.57	−0.47	4	14	9	8	nw.
1907	44.4	+0.9	88	4	0.70	−0.34	3	21	5	5	nw.
1908	43.0	−0.5	86	8	1.58	+0.54	6	11	7	13	nw.
1909	43.1	−0.4	97	0	0.64	−0.40	3	14	8	9	nw.
1910	48.2	+4.7	95	0	0.54	−0.50	3	16	8	7	nw.
1911	42.5	−1.0	86	−10	1.32	+0.28	6	11	8	12	nw.
1912	44.4	+0.9	90	0	0.94	−0.10	4	16	6	9	nw.
1913	39.3	−4.2	90	− 2	1.63	+0.59	4	12	9	10	nw.
1914	50.0	+6.5	97	0	0.98	−0.06	4	16	8	7	nw.
1915	46.6	+3.1	87	10	1.04	0.00	4	17	8	6	nw.
1916	40.0	−3.5	85	− 2	0.69	−0.35	4	12	8	11	nw.
1917	34.7	−8.8	82	− 4	0.77	−0.27	5	8	11	12	nw.
1918	46.2	+2.7	90	4	0.54	−0.50	4	14	8	9	nw.
1919	33.5	−10.0	84	−18	1.08	+0.04	6	11	9	11	nw.
1920	49.3	+5.8	95	6	0.46	−0.58	3	16	8	7	nw.
1921	47.3	+3.8	88	16	0.73	−0.31	4	16	8	7	nw.
1922	45.7	+2.2	98	8	0.57	−0.47	3	15	7	9	nw.
1923	44.0	+0.5	84	− 8	0.88	−0.15	4	14	7	10	nw.
1924	50.3	+6.8	86	19	2.43	+1.39	7	17	5	9	se.
1925	33.3	−10.2	66	−16	0.78	−0.26	6	8	9	14	nw.
1926	42.6	−0.9	85	4	1.49	+0.45	6	10	10	11	nw.
1927	47.0	+3.5	88	12	1.39	+0.35	5	14	8	9	nw.
1928	43.5	0.0	85	3	0.41	−0.63	2	15	8	8	nw.
1929	46.8	+3.3	88	10	1.85	+0.81	6	17	5	9	nw.
1930	40.8	−2.7	86	0	1.81	+0.77	7	10	9	12	nw.
1931	47.7	+4.2	90	10	1.39	+0.35	6	15	6	10	nw.
Av.	43.5	....	98	−18	1.04	....	4	14	8	9	nw.

Climatological Data for October, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		5								0.54		0.32	0	3					H. A. Bury.
Amenia	Cass	954	35	51.2	+6.6	89	1	26	11	54	2.90	+1.53	0.85	0	8	10	11	11	nw.	I. Idso.
Amidon	Slope		16																	R. R. Beebe.
Arnegard (near)	McKenzie		18	46.4	+3.5	80	1	20	30	40	0.11	−0.84	0.05	0	3	21	3	6	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	48.4	+5.6	82	1†	24	11	42	1.49	+0.30	0.51	0.8	7	17	1	13	nw.	H. D. Piper.
Beach	Golden Valley	2,759	25	47.4	+3.8	77	1†	20	22†	49	0.43	−0.55	0.43	0	1				nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	47.4	+2.8	82	1	20	8	45	0.30	−0.56	0.30	T.	1	17	2	12	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	48.6	+3.7	82	1	29	11	38	1.19	−0.25	0.69	0.2	8	16	6	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	45.6	+4.6	82	2	17	18	53	0.52	−0.51	0.20	T.	8	12	11	8	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	17	46.8	+2.8	79	1	17	31	46	1.75	+0.77	0.85	0	10	18	5	8	nw.	George Larsen.
Cando	Towner	1,488	30	47.2	+3.5	79	8	24	11	46	2.11	+1.25	1.32	T.	3	7	6	18	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	46.4	+2.6	83	1	21	29†	39	0.97	0.06	0.60	1.00	6	19	2	10	nw.	L. A. Swanson.
Carson	Grant	2,500	19	46.0	+2.7	80	2	22	31	44	1.31	+0.31	0.50	0.5	8	18	3	10	nw.	J. W. Evens.
Cavalier	Pembina	894	21								2.89	+1.80	0.90	0	6	18	4	9	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	34								2.99	+1.93	1.50	1.0	9	12	6	13	nw.	Theo. Marquardt.
Corinth	Williams	2,180	3								0.24		0.12	0	2	21	9	1	nw.	W. A. Clem.
Crosby	Divide	1,954	24	46.4	+4.6	79	5	19	22	42	0.06	−0.82	0.06	0	1	15	8	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	34	47.0	+4.6	82	2	29	12	34	2.29	+1.04	1.13	0.1	5	9	8	14	sw.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	45.6	+2.0	78	1	20	31	44	0.86	−0.01	0.48	0	6	11	13	7	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	47.9		80	2	21	31	42	1.17		0.50	0.5	7	16	6	9	nw.	R. L. Williams.
Drake	McHenry	1,634	2																	J. Rindt.
Dunn Center	Dunn	2,191	32	47.6	+3.2	77	1	22	8	45	0.43	−0.32	0.21	0	3	19	3	9	nw.	W. F. Moede.
Dunseith	Rolette	1,682	35	46.0	+4.6	80	2	25	25	40	1.27	+0.36	0.51	T.	7	13	9	9	w.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	45.5	+3.7	81	1†	21	11	48	0.23	−0.70	0.09	T.	5	13	8	10	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	30	49.4	+4.1	85	1†	23	11	43	1.07	+0.04	0.35	T	7	9	12	10	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	48.9	+3.3	84	2	28	11†	46	1.66	+0.49	1.12	1.0	9	12	5	14	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	19	47.9		80	1	25	11	40	0.83	+0.01	0.30	0	4	15	9	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	23																	A. O. Wang.
Fairfield	Billings		2								0.40		0.30	0	1	17	3	11	nw.	F. R. Hecker.
Fessenden	Wells	1,610	19	46.7	+3.7	83	1†	20	11	42	1.74	+0.83	0.50	1.0	7	14	9	8	nw.	T. D. Monsen.
Forman	Sargent	1,249	38								2.18	+0.78	0.44		11	19	2	10	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	31	51.6	+5.2	83	2	25	11	47	0.97	+0.06	0.49	0	3	21	3	7		P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	46.5		78	1	24	11	35	0.29	−0.81	0.20	0.6	5	12	6	13	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13								0.97	−0.22	0.35	T.	5	15	10	6	nw.	Verne King.
Fullerton	Dickey	1,439	33	49.4	+4.6	83	1	26	11	46	1.99	+0.57	0.57	T.	8	16	4	11	nw.	F. O. Alin.
Gackle	Logan	1,951	1								1.59		0.42	1.5	6	15	4	12	nw.	Geo. Hummel.
Garrison	McLean	1,901	54	47.6	+4.9	80	1	25	8†	38	0.61	−0.29	0.22	0.2	6	17	8	6	nw.	W. F. Robinson.
Grafton	Walsh	827	39	49.2	+7.1	81	2	26	12	43	2.61	+1.60	1.22	0	5	13	7	11	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	40	48.7	+5.1	84	1†	27	11	44	3.65	+2.38	1.02	0	9	9	8	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	45.0	+1.7	77	2	23	11	37	0.49	−0.46	0.30	1.0	3	19	6	6	nw.	W. A. Christianson.
Hankinson	Richland	1,068	2	51.4		89	2	24	11	50	2.33		0.92	0	7	17	2	12		R. G. Stock.
Hannah	Cavalier	1,568	39								2.24	+1.17	0.95		8					James Meier.
Hansboro	Towner	1,597	23	47.0	+6.3	80	2	20	12	45	1.18	+0.01	0.53	0	5	16	8	7	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	24	47.2	+1.6	79	1	20	31	43	0.94	+0.13	0.23	0	9	20	5	6	nw.	C. H. Plath.
Hillsboro	Traill	901	25	48.4^{c}	+3.2	82^{c}	1†	26^{c}	12	38^{c}	3.09	+1.89	1.27	0	7	9	9	13	sw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	21	45.6	+4.0	77	1	19	31	41	T.	−0.90	T.	T.	0	19	7	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	48.8	+4.3	84	1†	25	12	49	2.44	+1.32	1.38	1.0	6	14	6	11		S. Calvelage.
Langdon	Cavalier	1,615	35	44.2	+3.3	81	2	23	11	39	2.53	+1.50	0.90	T.	8	14	5	12	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	49.2	+5.3	86	2	28	11†	42	3.79	+2.42	1.60	0	9	16	4	11	nw.	May Walsh.
Linton	Emmons	1,711	14	47.4	+2.7	85	1	21	15	50	1.38	+0.34	0.54	1.1	8	13	11	7	nw.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	49.0	+5.2	86	1	24	12	43	3.30	+2.15	1.61	0	11	11	8	12		N. S. Lindstrom.
McClusky	Sheridan	1,943	13	46.6		80	1†	24	8†	41	1.09	+0.10	0.62	1.5	4	15	4	12	nw.	Edw. Tapley.
McLeod	Ransom	1,075	20	51.2	+5.0	87	2	21	11	48	3.12	+1.72	1.06	0	10	15	4	12	sw.	J. G. Carlson.
Maddock	Benson	1,604	16	46.8	+3.9	83	2	22	11†	44	1.22	+0.29	0.47	T.	6	10	7	14	nw.	A. T. Felland.
Mandan	Morton	1,750	17	48.0	+4.0	82	1	27	8	39	1.46	+0.62	0.58	T.	6	12	4	15	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28								1.29	+0.32	0.35	1.0	6					P. B. Anderson.
Marmarth	Slope	2,714	22	47.7	+2.2	80	1	21	31	47	1.34	+0.50	0.56	0.4	8	10	11	10		S. P. Grane.
Mary	McKenzie		2								0.60		0.38	0	2	14	9	8	nw.	Fred Hartman.
Max	McLean	2,093	2	47.1		84	2	20	8	48	0.94		0.40	1.0	4				nw.	A. W. Rice.
Mayville	Traill	975	35	50.2	+4.3	86	2	21	17	45	3.60	+2.40	1.54	T.	10	13	0	18	w.	H. B. Addicott.
Minot	Ward	1,557	35	47.4	+4.1	81	1	22	11	41	0.29	−0.69	0.12	T.	5	19	3	9	w.	Julia B. Rue.
Mohall	Renville	1,646	37	49.2	+7.5	80	1†	24	11	42	0.45	−0.59	0.25	0	3	9	14	8	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	24	49.4	+6.1	83	1	28	7	38	0.72	−0.35	0.24	0	4	13	3	15	se.	O. H. Opland.
Napoleon	Logan	1,955	39	48.2	+4.5	84	1	24	11	44	2.00	+0.97	1.25	2.0	5	17	1	13	nw.	C. J. Hoof.
New England	Hettinger	2,400	37	46.6	+3.2	75	18	19	31	47	1.41	+0.71	0.53	0	5	11	12	8	nw.	F. S. S'eight.
New Salem	Morton	2,163	27	49.4	+4.6	85	1	26	31	38	0.51	0.45	0.20	0	5	17	6	8	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	49.4		83	1	25	11	46	2.52		0.85	0	11	7	14	10	nw.	Eugene Naylor.
Park River	Walsh	998	27	47.9	+4.1	80	1†	25	11	39	1.61	+0.47	0.70	0	5	10	1	17	nw.	C. B. Wright.
Parshall (near)	Mountrail		16	44.9^{1}		70^{1}	17	23^{1}	16	44^{1}	0.10	0.59	0.10	T.	1	9	14	8	nw.	C. E. Shubert.
Pembina	Pembina	789	57	45.9	+4.5	81	2	25	12	40	1.96	+0.53	0.84		9	10	4	17	sw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	1								3.82		1.52	1.0	8	14	7	10	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	22																	A. L. Carlson.
Portal	Burke	1,954	26	47.6	+6.2	81	1	21	31	47	0.11	−0.64	0.11	T.	1	25	3	3	nw.	C. T. Holmes.
Power‡‡	Richland	1,020	37								3.32	+1.89	1.25	T.	8	15	5	11	nw.	Frank B. Power.
Powers Lake	Burke	2,205	26	48.4		70	4†	30	20†	33	0.53	−0.70	0.46	0.8	2	25	5	1	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	47.2	+3.8	80	1	25	30	39	0.65	−0.09	0.37	0	3	17	5	9	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2								1.00		0.63	T	3	13	7	11	nw.	E. C. Erickson.
Ryder	Ward	2,108	2								0.44		0.20	0.2	4					S. C. Schellenbaum.
Sanish	Mountrail	1,835		46.2		81	2	21	8	44	0.25		0.12	0	3	10	5	16	nw.	H. W. Monson.
Sharon	Steele	1,516	7	47.8		84	2	27	11	43	3.94		1.38	1.0	11	13	5	13	nw.	Nels O. Gretsheim.
Stanton	Mercer	1,722	7								0.90		0.36	T.	4	15	6	10	nw.	J. H. Giffey.
Steele	Kidder	1,857	37	46.7	+2.9	78	1	21	31	38	1.25	+0.18	0.72	0.2	7	13	5	13	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	16								0.43	−0.68	0.21	0	1	23	4	4		Thos. D. Alkire.
Tagus	Mountrail	2,179	2								0.08		0.05	0	2	17	5	9	sw.	J. C. Abbott.
Tioga	Williams	2,279	2								0.22		0.22	T.	1	16	5	10	nw.	Anton Carlson.
Towner	McHenry	1,482	29	47.3	+3.9	82	2†	22	11	42	0.82	−0.17	0.27	1.0	7	15	6	10	nw.	Karl Weber.
Trotters	Golden Valley		5								0.57		0.30	0	2	21	8	2		A. J. Nellermoe
Turtle Lake	McLean	1,899	17								1.08	+0.37	0.60	0.5	4					E. T. Kusler.
Tuttle	Kidder	1,936																		
Valley City	Barnes	1,245	25	49.2	+4.6	85	1†	22	12	52	2.87	+1.95	1.16	0	9	16	5	10	w.	I. C. Robertson.
Velva	McHenry	1,511	4	47.4		81	2	22	11	42	0.67		0.35	T.	4	13	8	10	w.	Oscar Anderson.
Verona	LaMoure	1,387	3								2.90		1.30	0	4	17	2	12	sw.	W. C. Taylor.
Wahpeton	Richland	962	39	52.8	+6.2	90	2	27	8†	41	3.15	+1.88	0.82	0	7	18	0	13	se.	C. G. Lueck.
Washburn	McLean	1,731	30	47.4	+2.9	83	1	10	29	41	1.14	+0.28	0.58	0.3	5	15	8	8	sw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	46.6	+4.5	81	2	23	11	41	0.35	−0.48	0.09	0	6	19	5	7	nw.	C. M. Condit.
Williston	Williams	1,878	52	47.6	+4.2	78	1	23	22	41	0.15	−0.71	0.10	0	2	16	9	6	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	45.2	+3.8	83	2	19	11†	48	0.55	−0.29	0.31	T.	4	18	3	10	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	46.7^{d}	+2.8	82^{e}	1†	19	12	46	2.10	+1.13	1.50	T.	6				nw.	E. W. Davis.
Zap	Mercer	1,838	16								0.54	−0.53	0.27	T.	3					R. A. Norton.
Moorhead, Minn.	Clay	935	50	50.5	+6.0	86	2	31	12	42	2.34	+0.65	0.63	T.	8	11	6	14	s.	U. S. Weather Bureau.
Averages				47.7	+4.2	90	2	10	29	54	1.39	+0.35	1.61	0.2	6	15	6	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for October, 1931

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri							.10														.32					.12						0.54
Amenia ‖	Red			.05									.05	.25								.70	.65	T.				.85	.30	.05			2.90
Amidon	Lit. Missouri																																.....
Arnegard (near)	Missouri							.05			T		.04														T	.02					0.11
Ashley	Missouri			.05										T								.50	.51					.27	.02	.11	.03		1.49
Beach ‖	Lit. Missouri						T																				.43						0.43
Berthold Agency	Missouri			T				T			T.		T.	T.								.30						T	T	T			0.30
Bismarck ***	Missouri			T									.02	.07								.65	.05	T			.03	.30	.06	.01	T.		1.19
Bottineau ‖	Mouse				.02			T.	T.		T.		T.	.02								.04	.05	.01				.20	.17	.01	T		0.52
Bowman	Grand				.05		.53	.12					.05	.05								.85	.02	.05			.02	.01					1.75
Cando	Devils Lake							T					T.	T.									1.32	T.				.41	.38				2.11
Carrington ‖	James												.01									.60	.20				.05	.06	.05				0.97
Carson	Heart						.05	.07					.08	.20								.50	.30					.06		.05			1.31
Cavalier	Red												.05									.32	.90					.85	.72	.05			2.89
Cooperstown	Sheyenne								T.					T.	.04							.05	1.50	.12				.65	.47	.08	.05	.03	2.99
Corinth	Missouri			.12				.12																									0.24
Courtenay	James											T.	T.								T.	1.58						.65	.34				2.57
Crosby ‖	Mouse							.06			T.																	T.					0.06
Devils Lake ***	Devils Lake				T			T.					.09									.58	.22	T.			T.	1.13	.27	T.	T.	T.	2.29
Dickinson ‖	Heart							.11				.02		.20	.01							.04	.48		T.			T.					0.86
Dogden Butte	Mouse				T								T	.05								.50	.10					.35	.02	.13	.02		1.17
Drake ‖	Mouse																																.....
Dunn Center ‖	Knife							.10					.12									.21											0.43
Dunseith	Mouse				.01		T		.16					.02								.51		.02				.25	.30	T.			1.27
Eckman	Mouse				.09			.01					.09											.02					T.	.02			0.23
Edgeley	James												.10	.06								.25	.35						.18	.09	.04		1.07
Ellendale***	James			T.	T.		.13						.14	.03	.01							.65	.47	T.				.04	.17	.02	T.	T	1.66
Energy	Missouri												.12									.30						.26		.15			0.83
Epping	Missouri																																.....
Fairfield	Knife												.40																				0.40
Fessenden ‖	James													.03								.50	.34					.43	.11	.30	.03		1.74
Forman	Sheyenne			.15			T.	.10					.15	.16	T							.35	.44					.32	.36	.07	.06	.02	2.18
Fort Yates	Missouri												.08									.49						.40					0.97
Foxholm (near)	Mouse				.01			T.					.02									T.		T.				.20		.05	.01		0.29
Fryburg	Heart						T	.35					.19	.14								.25		.04	T.			T.					0.97
Fullerton	James			T.			T.	.04					.12	.04	T.							.30	.57					.28	.56	.08	T.	T.	1.99
Gackle	James													.05								.42	.37					.36	.35	.04			1.59
Garrison	Missouri												.16									.22	.08					.10	.03	.02			0.61
Grafton	Red												T.									.19	1.22					.61	.51	.08	T		2.61
Grand Forks ***	Red						.06	.04														.76	1.02				.18	1.02	.53	.02	.02		3.65
Granville	Mouse							T.					T.									.14						.30	T	T.	.05		0.49
Hankinson ‖	Red			.01			T.						.45	.15								.43						.92	.30	.07			2.33
Hannah	Pembina							T.			T.			.07								.15	.95	.04				.06	.66	.26	.05		2.24
Hansboro	Devils Lake																					.53	.10					.20	.20	.15			1.18
Hettinger ‖	Grand				.01		.15	.19					.23	.07								.19	.07		.02			.01					0.94
Hillsboro	Red		.02										T.	.06									1.27					.92	.60	.07	.15		3.09
Howard (near)	Missouri				T.			T			T.																T.	T.					T.
amestown ‖	James												.03	.04								T.	1.38	.09				.37	.53				2.44
angdon ‖	Pembina							T.						.08								.15	.85	.18				.21	.90	.11	.05		2.53
arimore ‖	Red												T.	.05	.02							.16	1.60					1.17	.53	.18	.03	.05	3.79
inton	Missouri			T.			.02	T.					.03									.15	.52					.54	.01	.16	.01		1.38
isbon ‖	Sheyenne				.11								.05	.21	.05							.34	1.61					.40	.31	.13	.03	.06	3.30
McClusky	Missouri												T.	.10								.22						.62	.15				1.09
McLeod	Sheyenne			.08				.08					.13	.24	.06							.14	1.06					.63	.48	.22	T.		3.12
Maddock	Sheyenne							T.	.01				T.		.02							.35	.20					.47	.17	T.	T.		1.22
Mandan ‖	Missouri							T.					T	.16								.15	.53	.01				.58	T.	.03	T.		1.46
Manfred	James												T.	.03								.25	.35					.33	.32	.01			1.29
Marmarth	Lit. Missouri						.41	.09						.07								.56	.05	.04	.02		.10						1.34
Mary	Lit. Missouri											.22	T.															.38					0.60
Max ‖	Missouri													.06									.38					.40		.10			0.94
Mayville	Red												.05	.07	.06							.06	1.54					1.30	.32	.12	.04	.04	3.60
Minot ‖	Mouse				.01																	.12		.01				.12		.03			0.29
Mohall	Mouse					.10							.25								T						T.	T.	.10				0.45
Mott	Cannon Ball												.22	.24								.10	.16										0.72
apoleon ‖	Missouri													.05								.05	1.25					.45		.20			2.00
ew England	Cannon Ball	.33					.22						.31									.53	.02										1.41
ew Salem	Heart												.04	.17								.20						.09	.01				0.51
akes	James			T.			.01	.04					.06	.06	.04							.35	.85	T				.39	.68	.03		.01	2.52
ark River	Red										T.											.18	.45					.70	.18	.10			1.61
arshall (near)	Missouri												.10											T.				T.	T	T			0.10
embina ‖	Red													.04	T.							.06	.41	.33	.01			.17	.84	.09	.01		1.96
etersburg	Red												.04	.01								.71	1.19	T.			.01	1.52	.27	.07	T.	T.	3.82
ettibone	James																																.....
ortal ‖	Mouse						T.																					.11		T			0.11
ower	Sheyenne			.10									.12	.45								.10	1.10					1.25	.10	.10			3.32
owers Lake	Missouri									.46																				.07			0.53
ichardton	Heart												.09	.19								.37											0.65
ugby [near]	Mouse							T.						T.								.63	.17					.20	T.				1.00
yder	Missouri												.13										.20				.09				.02		0.44
anish ‖	Missouri							T						.08														.12	.05				0.25
haron	Red								T.				.01	.04	.01							.85	1.21				.01	1.38	.34	.03	.05	.01	3.94
anton	Missouri												.20									.36	.10					.24					0.90
eele	Missouri												.04	.01								.03	.72	T.				.30	.10	.05			1.25
owers	Cannon Ball						.06	.04					.12									.21	T.										0.43
agus	Mouse												.05																.03				0.08
oga	Missouri																											.22	T.				0.22
owner	Mouse								.08				.04	.01		.25							.05	T.				.27	.12	T.			0.82
rotters	Lit. Missouri							.27																T.			.30						0.57
urtle Lake	Missouri													.05								.60					.38			.05			1.08
tt'e																																	.....
alley City	Sheyenne												T	.10	.02							.45	1.16					.65	.37	.08	.01	.03	2.87
elva	Mouse								T.				T.	T.								.20	T.					.35	T.	.10	.02		0.67
erona	James																						1.30				.88	.52	.20				2.90
ahpeton	Red			.16										.65	.22								.45					.82	.68	.17			3.15
ashburn	Missouri							T.					.08									.58	.09					.36		.03			1.14
esthope	Mouse			T.	.04		T						.09											.04					.08	.08	.02		0.35
illiston ***	Missouri				T			.10					T.											T.			.05	T.					0.15
illow City	Mouse							T.														.31	.04					.18	T.		.02		0.55
ishek ‖	Missouri													.10								.04	1.50	.04				.38		.04	T.		2.10
p	Knife												.24									.27								.03			0.54
oorhead, Minn. ***	Red			.07		T.	.02		T.				T.	.48	T							.17	.42	T			T.	.60	.51	.07	T.		2.34

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	89	82	79	69	72	69	64	65	60	60	59	60	59	72	78	80	78	80	84	70	65	68	65	63	60	56	54	55	50	48	45	66.4
	Minimum	54	47	38	36	31	46	36	33	32	28	26	34	42	32	34	36	32	30	30	38	42	36	38	33	38	36	38	36	35	33	32	35.9
Arnegard (near)	Maximum	80	76	72	65	72	57	48	60	70	54	60	52	47	68	69	72	74	70	67	73	60	60	61	60	67	55	51	46	45	47	..	59.9
	Minimum	44	45	41	37	43	41	30	24	34	41	24	34	34	27	33	36	37	36	37	33	35	25	34	37	28	38	30	30	30	20	..	32.8
Ashley	Maximum	82	82	67	65	76	66	56	61	70	61	57	45	51	57	67	66	68	73	77	68	64	50	62	54	62	61	56	46	36	36	47	60.9
	Minimum	46	43	49	37	34	42	34	35	36	43	24	27	41	43	33	27	30	31	36	28	49	37	38	34	30	45	34	31	32	30	32	35.8
Beach	Maximum	77	75	70	64	70	63	45	57	69	56	58	53	53	65	67	77	72	76	66	71	56	59	58	56	59	57	49	41	45	38	51	60.6
	Minimum	45	42	57	47	44	47	36	27	33	39	25	36	36	27	29	28	37	33	40	33	37	20	35	32	26	40	30	28	29	21	20	34.2
Berthold Agency	Maximum	82	78	70	65	73	60	52	60	70	52	58	50	52	65	70	68	72	68	68	70	60	54	62	62	65	58	48	40	42	40	47	60.5
	Minimum	42	36	38	40	43	45	27	20	34	32	28	37	42	45	30	26	38	32	40	25	40	32	56	26	26	42	38	32	32	32	30	34.4
Bismarck	Maximum	82	78	65	64	75	62	53	62	73	55	56	46	49	58	68	66	70	69	70	68	57	47	58	58	63	64	49	40	36	37	45	59.5
	Minimum	45	43	46	45	44	47	37	29	38	43	29	38	43	42	36	32	37	36	41	30	39	38	38	36	30	44	39	33	33	32	30	37.8
Bottineau §§	Maximum	79	82	72	64	68	70	54	61	65	61	70	64	62	63	69	67	68	70	68	68	67	52	50	56	52	60	56	50	39	38	37	61.4
	Minimum	32	48	35	33	36	35	32	22	21	28	30	28	37	28	20	29	33	17	28	19	38	51	34	24	21	40	32	30	30	30	26	29.9
Cando	Maximum	73	74	76	74	71	71	56	79	67	65	61	55	52	61	67	66	66	68	71	65	58	63	47	51	58	61	52	41	39	38	42	60.8
	Minimum	34	37	39	38	42	41	36	33	36	36	24	32	41	31	32	31	29	31	31	26	31	35	36	33	34	29	39	32	33	31	32	33.7
Carrington §§	Maximum	83	57	64	75	64	58	60	69	55	57	49	48	61	67	65	68	69	72	66	55	43	55	56	64	54	58	54	45	38	43	50	58.8
	Minimum	47	43	40	38	39	40	29	30	40	25	26	28	42	35	30	30	35	38	31	31	35	35	38	33	36	36	36	34	21	21	30	33.9
Crosby §§	Maximum	76	73	68	61	79	56	49	59	76	59	59	56	54	67	67	67	72	67	62	69	60	53	65	64	62	52	42	39	42	36	39	59.7
	Minimum	44	41	34	37	44	37	37	26	34	38	26	32	33	27	37	29	38	33	38	28	24	19	35	38	28	36	38	34	28	28	28	33.2
Devils Lake	Maximum	80	82	59	57	71	60	50	59	69	52	56	51	49	60	66	63	66	69	69	64	55	40	46	53	62	54	49	39	38	38	39	56.9
	Minimum	48	48	42	40	37	43	41	32	42	33	29	29	42	36	36	32	34	35	38	33	39	37	40	37	34	45	38	32	34	33	31	37.1
Dickinson §§	Maximum	78	75	71	64	72	59	45	58	70	51	55	43	46	61	66	64	72	68	66	69	44	55	59	56	59	58	49	45	43	37	46	58.2
	Minimum	34	37	41	36	42	47	41	26	31	34	25	30	39	34	33	27	29	32	38	32	35	32	33	32	26	31	35	31	30	26	20	32.9
Dunn Center §§	Maximum	77	75	68	68	71	60	47	56	69	51	57	45	47	64	65	66	72	68	65	74	59	57	60	57	61	56	51	50	45	39	48	59.6
	Minimum	42	44	39	54	43	43	39	22	45	36	24	34	42	31	35	26	35	33	34	29	40	32	35	41	25	38	39	34	34	30	24	35.5
Dunseith	Maximum	78	80	68	56	72	60	50	58	66	60	56	56	51	60	66	64	68	70	64	64	58	44	50	50	60	53	50	40	36	36	44	57.7
	Minimum	38	42	42	40	35	40	35	28	33	35	27	31	40	30	41	36	33	38	34	27	38	34	34	30	25	39	36	30	31	30	28	34.2
Edgeley	Maximum	85	85	74	66	75	66	56	63	73	64	58	49	49	69	68	65	66	73	81	67	58	53	67	60	63	59	54	45	38	39	43	62.3
	Minimum	45	44	46	49	45	45	39	31	34	30	23	26	40	36	38	31	30	34	38	33	46	40	35	36	32	43	35	32	32	32	33	36.5
Ellendale	Maximum	83	84	60	66	74	68	54	61	73	65	57	46	49	57	68	64	66	74	78	70	66	50	67	60	60	60	48	41	39	39	41	60.9
	Minimum	40	46	44	39	35	47	34	32	35	41	28	31	46	39	38	34	28	33	32	35	50	39	37	35	29	48	40	32	33	33	32	36.9
Fessenden §§	Maximum	83	83	62	64	75	64	53	61	71	53	59	50	48	65	69	68	70	72	73	69	52	44	54	56	64	65	43	39	38	38	46	59.7
	Minimum	44	45	41	39	33	46	38	24	34	34	20	25	32	36	32	28	28	32	33	28	39	33	33	34	30	36	38	34	32	31	33	33.7
Foxholm (near)	Maximum	78	77	63	58	67	58	50	60	65	56	56	49	48	63	67	62	70	67	63	65	60	47	57	54	63	59	53	39	38	38	44	57.9
	Minimum	47	51	37	38	38	42	35	27	38	41	24	23	40	32	38	30	39	37	42	30	30	25	28	38	35	37	36	33	31	29	26	35.1
Fullerton	Maximum	83	82	61	66	75	69	54	62	71	65	58	47	49	56	67	63	66	72	79	69	67	55	66	59	60	60	52	44	39	39	42	61.1
	Minimum	42	45	49	43	34	46	39	38	32	43	26	27	44	41	36	32	32	35	33	36	49	45	37	33	32	46	38	33	33	32	36	37.6
Garrison	Maximum	80	78	70	66	73	60	50	62	71	56	58	45	47	63	69	68	70	71	67	66	59	55	60	57	63	62	48	41	39	37	44	59.8
	Minimum	44	41	41	41	40	47	35	25	35	39	25	32	35	37	34	30	34	34	38	28	39	34	37	35	30	43	38	32	32	31	28	35.3
Grafton	Maximum	83	84	76	58	70	68	56	58	72	70	59	58	53	64	68	64	66	70	76	61	58	49	52	54	64	56	53	43	41	41	42	60.9
	Minimum	44	47	45	40	31	48	42	32	41	35	29	26	44	35	35	36	28	34	33	33	43	41	41	34	34	46	41	37	36	35	34	37.4
Grand Forks	Maximum	84	84	61	55	70	65	50	59	70	67	58	56	51	58	66	62	65	72	79	63	60	51	57	56	64	57	52	44	40	42	40	59.9
	Minimum	46	45	45	40	34	39	36	34	40	38	27	28	44	40	34	32	31	37	35	31	47	42	38	36	32	49	40	35	36	36	34	37.5
Granville	Maximum	76	77	70	60	58	54	44	57	65	49	54	49	45	60	65	63	67	65	62	63	50	44	50	50	60	60	49	40	46	34	40	55.7
	Minimum	46	46	42	38	44	44	32	28	37	34	23	28	42	28	32	26	29	30	36	26	40	33	32	34	31	40	39	33	32	32	25	34.3
Hansboro	Maximum	70	80	70	60	68	63	65	65	68	60	55	65	58	64	65	64	70	67	65	62	62	58	45	55	54	55	57	52	50	50	52	61.1
	Minimum	42	45	38	35	33	34	35	27	33	28	23	20	40	30	35	35	45	30	28	25	35	34	34	30	28	30	30	33	33	33	32	33.0
Hettinger §§	Maximum	79	76	72	66	75	60	46	59	71	55	54	44	48	61	66	67	74	70	68	68	58	57	60	56	62	60	50	47	43	38	45	59.8
	Minimum	39	39	48	42	45	44	38	29	30	41	24	36	43	35	33	28	31	32	37	29	36	33	37	35	27	46	36	32	31	21	20	34.5
Hillsboro	Maximum	82	82	81	..	..	..	45	60	60	52	..	48	49	58	64	64	64	..	70	70	58	53	62	57	68	62	50	42	37	38	38	[e]58.2
	Minimum	45	44	49	..	..	..	31	32	40	41	..	26	45	45	56	32	28	..	52	35	45	43	40	34	33	48	42	34	35	33	34	[e]38.5
Howard (near)	Maximum	77	67	68	62	68	67	47	61	66	56	56	56	54	60	64	68	68	67	70	71	62	61	65	53	62	53	45	40	41	34	41	59.0
	Minimum	48	45	38	32	38	36	34	26	32	38	25	38	39	26	32	30	36	32	30	36	32	20	38	23	29	38	28	27	25	25	19	32.1
Jamestown §§	Maximum	84	84	78	70	74	65	57	61	73	61	58	48	48	61	66	64	67	73	80	67	57	50	62	58	65	56	55	43	38	38	44	61.5
	Minimum	55	41	42	40	30	50	40	29	33	39	29	25	41	41	35	31	29	31	31	34	48	28	38	34	30	43	37	31	32	31	31	36.1
Langdon §§	Maximum	78	81	60	60	69	60	45	66	68	51	57	55	51	64	65	64	65	71	67	61	45	43	44	35	55	52	42	36	37	38	43	55.7
	Minimum	40	42	41	37	34	39	40	32	35	36	23	30	30	28	29	28	29	32	33	25	26	35	34	32	30	31	36	33	31	31	30	32.6
Larimore §§	Maximum	83	86	72	58	71	65	53	63	70	61	60	52	48	64	67	64	65	74	76	65	60	47	60	55	63	54	51	41	37	39	39	60.1
	Minimum	45	47	47	40	33	49	43	34	39	42	28	28	42	39	39	36	32	32	38	33	45	40	40	38	33	46	40	36	34	34	35	38.3
Linton	Maximum	85	81	64	66	79	62	59	64	76	60	58	52	58	61	69	69	73	72	74	67	59	47	61	59	65	66	58	48	38	37	45	62.3
	Minimum	35	38	40	37	37	39	33	25	35	36	22	34	41	42	21	22	26	25	27	24	44	37	38	30	23	45	35	35	30	30	25	32.6
Lisbon §§	Maximum	86	78	56	66	75	74	54	62	72	62	58	46	49	59	65	65	67	72	67	65	69	59	67	60	63	55	55	45	39	40	41	61.0
	Minimum	45	48	49	42	32	42	42	30	39	43	28	24	44	36	35	35	28	34	34	36	37	43	40	37	31	35	36	35	34	35	36	36.9
McClusky	Maximum	80	80	68	60	73	58	51	60	70	57	50	46	50	60	68	66	70	71	68	67	56	56	55	55	63	65	54	44	31	36	44	58.9
	Minimum	42	43	44	40	38	45	31	24	40	38	24	30	40	34	33	27	31	30	39	29	40	35	35	32	28	42	35	31	31	30	25	34.4
Maddock	Maximum	80	83	77	58	76	70	53	60	69	66	56	52	49	60	67	65	70	69	67	67	64	44	50	54	68	56	57	41	37	37	42	60.1
	Minimum	42	40	41	38	32	41	36	28	35	36	22	22	40	35	32	28	28	32	30	24	40	35	37	33	32	42	37	30	30	30	33	33.6
Marmarth	Maximum	80	78	74	69	75	61	48	51	73	59	54	59	51	67	70	70	75	76	70	73	63	60	62	58	57	59	49	49	46	38	50	62.1
	Minimum	38	37	44	39	43	45	42	20	34	39	28	38	41	32	26	26	29	29	33	26	33	27	34	32	25	38	38	31	30	25	21	33.3
Minot §§	Maximum	81	80	70	61	68	62	49	62	71	65	59	52	49	65	69	67	73	70	65	66	65	50	59	59	64	64	49	41	38	39	45	60.5
	Minimum	45	43	39	40	39	42	33	26	37	37	22	34	41	30	34	26	36	35	34	25	41	29	31	35	30	39	38	35	31	31	27	34.4
Mohall	Maximum	80	80	70	70	73	68	69	68	65	66	65	60	61	60	60	58	70	72	68	65	64	65	60	60	58	58	66	61	49	48	49	63.9
	Minimum	46	44	40	43	55	54	39	26	33	34	24	29	30	31	32	30	33	35	33	40	31	28	29	31	32	33	33	31	31	28	26	34.4
Mott	Maximum	83	79	65	66	74	63	50	63	72	58	56	48	47	55	67	67	68	69	70	70	54	49	58	63	62	65	50	44	38	38	54	60.2
	Minimum	45	50	43	46	50	32	28	37	44	39	36	43	36	34	30	36	41	40	32	38	37	40	39	46	46	40	37	35	33	31	35	38.7
Napoleon §§	Maximum	84	83	62	65	78	65	56	63	73	60	59	45	53	60	69	68	72	77	77	70	60	45	59	57	65	67	45	38	35	36	47	61.1
	Minimum	47	47	48	36	37	43	34	28	33	40	24	28	35	43	34	25	31	35	37	26	45	36	36	35	30	44	33	35	30	30	31	35.4
New Salem	Maximum	85	81	69	76	73	57	57	60	74	57	64	53	47	57	67	65	70	69	71	68	51	55	59	59	64	66	55	49	39	37	46	61.3
	Minimum	47	45	48	51	50	36	35	28	40	45	39	30	42	38	37	33	35	38	34	33	35	35	35	36	32	42	39	35	32	30	26	37.5
Oakes	Maximum	83	82	77	68	76	67	57	60	72	68	58	49	48	56	67	64	67	73	75	75	68	56	69	61	61	59	52	43	39	38	40	62.2
	Minimum	39	45	51	40	33	45	39	30	40	42	25	27	42	45	32	31	29	36	34	29	48	40	39	37	27	42	38	33	33	33	34	36.7
Pembina §§	Maximum	80	81	59	57	59	58	48	56	69	57	58	57	54	61	66	60	65	66	70	60	50	45	51	52	61	56	48	44	40	41	41	57.1
	Minimum	43	41	40	39	32	34	41	27	34	36	30	25	26	34	31	35	29	30	34	35	35	40	40	33	30	34	48	37	36	35	33	34.7
Sharon	Maximum	82	84	64	59	71	65	51	61	70	61	58	53	47	62	67	64	65	72	77	64	55	45	59	55	62	53	49	38	37	39	44	59.1
	Minimum	42	43	46	38	33	46	38	33	38	39	27	31	41	41	34	32	35	34	34	31	45	38	38	33	30	42	38	32	33	32	33	36.5
Steele	Maximum	78	75	62	64	73	64	52	58	67	55	53	47	52	58	62	69	69	68	72	67	50	45	55	56	62	63	45	40	36	42	39	58.0
	Minimum	40	44	44	39	39	47	35	25	35	39	24	31	42	48	26	32	38	31	38	29	42	36	37	35	28	46	34	32	41	29	21	35.4
Towner	Maximum	81	82	82	65	71	60	50	62	70	63	58	56	51	63	69	66	71	68	67	67	63	45	54	56	64	63	56	46	38	39	47	61.1
	Minimum	43	40	40	39	38	42	31	26	36	37	22	28	42	29	31	25	33	29	34	25	40	36	33	33	29	43	33	32	33	32	26	33.5
Valley City	Maximum	85	85	75	64	76	70	60	61	71	65	59	54	47	57	68	65	68	73	80	67	66	53	64	58	64	57	53	42	39	40	41	62.2
	Minimum	43	41	50	48	29	49	41	30	30	39	23	22	41	45	36	32	25	36	28	30	43	41	40	35	28	43	40	33	33	33	35	36.2
Wahpeton	Maximum	86	90	82	66	72	75	64	65	75	76	61	57	50	52	67	64	65	74	80	70	67	66	67	66	67	65	65	44	41	40	42	65.2
	Minimum	45	49	53	41	35	42	45	27	42	50	27	29	45	46	37	34	35	41	40	35	60	44	42	39	31	60	40	35	35	35	35	40.5
Westhope	Maximum	80	81	66	62	67	57	43	61	70	54	59	57	50	66	70	68	73	67	70	67	49	45	56	58	69	59	57	44	37	39	46	59.6
	Minimum	44	42	36	41	36	37	36	27	32	37	23	26	42	28	32	27	32	31	32	24	42	31	34	35	24	42	40	33	32	32	29	33.5
Williston	Maximum	78	76	69	64	69	55	46	59	68	52	59	54	52	67	76	69	72	67	65	73	59	56	60	58	63	51	49	42	43	35	46	59.5
	Minimum	47	46	43	37	48	38	32	29	34	39	28	38	37	29	32	28	44	35	40	32	34	23	42	38	30	42	37	34	31	31	26	35.6
Moorhead, Minn	Maximum	85	86	65	63	71	69	50	66	72	69	58	50	49	52	66	62	63	71	78	65	66	58	65	60	65	58	58	43	40	40	40	61.2
	Minimum	45	46	51	42	33	49	38	32	41	43	31	31	46	41	34	37	34	39	36	40	49	44	43	39	34	50	40	35	37	36	37	39.8

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 12 2 31 [illegible]]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

OF THE
UNIVERSITY OF ILLINOIS

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXX   Bismarck, N. D., November, 1931   No. 11

GENERAL SUMMARY

Mild temperatures prevailed in all sections during the first two decades and during this period only light scattered precipitation occurred. The last decade was much colder with light to heavy snow over most sections. During the first mentioned period, highways were in excellent condition and livestock ranged freely on ranges, pastures and harvested fields. Corn picking and other late farm work made excellent progress. During the last decade, however, yard feeding of livestock was necessary in many localities and many sideroads and a few main highways were blocked with snow.

TEMPERATURE

The mean temperature for the state was 30.3°, or 2.9° above the normal, and 0.9° higher than the mean for November, 1930. The highest mean reported was 36.6° at Amenia, Cass County; the lowest was 26.2° at Wishek, McIntosh County. The highest temperature reported was 78° on the 2d, 6th and 8th, at four stations in the western part of the state; the lowest was -10° on the 21st and 27th at three stations in the extreme northern part of the state. The greatest monthly range of temperature was 88° at Portal, Burke County; the least was 62° at Hillsboro, Traill County. The greatest daily range in temperature was 57° at Dickinson, Stark County on the 6th.

PRECIPITONATI

The average precipitation for the state was 0.55 inch, or 0.06 inch below the normal, and 0.32 inch less than the average for November, 1930. The greatest monthly amount reported was 1.77 inches at Grand Forks, Grand Forks County; there was none at Sanish, Mountrail County, and Turtle Lake, McLean County. The greatest amount recorded in any 24 consecutive hours was 0.90 inch at Minot, Ward County on the 21st, and at Richardton, Stark County on the 26th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 5.0 inches.

AURORAS

Auroras were observed at Crosby and Foxholm on the 2d; at Crosby, Devils Lake, Eckman, Foxholm and Tagus on the 3d; at Crosby, Foxholm, Pembina and Velva on the 4th; at Bottineau, Crosby, Foxholm, Pembina, Sanish, Velva and Williston on the 5th; at Bottineau, Foxholm, Napoleon and Sanish on the 6th; at Devils Lake and Moorhead on the 7th; at Ellendale, Napoleon and Pembina on the 8th; at Foxholm and Tagus on 9th; at Eckman and Foxholm on the 10th; at Crosby on the 11th; at Crosby and Foxholm on the 12th; at Bottineau, Eckman and Foxholm on the 13th; at Howard on the 14th; at Foxholm and Hettinger on the 16th; at Howard on the 19th and 21st; at Bottineau on the 25th and 26th; and at Eckman on the 27th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Wind					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
								Average	Highest*	Direction	Date
Bismarck	30.02	30.55	5	29.41	16	57	5,115	7.1	29§	nw.	24
Devils Lake	29.99	30.52	5	29.36	16	41	5,971	8.3	28§	nw.	24
Ellendale	30.01	30.52	5	29.41	16	56	8,159	11.4	41§	nw.	24
Grand Forks	29.95	30.50	26	29.40	20	90	......	.....	48	nw.	24
Williston	30.03	30.58	21	29.70	16	48	4,644	6.4	30§	w.	6
Moorhead, Minn	29.98	30.55	26	29.32	20	58	5,563	7.7	28§	nw.	24
Av'ges and extremes	29.99	30.58	21	29.32	20	......	......	8.2	48	nw.	24

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. c't.	Average per cent			Lowest observed	Date
					7 a. m.	Mean noon	7 p. m.		
Bismarck	158.2	281.1	56	+ 5	84	64	70	32	2
Devils Lake	158.3	278.2	57	+ 7	88	69	78	40	4
Ellendale	170.6	284.1	60	+ 9	87	67	...	27	7
Grand Forks	......	......	....	....	88	....	77	....	....
Williston	149.8	278.2	54	+ 7	80	58	62	36	6
Moorhead, Minn	115.4	281.1	41	− 7	89	69	76	35	8
Averages and extremes	150.5	280.5	54	+ 4	86	65	73	27	7

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891	20.5	−6.9	71	−35	0.86	+0.25	4	12	8	10	nw.
1892	22.3	−5.1	75	−26	0.79	+0.18	4	8	9	13	nw.
1893	22.4	−5.0	74	−27	0.57	−0.04	3	9	0	11	nw.
1894	23.1	−4.3	71	−25	0.47	−0.14	4	10	8	12	nw.
1895	20.6	−6.8	76	−25	1.08	+0.47	5	8	9	13	nw.
1896	8.1	−19.3	62	−32	2.23	+1.62	9	8	7	15	nw.
1897	20.0	−7.4	86	−28	0.32	−0.29	3	12	9	9	nw.
1898	23.0	−4.4	69	−30	0.34	−0.27	3	13	8	9	s.
1899	36.0	+8.6	68	2	0.31	−0.30	2	15	4	11	nw.
1900	20.4	−7.0	64	−29	0.32	−0.29	5	14	7	9	nw.
1901	26.8	−0.6	70	− 7	0.19	−0.42	1	15	8	7	nw.
1902	29.6	+2.2	69	−12	0.24	−0.37	3	11	6	13	nw.
1903	25.3	−2.1	78	−20	0.26	−0.35	2	13	4	13	nw.
1904	35.7	+8.3	80	−10	0.09	−0.52	1	18	5	7	nw.
1905	31.6	+4.2	88	−38	1.54	+0.93	9	7	13	10	nw.
1906	23.8	−3.6	68	−16	1.62	+1.01	7	10	7	13	nw.
1907	30.2	+2.8	85	−15	0.09	−0.52	1	16	8	6	nw.
1908	31.1	+3.7	75	−15	0.97	+0.36	4	12	8	10	nw.
1909	29.4	+2.0	88	−23	0.43	−0.18	3	11	9	10	nw.
1910	23.9	−3.5	68	−23	0.37	−0.24	2	8	10	12	nw.
1911	16.7	−10.7	58	−33	0.65	+0.04	6	12	8	10	nw.
1912	31.8	+4.4	70	1	0.06	−0.55	1	14	9	7	nw.
1913	34.1	+6.7	77	− 2	0.22	−0.39	2	15	8	7	nw.
1914	30.7	+3.3	83	−30	0.35	−0.26	2	13	10	7	nw.
1915	28.1	+0.7	71	−10	0.91	+0.30	4	10	10	10	nw.
1916	28.8	+1.4	75	−18	0.24	−0.37	2	16	8	6	nw.
1917	36.8	+9.4	77	− 7	0.14	−0.47	1	16	6	8	nw.
1918	28.9	+1.5	71	−18	1.04	+0.43	4	13	6	11	nw.
1919	15.6	−11.8	57	−36	1.16	+0.55	5	11	8	11	nw.
1920	28.0	+0.6	65	−14	0.37	−0.24	3	10	9	11	nw.
1921	21.0	−6.4	69	− 30	0.68	+0.07	5	7	8	15	nw.
1922	31.8	+4.4	65	− 8	2.33	+1.72	6	7	7	16	nw.
1923	36.5	+9.1	72	− 5	0.50	−0.11	3	13	8	9	nw.
1924	27.6	+0.2	69	−15	0.18	−0.43	2	11	9	10	nw.
1925	28.8	+1.4	69	−17	0.25	−0.36	2	14	8	8	nw.
1926	21.5	−5.9	68	−23	0.65	+0.04	5	6	7	17	nw.
1927	20.7	−6.7	59	−24	0.70	+0.09	6	7	8	15	nw.
1928	31.0	+3.6	70	−11	0.48	−0.13	1	15	8	7	nw.
1929	24.8	−2.6	70	−21	0.53	−0.08	5	9	8	13	nw.
1930	29.4	+2.0	72	−21	0.87	+0.26	5	13	7	10	nw.
1931	30.3	+2.9	78	10	0.55	−0.06	3	13	7	10	nw.
Av.	27.4	.....	88	−38	0.61	.....	4	12	8	10	nw.

Climatological Data for November, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		5								0.11		0.06	1.1	2					H. A. Bury.
Amenia	Cass	954	35	36.6	+8.6	70	5†	-2	26	38	1.05	+0.40	0.70	10.5	1	2	18	10	nw.	I. Idso.
Amidon	Slope		16																	R. R. Beebe.
Arnegard (near)	McKenzie		18	30.4	+2.1	70	6	-3	18	39	0.35	-0.05	0.20	3.5	3	18	3	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	31.2	+3.2	70	2	5	25	36	1.26	+0.63	0.56	18.5	7	11	5	11	nw.	H. D. Piper.
Beach	Golden Valley	2,759	25	30.6	-0.4	73	8	0	28	42	0.13	-0.40	0.12	1.3	2	15	6	9	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	29.2	+0.7	72	6	5	24	41	0.03	-0.41	0.03	0.5	1	13	2	15	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	31.1	+2.6	74	2	3	28	39	0.25	-0.32	0.17	4.2	4	14	7	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	29.2	+5.6	67	2	-6	27	40	0.02	-0.51	0.02	0.1	2	5	20	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	17	30.4	-0.2	72	2†	3	21†	43	0.31	-0.07	0.10	3.2	6	14	10	6	nw.	George Larsen.
Cando	Towner	1,488	30	29.7	+3.2	66	2	3	27	37	0.40	-0.13	0.40	4.0	1	12	3	15	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	28.4	+0.6	71	7	-8	27	44	1.00	+0.45	0.40	10.0	5	18	1	11	nw.	L. A. Swanson.
Carson	Grant	2,500	19	30.6	+0.6	72	2†	0	21	44	0.66	+0.05	0.16	5.0	6	16	4	10	nw.	J. W. Evens.
Cavalier	Pembina	894	21								0.76	-0.07	0.40	3.6	5	22	1	7	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	34								0.70	0.00	0.28	7.0	3	19	1	10	nw.	Theo. Marquardt.
Corinth	Williams	2,180	3								0.04		0.02	0.4	3	14	6	10	nw.	W. A. Clem.
Courtenay	Stutsman	1,523	2								1.00		0.37	10.0	4					O. J. Larson.
Crosby	Divide	1,954	24	27.2	+0.5	64	2†	6	22†	45	0.10	0.55	0.10	1.0	1	8	13	9	sw.	John Jensen.
Devils Lake	Ramsey	1,478	34	29.9	+4.5	68	2	2	25	31	0.48	-0.48	0.38	5.1	6	7	11	12	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	29.0	+0.7	78	8	1	28†	57	0.38	-0.14	0.19	3.8	7	8	11	11	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	30.7		67	2†	3	24	35	0.10		0.10	1.0	1	13	9	8	nw.	R. L. Williams.
Drake	McHenry	1,634	2																	J. Rindt.
Dunn Center	Dunn	2,191	32	30.3	+2.4	73	8	3	18	14	0.17	-0.40	0.17	2.0	1	12	4	11	w.	W. F. Moede.
Dunseith	Rolette	1,682	35	28.8	+4.4	66	2	0	24	25	0.06	-0.45	0.05	0.6	2	8	8	14	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	28.0	+2.2	70	6	-10	27	44	0.01	-0.57	0.01	0.5	1	6	17	7	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	30	32.6	+2.8	73	2	4	25	40	0.70	+0.23	0.40	7.0	2	9	11	7	nw	O. A. Thompson.
Ellendale	Dickey	1,449	36	30.8	+4.7	72	2†	-2	25	42	0.73	-0.01	0.29	6.5	8	9	8	13	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	19	31.6		71	2†	5	25†	42	0.38	+0.01	0.39	5.0	2	7	17	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	23																	A. O. Wang.
Fairfield	Billings		2								0.40		0.10	4.0	4	13	9	8	nw.	F. R. Hecker.
Fessenden	Wells	1,610	19	29.8	+2.7	73	8	1	28	44	0.74	-0.02	0.47	8.0	4	22	2	6	nw.	T. D. Monsen.
Forman	Sargent	1,249	38								0.72	+0.08	0.30	1.8	7	17	5	8	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	31	33.6	+3.8	78	6	1	20†	50	0.60	+0.05	0.40	6.0	2	13	8	9		P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	28.4		67	2†	4	27†	37	0.17	-0.50	0.12	2.0	5	11	8	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13								0.30	-0.34	0.20	3.0	3	13	11	6	nw.	Verne King.
Fullerton	Dickey	1,439	33	31.4	+2.2	71	2	-1	25	40	1.54	+0.69	0.85	13.7	6	15	8	7	nw.	F. O. Alin.
Gackle	Logan	1,951	1								1.48		0.85	13.5	5	13	7	10	sw.	Geo. Hummel.
Garrison	McLean	1,901	51	30.6	+4.3	70	2†	2	28	42	0.05	-0.50	0.05	0.5	1	15	7	8	nw.	W. F. Robinson.
Grafton	Walsh	827	39	32.0	+7.3	67	2	1	25	35	1.70	+0.76	0.72	13.8	4	18	4	8	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	40	31.3	+5.3	69	8	-4	25	33	1.77	+0.96	0.88	10.9	4	6	9	15	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	29.2	+2.5	70	3	2	24	40	0.10	-0.51	0.10	1.0	1	16	5	9	nw.	W. A. Christianson.
Hankinson	Richland	1,068	2	34.4		74	7	1	28	42	0.65		0.38	5.6	5	17	1	12	w.	R. G. Stock.
Hannah	Cavalier	1,568	39								0.41	-0.37	0.33	4.1	3					James Meier.
Hansboro	Towner	1,597	23	28.2	+4.7	65	7	-7	27	40	0.20	-0.39	0.15	4.0	2	17	6	7	sw.	C. F. Blackorby.
Hettinger	Adams	2,675	24	30.3	-1.3	73	7	4	28	41	0.25	-0.19	0.09	2.3	5	15	4	11	nw.	C. H. Plath.
Hillsboro	Traill	901	25	31.0	+3.2	61	7†	-1	25	36	1.49	+0.58	0.66	8.6	3	9	11	10	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	24	27.8	+1.5	67	7†	-3	27	48	T.	-0.61	T.	T.	0	11	10	9	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	39	31.4	+4.1	70	2†	0	28	38	1.42	+0.70	0.50	14.2	4	10	10	10		S. Calvelage.
Langdon	Cavalier	1,615	35	26.7	+2.7	60	8	-5	25†	28	0.70	-0.13	0.50	7.0	2	18	6	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,131	38	30.6	+4.8	68	8	-4	25	35	1.24	+0.57	0.42	11.0	6	10	10	10	nw.	May Walsh.
Linton	Emmons	1,711	14	30.5	+1.5	73	2	-9	28	46	0.26	-0.30	0.20	5.0	6	11	12	7	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	27	32.4	+3.5	70	2†	0	29	37	1.16	+0.43	0.64	11.6	5	13	2	15		N. S. Lindstrom.
McClusky	Sheridan	1,943	13	31.5		72	8	3	24	37	0.45	0.26	0.20	4.5	3	11	7	12	nw.	Edw. Tapley.
McLeod	Ransom	1,075	20	33.0	+2.7	70	2†	1	29	38	0.82	+0.09	0.39	8.2	5	20	2	8	sw.	J. G. Carlson.
Maddock	Benson	1,604	16	30.4	+6.8	72	8	2	24	42	0.08	0.46	0.08	0.8	1	10	8	12	nw.	A. T. Felland.
Mandan	Morton	1,750	17	30.6	+1.4	71	2†	3	28	41	0.47	-0.05	0.19	7.3	7	16	0	14	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28								0.70	-0.42	0.15	3.9	4					P. B. Anderson.
Marmarth	Slope	2,714	22	30.1	-1.3	73	2	3	22	42	0.42	+0.01	0.12	3.1	5	11	7	12		S. P. Grane.
Mary	McKenzie		2																	Fred Hartman.
Max	McLean	2,093	2	29.1^{d}		73	5	0	23†	57	0.20		0.20	2.0	1	12	2	16		A. W. Rice.
Mayville	Traill	975	35	31.8	+3.6	69	2	-4	25	39	1.00	+0.21	0.49	3.1	4	7	9	14	n	H. B. Addicott.
Minot	Ward	1,557	35	30.6	+3.1	70	6	-1	27	30	0.95	+0.28	0.40	1.9	2	15	3	12	w.	Julia B. Rue.
Mohall	Renville	1,646	37	29.4	+4.6	68	6†	8	27	37	0.10	-0.50	0.10	0.5	1	4	20	6	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	24	31.7	+2.5	72	2	6	21	37	0.46	-0.09	0.21	5.0	3	12	7	11	nw.	O. H. Opland.
Napoleon	Logan	1,955	39	29.8	+3.1	71	2	-7	25	36	1.38	+0.73	0.70	13.0	6	12	8	10	sw	C. J. Hoof.
New England	Hettinger	2,400	37																	F. S. Sleight.
New Salem	Morton	2,163	27	32.0	+2.2	73	2†	1	28	43	0.24	-0.25	0.16	4.0	6	13	8	9	nw.	J. Christiansen.
Oakes	Dickey	1,318	2	31.8		73	2	3	25†	41	0.78		0.35	5.5	6	8	9	13	sw.	Eugene Naylor.
Park River	Walsh	998	27	30.8	+3.0	62	8	-3	25	30	0.40	-0.38	0.20	6.5	3	9	8	13	nw	C. B. Wright.
Parshall (near)	Mountrail		16	30.2		69	6	-1	27	41	0.48	+0.19	0.25	4.7	4	7	17	6	nw.	C. E. Shubert.
Pembina	Pembina	789	57	29.3	+6.0	66	2	-1	28	37	0.85	+0.06	0.62	5.0	6	5	15	10	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	1								1.05		0.30		7	12	10	8	w.	T. M. Rykken.
Pettibone	Kidder	1,856	22																	A. L. Carlson.
Portal	Burke	1,954	26	28.0	+2.6	78	2	10	21	51	T.	-0.58	T.	T.	0	11	1	13	nw.	C. T. Holmes.
Power‡‡	Richland	1,020	37								1.30	+0.55	0.70	10.0	4	12	6	12	n.	Frank B. Power.
Powers Lake	Burke	2,205	26	24.8		70	1	0	11†	35	0.02	-0.56	0.02	0.4	1	22	5	3	e.	Geo. B. Gee.
Richardton	Stark	2,467	15	29.8	+1.5	78	8	1	28	45	1.15	+0.69	0.90	11.5	2	18	5	7	nw.	John Muggli.
Rugby (near)	Pierce	1,562	2								0.25		0.25	2.5	1	10	12	8	nw.	E. C. Erickson.
Ryder	Ward	2,108	2								0.23		0.20	T.	3					S. C. Schellenbaum.
Sanish	Mountrail	1,835		28.2		70	7	0	27	42	0.00		0.00	0.0	0	3	3	24	nw.	H. W. Monsen.
Sharon	Steele	1,516	7	29.6		67	8	-5	28	31	1.38		0.47	11.3	9	13	7	10	nw.	Nels O. Greisheim.
Stanton	Mercer	1,722	7								0.25		0.15	5.0	2	15	5	10	nw.	J. H. Giffey.
Steele	Kidder	1,857	37	29.2	+2.9	72	5	-1	28	54	0.47	-0.15	0.24	7.8	7	12	4	14	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	16								0.18	-0.19	0.10	1.0	2	18	3	9		Thos. D. Alkire.
Tagus	Mountrail	2,179	2																	J. C. Abbott.
Tioga	Williams	2,279	2								0.01		0.01	0.1	1	9	8	13	nw.	Anton Carlson.
Towner	McHenry	1,482	29	30.8	+5.6	70	6	1	24†	40	0.33	-0.26	0.30	4.5	2	16	6	8	nw.	Karl Weber.
Trotters	Golden Valley		5								0.20		0.13	3.0	3	9	8	13		A. J. Nellermoe
Turtle Lake	McLean	1,899	17								0.00	-0.40	0.00	0.0	0					E. T. Kusler.
Valley City	Barnes	1,245	25	31.3	+3.3	68	2	2	29	37	1.50	+0.79	0.55	13.5	6	13	5	12	w.	I. C. Robertson.
Velva	McHenry	1,511	4	30.6		69	2†	4	24	40	0.05		0.05	0.5	1	7	12	11	w.	Oscar Anderson.
Verona	LaMoure	1,387	3								0.67		0.40	4.0	5	17	0	13	sw.	W. C. Taylor.
Wahpeton	Richland	962	39	35.6	+6.8	72	7†	3	26	38	1.09	+0.37	0.50	8.0	5	18	0	12	se.	C. G. Luick.
Washburn	McLean	1,731	30	31.8	+1.5	73	8	-1	24	41	0.14	0.38	0.01	3.5	3	13	6	11	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	29.0	+3.4	68	2†	-16	27	40	0.11	-0.44	0.06	1.1	2	12	14	4	nw.	C. M. Condit.
Williston	Williams	1,878	52	29.0	+1.8	68	6	2	27	37	0.05	-0.53	0.02	0.7	3	14	5	11	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	28.6	+6.0	67	2†	-6	27	40	0.20	0.30	0.20	2.0	1	21	7	2	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	2	26.2^{e}	-3.6	71^{e}	2	-5	25	48^{e}	0.83	+0.31	0.32	8.3	5	5	0	25	nw.	E. W. Davis.
Zap	Mercer	1,838	16								0.17	-0.16	0.17	1.7	1					R. A. Norton.
Moorhead, Minn.	Clay	935	50	33.0	+5.9	69	8	1	29	34	1.57	+0.67	0.84	11.1	7	7	8	15	s.	U. S. Weather Bureau.
Averages				30.3	+2.9	78	2†	-10	21†	57	0.55	-0.06	0.90	5.0	3	13	7	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for November, 1931

Stations	Drainage Basin	Day of Month																														Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri																																
Amenia ‖	Red																										.05						0.11
Amidon	Lit. Missouri																				.50	T	.05	.08	.22					T			[illegible]
Arnegard (near)	Missouri																																...
Ashley	Missouri									T								.20	.10		T	[illegible]				T							0.35
Beach ‖	Lit. Missouri									.01											.15	[illegible]			.56		[illegible]	.10					[illegible]
Berthold Agency	Missouri																				.01		T		T		.12						[illegible]
Bismarck ***	Missouri									T								T			T	T				T	[illegible]						[illegible]
Bottineau ‖	Mouse									T		T								T	T	.01		.01	T	T	.17	T		T			[illegible]
Bowman	Grand															T	.02			T		[illegible]		T	T				T	T			[illegible]
Cando	Devils Lake									[illegible]											.05	.06	.01				.03	.10					0.31
Carrington ‖	James																T				T	.40							T				0.40
Carson	Heart														T							.10		.30	.10		.40	.10					[illegible]
Cavalier	Red									.16											.10	.05	.05				.15	.15					0.66
Cooperstown	Sheyenne																			.01	.40	.12	[illegible]			[illegible]							0.76
Corinth	Missouri											T					T				T	.28	T			.25		.17	T		T		0.70
Courtenay	James																		.01	.01	.02												0.04
Crosby ‖	Mouse																					.20		.08		.35		.37					[illegible]
Devils Lake ***	Devils Lake																			.10													0.10
Dickinson ‖	Heart									T			T		T	T	T		T	T	.22	[illegible]	.01	[illegible]	[illegible]		.01	T	T	T	T		[illegible]
Dogden Butte	Mouse									T	.07							T			.01	.01	.01	T	.01	T	.19	.08	T				0.38
Drake ‖	Mouse																T					.10			T		T	T					0.10
Dunn Center ‖	Knife																																.....
Dunseith	Mouse																								T	T	.17						0.17
Eckman	Mouse																			.05		.01											0.06
Edgeley	James																T					.01											0.01
Ellendale ***	James																					.30				.40							0.70
Energy	Missouri									.01					T		T	T			.26	.04	.13	.17	.05		.06	.01			T		0.73
Epping	Missouri																				T	.30					.08						0.38
Fairfield	Knife																																.....
Fessenden ‖	James																				.10	.10				.10	.10						0.40
Forman	Sheyenne									.03												.47		.05			.05	.17					0.74
Fort Yates	Missouri											T			T						.30	T	.10	.07	.15		.07	.02					0.72
Foxholm (near)	Mouse											T											.20	.40		T							0.60
Fryburg	Heart																.02		.03		T	.12			T								0.17
Fullerton	James																				.05	T	.05	T	T	.20							0.30
Gackle	James									.04					T	T					.23		.15	T	.85		.15	.12	T				1.54
Garrison	Missouri																				.35		.06		.85		.19	.03					1.48
Grafton	Red																				T	.05					T	T					0.05
Grand Forks ***	Red															T	T				.13	.72		T	.57		T		.08				1.50
Granville	Mouse									T		T			T						.88	.29	T	T	.50		.10	T	T				1.77
Hankinson ‖	Red															T	T		T	T	.10	T											0.10
Hannah	Pembina			T																	.38	.20	.01		.01		.05						0.65
Hansboro	Devils Lake																T	T		.05		.33	.03	T	T	T	T	T	T				0.41
Hettinger ‖	Grand																			.15		.05											0.20
Hillsboro	Red									.05											.04	T	.09		T		.03	.04					0.25
Howard (near)	Missouri																				.63	.20					.66						1.49
Jamestown ‖	James																T		T	T	T	T		T	T	T		T					T
Langdon ‖	Pembina																					.35		.12		.45		.50					1.42
Larimore ‖	Red																					.50			.20								0.70
Linton	Missouri												.05								.35	.42			.33		.07	.02					1.24
Lisbon ‖	Sheyenne									T		.03	T									.01	.26	.04			.07	.01					0.36
McClusky	Missouri																				.64	.15			.30		.02	.05					1.16
McLeod	Sheyenne									T												.20					.05	.20					0.45
Maddock	Sheyenne									T											.39	.12	.07		.18			.06					0.82
Mandan ‖	Missouri																					.08		T			T	T					0.08
Manfred	James										T	T				.02	T					T	.02	.03	.15	.01	.05	.19			T		0.47
Marmarth	Lit. Missouri															T						.15				.02	.10	.03					0.30
Mary	Lit. Missouri									.12												.10	.10	T			.08	.02					0.42
Max ‖	Missouri																																.....
Mayville	Red																					.20											0.20
Minot ‖	Mouse															T	.20				.49	.16						.15					1.00
Mohall	Mouse																		T	.05		.90		T									0.95
Mott	Cannon Ball																			T	T	.10	T		T								0.10
Napoleon ‖	Missouri									.06											.19	T			T		.21						0.46
New England	Cannon Ball												.08									.20		.10	.70		.10	.20					1.38
New Salem	Heart																																.....
Oakes	James									.01						T					.02	.02	.01	T	T	T	.16	.02					0.24
Park River	Red									.03			T								.35	T	.10		.20		.05	.05					0.78
Parshall (near)	Missouri																				.20	.10			.10				T				0.40
Pembina ‖	Red																		.02		.01	.20			.25								0.48
Petersburg	Red															T	T			T		.62	.03	.06	.10	.01			.03		T		0.85
Pettibone	James												T		.01	T	.02				.20	.40		.03	.37		.05						1.08
Portal ‖	Mouse																																.....
Power	Sheyenne																	T			T												T.
Powers Lake	Missouri					T														.50	.20	.10			.50		T	T		T			1.30
Richardton	Heart															.02																	0.02
Rugby [near]	Mouse									T											.25						.90						1.15
Ryder	Missouri																				.25			T									0.25
anish ‖	Missouri																		.01		.20	.02	T	T									0.23
haron	Red																																0.00
tanton	Missouri											T	.01		T	.01	T				.47	.31	.05	.08	.27		.10	.08	T				1.38
teele	Missouri																				.10						.15						0.25
towers	Cannon Ball									T		.02	.03									.02	.05	.02			.09	.24					0.47
agus	Mouse									.08												T	.10										0.18
ioga	Missouri																		.01														0.01
owner	Mouse															T			.03			.30		T				T					0.33
rotters	Lit. Missouri																		.02			.05					.13						0.20
urtle Lake	Missouri																																0.00
alley City	Sheyenne																				.55	.27	.02	T	.45		.03	.18					1.50
elva	Mouse																T		T	T		.05	T		T		T		T				0.65
erona	James																					.40	.16	.03	.06	.02							0.67
ahpeton	Red															.02					.56	.32			.15			.10					1.09
ashburn	Missouri															T						.02					.09	.03					0.14
esthope	Mouse											T					.05		T	T		.06			T								0.11
illiston ***	Missouri																T	.02			T	T		.01	T	.02		T					0.05
illow City	Mouse																T		T	.20		T											0.20
ishek ‖	Missouri																					.18		.13	.32		.10	.10					0.83
ap	Knife																										.17						0.17
oorhead, Minn ***	Red									T		T			T	T	T		T		.65	.23	.03	.23	.29		.06	.08	T	T	T		1.57

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of
bservation. ‖‖ Precipitation measured in the morning: amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station: precipitation is for the
-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	60	67	68	69	70	68	69	70	59	63	60	56	64	63	55	50	44	37	38	35	38	34	32	26	30	26	30	28	30	34	....	49.1
	Minimum	30	31	32	41	38	35	36	33	26	28	32	28	26	33	43	29	19	18	22	20	22	21	20	14	-1	-2	6	0	20	25	....	24.2
Arnegard (near)	Maximum	61	69	62	53	50	70	67	69	46	59	39	47	55	59	57	33	27	28	37	32	14	12	19	22	21	20	21	25	38	33	....	43.2
	Minimum	24	41	27	24	11	31	37	38	24	26	19	20	27	22	22	20	5	-3	0	14	5	0	3	5	14	7	0	3	15	21	....	17.7
Ashley	Maximum	53	70	66	50	46	61	69	65	56	47	50	45	58	54	52	46	42	37	33	34	33	19	20	18	20	19	25	21	29	32	....	42.3
	Minimum	28	31	32	27	18	28	36	32	34	17	25	23	26	27	32	27	20	14	17	16	11	12	13	6	5	13	16	0	2	23	....	20.1
Beach	Maximum	64	72	64	57	56	69	66	73	43	45	41	44	58	59	47	37	29	41	42	36	14	13	22	30	32	27	20	23	33	28	....	42.8
	Minimum	24	40	27	24	14	36	44	43	24	18	26	26	29	22	23	21	11	9	9	10	4	1	10	13	7	3	10	0	12	15	....	18.3
Berthold Agency	Maximum	56	53	70	55	50	72	48	65	43	45	40	60	55	55	35	32	25	32	38	32	22	17	20	25	24	24	20	25	38	35	....	40.4
	Minimum	21	28	28	24	14	28	30	35	24	22	19	16	20	17	25	22	10	7	15	20	10	7	15	5	14	15	10	8	12	18	....	18.0
Bismarck	Maximum	52	74	52	56	46	71	71	67	40	46	37	47	57	53	41	37	28	34	34	36	18	17	22	18	24	20	20	16	35	34	....	40.3
	Minimum	32	36	32	29	22	32	39	38	29	26	27	27	29	27	31	24	18	15	19	18	11	12	15	7	7	17	5	3	13	16	....	21.9
Bottineau §§	Maximum	46	67	62	59	54	64	64	66	61	41	45	45	51	52	48	45	34	28	29	37	35	29	21	20	21	19	18	18	35	34	....	41.6
	Minimum	25	30	26	22	14	27	28	29	34	21	26	15	19	29	31	25	6	16	8	19	8	18	11	-2	2	1	-6	0	8	23	....	16.9
Cando	Maximum	48	66	63	50	49	55	63	62	54	47	44	40	51	51	49	38	44	30	31	30	29	26	22	20	21	22	21	21	28	35	....	40.3
	Minimum	31	29	31	28	19	29	34	36	33	21	28	22	25	23	21	29	14	15	18	18	12	14	17	6	0	4	-3	2	7	10	....	19.1
Carrington §§	Maximum	68	51	54	46	65	69	71	41	49	41	46	57	43	51	41	26	34	31	31	16	19	20	10	20	19	16	20	34	31	30	....	38.3
	Minimum	30	33	29	20	21	28	37	34	26	26	25	26	26	26	32	21	13	16	15	11	11	11	7	2	7	1	8	2	19	9	....	18.5
Crosby §§	Maximum	54	64	46	42	44	64	62	52	46	53	47	63	59	56	46	37	28	26	31	32	16	16	22	16	17	26	22	28	37	29	....	39.4
	Minimum	32	38	30	24	15	32	32	35	25	22	12	18	24	22	19	16	4	8	5	12	2	-6	6	-1	1	10	-2	6	8	9	....	14.9
Devils Lake	Maximum	48	66	50	50	42	56	64	68	42	47	39	41	55	54	47	42	24	32	29	32	23	18	20	14	21	21	17	19	35	33	....	38.3
	Minimum	31	36	31	26	22	31	41	37	35	26	26	26	29	29	40	23	18	16	19	18	12	11	14	5	2	6	5	5	10	16	....	21.5
Dickinson §§	Maximum	61	71	51	57	56	71	68	78	39	46	39	41	58	59	29	35	23	40	41	33	10	15	22	25	28	19	17	21	33	30	....	40.6
	Minimum	23	28	28	28	13	14	38	37	34	20	22	22	23	21	21	21	14	7	8	10	6	6	9	7	9	16	11	1	1	21	....	17.3
Dunn Center §§	Maximum	60	70	56	54	57	69	70	73	46	43	40	45	58	55	38	34	24	36	40	32	15	18	22	18	25	31	21	24	37	36	....	41.6
	Minimum	22	50	36	23	13	45	32	35	30	21	17	29	25	20	18	21	10	3	8	9	4	5	4	10	11	13	6	11	12	16	....	19.0
Dunseith	Maximum	44	66	56	49	44	55	65	56	43	48	42	42	48	49	44	34	29	29	20	31	28	15	23	20	20	18	16	58	35	34	....	38.7
	Minimum	27	31	34	22	20	25	34	42	31	20	32	17	23	27	32	25	8	11	10	12	9	6	11	0	2	10	2	10	25	7	....	18.9
Edgeley	Maximum	67	73	56	54	48	64	70	68	68	52	47	48	61	54	53	55	40	46	30	33	33	24	21	19	16	19	25	20	29	33	....	44.2
	Minimum	30	37	29	27	23	24	39	35	36	22	25	25	27	26	25	30	19	15	18	14	15	14	18	3	-4	10	16	5	7	24	....	21.1
Ellendale	Maximum	49	72	53	54	46	62	72	63	45	46	47	48	57	47	56	45	42	38	33	33	27	21	21	19	14	22	23	17	34	33	....	41.3
	Minimum	29	30	29	29	24	27	32	31	30	20	28	26	22	30	33	27	19	19	18	17	15	16	18	-1	2	11	4	0	5	23	....	20.4
Fessenden §§	Maximum	51	70	52	55	48	68	70	73	45	49	40	42	58	52	49	40	24	31	30	32	16	20	22	14	25	26	18	24	37	33	....	40.5
	Minimum	28	35	32	25	19	24	34	32	32	24	24	23	27	25	26	33	17	15	16	15	10	11	13	3	2	5	0	-1	4	24	....	19.2
Foxholm (near)	Maximum	51	67	50	52	40	67	65	57	46	42	41	44	52	49	41	32	26	27	32	30	27	16	22	21	23	20	18	25	37	35	....	38.5
	Minimum	24	40	29	26	17	30	41	35	34	25	22	21	30	18	25	21	5	5	7	22	8	3	12	0	8	8	-4	4	17	23	....	18.4
Fullerton	Maximum	48	71	56	52	44	59	70	62	52	44	42	47	55	48	54	48	39	36	32	33	33	26	22	20	16	22	24	15	34	34	....	41.3
	Minimum	29	31	35	29	24	27	32	32	34	21	28	27	24	28	35	30	20	19	18	18	14	15	18	5	-1	13	12	3	5	21	....	21.5
Garrison	Maximum	53	70	53	54	54	70	67	68	46	45	42	46	58	54	41	32	22	32	36	35	23	18	24	23	23	24	20	24	38	35	....	41.0
	Minimum	28	35	31	28	17	28	35	35	35	22	23	21	28	27	29	20	12	12	15	22	10	10	15	1	4	15	11	2	10	25	....	20.3
Grafton	Maximum	47	67	61	52	47	48	62	66	54	49	43	45	55	51	49	47	42	32	30	34	35	21	25	25	17	22	20	22	37	36	....	41.4
	Minimum	30	34	39	30	28	29	34	31	38	21	31	28	25	27	43	35	19	18	21	25	18	10	20	7	1	0	6	2	4	22	....	22.5
Grand Forks	Maximum	47	68	53	54	45	47	62	69	44	50	47	46	55	52	50	48	31	32	30	37	33	23	24	21	15	20	18	18	32	30	....	40.0
	Minimum	31	35	32	29	27	30	36	36	38	26	35	29	26	33	44	31	21	18	17	26	19	18	21	13	4	0	0	-2	2	12	....	22.6
Granville	Maximum	65	47	70	50	42	66	63	52	37	44	47	43	53	55	40	35	18	32	29	21	25	21	24	20	30	23	21	23	40	37	....	39.1
	Minimum	25	30	30	24	16	29	37	34	25	34	27	23	29	22	27	15	9	9	7	10	9	10	17	2	5	7	4	5	20	26	....	19.2
Hansboro	Maximum	55	55	50	50	48	50	65	55	45	50	50	42	50	50	54	45	30	22	26	30	26	26	22	12	12	20	24	30	32	35	....	38.7
	Minimum	26	40	33	27	20	24	25	33	32	20	26	20	25	20	35	26	8	4	8	15	10	9	9	1	-5	7	-7	7	10	20	....	17.6
Hettinger §§	Maximum	62	72	55	55	51	71	73	64	51	49	40	46	60	57	38	38	36	41	39	33	18	13	21	28	28	21	18	21	34	30	....	42.1
	Minimum	26	36	28	20	13	30	38	32	32	21	23	22	26	18	23	25	20	8	14	15	5	6	10	11	7	17	6	4	10	10	....	18.5
Hillsboro	Maximum	51	60	60	58	41	54	61	58	49	40	45	61	60	60	60	49	47	25	24	35	35	26	23	15	13	21	20	17	29	29	....	40.9
	Minimum	30	28	38	30	26	35	34	31	26	32	28	26	30	25	24	30	22	21	15	19	12	12	15	12	1	0	9	0	3	20	....	21.1
Howard (near)	Maximum	61	65	55	50	50	64	67	67	47	46	46	47	58	50	35	30	25	25	25	28	18	12	26	27	21	24	20	30	38	34	....	39.7
	Minimum	22	38	20	27	14	26	19	38	38	28	14	26	25	26	20	12	0	6	4	18	8	8	6	8	9	4	-3	0	8	12	....	16.0
Jamestown §§	Maximum	49	70	58	55	47	61	67	70	53	49	46	45	60	44	54	45	30	36	35	33	32	22	21	20	15	17	18	16	31	35	....	41.1
	Minimum	31	32	35	27	22	29	36	33	36	21	28	26	26	28	40	30	20	14	16	15	12	13	17	16	4	10	8	0	2	21	....	21.6
Langdon §§	Maximum	45	55	51	48	40	45	49	60	40	46	42	41	50	50	46	41	28	27	28	30	19	20	20	10	19	20	18	20	33	20	....	35.4
	Minimum	30	35	32	27	25	20	30	34	35	23	25	23	24	25	30	28	14	18	11	10	10	10	12	7	-5	0	5	-5	5	13	....	18.0
Larimore §§	Maximum	45	67	59	54	42	46	59	68	55	44	44	40	56	50	48	47	37	32	29	32	32	18	21	21	11	18	17	20	32	33	....	39.2
	Minimum	30	32	35	31	27	27	38	34	38	24	31	29	29	25	43	34	20	17	19	18	15	14	17	10	-4	0	-3	6	9	18	....	22.1
Linton	Maximum	55	73	56	54	47	70	70	71	52	46	44	47	59	50	54	42	36	37	33	41	32	28	20	19	20	19	21	17	34	33	....	42.7
	Minimum	29	27	27	20	15	29	27	32	33	18	24	20	21	28	33	27	17	10	15	18	9	11	8	5	5	16	15	-9	-5	23	....	18.3
Lisbon §§	Maximum	59	70	57	52	48	55	69	70	46	47	47	46	57	56	55	52	43	40	31	34	32	24	35	24	19	22	22	21	30	35	....	43.3
	Minimum	31	33	31	28	23	22	34	38	30	21	30	29	26	26	34	27	20	21	16	18	16	16	24	11	5	11	12	6	0	10	....	21.6
McClusky	Maximum	69	65	58	52	46	67	70	72	64	42	40	46	60	55	46	36	27	33	33	35	29	18	22	20	22	20	20	19	35	34	....	41.8
	Minimum	35	33	30	31	17	30	39	44	34	26	23	22	26	25	33	25	14	10	16	20	10	9	16	3	5	12	7	8	5	24	....	21.2
Maddock	Maximum	48	66	59	52	48	65	64	72	54	49	46	43	57	51	47	39	31	32	32	32	31	18	21	16	25	22	22	19	36	34	....	41.0
	Minimum	29	33	31	25	29	27	34	30	32	20	23	23	28	25	34	29	15	12	15	15	9	10	13	2	4	5	8	5	7	24	....	19.9
Marmarth	Maximum	65	73	59	57	53	72	65	68	46	46	41	45	58	56	37	38	32	47	41	32	11	13	23	31	30	24	19	24	32	31	....	42.3
	Minimum	23	39	29	22	16	32	33	34	33	16	20	20	25	18	20	24	15	10	9	10	4	3	11	15	4	18	8	7	10	9	....	17.9
Minot §§	Maximum	51	69	61	54	47	70	67	62	52	51	44	46	60	55	44	34	21	30	36	36	28	19	22	22	26	23	23	26	39	37	....	41.8
	Minimum	24	39	31	24	16	31	38	34	35	23	19	23	26	16	27	23	9	7	6	24	10	7	15	2	9	8	-1	5	21	25	....	19.5
Mohall	Maximum	50	65	58	51	54	68	68	61	58	53	54	51	53	55	50	44	39	38	35	34	30	22	26	25	22	23	20	28	30	33	....	43.8
	Minimum	27	29	24	20	17	35	34	30	30	27	23	21	24	28	26	19	5	15	14	6	4	4	7	5	0	0	-8	-4	-1	0	....	15.4
Mott	Maximum	56	72	53	55	48	70	68	66	42	46	39	47	58	51	44	36	29	35	36	35	21	18	24	20	22	21	22	30	33	36	....	40.9
	Minimum	42	35	28	26	34	40	40	37	27	25	26	30	28	27	23	22	20	12	20	11	6	16	13	7	11	14	7	13	20	15	....	22.5
Napoleon §§	Maximum	54	71	51	54	47	65	68	66	42	48	45	47	59	50	54	43	32	40	35	34	17	28	15	12	25	18	24	15	32	29	....	40.7
	Minimum	29	35	30	25	19	26	35	35	33	19	26	22	23	25	27	29	18	12	16	15	9	9	8	5	-7	11	12	-2	-3	25	....	18.9
New Salem	Maximum	61	73	55	62	48	71	71	73	58	45	41	47	59	55	39	33	29	33	36	33	20	18	20	20	25	24	20	21	34	34	....	41.9
	Minimum	27	38	33	29	19	29	44	40	32	29	25	27	31	26	31	26	9	19	20	22	7	16	12	5	15	12	9	1	11	29	....	22.2
Oakes	Maximum	51	73	54	52	48	56	69	66	59	46	47	48	56	48	56	48	43	39	30	33	32	22	22	19	15	22	24	22	29	33	....	42.1
	Minimum	28	32	36	28	22	26	31	32	36	20	30	27	23	31	43	26	20	21	16	18	16	16	19	6	-3	11	18	0	-3	20	....	21.5
Pembina §§	Maximum	46	66	51	51	41	45	65	60	42	49	43	45	59	52	47	49	22	31	29	37	25	22	22	15	15	18	20	20	37	28	....	38.4
	Minimum	31	29	36	31	27	26	32	32	29	22	22	26	24	23	27	31	17	14	15	14	24	15	15	14	6	5	0	-1	7	9	....	20.2
Sharon	Maximum	46	66	51	52	44	49	63	67	47	47	40	45	57	45	48	44	29	33	32	32	31	21	21	18	17	18	17	15	32	32	....	38.6
	Minimum	30	35	33	27	24	28	35	38	35	24	28	25	26	26	41	29	20	14	18	18	14	13	17	5	-4	0	4	-5	3	16	....	20.6
Steele	Maximum	49	60	50	45	72	65	66	65	41	46	45	43	53	50	48	39	28	29	32	31	36	25	21	20	20	20	19	17	30	32	....	39.9
	Minimum	29	30	30	24	18	28	27	28	28	16	24	22	24	27	35	29	18	12	19	18	0	11	10	5	0	15	9	-1	1	19	....	18.5
Towner	Maximum	49	69	60	53	46	70	67	61	48	53	48	45	57	54	44	45	31	33	33	33	35	26	23	21	25	22	21	21	39	40	....	42.4
	Minimum	28	34	31	21	16	30	36	34	35	22	24	22	23	24	29	29	10	12	9	21	10	9	15	1	5	4	1	4	10	26	....	19.2
Valley City	Maximum	59	68	62	53	50	53	64	67	53	52	43	41	56	45	53	49	41	24	33	32	32	24	22	19	17	20	19	19	31	35	....	41.2
	Minimum	28	33	35	28	24	26	35	30	36	21	27	27	25	26	41	28	19	17	14	16	15	14	19	10	3	5	12	3	2	23	....	21.4
Wahpeton	Maximum	49	69	62	53	46	56	72	69	72	50	54	52	62	55	54	61	49	41	38	43	39	30	29	26	25	15	28	28	30	35	....	46.7
	Minimum	31	33	36	27	26	28	34	39	38	26	39	20	26	36	44	35	23	24	20	22	20	20	23	12	4	3	24	5	4	14	....	24.5
Westhope	Maximum	49	68	60	53	46	68	67	58	47	46	44	44	56	52	48	35	32	30	33	31	32	16	24	25	22	22	22	22	37	38	....	40.9
	Minimum	27	32	29	22	14	28	36	36	33	20	21	19	23	22	27	24	6	9	7	20	9	5	11	3	-3	9	-10	2	14	22	....	17.2
Williston	Maximum	62	68	53	52	51	68	67	50	43	48	39	46	56	58	36	32	25	25	34	33	13	14	26	22	22	21	21	29	42	37	....	39.8
	Minimum	25	38	27	26	14	36	41	40	31	19	19	21	29	21	21	22	8	5	9	11	4	4	10	7	14	6	-2	4	15	21	....	18.2
Moorhead, Minn	Maximum	49	66	53	51	43	53	64	69	47	48	50	48	58	49	50	54	40	37	34	38	33	27	25	20	16	22	22	21	35	35	....	41.9
	Minimum	33	33	35	32	29	29	33	37	36	25	35	29	25	35	44	31	22	21	19	25	20	20	20	10	3	4	16	2	1	17	....	24.0

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing. ᵇ 2 days, etc.

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX BISMARCK, N. D., DECEMBER, 1931 No. 12

GENERAL SUMMARY

The month opened with temperatures somewhat below the normal, a condition which obtained until the middle of the second decade, when there was a general rise, and the mean temperature for the month was the third highest of record for December for the state. While the precipitation averaged decidedly below the normal, that which occurred was generally recorded from the 5th to the 11th, inclusive, and on the last two days of the month. Due to the absence of snow cover in most sections livestock ranged freely saving much feed; the lack of snow cover, however, was injurious to winter rye. The ice in lakes and rivers of the state was unusually thin and little ice harvesting was accomplished.

TEMPERATURE

The mean temperature for the state was 21.0°, or 8.4° above the normal, and 1.1° higher than the mean for December, 1930. The highest mean reported was 26.7° at Carson, Grant County; the lowest was 17.2° at Linton, Emmons County. The highest temperature reported was 58° at Cando, Towner County on the 18th; the lowest was -21° at Park River, Walsh County on the 4th. The greatest monthly range of temperature was 69° at Dunn Center, Dunn County; the least was 46° at New England, Hettinger County. The greatest daily range in temperature was 51° at Portal, Burke County on the 9th.

PRECIPITATION

The average precipitation for the state was 0.23 inch, or 0.29 inch below the normal, and 0.04 inch less than the average for December, 1930. The greatest monthly amount reported was 1.20 inches at Ellendale, Dickey County; there was none at four stations in the northern part of the state. The greatest amount recorded in any 24 consecutive hours was 0.91 inch at Ellendale, Dickey County on the 29-30th. The average number of days with 0.01 inch or more of precipitation was 2. The average snowfall was 2.7 inches.

AURORAS

Auroras were observed at Foxholm on the 1st; at Devils Lake, Eckman, Ellendale, Foxholm and Pembina on the 2d; at Crosby, Dogden Butte, Pembina and Stowers on the 3d; at Foxholm and Pembina on the 4th; at Eckman on the 6th; at Foxholm on the 8th; at Eckman and Foxholm on the 9th; at Ellendale and Foxholm on the 12th; at Foxholm on the 15th; at Grand Forks on the 29th; at Devils Lake, Eckman, Rugby and Willow City on the 30th; and at Foxholm and Towner on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.03	30.56	7	29.54	21	57	4,104	5.5	21§	se.	22
Devils Lake	30.03	30.60	7	29.53	22	44	5,878	7.9	21§	nw.	6
Ellendale	30.05	30.59	7	29.54	22	56	7,584	10.2	25§	e.	29
Grand Forks	30.03	30.59	7	29.51	22	90	....	......	28	sw.	16
Williston	30.00	30.50	6	29.49	21	48	3,994	5.4	25§	se.	21
Moorhead, Minn	30.06	30.64	7	29.52	22	58	5,261	7.0	20§	s.	20
Av'ges and extremes	30.03	30.64	7	29.49	21	......	....	7.2	28	sw.	16

* For any five-minute period. † And other dates. § From 3-cup anemometers.

SUNSHINE AND HUMIDITY

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Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Departure from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	143.3	265.8	54	+ 5	87	76	82	55	2
Devils Lake	134.0	263.[illegible]	51	+ 4	95	83	89	65	15
Ellendale	164.9	269.6	†61	− 4	91	85	....	59	7
Grand Forks	....	....	......	......	93	....	93	......	....
Williston	138.6	262.1	53	+ 4	84	73	75	51	2
Moorhead, Minn.	115.[illegible]	263.8	43	− 6	93	86	89	67	30
Averages and extremes	139.4	265.1	52	+ 1	90	81	82	51	2

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891...	16.1	+3.5	50	−41	1.33	+0.81	4	12	8	11	nw.
1892...	7.1	−5.5	60	−39	0.57	+0.05	4	13	8	10	nw.
1893...	4.7	−7.9	55	−36	0.85	+0.33	6	11	9	11	nw.
1894...	19.1	+6.5	70	−32	0.29	−0.23	2	18	7	6	nw.
1895...	13.8	+1.2	62	−32	0.29	−0.23	3	12	9	10	nw.
1896...	16.4	+3.8	53	−35	0.37	−0.15	3	13	9	9	nw.
1897...	10.8	−1.8	69	−35	0.22	−0.30	3	12	8	11	nw.
1898...	12.1	−0.5	55	−38	0.24	−0.28	3	14	9	8	uw.
1899...	12.8	+0.2	60	−26	0.32	−0.20	3	13	7	11	nw.
1900...	17.3	+4.7	58	−29	0.31	−0.21	4	13	8	10	nw.
1901...	12.4	−0.2	61	−43	0.74	+0.22	5	10	7	14	nw.
1902...	7.8	−4.8	49	−35	0.51	−0.01	4	14	7	10	nw.
1903...	11.6	−1.0	57	−33	0.77	+0.25	6	11	7	13	nw.
1904...	14.2	+1.6	55	−43	0.62	+0.10	5	7	8	16	nw.
1905...	15.3	+2.7	55	−34	0.16	−0.36	4	16	2	13	nw.
1906...	8.4	−4.2	48	−40	1.07	+0.55	6	11	7	13	nw.
1907...	20.1	+7.5	68	−26	0.30	−0.22	3	15	7	9	nw.
1908...	14.4	+1.8	62	−37	0.38	−0.14	3	13	10	8	nw.
1909...	5.2	−7.4	54	−42	1.27	+0.75	7	9	8	14	nw.
1910...	12.9	+0.3	56	−34	0.42	−0.10	4	12	8	11	nw.
1911...	14.9	+2.3	61	−33	0.39	−0.13	4	10	8	13	nw.
1912...	18.9	+6.3	72	−28	0.43	−0.09	4	14	8	9	nw.
1913...	22.7	+10.1	61	−21	0.07	−0.45	1	18	6	7	nw.
1914...	5.4	−7.2	57	−42	0.50	−0.02	4	12	9	10	nw.
1915...	15.8	+3.2	57	−27	0.52	0.00	5	11	9	11	nw.
1916...	2.7	−9.9	61	−50	1.21	+0.69	5	15	8	8	nw.
1917...	0.7	−11.9	58	−44	0.60	+0.08	6	9	9	13	nw.
1918...	18.5	+5.9	65	−41	0.88	+0.36	5	9	8	14	nw.
1919...	7.4	−5.2	49	−38	0.46	−0.06	3	14	9	8	nw.
1920...	15.2	+2.6	59	−32	0.32	−0.20	3	11	9	11	nw.
1921...	16.5	+3.9	59	−33	0.41	−0.11	4	14	7	10	nw.
1922...	8.5	−4.1	55	−31	0.67	+0.15	5	11	8	12	nw.
1923...	22.2	+9.6	62	−36	0.32	−0.20	3	16	8	7	nw.
1924...	2.9	−9.7	58	−46	0.43	−0.09	4	12	7	12	nw.
1925...	16.5	+3.9	67	−38	0.28	−0.24	3	12	8	11	nw.
1926...	9.2	−3.4	55	−36	0.57	+0.05	3	14	8	9	nw.
1927...	−1.8	−14.4	43	−38	0.75	+0.23	5	14	7	10	nw.
1928...	20.7	+8.1	57	−30	0.28	−0.24	3	14	7	10	nw.
1929...	12.5	−0.1	59	−38	0.81	+0.29	5	12	8	11	nw.
1930...	19.9	+7.3	53	−30	0.19	−0.33	3	12	8	11	nw.
1931...	21.0	+8.4	58	−21	0.23	−0.29	2	13	8	10	sw.
Av....	12.6	....	72	−50	0.52	....	4	13	8	10	nw.

Climatological Data for December, 1931

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	5	......	......	...	...	......	...	......	0.30	....	0.23	3.0	2	......	......	......	......	H. A. Bury.
Amenia	Cass	954	35	19.4	+ 7.2	40	19	−16	7	34	0.10	−0.45	0.10	1.0	1	2	29	0	nw.	I. Idso.
Amidon	Slope	......	16	......	......	...	...	......	...	......	......		......	......	......	......	......	......	......	R. R. Beebe.
Arnegard (near)	McKenzie	......	18	23.4	+10.4	50	19	−10	12	31	0.50	−0.07	0.30	5.0	2	22	1	8	w.	Chas. A. Benson.
Ashley	McIntosh	2,001	35	19.4	+ 5.2	40	18	− 8	12	23	0.51	0.00	0.23	6.0	5	14	5	12	se.	H. D. Piper.
Beach	Golden Valley	2,759	25	25.4	+ 8.4	47	22†	−13	12	34	0.48	−0.02	0.43	5.0	2	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	38	21.1^c	+ 5.7	47^c	19	-12^c	12	35^c	0.06	−0.33	0.03	1.0	2	21	5	5	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	56	21.4	+ 6.7	44	22	− 9	13	32	0.53	−0.64	0.39	7.4	5	13	8	10	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	39	19.6	+12.2	42	2†	−13	7†	33	0.01	−0.43	0.01	0.1	1	5	21	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	17	25.4	+10.3	52	18	− 9	12	36	0.68	+0.40	0.53	5.4	5	17	7	7	nw.	George Larsen.
Cando	Towner	1,488	30	20.1	+11.5	58	18	−10	7	35	0.01	−0.43	0.01	0.1	1	12	5	14	nw.	A. J. Swanson.
Carrington	Foster	1,579	33	19.0	+ 7.3	42	17	− 9	6†	34	0.15	−0.27	0.15	1.5	1	21	2	8	sw.	L. A. Swanson.
Carson	Grant	2,500	19	26.7	+12.0	55	18	− 5	7	25	0.37	−0.18	0.24	4.5	3	19	4	8	s.	J. W. Evens.
Cavalier	Pembina	894	21	......	......	...	...	......	...	......	0.10	−0.90	0.05	0.9	3	16	1	11	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	34	......	......	...	...	......	...	......	T.	−0.52	T.	T.	0	11	3	17	nw.	Theo. Marquardt.
Corinth	Williams	2,180	3	......	......	...	...	......	...	......	0.24	....	0.16	3.0	2	16	10	5	ne.	W. A. Clem.
Courtenay	Stutsman	1,523	2	......	......	...	...	......	...	......	0.25	....	0.10	2.5	3	14	4	13	se.	O. J. Larson.
Crosby	Divide	1,954	24	19.9	+ 8.3	44	19	− 8	12	30	0.22	−0.23	0.15	2.2	3	14	9	8	sw.	John Jensen.
Devils Lake	Ramsey	1,478	34	20.0	+10.5	38	2	−10	7	33	0.09	−0.45	0.06	1.2	4	4	12	15	s.	U. S. Weather Bureau
Dickinson	Stark	2,543	39	22.8	+ 6.4	47	18†	−15	12	34	0.37	−0.12	0.18	3.3	5	11	13	7	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	5	22.4	....	46	18	−10	12	27	0.10	....	0.10	1.0	1	12	9	10	sw.	R. L. Williams.
Drake	McHenry	1,634	2	......	......	...	...	......	...	......	......	....	......	......	......	......	......	......	......	J. Rindt.
Dunn Center	Dunn	2,191	32	22.2^b	+ 4.5	53	20	-16^b	12	37^b	0.22	−0.33	0.22	1.0	1	13	6	12	sw.	W. F. Moede.
Dunseith	Rolette	1,682	35	19.8	+ 9.1	44	18	−10	7	33	0.00	−0.40	0.00	0.0	0	5	10	16	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	26	19.8	+10.5	49	2	−15	12	40	0.01	−0.50	0.01	0.2	1	9	12	10	se.	C. E. Strock.
Edgeley	LaMoure	1,568	30	21.3	+ 5.5	49	20	− 9	7	29	0.40	+0.01	0.40	4.0	1	4	16	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	36	20.6	+ 3.8	45	18	− 8	14	32	1.20	+0.72	0.91	11.9	9	8	10	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	19	21.8	....	44	22	−15	12	31	0.05	−0.38	0.05	0.5	1	10	15	6	se.	H. S. Solenberger.
Epping	Williams	2,224	23	......	......	...	...	......	...	......	0.20	−0.24	......	2.0	2	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	2	......	......	...	...	......	...	......	0.50	....	0.30	5.0	2	15	9	7	sw.	F. R. Hecker.
Fessenden	Wells	1,610	19	19.6	+ 9.0	43	18†	−12	12	35	0.00	−0.66	0.00	0.0	0	14	12	5	sw.	T. D. Monsen.
Forman	Sargent	1,249	38	......	......	...	...	......	...	......	0.15	−0.40	0.07	1.2	3	12	1	18	sw.	Helge Dyste.
Fort Yates	Sioux	1,670	31	20.1	+ 1.7	47	27	−14	13	36	0.50	+0.02	0.25	6.0	2	19	6	6	......	P. J. Jacobson.
Foxholm (near)	Ward	1,657	10	21.8	......	47	2	−11	12	30	0.30	−0.13	0.30	3.0	1	9	8	14	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	13	......	......	...	...	......	...	......	0.24	−0.34	0.20	2.5	2	14	13	4	sw.	Verne King.
Fullerton	Dickey	1,439	33	20.6	+ 6.2	41	18	6	5†	35	1.14	+0.29	0.85	11.4	4	15	7	9	nw.	F. O. Alin.
Gackle	Logan	1,951	1	......	......	...	...	......	...	......	0.30	....	0.20	5.2	4	8	10	13	sw.	Geo. Hummel.
Garrison	McLean	1,901	54	22.4	+ 8.7	44	2	−11	12	33	0.10	−0.45	0.10	1.0	1	17	6	8	se.	W. F. Robinson.
Grafton	Walsh	827	39	20.2	+11.3	40	18	−15	7	35	0.26	−0.26	0.22	5.4	3	11	9	11	s.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	40	19.6	+ 9.0	38	18	−15	7	32	0.14	−0.49	0.11	2.3	3	5	10	16	sw.	U. S. Weather Bureau.
Granville	McHenry	1,504	24	22.8	+10.8	47	2†	−15	12	37	0.04	−0.48	0.04	0.5	1	13	12	6	se.	W. A. Christianson.
Hankinson	Richland	1,068	2	24.6	....	44	19	− 8	6	38	0.32	....	0.22	4.0	3	15	5	11	......	R. G. Stock.
Hannah	Cavalier	1,568	39	......	......	...	...	......	...	......	0.05	−0.55	0.03	0.5	2	......	......	......	......	James Meier.
Hansboro	Towner	1,597	23	21.0	+13.0	40	2†	−15	7	35	0.05	−0.60	0.05	1.0	1	18	8	5	sw.	C. E. Blackorby.
Hettinger	Adams	2,675	24	24.6	+ 7.8	50	18	−14	12	35	0.40	+0.03	0.33	4.2	2	22	2	7	w.	C. H. Plath.
Hillsboro	Traill	901	25	19.3	+ 8.1	38	18	−14	7	26	0.70	−0.26	0.62	7.0	3	9	5	17	sw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	24	23.4	+11.8	48	20	− 8	7†	30	0.20	−0.47	0.20	2.0	1	18	4	9	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	39	19.4	+ 6.0	40	18	−12	14	31	0.29	−0.39	0.15	3.0	3	9	13	9	se.	S. Calvelage.
Langdon	Cavalier	1,615	35	17.3	+ 9.0	38	19	−17	7	35	T.	−0.63	T.	T.	0	8	15	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	38	18.9	+ 7.9	38	18	−19	7	29	0.20	−0.37	0.15	3.5	2	9	5	17	sw.	Mabel Walsh.
Linton	Emmons	1,711	14	17.2	+ 3.3	42	22	−20	13	40	0.25	−0.16	0.24	3.5	2	8	14	9	se.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	27	21.2	+ 7.1	42	20	− 9	7	32	0.04	−0.47	0.04	0.5	1	5	6	20	......	N. S. Lindstrom.
McClusky	Sheridan	1,943	13	20.6	....	42	22	−14	12	25	0.15	−0.47	0.15	1.5	1	19	8	4	se.	Edw. Tapley.
McLeod	Ransom	1,075	20	20.4	+ 6.0	40	17†	−14	7	32	0.10	−0.37	0.06	1.1	2	20	7	4	sw.	J. G. Carlson.
Maddock	Benson	1,604	16	20.7	+10.7	42	2	−11	12	32	T.	−0.26	T.	T.	0	6	14	11	sw.	A. T. Felland.
Mandan	Morton	1,750	17	20.7	+ 7.0	47	20	− 8	14	38	0.74	+0.31	0.30	8.2	6	12	3	16	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	28	......	......	...	...	......	...	......	0.10	−0.56	0.08	1.2	2	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	22	23.2	+ 6.4	48	18†	−11	12	40	0.35	−0.05	0.32	4.6	3	16	3	12	......	S. P. Grane.
Mary	McKenzie	......	2	......	......	...	...	......	...	......	0.29		0.24	3.0	2	19	2	10	sw.	Fred Hartman.
Max	McLean	2,093	2	20.8^b	....	45^b	23	-14^b	13	32^b	0.00	....	0.00	0.0	0	12	2	17	ne.	A. W. Rice.
Mayville	Traill	975	35	19.8	+ 6.9	41	18	−16	7	31	0.03	−0.53	0.03	T	1	3	0	28	s.	H. B. Addicott.
Minot	Ward	1,557	35	22.8	+10.9	47	2†	−13	12	30	0.02	−0.46	0.02	0.3	1	13	3	15	w.	Julia B. Rue.
Mohall	Renville	1,646	37	19.9	+ 8.9	50	2	−14	11	44	0.20	−0.21	0.20	1.0	1	3	25	3	se.	E. H. Wolsey.
Mott	Hettinger	2,424	24	22.2	+ 8.4	44	20†	−12	12	27	0.70	+0.06	0.63	7.0	2	15	8	8	se.	O. H. Opland.
Napoleon	Logan	1,955	39	18.5	+ 5.9	41	18	−15	13	34	0.43	−0.02	0.20	4.2	3	16	2	13	sw.	C. J. Hoof.
New England	Hettinger	2,400	37	23.3	+ 6.8	48	28	2	14	38	0.45	+0.05	......	4.5	3	15	10	6	se.	F. S. Sleight.
New Salem	Morton	2,163	27	22.8	+ 7.5	47	20	− 9	12	32	0.26	−0.32	0.20	3.0	4	11	12	8	sw.	J. Christiansen.
Oakes	Dickey	1,318	2	18.8	....	40	19	−11	13	28	0.51	....	0.23	10.0	5	11	10	10	sw.	Eugene Naylor.
Park River	Walsh	998	27	17.6	+ 7.1	40	18	−21	4	48	0.08	−0.37	0.08	1.5	1	11	6	14	nw.	C. B. Wright.
Parshall (near)	Mountrail	......	16	21.0	....	45	19	−16	12	36	0.10	−0.30	0.10	1.0	1	12	13	6	se.	C. E. Shubert.
Pembina	Pembina	789	57	18.6	+12.3	37	18†	−13	7	33	0.16	−0.61	0.07	2.5	3	4	12	15	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	1	......	......	...	...	......	...	......	0.18	....	0.18	1.8	1	11	9	11	sw.	T. M. Rykken.
Pettibone	Kidder	1,856	22	......	......	...	...	......	...	......	......		......	......	......	......	......	......	......	A. L. Carlson.
Portal	Burke	1,954	26	19.7	+ 7.5	49	1	−11	11	51	0.15	−0.35	0.10	3.0	2	24	0	7	e.	R. G. Wegener.
Power‡‡	Richland	1,020	37	......	......	...	...	......	...	......	0.20	−0.43	0.10	2.0	2	14	11	6	sw.	Frank B. Power.
Powers Lake	Burke	2,205	26	18.8	....	40	26	−10	13	31	0.42	−0.17	0.23	4.3	2	23	6	2	w.	Geo. B. Gee.
Richardton	Stark	2,467	15	23.0	+ 9.0	47	20	−11	12	28	0.08	−0.30	0.05	0.8	2	14	10	7	sw.	John Muggli.
Rugby (near)	Pierce	1,562	2	......	......	...	...	......	...	......	0.10	....	0.10	1.0	1	14	4	13	w.	E. C. Erickson.
Ryder	Ward	2,108	2	......	......	...	...	......	...	......	0.13	....	0.13	1.5	1	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	......	......	...	...	......	...	......	......		......	......	......	......	......	......	......	H. W. Monson.
Sharon	Steele	1,516	7	18.0	....	38	18	−16	7	28	0.12	....	0.09	1.3	4	9	8	14	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	7	......	......	...	...	......	...	......	0.12	....	0.10	2.2	2	12	12	7	se.	J. H. Giffey.
Steele	Kidder	1,857	37	18.4	+ 6.1	38	22	−10	12	23	0.07	−0.18	0.02	2.5	4	11	8	12	sw.	V. A. Laney.
Stowers‡‡	Adams	2,325	16	......	......	...	...	......	...	......	0.29	−0.20	0.26	5.0	2	21	4	6	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	2	......	......	...	...	......	...	......	0.03	....	0.03	0.5	1	17	1	13	sw.	J. C. Abbott.
Tioga	Williams	2,279	2	......	......	...	...	......	...	......	0.13	....	0.12	2.0	2	7	6	18	nw.	Anton Carlson.
Towner	McHenry	1,482	29	21.4	+11.3	46	2	− 9	7	41	T.	−0.40	T.	T.	0	15	7	9	w.	Karl Weber.
Trotters	Golden Valley	......	5	......	......	...	...	......	...	......	0.39	....	0.20	3.5	3	10	11	10	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	17	......	......	...	...	......	...	......	0.00	−0.54	0.00	0.0	0	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	25	20.2	+ 6.5	39	18	−14	7	28	0.06	−0.36	0.05	2.0	2	12	2	17	sw.	I. C. Robertson.
Velva	McHenry	1,511	4	22.8	....	48	2	−14	12	34	0.06	....	0.06	1.0	1	12	8	11	sw.	Oscar Anderson.
Verona	LaMoure	1,387	3	......	......	...	...	......	...	......	T.	....	T.	T.	0	18	1	12	sw.	W. C. Taylor.
Wahpeton	Richland	962	39	23.2	+ 7.9	40	18†	−12	7	28	0.12	−0.32	0.12	1.2	1	18	0	13	se.	C. G. Luick.
Washburn	McLean	1,731	30	23.6	+ 9.6	45	19†	− 4	7†	30	0.08	....	0.05	3.0	2	13	6	12	sw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	25	20.6	+10.6	40	2†	−12	7	31	0.10	−0.17	0.10	1.0	1	17	10	4	se.	C. M. Condit.
Williston	Williams	1,878	52	23.3	+ 9.5	47	25	− 8	12	29	0.40	−0.18	0.22	4.3	2	14	7	10	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	39	19.1	+10.4	47	2	−16	12	41	0.10	−0.44	0.10	1.0	1	17	4	10	se.	O. M. Sanderson.
Wishek	McIntosh	2 010	2	18.6^d	+ 5.6	39^d	20	-12^d	14	32^d	0.27	−0.37	0.10	3.0	3	11	1	19	se.	E. W. Davis.
Zap	Mercer	1,838	16	......	......	...	...	......	...	......	0.07	−0.26	0.07	0.5	1	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	50	21.2	+ 9.7	40	18	−12	7	33	0.21	−0.51	0.17	3.0	4	5	8	18	s.	U. S. Weather Bureau.
Averages				21.0	+ 8.4	58	18	−21	4	48	0.23	−0.29	0.91	2.7	2	13	8	10	sw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for December, 1931

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
		Day of Month																															
Alpha	Lit. Missouri																																
Amenia	Red					T.	T.			T.		T.																			.23	.07	0.30
Amidon	Lit. Missouri											.10																					0.10
Arnegard (near)	Missouri																																
Ashley	Missouri					T.						.20																			.30		0.50
Beach	Lit. Missouri				T	T.						T	T.											T.	.23		.02			.02	.17	.07	0.51
Berthold Agency	Missouri									T.		.05																			.43		0.48
Bismarck ***	Missouri					T.		T.				.03							T			T									.63		0.66
Bottineau	Mouse	T.				T.	T.		T.	.06		.01												.04		T.	T.			T	.39	.03	0.53
Bowman	Grand					.01		T.				.01							T.		T				T.		T			T.			0.01
Cando	Devils Lake											.02		T.																.01	.53	.11	0.68
Carrington‖‖	James																										.01						0.01
Carson	Heart											.15															T.						0.15
Cavalier	Red						.02		.03																						.24	.08	0.37
Cooperstown	Sheyenne									.05		.05																					0.10
Corinth	Missouri										T.	T.																					T.
Courtenay	James											.16																				.08	0.24
Crosby	Mouse									.05	.10	.10																					0.25
Devils Lake ***	Devils Lake			T.								.15	.05																	.02			0.22
Dickinson‖‖	Heart					.01	T.	T.	.01		T.	.06							T.	T.	T	T.	T.		T.	T.	.01			T.			0.09
Dogden Butte	Mouse					T.	T.	T.	T.	.01	T.	.01	.03										T.								.14	.18	0.37
Drake‖‖	Mouse											.10	T.							T.										T			0.10
Dunn Center	Knife																																
Dunseith	Mouse											T.												T.							.22		0.22
Eckman	Mouse																																0.00
Edgeley	James											.01	T.						T.								T.						0.01
Ellendale***	James																							T.							.40		0.40
Energy	Missouri			T.		.01	T.		T.		T.	.03								T.	.01	.01	T.	.12	.06	T.				.05	.88	.03	1.20
Epping	Missouri											.05																		T.			0.05
Fairfield	Knife																																
Fessenden‖‖	James											.20																			.30		0.50
Forman	Sheyenne																																0.00
Fort Yates	Missouri					.03	T.		T.	T.	T.	.07										T.	T.	T.	T.					T.	T.	.05	0.15
Foxholm (near)	Mouse																													.25	.25		0.50
Fryburg	Heart											.30															T.						0.30
Fullerton	James									T.											T.	T.									.20	.04	0.24
Gackle	James											.04												.15							.87	.10	1.14
Garrison	Missouri									.04														.01	.05						.20		0.30
Grafton	Red											.10							T.												T.		0.10
Grand Forks ***	Red					T.	.02					.22	T.										T.		.02	T.							0.26
Granville	Mouse					.02	T.			.01	T.	.11							T.				T.										0.14
Hankinson	Red					T.						.04							T.								T.			T.			0.04
Hannah	Pembina					.05						.05																		T.	.22		0.32
Hansboro	Devils Lake						.02	T.	T.			T.	.03										T.										0.05
Hettinger	Grand											.05																					0.05
Hillsboro	Red										T.		T.																	T.	.33	.07	0.40
Howard (near)	Missouri			T.					T.	.06		.62						T.			T.		.02	T.					T.				0.70
Jamestown	James					T.																									.20		0.20
Langdon	Pembina					.02				.15		.12																					0.29
Larimore	Red											T																					T.
Linton	Missouri						.05					.15																					0.20
Lisbon	Sheyenne									T.		T													.01						.24		0.25
McClusky	Missouri										.04																						0.04
McLeod	Sheyenne											.15																					0.15
Maddock	Sheyenne					.04	T.					.06											T.								T.		0.10
Mandan‖‖	Missouri					T.			T.			T.													T.		T.						T.
Manfred	James								T.	.03	.11		.01												.07					T.	.30	.22	0.74
Marmarth	Lit. Missouri					T.	T					.08	.02												T.								0.10
Mary	Lit. Missouri				T.		T.					.02																		T.	.32	.01	0.35
Max‖‖	Missouri											.05																			.24		0.29
Mayville	Red																																0.00
Minot	Mouse										T.		T.														.03						0.03
Mohall	Mouse											.02																					0.02
Mott	Cannon Ball																			.20										T.	T.		0.20
Napoleon‖‖	Missouri								T.																				T.	.63	.07		0.70
New England	Cannon Ball	T.	T.	T.	T.	T.	T.				.20														.03							.20	0.43
New Salem	Heart										.05																				*	.40	0.45
Oakes	James								.04															T						.01	.20	.01	0.26
Park River	Red											.02	.02												.20						.23	.04	0.51
Parshall (near)	Missouri											.08															T.						0.08
Pembina‖‖	Red											.10																					0.10
Petersburg	Red						.06	T	T.			.07			T.					T.	T.		T.			.03	T.						0.16
Pettibone	James					T.			T.			.18													T.	T.	T.						0.18
Portal‖‖	Mouse																																
Power	Sheyenne											.05	.10																				0.15
Powers Lake	Missouri					.10	T.					.10																					0.20
Richardton	Heart																.23			.19													0.42
Rugby [near]	Mouse																		T.							T.	T.		T.	T.	.05	.03	0.08
Ryder	Missouri					T.			T.			.10																					0.10
Sanish‖‖	Missouri											.13																					0.13
Sharon	Red																																
Stanton	Missouri			T.		T.	T.		T.	T	.01	.09	.01						T.	T.			T.			T.	.01						0.12
Steele	Missouri											.02											T.							T.	.10		0.12
Stowers	Cannon Ball									.02			T.										T.	.02							.01	.02	0.07
Tagus	Mouse											T.																			.26	.03	0.29
Tioga	Missouri											.03																					0.03
Towner	Mouse										.12	.01																					0.13
Trotters	Lit. Missouri																			T.	T.						T.						T.
Turtle Lake	Missouri											.12																			.20	.07	0.39
Valley City	Sheyenne																																0.00
Velva	Mouse						T.			.01	T.	.05																					0.06
Verona	James											.06	T.												T.								0.06
Wahpeton	Red							T.																								T.	T.
Washburn	Missouri											.12																					0.12
Westhope	Mouse					T.						T.	.03																	T.	.05		0.08
Williston ***	Missouri											.10																					0.10
Willow City	Mouse					T.				T.		.22																			.18		0.40
Wishek‖‖	Missouri					T.					.10																T.						0.10
Zap	Knife												.09												.08							.10	0.27
Moorhead, Minn ***	Red					.03	.01		T.	T.	.03	.14	T.								T.	T.	T.		T.	T.	T.	T.	T.		.07		0.07 0.21

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December, 1931

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	35	31	32	20	29	24	16	20	22	24	26	22	20	23	30	31	34	36	40	38	36	33	32	32	31	30	33	33	32	31	30	29.2
	Minimum	3	5	0	-4	-5	-9	-16	-5	0	2	8	-2	-6	-3	-1	9	15	21	29	30	28	26	24	22	21	20	22	18	16	15	10	9.5
Arnegard (near)	Maximum	38	43	35	24	33	25	15	21	30	36	22	16	19	23	28	34	39	41	50	40	34	40	41	42	47	34	43	41	31	33	32	33.3
	Minimum	11	20	12	10	7	0	4	4	10	8	1	-10	-4	0	12	12	19	28	29	25	24	20	19	11	20	21	22	19	20	22	19	13.4
Ashley	Maximum	26	28	29	23	13	26	18	22	21	20	17	15	10	15	24	27	33	40	39	38	36	37	36	33	30	31	36	34	34	30	28	27.3
	Minimum	5	12	10	1	-5	12	-5	2	2	14	2	-8	-5	-6	7	8	14	25	26	18	26	26	16	23	17	27	12	15	25	25	18	11.6
Beach	Maximum	38	38	49	25	30	28	33	28	28	33	18	20	20	24	30	33	43	45	46	43	35	47	41	43	45	36	47	47	40	30	28	35.2
	Minimum	8	23	15	10	12	14	8	7	9	8	11	-13	-1	5	12	13	15	28	30	29	30	24	22	14	17	20	20	27	24	21	18	15.5
Berthold Agency	Maximum	35	35	....	25	32	27	12	28	28	31	16	20	10	35	....	40	42	42	47	35	38	43	....	....	40	30	40	36	....	32	22	[c]31.8
	Minimum	12	15	....	12	7	10	0	0	5	7	0	12	-10	0	....	5	12	20	24	25	28	12	....	....	10	22	15	24	....	27	0	[c]10.4
Bismarck	Maximum	30	41	31	26	29	26	11	27	20	15	18	11	11	21	32	36	38	40	43	43	36	44	34	33	29	30	40	37	34	32	25	29.9
	Minimum	11	12	19	3	4	5	0	7	10	9	2	-6	-9	-8	8	8	13	28	28	25	29	27	21	14	19	27	20	21	28	25	-1	12.9
Bottineau	Maximum	32	42	40	32	20	26	20	22	22	27	21	14	11	16	27	33	30	40	40	35	34	42	41	35	34	31	30	31	32	34	30	29.8
	Minimum	3	12	15	0	3	0	-13	0	7	5	8	-13	-12	0	-1	2	8	16	22	25	15	23	12	17	15	24	14	20	24	25	17	9.5
Cando	Maximum	31	40	40	30	27	24	12	22	22	20	21	14	17	19	24	33	32	58	35	29	24	38	37	31	35	33	31	35	36	35	30	29.6
	Minimum	6	10	17	-2	4	-8	-10	1	2	3	4	-8	-9	-8	4	8	13	23	26	18	21	28	14	24	27	27	13	24	25	24	10	10.6
Carrington §§	Maximum	35	30	7	29	24	14	25	18	23	18	9	9	19	28	31	37	42	34	38	32	39	35	33	33	33	34	32	31	31	26	9	27.0
	Minimum	11	12	0	-5	4	-9	-8	6	7	6	-9	-8	-6	8	13	18	19	30	25	25	27	20	17	20	25	19	19	22	25	12	-3	11.0
Crosby	Maximum	36	42	36	20	38	8	10	23	16	20	14	12	14	16	25	33	38	38	44	32	30	30	23	36	38	28	33	35	34	32	28	27.8
	Minimum	8	12	14	12	8	4	-5	5	5	12	0	-8	-4	-1	10	8	14	18	30	28	12	19	14	18	22	16	18	19	18	27	19	12.0
Devils Lake	Maximum	30	38	30	15	29	29	8	22	17	19	17	10	8	20	29	32	36	38	36	35	32	38	34	31	30	33	32	31	32	32	28	27.5
	Minimum	9	13	15	-2	-2	-4	-10	8	8	6	6	-4	-5	0	8	11	18	27	26	26	25	25	16	24	21	29	18	20	26	20	9	12.6
Dickinson §§	Maximum	37	40	37	21	31	27	18	29	26	33	17	18	17	26	32	34	43	47	47	45	35	42	40	43	45	34	45	46	31	28	24	33.5
	Minimum	9	18	14	14	8	12	4	3	8	1	3	-15	-13	0	7	9	16	15	23	25	23	26	26	10	11	15	16	20	22	27	23	12.1
Dunn Center	Maximum	38	43	34	21	31	31	12	29	28	35	18	21	16	25	32	35	43	44	42	53	41	42	40	41	41	38	42	41	32	31	27	33.8
	Minimum	10	15	13	6	3	9	3	1	7	6	4	-16	0	-5	10	11	15	21	26	21	27	25	16	8	13	22	17	....	....	....	....	[d]10.7
Dunseith	Maximum	34	42	38	29	17	28	2	21	20	28	22	12	12	18	30	33	33	44	41	31	32	40	37	32	40	32	30	31	30	32	28	29.0
	Minimum	7	9	24	3	-2	0	-10	1	-2	7	10	-9	-6	0	4	5	8	23	26	25	21	20	16	16	16	20	15	19	24	25	17	10.7
Edgeley	Maximum	29	39	32	25	16	28	15	26	25	21	20	15	14	20	26	31	37	45	46	49	36	39	36	37	30	38	29	34	31	31	29	30.0
	Minimum	8	10	18	0	-8	1	-9	4	8	8	6	-6	0	-8	8	13	18	21	27	26	28	25	20	25	25	28	15	16	20	27	15	12.6
Ellendale	Maximum	26	29	26	23	27	29	14	21	21	23	23	10	10	22	32	32	31	45	40	38	34	39	35	34	33	33	37	37	32	31	29	28.9
	Minimum	7	4	6	-6	-5	5	-4	6	7	14	6	-5	-6	-8	5	7	11	26	27	26	29	29	23	29	28	25	21	19	25	29	5	12.4
Fessenden §§	Maximum	32	40	34	11	28	23	11	28	19	22	18	10	12	22	33	31	31	43	35	41	33	43	30	34	32	33	37	31	32	31	29	28.8
	Minimum	4	5	14	1	-3	9	-11	-5	6	5	3	-12	-11	8	4	8	12	12	29	21	26	27	16	17	16	23	16	25	24	25	10	10.5
Foxholm (near)	Maximum	37	47	41	24	32	32	11	25	22	32	26	9	10	19	28	32	39	40	40	39	36	42	40	38	46	35	37	34	32	30	28	31.7
	Minimum	11	18	14	4	6	2	-7	3	-3	10	6	-11	-4	-4	9	11	15	26	27	22	22	25	19	13	18	22	18	20	25	25	11	12.0
Fullerton	Maximum	33	29	26	23	29	22	14	24	19	25	14	14	8	21	28	25	31	41	39	37	35	38	33	39	32	34	35	36	32	34	30	28.4
	Minimum	8	8	8	2	-6	12	-6	4	7	9	8	-4	-5	-5	4	8	15	24	28	27	27	28	19	21	28	24	20	19	22	28	17	12.9
Garrison	Maximum	33	44	35	27	28	30	11	28	25	28	19	15	15	22	31	35	35	40	43	41	38	43	41	39	37	29	38	36	33	30	31	31.6
	Minimum	12	13	17	9	7	10	-1	4	8	7	6	-11	-5	-3	-1	2	13	27	29	24	28	25	17	15	15	24	16	23	27	27	21	13.1
Grafton	Maximum	32	31	31	32	14	31	6	20	18	22	24	17	10	12	31	31	32	40	36	34	35	35	33	27	32	35	35	31	33	35	29	27.9
	Minimum	10	10	18	-3	1	0	-15	-3	6	4	14	0	-7	-2	-2	12	19	22	24	25	28	29	14	15	26	30	29	21	25	25	13	12.5
Grand Forks	Maximum	26	26	30	14	25	30	11	21	20	26	25	12	7	10	30	31	29	38	34	34	33	35	26	29	32	35	32	33	34	32	26	26.6
	Minimum	6	10	15	-1	-6	-2	-15	12	7	6	12	-3	-7	0	2	7	18	23	25	28	26	30	15	20	25	31	22	22	25	23	14	12.6
Granville	Maximum	35	47	35	27	35	30	10	21	25	35	30	19	23	20	33	35	32	47	35	40	42	45	47	40	42	31	40	35	35	32	32	33.4
	Minimum	10	12	14	5	18	12	-7	1	-2	4	14	-15	-5	-8	12	20	24	10	22	27	23	24	15	12	16	28	13	20	28	22	10	12.2
Hansboro	Maximum	32	40	35	28	22	20	10	25	25	27	25	15	10	25	35	30	37	40	35	37	35	40	40	38	35	33	34	35	36	35	30	30.5
	Minimum	11	7	17	-4	5	2	-15	-2	-2	-1	4	-10	-7	-2	0	14	18	25	23	22	22	25	25	28	27	27	13	24	25	24	10	11.5
Hettinger	Maximum	35	42	38	26	31	34	24	37	23	29	21	21	24	29	34	39	45	50	49	48	37	38	40	44	42	38	45	48	31	29	25	35.4
	Minimum	8	16	20	10	7	17	3	6	14	2	7	-14	-2	1	13	9	14	22	29	22	29	27	21	13	15	18	18	22	23	24	17	13.9
Hillsboro	Maximum	26	23	23	23	20	12	6	20	17	27	27	15	8	10	20	28	28	38	33	32	34	36	34	28	28	35	36	34	34	34	30	26.1
	Minimum	5	10	11	-1	-5	5	-14	6	10	8	8	-4	-5	0	2	2	22	22	28	28	29	31	17	18	20	34	22	20	22	20	16	12.5
Howard (near)	Maximum	40	45	36	31	28	27	17	22	23	33	30	12	15	21	34	42	41	44	46	48	35	37	39	47	40	32	41	38	34	30	25	33.3
	Minimum	25	20	10	18	15	5	-8	6	-7	5	12	-8	-8	0	6	18	22	23	24	25	19	19	15	24	23	17	18	22	16	25	14	13.4
Jamestown	Maximum	26	37	27	24	18	30	7	22	20	20	20	15	6	19	26	31	30	40	37	35	36	36	34	36	30	34	35	34	30	32	29	27.6
	Minimum	5	8	14	-3	-5	5	-12	4	6	-1	7	-11	-4	-12	5	9	17	22	30	26	27	30	15	21	24	28	18	19	19	26	13	11.3
Langdon	Maximum	28	25	30	20	27	27	16	20	15	18	16	10	5	18	31	30	34	35	38	32	31	34	31	31	32	31	30	32	31	30	30	26.4
	Minimum	0	7	5	-5	5	2	-17	-15	5	0	0	-9	-9	-5	0	6	10	11	24	22	20	20	12	16	21	28	20	22	26	22	10	8.2
Larimore	Maximum	27	34	27	26	14	14	2	18	18	23	22	16	7	14	29	30	31	38	36	33	34	34	31	31	30	34	33	30	31	31	24	25.9
	Minimum	2	8	17	-3	-5	0	-19	-1	8	3	14	-6	-3	-4	6	12	21	24	30	27	26	29	13	18	27	30	22	13	26	21	12	11.9
Linton	Maximum	25	32	28	25	18	26	18	26	20	16	17	15	11	22	32	30	31	38	40	39	35	42	35	33	29	32	29	33	32	31	28	28.0
	Minimum	-3	3	-1	0	-4	12	-3	5	-3	-4	0	-16	-20	-14	-8	-5	3	15	18	14	26	26	10	18	11	25	6	26	27	25	14	6.5
Lisbon	Maximum	27	32	32	25	11	30	11	21	23	28	20	14	12	13	26	30	31	39	41	42	36	36	34	37	26	39	35	32	31	32	32	28.6
	Minimum	9	13	13	3	-3	-2	-9	6	5	10	9	-4	-2	-5	3	12	11	15	25	29	30	31	20	29	28	32	28	26	22	23	22	13.9
McClusky	Maximum	29	32	32	18	23	28	6	23	20	22	17	15	11	30	28	33	32	40	37	36	38	42	35	33	29	30	35	34	33	31	31	28.5
	Minimum	7	12	7	3	0	3	-4	3	9	8	12	-14	-5	14	16	8	12	25	27	27	25	28	15	15	18	25	15	21	25	26	11	12.7
Maddock	Maximum	36	42	39	30	20	30	11	24	23	25	26	16	10	18	30	33	31	40	38	30	37	41	39	36	28	32	36	34	30	31	30	30.2
	Minimum	7	10	14	0	-1	9	-10	1	7	5	4	-11	-5	-6	7	7	12	25	28	22	26	27	13	20	16	26	17	17	24	24	12	11.2
Marmarth	Maximum	37	42	35	32	33	25	32	30	26	30	21	22	23	28	31	38	42	48	48	43	37	41	39	43	41	36	45	48	38	30	27	35.3
	Minimum	10	13	-5	15	13	9	6	10	16	0	6	-7	-11	-3	2	1	11	21	20	21	26	22	15	12	13	15	18	18	22	21	15	11.1
Minot	Maximum	38	47	39	26	32	33	10	25	26	31	25	15	10	20	30	34	40	42	40	40	38	43	45	41	47	35	32	38	34	31	31	32.8
	Minimum	10	17	15	7	7	8	-3	3	-1	10	6	-13	-4	-3	12	8	14	25	28	25	22	22	17	11	19	21	17	21	27	27	15	12.7
Mohall	Maximum	35	50	41	29	22	24	24	26	21	27	30	21	21	20	22	24	33	40	45	41	38	40	45	40	38	36	39	35	34	30	25	32.2
	Minimum	20	25	18	-1	0	-2	-4	-5	-7	5	-14	-10	-9	-11	-8	5	8	19	13	16	17	20	24	24	10	18	13	16	17	10	8	7.6
Mott	Maximum	32	43	28	17	21	25	15	26	23	16	18	10	12	23	33	35	38	42	42	41	40	44	33	36	32	33	39	38	33	29	30	30.0
	Minimum	14	18	7	3	2	2	6	10	12	12	-2	-12	-2	-4	10	16	20	25	28	30	31	23	16	22	26	24	22	28	27	22	9	14.4
Napoleon §§	Maximum	25	31	25	5	27	24	18	21	20	18	16	5	7	15	26	28	34	41	38	37	35	36	36	30	32	32	34	35	31	30	24	26.3
	Minimum	6	12	8	-1	-7	9	-10	0	2	10	0	-14	-15	-10	7	5	15	26	28	20	26	28	21	27	15	24	14	15	26	25	21	10.7
New Salem	Maximum	33	40	36	28	20	25	12	28	24	18	17	19	13	27	37	34	37	45	46	47	38	42	35	37	29	36	40	35	30	30	28	31.2
	Minimum	1	21	20	7	5	12	-1	4	9	9	7	-9	0	-1	11	13	16	32	31	31	28	29	21	15	15	23	20	19	22	25	14	14.5
Oakes	Maximum	23	28	27	24	14	28	12	24	21	23	23	16	13	12	22	21	27	35	40	36	33	38	33	33	31	36	34	35	31	32	30	26.9
	Minimum	3	9	3	-4	-7	12	-8	5	3	9	11	-6	-11	-8	-1	-1	7	21	26	26	28	28	19	27	24	25	17	16	21	26	14	10.8
Pembina §§	Maximum	23	28	30	8	29	20	14	18	14	22	21	8	7	10	29	32	36	37	35	34	33	35	26	31	34	37	34	32	37	34	28	26.3
	Minimum	15	11	10	-2	-4	0	-13	-11	7	8	10	2	-7	-5	-2	4	7	19	25	21	24	19	17	18	21	26	30	22	23	23	17	10.8
Sharon	Maximum	22	28	29	22	17	27	2	21	18	21	20	11	10	17	25	28	32	38	33	33	32	32	27	32	30	32	30	30	30	31	23	25.2
	Minimum	-1	10	17	-4	-7	-1	-16	1	4	3	11	-10	-6	-3	4	8	16	25	29	25	25	26	12	19	26	29	16	18	25	21	12	10.8
Steele	Maximum	24	29	28	18	20	28	8	23	20	26	16	10	4	12	22	25	29	37	36	35	34	38	33	24	30	33	29	34	35	32	27	25.8
	Minimum	5	9	12	9	-3	8	-6	5	9	3	2	-10	-9	-5	4	5	12	23	27	20	27	30	12	18	12	26	12	18	26	27	14	11.0
Towner	Maximum	36	46	41	30	25	33	11	26	21	33	23	14	12	19	32	31	35	43	37	37	36	44	42	37	38	32	36	34	36	34	31	31.8
	Minimum	6	12	12	2	5	4	-9	2	8	5	7	5	-8	-2	2	4	7	21	27	23	22	28	1	13	18	27	15	20	27	27	6	10.9
Valley City	Maximum	25	32	28	23	15	29	10	21	18	24	24	16	6	6	26	31	30	39	37	35	36	35	36	36	34	36	35	33	32	34	29	27.8
	Minimum	4	12	11	0	-4	8	-14	4	3	7	14	-7	-8	-12	0	7	16	23	28	27	29	31	14	25	26	30	21	18	27	29	17	12.5
Wahpeton	Maximum	31	36	32	26	19	30	16	33	28	29	32	21	22	18	28	30	33	40	40	34	36	37	38	35	32	39	38	38	35	36	36	31.5
	Minimum	5	15	8	4	-4	8	-12	8	15	15	20	-3	-3	-6	5	7	12	16	25	30	28	32	20	25	25	31	21	27	30	32	26	14.9
Westhope	Maximum	37	40	39	30	33	32	12	26	21	33	30	16	12	18	28	34	33	38	38	36	37	40	36	33	37	34	34	33	34	34	34	31.4
	Minimum	6	11	14	0	6	2	-12	0	-5	5	9	-10	-8	2	4	4	4	22	22	25	18	24	13	8	18	26	14	18	27	27	6	9.7
Williston	Maximum	38	45	38	24	35	26	16	25	28	33	22	12	15	23	28	35	37	42	45	39	35	38	38	38	47	33	39	42	33	31	27	32.5
	Minimum	17	17	11	14	14	4	5	8	-1	9	3	-8	-3	3	11	9	13	25	30	28	23	23	19	11	22	24	18	24	22	27	16	14.1
Moorhead, Minn	Maximum	20	31	27	27	20	30	15	29	20	28	28	11	6	14	25	30	33	40	37	35	36	35	34	33	32	37	34	34	36	36	31	28.5
	Minimum	5	11	9	-1	-1	-3	-12	14	9	12	11	-4	-6	-4	5	6	22	29	28	29	28	32	20	22	23	32	24	24	27	28	15	14.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 2-3-32—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXX BISMARCK, N. D., ANNUAL, 1931 No. 13

GENERAL SUMMARY

Taken as a whole, weather conditions in North Dakota from a crop standpoint during the year were unfavorable, particularly in the northwestern portion, where decidedly droughty conditions prevailed. At the beginning of the year there was a general deficiency in the subsoil moisture, due to insufficient precipitation during the years 1929 and 1930. There was also a deficiency in precipitation during seven of the months during 1931. This droughty condition was greatly aggravated by unseasonably high temperatures, the mean for the year being the highest of record in the climatological history of the state.

The mean annual temperature for the state was 44.9°, or 5.6° above the normal, and 3.5° higher than the mean for 1930. The highest mean monthly temperature reported was 75.6° at Hankinson, Richland County, in July; the lowest was 10.2° at Langdon, Cavalier County, in January. The highest temperature reported was 111° at Fort Yates, Sioux County, on July 26th, and at Napoleon, Logan County, and Westhope, Bottineau County, on July 25th; the lowest was -31° at Towner, McHenry County, on January 13th and 14th, and February 9th.

The average annual precipitation for the state was 14.99 inches, or 2.19 inches below the normal, and 0.09 inch more than the average for 1930. The greatest annual precipitation reported was 22.98 inches at Lisbon, Ransom County; the least was 5.62 inches at Epping, Williams County. The greatest monthly amount reported was 9.27 inches at McLeod, Ransom County, in June; there was none at four stations in January, five stations in February, one station in April, two stations in November, and four stations in December. The average snowfall for the state was 18.0 inches.

The average number of days with 0.01 inch or more of precipitation was 56.

There were 180 clear days, 92 partly cloudy days and 93 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—The weather for the month, from a personal comfort standpoint, was the most excellent of record for the state. The mean temperature was the highest and the average precipitation was the third lowest of record in the climatological history of North Dakota. There were but two stormy periods, both of short duration.

FEBRUARY.—Unusually favorable weather prevailed throughout the state during the entire month, the temperature being decidedly above and the precipitation decidedly below the normal. As a result of these favorable conditions livestock ranged freely, saving much feed, and outdoor work continued uninterruptedly.

MARCH.—During most of the month there were favorable weather conditions. Light snow occurred on many days, and during the third decade beneficial showers were quite general, greatly improving soil conditions, though considerably more moisture was needed for subsoil retention. By the close of the month preparations for spring work on farms were well advanced.

APRIL.—The weather during the month was warm and dry, the average precipitation being the second lowest for April since statewide records began in 1892. Farm work advanced rapidly, but soil conditions were mostly too dry in many sections, due about equally to lack of rainfall and to excessive evaporation caused by high winds.

MAY.—Favorable weather for farm and other outdoor work generally prevailed, but lack of precipitation, particularly in the northwestern portion, caused considerable apprehension. Although the temperature averaged above the normal, killing frosts damaged flax and gardens, and greatly retarded the growth of small grains and pastures.

JUNE.—There was a general deficiency of soil moisture at the opening of June in all parts of the state, especially in the northwestern portion, as all months since November, 1930, with the exception of March, produced less than the normal precipitation. The rainfall for the month was unevenly distributed geographically, with the result that crops deteriorated rapidly in the western portion. Small grains generally headed short in most of the central and western portions, much being cut for hay.

JULY.—Droughty conditions which prevailed over the state during most of the preceding six months were more or less relieved during the fore part of July, though not sufficiently to bring crops to anything like a normal condition. While the mean temperature was but slightly more than two degrees above the normal, one of the most outstanding periods of extreme heat in the history of the state prevailed from the 13th to the 27th, inclusive. No severe wind storms, and less than the usual number of hail storms, were reported.

AUGUST.—Although the mean temperature and average precipitation were nearly the normal, occasional periods of high temperature prevailed, and practically all precipitation was confined to the first decade and the 27-28th. Harvesting was completed during the month and much threshing was done. Much small grain was cut for feed, as the yields would not warrant harvesting and threshing costs. Some fall plowing and seeding of winter rye were accomplished, but the ground was mostly too dry at the close for good results. Pastures needed rain in all sections.

[Continued on page 53]

Climatological Data for the Year 1931

Stations	Counties		Temperature (degrees Fahrenheit)						Precipitation (inches)								Sky			
		Elevation, feet	Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall	Number rainy days	Number clear days	Number partly cloudy days	Number cloudy days	Prevailing direction of wind
Alpha	Golden Valley								6	10.73	3.05	June	0.11	Nov.	17.3	51				
Amenia	Cass	951	36	45.7	108	July 27	-30	Jan. 13†	36	20.54	4.49	July	0.10	Dec.	15.3	63	122	157	86	nw.
Arnegard	McKenzie		19	46.2	110	June 16†	-15	Jan. 13	19	8.83	2.03	July	0.05	Apr.	26.0	48	252	52	61	nw.
Ashley	McIntosh	2,001	36	45.6	107	July 25	-18	Jan. 14	36	19.08	3.96	June	0.12	Jan.	51.6	66	222	47	96	nw.
Beach	Golden Valley	2,579	26	45.5	106	June 16†	-14	Jan. 13	26	10.51	2.41	June	0.09	Jan.	17.3	56	187	118	60	nw.
Berthold Agency	McLean	2,082	39	45.5	110	June 17†	-15	Jan. 13	39	13.46	3.97	July	T.	Jan.†	6.1	36	197	60	108	nw.
Bismarck	Burleigh	1,674	57	46.3	107	July 27	-9	Jan. 13†	57	15.82	3.39	July	0.05	Jan.	27.6	79	176	100	89	nw.
Bottineau	Bottineau	1,638	40	42.3	108	July 26	-17	Jan. 14†	40	10.13	2.69	Aug.	0.01	Dec.	4.9	55	133	185	47	nw.
Bowman	Bowman	2,961	17	46.3	108	July 25	-13	Jan. 13	18	17.07	3.67	July	0.31	Jan.†	22.9	87	221	83	61	nw.
Cando	Towner	1,483	31	44.0	101	July 27	-18	Jan. 14	31	16.76	1.95	Aug.	0.01	Dec.	18.6	43	124	112	129	nw.
Carrington			34	43.0	105	July 26	-13	Feb. 8	34	17.38	4.29	July	T.	Jan.	15.0	55	227	37	101	nw.
Carson	Grant	2,500	20	45.2	109	July 25	-16	Jan. 13	21	18.46	4.04	July	0.13	Jan.	21.9	73	221	63	81	nw.
Cavalier	Pembina								22	18.24	3.41	Sept.	0.10	Dec.	17.1	64	232	46	87	nw.
Cooperstown	Griggs	1,428							25		3.35	Aug.	T.	Dec.						nw.
Corinth	Williams	2,180							4	7.66	1.82	July	0.00	Apr.	10.7	33	221	95	49	nw.
Courtenay	Stutsman	1,523							3											
Crosby	Divide	1,954	25	42.9	105	July 25	-18	Jan. 13	25	10.55	3.17	Aug.	T.	Apr.	10.3	49	160	140	65	nw.
Devils Lake	Ramsey	1,478	35	43.3	105	July 25	-14	Jan. 14	35	18.51	3.83	Aug.	0.09	Dec.	15.9	83	112	113	140	nw.
Dickinson	Stark	2,543	40	41.4	109	July 27	-15	Dec. 12	10	16.17	3.46	June	0.11	Apr.	18.1	88	154	125	86	nw.
Dogden Butte	McLean	1,880	6	45.0	103	July 25†	-17	Feb. 9	6	15.68	4.02	July	0.07	Apr.	9.9	60	181	99	85	nw.
Drake	McHenry	1,634	3		106	July 26			3		3.51	July								nw.
Dunn Center	Dunn	2,191	33	44.8	108	July 25	-16	Dec. 12	33	15.65	3.58	Aug.	0.09	Feb.	10.6	48	172	97	96	nw.
Dunseith	Rolette	1,682	36	42.6	105	June 17	-17	Jan. 14	36	11.20	3.22	Sept.	0.00	Dec.	10.8	57	158	114	93	nw.
Eckman	Bottineau	1,560	27	43.6	108	June 17†	-22	Jan. 13	27	7.80	2.43	Sept.	T.	Apr.	6.8	52	99	174	92	nw.
Edgeley	LaMoure	1,468	31	46.4	110	July 25	13	Jan. 14	31	17.39	4.43	June	0.05	Jan.	17.5	45	110	172	83	nw.
Ellendale	Dickey	1,149	29	45.7	108	July 25	-12	Jan. 14	37	17.30	3.72	June	0.05	Jan.	31.4	89	120	119	126	nw.
Energy	McLean	1,750	7	46.3	109	July 25	-15	Dec. 12	20	13.41	3.95	July	T.	Apr.	12.0	46	164	147	54	nw.
Epping	Williams	2,224	7		108	June 16†			24	5.62	1.61	July	T.	Feb.†						
Fairfield	Billings								3	15.90	3.17	July	0.35	Jan.†	35.5	52	195	99	71	nw.
Fessenden	Wells	1,610	20	44.3	108	July 24†	-16	Feb. 9	20	17.17	3.71	Aug.	0.00	Dec.	17.5	61	190	93	82	nw.
Forman	Sargent	1,249							39	19.06	6.25	June	0.13	Jan.	16.2	65	217	49	99	nw.
Fort Yates	Sioux	1,670	32	47.4	111	July 27	-14	Dec. 13	32	16.22	2.86	July	T	Jan.	17.0	55	207	69	89	
Foxholm	Ward	1,657	7	44.4	106	June 17†	17	Jan. 13	11	10.67	2.29	Sept.	0.10	Feb.	16.8	50	122	127	116	nw.
Fryburg	Billings	2,750							14	14.84	3.44	June	T.	Apr.	19.0	51	208	103	54	nw.
Fullerton	Dickey	1,439	34	46.2	107	July 27	11	Jan. 14	34	20.21	2.35	June	0.40	Jan.	43.5	66	200	82	83	nw.
Gackle	Logan	1,951							1		3.30	May								
Garrison	McLean	1,901	37	46.0	108	July 27	-11	Jan. 13†	55	12.72	3.79	July	T.	Jan.†	7.7	45	282	7	76	nw.
Grafton	Walsh	827	40	44.4	105	July 25	-23	Feb. 9	40	21.48	5.15	July	T.	Feb.†	21.1	54	177	93	95	n.
Grand Forks	Grand Forks	830	41	44.2	103	July 25	-15	Dec. 7	41	19.49	3.65	Oct.	0.09	Feb.	19.8	79	171	100	94	nw.
Granville	McHenry	1,504	25	44.2	107	June 17	18	Jan. 13	25	11.51	3.95	July	0.04	Apr.†	12.0	45	184	106	75	nw.
Hankinson	Richland	1,068	3	48.7	109	July 14†	-15	Jan. 13	3	18.58	4.35	June	0.02	Jan.	21.6	60	230	44	91	
Hannah	Cavalier	1,568							40	14.56	3.61	Aug.	0.05	Dec.	18.8	61				
Hansboro	Towner	1,597	24	39.7	101	June 17	-25	Jan. 13	24	14.83	4.01	Aug.	0.05	Dec.	22.0	48	215	86	64	nw.
Hettinger	Adams	2,675	25	46.0	106	July 25	-14	Dec. 12	25	15.74	4.39	July	T.	Jan.	13.8	72	223	75	67	nw.
Hillsboro	Traill	901	23	44.3	103	July 25	15	Jan. 14	26	19.11	3.40	May	0.05	Apr.	21.5	59	160	90	115	nw.
Howard	Williams	2,275	25	44.4	108	July 25	-20	Jan. 13	25	7.25	2.85	Aug.	T	Jan.†	3.5	26	175	115	75	nw.
Jamestown	Stutsman	1,390	40	44.6	109	July 24	16	Jan. 14	40	19.70	2.91	July	0.09	Jan.	30.1	61	147	125	93	
Langdon	Cavalier	1,615	36	39.6	105	July 25	-22	Jan. 1	36	15.84	3.18	Sept.	T.	Dec.	31.0	54	197	110	58	sw.
Larimore	Grand Forks	1,134	39	43.3	106	July 26	-19	Dec. 7	39	20.86	3.79	Oct.	0.00	Feb.	25.0	66	183	58	124	n.
Linton	Emmons	1,711	14	45.1	110	July 25	-21	Jan. 14	15	15.20	3.38	Aug.	T.	Jan.	14.8	59	159	147	59	se.
Lisbon	Ransom	1,091	28	45.9	104	July 24†	-15	Jan. 14	28	22.98	6.67	June	0.04	Dec.	23.1	71	160	77	128	
McClusky	Sheridan	1,943	7	44.5	106	July 25	-15	Jan. 13	14	17.21	4.22	July	0.15	Dec.	17.0	55	202	91	72	nw.
McLeod	Ransom	1,075	20	46.6	107	July 25	-19	Jan. 14	21	22.03	9.27	June	0.07	Jan.	13.1	63	213	54	98	sw.
Maddock	Benson	1,604	17	43.8	106	July 27	18	Jan. 14	17	16.93	4.23	Aug.	T.	Dec.	5.5	53	120	123	122	nw.
Mandan	Morton	1,644	18	45.5	108	July 27	-11	Jan. 14	18	17.44	4.25	July	0.05	Jan.	27.8	70	158	47	160	nw.
Manfred	Wells	1,605	29						29	14.53	2.91	Aug.	0.10	Dec.	15.1	67				
Marmarth	Slope	2,714	18	46.8	107	July 24†	-14	Jan. 13	23	13.20	3.42	July	0.15	Jan.	18.6	78	158	87	120	
Mary	McKenzie								3	10.89	3.39	July	0.06	Feb.						
Max	McLean	2,093	3	45.0	109	June 16	-15	Jan. 13†	3	12.51	2.90	July	0.00	Dec.	5.5	44				nw.
Mayville	Traill	975	36	44.7	107	July 26	-16	Dec. 7	36	17.84	4.32	July	0.00	Feb.	3.8	60	173	9	183	n.
Minot	Ward	1,557	36	45.1	108	July 27	-13	Jan. 13†	36	12.56	3.31	Aug.	0.06	Apr.	8.1	61	208	55	102	w.
Mohall	Renville		38	45.2	108	June 17	-18	Jan. 13	38	8.05	1.89	July	T.	Jan.†	4.4	27	84	241	40	nw.
Mott	Hettinger	2,424	25	46.9	108	July 25†	12	Jan. 12†	25	16.62	5.09	July	T.	Jan.	20.5	53	174	75	116	se.
Napoleon	Logan	1,955	40	44.7	111	July 25	-21	Jan. 14	40	20.25	4.18	July	0.36	Jan.	42.9	78	211	50	104	sw.
New England	Hettinger	2,400	38	46.7	110	July 26†	-11	Jan. 12	38	17.00	4.03	July	0.10	Apr.	29.5	54	171	116	78	nw.
New Salem	Morton	2,163	28	46.8	103	July 25	-12	Jan. 13	28	15.50	3.95	July	0.15	Jan.	18.5	71	195	97	73	nw.
Oakes	Dickey	1,318	3	46.3	106	July 14†	-16	Jan. 14	3	18.71	4.23	June	0.13	Jan.	24.8	86	122	152	91	nw.
Park River	Walsh	998	28	43.3	102	July 25†	-21	Dec. 4	28	15.91	4.63	Sept.	0.02	Feb.	18.5	42	143	91	131	nw.
Parshall	Mountrail								17	10.68	3.07	July	0.01	Feb.	11.9	54	137	172	56	se.
Pembina	Pembina	789	58	41.4	100	Sept. 7	-22	Feb. 9	58	16.18	3.30	Aug.	0.00	Jan.†	11.5	50				
Petersburg	Nelson	1,520	2						2	17.90	5.36	July	0.00	Jan.†	13.7	64	182	76	107	
Pettibone	Kidder	1,856	23		107	July 27			23		4.35	July								
Portal	Burke	1,954	19	43.8	107	July 22	-21	Jan. 12	27	8.17	2.96	July	0.00	Jan.†	7.5	31	227	45	93	nw.
Power	Richland	1,020							38	17.37	4.05	June	0.18	July	32.0	42	205	88	72	n.
Powers Lake	Burke	2,205	6	43.2	108	July 25	-16	Jan. 11	27	10.83	3.42	July	0.02	Nov.	23.2	33	249	95	21	w.
Richardton	Stark	2,467	16	45.6	108	July 24†	-13	Mar. 26	16	17.12	4.06	June	T.	Jan.†	16.5	52	183	103	79	nw.
Rugby	Pierce	1,562							3	11.11	2.32	July	0.05	Feb.	11.5	45	167	97	101	nw.
Ryder	Ward	2,108							3	10.99	3.18	July	0.10	Jan.	5.4	56				
Sanish	Mountrail	1,835	9		110	July 28			9		1.93	July	0.00	Nov.						nw.
Sharon	Steele	1,516	5	43.4	105	July 25	17	Jan. 11	8	21.93	4.35	July	0.05	Feb.	22.7	89	179	79	107	nw.
Stanton	Mercer	1,722							8	14.13	4.24	July	T.	Apr.	17.4	43	201	84	80	nw.
Steele	Kidder	1,857	38	44.5	107	July 25	-15	Jan. 14	38	18.25	4.11	July	0.07	Dec.	27.0	83	197	33	135	nw.
Stowers	Adams								17	12.93	3.52	July	T.	Jan.	18.0	40	175	108	82	
Tagus	Mountrail	2,179							3	6.77	1.95	July	0.02	Jan.	4.1	53	207	75	83	sw.
Tioga	Williams	2,279							3	6.65	2.11	July	0.00	Jan.	7.1	30	148	101	116	nw.
Towner	McHenry	1,482	30	43.5	108	July 27	-31	Jan. 13†	30	12.21	2.99	July	T.	Feb.	17.0	54	165	116	84	nw.
Trotters	Golden Valley								6	10.47	2.46	June	T	Apr.	29.3	49	188	94	83	
Turtle Lake	McLean	1,899	18						18	11.68	3.74	July	0.00	Nov.†	10.0	37				
Valley City	Barnes	1,245	26	45.7	105	July 25†	-18	Jan. 14	26	19.61	3.27	July	0.06	Dec.	24.3	69	187	70	108	w.
Velva	McHenry	1,511	5	45.9	107	June 17	-14	Feb. 9†	5	12.41	2.91	July	0.05	Nov.	11.1	52	132	128	105	w.
Verona	LaMoure	1,387	4						4	18.01	4.71	June	T.	Dec.	10.5	39	243	25	97	nw.
Wahpeton	Richland	962	40	48.6	107	July 25	-15	Jan. 14	40	21.60	5.25	June	0.06	Jan.	20.0	68	238	0	127	se.
Washburn	McLean	1,731		46.5	110	July 25	13	Jan. 13	31	13.16	3.46	July	0.02	Jan.	14.3	55	181	91	93	nw.
Westhope	Bottineau	1,508	26	44.3	111	July 25	-22	Jan. 13	26	8.28	2.04	Sept.	T	Apr.	3.7	43	206	102	57	nw.
Williston	Williams	1,878	53	46.0	108	June 16	-13	Jan. 13	53	7.78	1.83	July	T.	Apr.	19.2	53	183	106	76	w.
Willow City	Bottineau	1,471	40	42.8	107	June 17	-23	Jan. 14	40	11.10	2.91	Sept.	0.10	Jan.†	15.1	47	218	92	55	nw.
Wishek	McIntosh	2,010	3	43.3	106	July 26	-18	Jan. 14	3	21.71	4.10	June	0.15	Feb.	16.5	66	128	62	175	nw.
Zap	Mercer	1,838							17	13.18	3.59	July	0.07	Dec.	5.2	42				
Moorhead, Minn.	Clay	935	60	45.8	105	July 25	-15	Jan. 14	51	19.18	5.19	July	0.07	Jan.	24.4	90	99	113	153	s.

†Indicates on other dates (or in other months) also.

T Indicates trace.

Monthly and Annual Precipitation for the Year 1931, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Alpha	0.30	.....	0.39	.....	0.63	.....	0.25	.....	0.95	.....	3.05	.....	[illegible]	.....	0.56	.....	[illegible]	.....	[illegible]	.....	0.11	.....	[illegible]	.....	[illegible]	.....
Amenia	0.13	0.35	0.21	-0.53	[illegible]	+0.09	0.82	0.98	2.67	-0.18	3.66	0.13	1.49	+1.09	2.58	+0.03	1.32	0.79	2.92	+1.53	1.05	+0.40	0.15	[illegible]	[illegible]	0.44
Amidon	T	0.42	0.40	-0.05	0.90	+0.17	T	1.26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arnegard	0.15	0.40	0.10	-0.35	1.27	+0.55	0.05	-1.42	0.59	-1.47	1.87	1.33	2.03	+0.27	0.37	-1.08	1.18	+0.05	0.11	0.81	0.35	0.05	[illegible]	0.67	[illegible]	6.14
Ashley	0.12	0.39	0.42	-0.10	0.64	-0.38	0.66	-1.26	2.20	0.20	[illegible]	+0.42	3.25	+0.42	3.78	+1.21	0.75	[illegible]	[illegible]	[illegible]	1.26	[illegible]	[illegible]	[illegible]	[illegible]	+0.12
Beach	0.09	-0.42	0.52	+0.12	0.83	[illegible]	0.16	-1.06	0.72	1.86	2.41	[illegible]	2.21	+0.42	0.78	-0.99	1.72	[illegible]	[illegible]	[illegible]	0.13	[illegible]	[illegible]	[illegible]	10.51	[illegible]
Berthold Agency	T.	-0.34	0.01	-0.46	[illegible]	0.02	T.	[illegible]	[illegible]	1.79	2.67	1.21	3.97	+1.80	2.15	+0.72	2.65	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bismarck	0.05	-0.40	0.74	+0.30	1.26	+0.57	0.42	-1.10	1.91	0.38	1.65	-1.69	3.39	[illegible]	1.78	0.24	2.84	+1.58	1.19	0.25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bottineau	0.10	-0.30	0.08	-0.27	0.31	-0.38	0.04	0.85	0.28	1.81	1.51	1.80	2.07	[illegible]	2.69	+0.56	2.49	+0.87	0.52	0.51	[illegible]	[illegible]	0.01	[illegible]	[illegible]	[illegible]
Bowman	0.31	-0.14	0.79	+0.50	[illegible]	+1.87	0.49	-0.61	1.63	0.79	1.27	2.22	3.67	+1.50	1.44	+0.08	2.40	+1.20	1.75	-0.77	[illegible]	-0.67	[illegible]	+0.40	17.07	[illegible]
Cando	0.27	0.15	0.03	-0.34	1.50	+0.82	0.41	0.67	0.71	-1.58	1.17	-2.43	2.75	-0.23	4.95	+2.82	2.42	+0.80	2.11	1.25	0.40	0.13	0.01	0.15	16.70	+0.19
Carrington	T.	-0.32	0.10	0.29	1.00	+0.33	0.51	0.72	1.21	1.42	3.30	0.21	4.29	[illegible]	2.51	+0.29	2.34	+0.80	0.57	0.00	[illegible]	0.15	[illegible]	0.27	[illegible]	[illegible]
Carson	0.13	0.22	0.41	+0.10	1.70	+1.11	0.55	-0.93	2.72	+0.43	2.46	-1.61	4.04	+2.16	2.03	+0.51	[illegible]	+0.51	1.31	+0.33	0.66	-0.05	[illegible]	-0.18	[illegible]	[illegible]
Cavalier	0.27	-0.44	0.35	-0.23	0.95	+0.27	0.27	-0.94	2.65	-0.66	1.46	-1.46	3.00	+0.27	2.33	+0.07	3.81	+1.87	2.80	+1.80	0.75	[illegible]	[illegible]	0.90	18.21	-0.49
Cooperstown	.....	.....	.....	.....	.....	.....	0.39	1.17	2.02	0.36	1.65	1.91	3.28	+0.73	3.25	+1.09	1.22	-0.57	2.99	+1.93	0.70	0.06	T	0.52	.....	.....
Corinth	0.01	.....	0.03	.....	0.70	.....	0.00	.....	0.45	.....	1.07	.....	1.82	.....	1.70	.....	1.56	.....	0.21	.....	0.64	.....	[illegible]	.....	7.60	.....
Courtenay	.....	.....	.....	.....	0.80	.....	0.83	.....	2.65	.....	1.10	.....	2.30	.....	.....	.....	.....	.....	2.57	.....	1.00	.....	[illegible]	.....	.....	.....
Crosby	0.12	-0.31	0.04	-0.24	0.99	+0.48	T.	-1.12	0.50	1.51	1.17	1.99	2.39	+0.24	3.17	+1.25	1.59	+0.19	0.66	0.82	0.10	0.75	0.22	0.23	10.95	1.61
Devils Lake	0.19	-0.28	0.13	-0.37	1.10	+0.72	0.65	0.87	1.42	-0.61	2.54	1.02	3.01	+0.41	3.89	+1.41	2.72	+1.09	2.29	+1.04	0.48	0.24	0.09	0.45	18.51	+0.46
Dickinson	0.22	-0.22	0.61	+0.18	1.08	+0.22	0.11	1.12	1.21	1.15	3.46	+0.27	2.80	+0.55	2.05	+0.26	3.02	+1.83	0.86	0.01	0.38	0.14	0.37	-0.12	16.17	+0.62
Dogden Butte	0.23	.....	0.20	.....	1.38	.....	0.07	.....	0.81	.....	2.77	.....	4.02	.....	1.95	.....	2.88	.....	1.17	.....	0.10	.....	0.16	.....	15.68	.....
Drake	0.31	.....	0.07	.....	1.11	.....	0.11	.....	0.81	.....	1.34	.....	3.51	.....	2.47	.....	3.03	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dunn Center	0.12	-0.31	0.09	-0.45	1.06	+0.14	0.65	0.73	0.90	-1.62	2.32	-1.69	2.72	+0.54	3.58	+2.17	3.39	+2.06	0.43	-0.32	0.17	-0.40	0.22	-0.33	15.65	-0.94
Dunseith	0.20	-0.20	0.15	-0.27	0.51	-0.15	0.17	-0.64	0.10	1.74	1.67	-1.41	1.72	-0.72	2.13	-0.25	3.22	+1.51	1.27	+0.36	0.06	-0.45	0.00	0.40	11.20	1.36
Eckman	0.04	-0.40	0.05	-0.51	0.41	-0.07	T.	-0.96	0.44	-1.67	0.90	-2.04	1.87	-0.40	1.41	-0.66	2.43	+1.03	0.23	-0.70	0.01	-0.57	0.01	-0.50	7.80	-7.25
Edgeley	0.05	-0.28	0.30	-0.04	0.92	+0.26	1.23	-0.54	2.66	0.00	4.43	+0.74	2.36	-0.38	2.11	-0.15	1.16	-0.66	1.07	+0.04	0.70	+0.23	0.40	+0.61	17.39	0.77
Ellendale	0.05	-0.43	0.74	+0.16	1.27	+0.44	1.15	-0.95	1.71	1.37	3.72	-0.87	2.03	-1.12	2.15	-0.93	0.89	-1.13	1.66	+0.49	0.73	-0.01	1.20	+0.72	17.30	-5.00
Energy	0.10	-0.16	0.30	-0.03	1.23	+0.73	T.	-1.13	1.04	-1.18	1.34	-2.14	3.95	+1.69	1.35	-0.50	2.81	+1.37	0.83	+0.01	0.38	+0.01	0.05	-0.39	13.41	-1.72
Epping	0.01	-0.45	T.	-0.41	0.25	-0.26	0.30	0.89	0.42	-1.89	0.91	-2.66	1.61	-0.40	0.78	1.02	0.81	-0.80	0.43	-0.42	T.	-0.46	0.20	0.24	5.62	-9.90
Fairfield	0.35	.....	1.00	.....	1.10	.....	0.35	.....	1.44	.....	2.28	.....	3.17	.....	1.81	.....	3.10	.....	0.40	.....	0.40	.....	0.50	.....	15.90	.....
Fessenden	0.25	-0.23	0.14	-0.41	0.70	0.00	0.75	-0.76	1.65	-0.73	1.75	-2.08	3.52	+1.40	3.71	+1.54	2.22	+0.43	1.74	+0.83	0.74	-0.02	0.00	-0.66	17.17	-0.69
Forman	0.13	-0.41	0.87	+0.22	1.37	+0.57	1.65	-0.50	2.13	-0.74	6.25	+2.76	1.49	-1.46	1.45	-1.29	0.67	-1.27	2.18	+0.78	0.72	+0.08	0.15	-0.40	19.06	1.66
Fort Yates	T.	-0.52	0.20	-0.42	1.21	+0.27	0.52	-1.07	2.64	+0.67	2.71	-0.79	2.86	+0.44	2.71	+0.71	1.30	+0.15	0.97	+0.06	0.60	+0.05	0.50	+0.02	16.22	-0.43
Foxholm (near)	0.14	-0.19	0.10	-0.47	1.20	+0.53	0.41	0.94	0.48	-1.49	1.65	-1.44	2.04	0.19	1.60	-0.14	2.29	+0.79	0.29	-0.81	0.17	-0.50	0.30	0.13	10.67	4.98
Fryburg	0.23	-0.22	0.55	+0.01	1.06	+0.34	T.	-1.33	1.38	0.86	3.44	+0.05	3.39	+1.39	0.56	-0.90	2.72	+1.03	0.97	-0.22	0.30	-0.34	0.24	-0.34	14.84	-1.39
Fullerton	0.40	-0.40	1.62	+0.70	1.97	+0.79	1.27	0.82	1.75	-1.45	3.35	-0.40	2.24	-0.95	1.75	-0.83	1.19	-0.97	1.99	+0.57	1.54	+0.69	1.14	+0.29	20.21	-2.78
Gackle	.....	.....	.....	.....	1.52	.....	1.84	.....	3.30	.....	2.51	.....	3.16	.....	2.85	.....	1.39	.....	1.59	.....	1.48	.....	0.30	.....	.....	.....
Garrison	T.	-0.42	0.10	-0.40	1.24	+0.31	T.	-1.22	0.67	-1.56	1.54	1.88	3.79	+1.59	1.25	-0.77	3.37	+1.93	0.61	-0.29	0.05	-0.50	0.10	-0.45	12.72	-2.66
Grafton	0.22	0.35	T.	-0.59	1.38	+0.72	T.	-1.40	2.05	-0.14	1.37	-1.99	5.15	+2.66	2.80	+0.33	4.14	+2.08	2.61	+1.60	1.50	+0.76	0.26	-0.26	21.48	+3.42
Grand Forks	0.14	-0.40	0.09	-0.49	1.04	+0.31	0.15	-1.69	2.87	+0.26	2.81	-0.61	2.38	-0.35	2.01	-0.47	2.44	+0.59	3.65	+2.38	1.77	+0.96	0.14	-0.49	19.49	0.00
Granville	0.05	-0.35	0.20	-0.25	0.50	+0.02	0.04	-1.01	0.48	-1.45	2.23	-0.66	3.95	+1.85	1.06	-0.79	2.37	+0.88	0.49	-0.46	0.10	-0.51	0.04	0.48	11.51	3.21
Hankinson	0.02	.....	0.35	.....	1.40	.....	0.90	.....	3.01	.....	4.35	.....	2.28	.....	2.21	.....	0.76	.....	2.33	.....	0.65	.....	0.32	.....	18.58	.....
Hannah	0.14	-0.54	0.11	-0.47	0.78	+0.12	0.48	-0.79	0.80	-1.33	0.98	2.42	1.77	-0.66	3.61	+1.79	3.19	+0.98	2.24	+1.17	0.41	-0.37	0.05	0.55	14.56	3.07
Hansboro	0.10	-0.59	0.20	-0.38	0.50	-0.22	0.20	-1.29	0.46	-1.91	1.30	-1.79	3.56	+1.12	4.01	+1.81	3.13	+1.13	1.18	+0.01	0.20	-0.39	0.05	-0.60	14.83	-3.10
Hettinger	T.	-0.33	0.22	-0.12	1.12	+0.44	0.30	-0.70	2.00	-0.35	2.29	-1.31	4.39	+1.84	1.85	+0.55	1.98	+0.45	0.94	+0.13	0.25	-0.19	0.40	+0.03	15.74	+0.47
Hillsboro	0.13	-0.45	0.26	-0.37	0.78	+0.11	0.05	-1.80	3.40	+0.21	3.04	-0.38	2.69	+0.26	1.64	-0.85	1.84	-0.38	3.09	+1.89	1.49	+0.58	0.70	0.06	19.11	1.24
Howard (near)	T.	-0.61	0.05	-0.55	0.10	-0.92	0.01	-1.29	0.09	-2.29	0.97	-1.81	1.86	+0.08	2.85	+1.31	1.12	-0.42	T.	-0.90	T.	-0.61	0.20	0.47	7.25	-8.45
Jamestown	0.69	-0.49	0.78	+0.16	0.99	+0.08	2.38	+0.65	2.54	-0.24	2.30	-1.50	2.91	+0.19	2.23	-0.30	1.33	-0.40	2.44	+1.32	1.42	+0.70	0.29	-0.39	19.70	-0.22
Langdon	0.50	-0.07	0.90	+0.28	1.14	+0.33	0.32	1.02	0.95	1.23	2.23	-1.18	1.27	-1.20	2.09	-0.38	3.18	+0.89	2.53	+1.50	0.70	-0.13	T.	-0.63	15.84	-2.84
Larimore	0.40	-0.25	0.00	-0.58	1.30	+0.54	0.20	-1.48	3.31	+0.55	1.16	-2.78	3.43	+0.20	3.02	+0.38	2.75	+0.67	3.79	+2.42	1.24	+0.37	0.20	0.37	20.80	-0.33
Linton	T.	0.43	0.30	-0.25	1.18	+0.70	0.51	-1.01	1.82	-0.46	2.33	-0.23	2.88	+0.82	3.38	+1.37	1.81	+0.03	1.38	+0.34	0.36	-0.30	0.25	-0.16	16.20	+0.42
Lisbon	0.19	-0.41	0.73	+0.06	0.90	+0.38	1.92	+0.08	1.85	-1.18	6.67	+2.71	2.15	-1.15	2.97	+0.63	1.10	-1.07	3.30	+2.15	1.16	+0.43	0.04	-0.47	22.98	+2.16
McClusky	0.40	-0.05	0.25	-0.43	1.04	+0.30	0.43	-0.99	0.83	-1.82	2.27	-0.88	4.22	+1.90	3.08	+1.33	3.00	+1.69	1.09	+0.10	0.45	-0.26	0.15	-0.47	17.21	+0.42
McLeod	0.07	-0.53	0.19	-0.51	1.15	+0.61	0.94	-1.23	1.48	-1.84	9.27	+5.15	2.22	-0.71	1.97	-0.18	0.70	-1.66	3.12	+1.72	0.82	+0.09	0.10	-0.37	22.03	+0.54
Maddock	0.07	-0.20	0.03	-0.34	0.75	+0.36	0.33	1.02	0.93	-1.27	1.64	-1.74	3.85	+1.45	4.23	+2.02	2.90	+0.87	1.22	+0.29	0.08	-0.46	T.	-0.26	16.03	-0.30
Mandan	0.05	-0.22	0.44	+0.08	1.62	+0.91	0.43	-0.99	2.14	-0.28	1.65	-1.68	4.26	+1.61	1.07	-0.43	3.11	+1.65	1.46	+0.62	0.47	-0.05	0.74	+0.31	17.44	+1.52
Manfred	0.29	-0.27	0.13	-0.38	1.09	+0.34	0.84	-0.51	1.08	-1.27	1.52	-2.10	2.80	+0.66	2.91	+0.56	2.18	+0.61	1.29	+0.32	0.30	-0.42	0.10	-0.56	14.53	3.02
Marmarth	0.15	-0.22	0.37	-0.03	0.76	+0.18	0.33	-0.71	1.30	-1.17	1.58	-1.68	3.42	+1.58	0.68	-1.06	2.50	+1.15	1.34	+0.50	0.42	+0.01	0.35	-0.05	13.20	-1.50
Mary	0.21	.....	0.06	.....	0.66	.....	0.21	.....	1.24	.....	1.76	.....	3.39	.....	0.42	.....	1.70	.....	0.60	.....	0.35	.....	0.29	.....	10.89	.....
Max	T.	.....	0.10	.....	1.15	.....	T.	.....	0.57	.....	2.30	.....	2.90	.....	1.57	.....	2.78	.....	0.94	.....	0.20	.....	0.00	.....	12.51	.....
Mayville	T.	-0.42	0.00	-0.45	0.59	-0.13	0.06	-1.64	2.07	-0.95	2.17	-1.24	4.32	+1.53	2.03	-0.59	1.97	-0.22	3.60	+2.40	1.00	+0.21	0.03	-0.53	17.84	-2.04
Minot	0.06	-0.32	0.05	-0.42	0.40	-0.29	0.00	-1.23	1.26	-0.78	1.65	-1.57	1.79	-0.08	3.31	+1.30	2.78	+1.17	0.29	-0.69	0.95	+0.28	0.02	-0.46	12.56	-3.09
Mohall	T	-0.33	0.08	-0.24	0.36	-0.32	T.	-0.94	T.	-2.01	1.28	-2.02	1.89	-0.34	1.86	+0.05	1.83	+0.28	0.45	-0.59	0.10	-0.50	0.20	-0.21	8.05	-7.17
Mott	T.	-0.84	0.50	-0.08	1.38	+0.46	0.31	-1.09	1.70	-0.68	1.69	-1.85	5.09	+2.50	1.65	-0.12	2.42	+0.94	0.72	-0.35	0.46	-0.09	0.70	+0.06	16.62	-1.14
Napoleon	0.36	-0.07	0.60	+0.17	1.57	+0.74	1.40	-0.21	1.75	-0.61	2.25	-1.28	4.18	+1.68	3.18	+0.85	1.15	-0.29	2.00	+0.97	1.38	+0.73	0.43	-0.02	20.25	+2.66
New England	0.62	+0.12	0.70	+0.20	1.72	+0.93	0.10	-0.93	1.24	-0.83	2.78	-0.12	4.03	+2.08	0.81	0.78	2.58	+1.30	1.41	+0.71	0.56	+0.05	0.45	+0.05	17.00	+2.78
New Salem	0.15	-0.35	0.42	-0.02	1.24	+0.41	0.21	-1.01	1.22	-1.03	3.15	-0.28	3.95	+1.92	1.50	-0.08	2.65	+1.28	0.51	-0.45	0.24	-0.25	0.26	-0.32	15.50	-0.18
Oakes	0.13	.....	0.64	.....	0.97	.....	1.44	.....	1.44	.....	4.23	.....	2.45	.....	2.49	.....	1.11	.....	2.52	.....	0.78	.....	0.51	.....	18.71	.....
Park River	0.16	-0.22	0.02	-0.38	0.85	+0.32	0.16	-1.16	1.27	-1.10	1.18	-2.30	3.71	+1.20	1.84	-0.44	4.63	+2.64	1.61	+0.47	0.40	-0.38	0.08	-0.37	15.91	-1.72
Parshall (near)	0.03	-0.16	0.01	-0.35	0.57	+0.35	0.46	-0.68	0.55	-1.56	1.86	-1.23	3.07	+1.26	1.01	0.82	2.44	+0.88	0.10	-0.59	0.48	+0.19	0.10	-0.30	10.68	3.01
Pembina	0.00	-0.62	0.00	-0.73	0.70	-0.17	0.10	-1.34	2.55	+0.12	1.66	-1.94	1.90	-0.56	3.30	+1.04	3.06	+1.00	1.96	+0.53	0.85	+0.06	0.16	-0.61	16.18	-3.22
Petersburg	0.00	.....	0.00	.....	0.09	.....	0.04	.....	1.85	.....	1.13	.....	5.36	.....	1.82	.....	2.53	.....	3.82	.....	1.08	.....	0.18	.....	17.90	.....
Pettibone	0.75	+0.34	0.70	+0.27	1.45	+0.90	0.22	-1.11	1.51	-1.11	3.56	+0.40	4.35	+1.65	2.04	-0.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portal	0.00	-0.48	0.00	-0.43	0.30	-0.31	0.07	-1.05	0.30	-1.87	1.50	-1.85	2.96	+1.06	1.56	-0.37	1.22	-0.25	0.11	-0.64	T.	-0.58	0.15	-0.35	8.17	-7.15
Power	0.50	-0.13	1.00	+0.36	0.42	-0.28	0.85	-0.95	2.10	-0.61	4.05	+0.12	0.18	-3.11	3.10	+0.73	0.35	-1.71	3.32	+1.89	1.30	+0.55	0.20	-0.43	17.37	-3.57
Powers Lake	0.07	-0.54	0.19	-0.29	0.74	-0.08	0.63	-0.95	0.47	-1.70	0.11	-3.44	3.42	+1.20	1.71	+0.22	2.52	+1.25	0.53	-0.70	0.02	-0.56	0.42	-0.17	10.83	-5.76
Richardton	T.	-0.42	0.15	-0.22	1.36	+0.83	T.	1.48	1.36	-1.13	4.06	+0.61	3.97	+1.93	1.04	-0.53	3.30	+1.95	0.65	-0.09	1.15	+0.69	0.08	-0.30	17.12	+1.84
Rugby	0.40	.....	0.05	.....	0.62	.....	0.29	.....	0.45	.....	1.08	.....	2.32	.....	2.26	.....	2.29	.....	1.00	.....	0.25	.....	0.10	.....	11.11	.....
Ryder	0.10	.....	0.11	.....	0.57	.....	0.25	.....	1.24	.....	1.68	.....	3.18	.....	0.83	.....	2.23	.....	0.44	.....	0.23	.....	0.13	.....	10.99	.....
Sanish	.....	.....	.....	.....	.....	.....	0.13	.....	0.66	.....	1.27	.....	1.93	.....	1.55	.....	1.08	.....	0.25	.....	0.00	.....	.....	.....	.....	.....
Sharon	0.09	.....	0.05	.....	0.98	.....	0.64	.....	3.13	.....	2.14	.....	4.35	.....	3.16	.....	1.95	.....	3.94	.....	1.38	.....	0.12	.....	21.93	.....
Stanton	0.10	.....	0.35	.....	1.02	.....	T.	.....	1.32	.....	1.23	.....	4.21	.....	1.48	.....	3.12	.....	0.90	.....	0.25	.....	0.12	.....	14.13	.....
Steele	0.91	+0.45	0.35	-0.12	1.18	+0.37	0.86	-0.33	1.54	-1.04	2.32	-1.18	4.11	+1.21	2.50	+0.13	2.69	+1.24	1.25	+0.18	0.47	-0.15	0.07	-0.48	18.25	+0.28
Stowers	T.	-0.36	0.38	-0.17	1.17	+0.38	0.30	-0.86	2.20	-0.18	2.10	-1.35	3.52	+1.79	1.32	+0.01	1.04	-0.25	0.43	-0.68	0.18	-0.19	0.29	-0.20	12.93	-2.06
Tagus	0.02	.....	0.14	.....	0.08	.....	0.37	.....	0.48	.....	0.99	.....	1.95	.....	0.71	.....	1.75	.....	0.08	.....	0.17	.....	0.03	.....	6.77	.....
Tioga	0.00	.....	T.	.....	0.50	.....	T.	.....	0.33	.....	1.16	.....	2.11	.....	1.14	.....	1.05	.....	0.22	.....	0.01	.....	0.13	.....	6.65	.....
Towner	0.40	-0.04	T.	-0.44	0.85	+0.12	0.17	-0.93	0.59	-1.62	1.40	-1.50	2.99	+0.73	1.84	-0.05	2.82	+1.05	0.82	-0.17	0.33	-0.26	T.	-0.40	12.21	-3.51
Trotters	0.05	.....	0.67	.....	1.03	.....	T.	.....	1.13	.....	2.46	.....	2.13	.....	0.81	.....	1.03	.....	0.57	.....	0.20	.....	0.39	.....	10.47	.....
Turtle Lake	0.05	-0.33	0.30	-0.14	1.20	+0.46	0.10	-1.09	0.92	-1.40	1.14	-2.84	3.71	+0.84	0.32	-2.03	2.83	+1.53	1.08	+0.37	0.00	-0.40	0.00	-0.54	11.68	-5.54
Valley City	0.08	-0.44	0.13	-0.35	1.01	+0.49	1.29	-0.14	2.71	+0.03	3.03	-0.17	3.27	+0.59	2.38	+0.40	1.28	-0.61	2.87	+1.95	1.50	+0.79	0.06	-0.36	19.61	+2.15
Velva	0.09	.....	0.18	.....	0.84	.....	0.07	.....	0.97	.....	2.22	.....	2.91	.....	1.52	.....	2.83	.....	0.67	.....	0.05	.....	0.06	.....	12.41	.....
Verona	0.07	.....	0.40	.....	0.62	.....	1.29	.....	[illegible]	.....	4.74	.....	1.86	.....	1.90	.....	[illegible]	.....	2.90	.....	0.67	.....	T.	.....	18.01	.....
Wahpeton	0.06	-0.38	0.87	+0.36	0.98	+0.20	0.49	[illegible]	2.75	+0.07	5.25	+1.39	3.12	-0.34	3.00	+0.25	0.72	1.51	3.15	+1.68	1.09	[illegible]	0.12	-0.32	21.60	+0.08
Washburn	0.02	-0.32	0.30	-0.09	1.12	+0.60	0.07	-1.00	0.80	-1.27	2.50	0.81	3.46	+1.27	1.17	-0.17	2.36	+1.19	1.14	+0.28	0.14	-0.38	0.08	-0.24	13.16	-0.94
Westhope	0.02	-0.38	0.02	-0.18	0.07	-0.39	T	0.91	0.49	-1.45	1.56	-1.45	1.65	-0.58	1.87	-0.17	2.04	+0.69	0.35	-0.48	0.11	-0.44	0.10	-0.17	8.28	-5.91
Williston	0.06	-0.48	0.19	-0.22	1.06	+0.37	T.	-1.20	0.47	-1.59	1.24	-2.19	1.83	-0.06	1.10	-0.37	1.23	+0.14	0.15	-0.71	0.05	-0.52	0.40	-0.18	7.78	-7.02
Willow City	0.10	-0.44	0.10	-0.42	0.89	+0.16	0.20	-0.80	0.32	-1.60	2.09	-1.02	2.46	+0.37	1.18	-0.82	2.91	+1.19	0.55	-0.29	0.20	-0.39	0.10	0.44	11.10	-4.50
Wishek	0.36	-0.17	0.15	-0.44	0.48	-0.24	1.66	+0.62	3.04	+0.16	4.10	+1.18	4.00	+1.38	4.06	+1.95	0.66	-0.69	2.10	+1.13	0.83	+0.31	0.27	-0.37	21.71	+4.82
Zap	0.13	-0.21	0.24	-0.03	0.83	+0.20	0.19	-0.86	0.81	1.55	1.60	-2.11	3.59	+1.63	1.69	-0.13	3.23	+2.00	0.54	-0.53	0.17	-0.16	0.07	-0.27	13.18	-2.01
Moorhead, Minn.	0.07	-0.60	0.30	-0.39	0.81	-0.20	0.46	-1.72	1.95	-0.94	2.79	-1.26	5.19	+1.76	1.85	-1.04	1.64	-0.58	2.34	+0.65	1.57	+0.67	0.21	-0.16	19.18	-4.16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1931, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	18.8	+13.9	28.6	+19.8	28.8	+4.2	44.0	+2.0	54.2	+0.2	67.6	+ 4.2	70.8	+2.1	66.4	− 0.1	62.4	+4.9	51.2	+6.6	36.6	+8.6	19.4	+ 7.2	45.7	+6.1
Amidon	[a]29.8	+15.7	[c]31.2	+11.8	[a]32.0	+4.1	48.2	+7.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arnegard	25.1	+16.1	30.8	+16.9	25.6	+0.3	45.3	+4.2	54.0	+1.3	69.5	+ 7.8	71.9	+2.6	69.0	+1.7	61.1	+4.8	[a]47.9	+5.0	30.4	+2.1	23.4	+10.4	46.2	+6.1
Ashley	21.8	+13.2	30.0	+18.9	27.2	+2.9	44.4	+1.8	52.6	−0.9	69.0	+ 6.6	72.2	+3.5	67.4	+0.9	63.6	+6.3	48.4	+5.6	31.2	+3.2	19.4	+ 5.2	45.6	+5.6
Beach	26.2	+15.1	31.0	+14.8	27.8	+0.6	45.3	+3.3	55.0	+3.6	68.6	+ 6.9	70.7	+2.2	68.7	+2.3	61.0	+4.0	47.4	+3.8	30.6	− 0.4	25.4	+ 8.4	46.5	+5.5
Berthold Agency	23.5	+14.9	29.6	+17.4	26.6	+0.6	45.0	+1.5	[a]54.6	+0.5	69.8	+ 7.0	71.0	+1.8	67.7	0.0	60.2	+3.5	47.4	+2.8	29.2	+0.7	[c]21.1	+ 5.7	45.5	+4.7
Bismarck	24.6	+16.8	30.4	+20.1	27.2	+3.0	45.6	+3.5	54.4	−0.1	69.6	+ 5.9	71.6	+1.8	67.5	+0.2	63.2	+5.1	48.6	+3.7	31.1	+2.6	21.4	+ 6.7	46.3	+5.8
Bottineau	16.2	+15.6	25.2	+21.0	24.2	+4.1	40.9	+1.8	51.1	−0.2	65.8	+ 4.5	68.8	+2.2	64.4	+0.3	56.4	+1.5	45.6	+4.6	29.2	+5.6	19.6	+12.2	42.3	+6.1
Bowman	26.1	+13.1	31.6	+13.1	28.6	+0.9	45.0	+2.4	53.3	+1.1	68.8	+ 6.3	[b]70.8	+1.4	67.8	+0.1	61.4	+4.6	46.8	+2.8	30.4	−0.2	25.4	+10.3	46.3	+4.6
Cando	15.8	+15.8	27.2	+21.6	24.2	+2.0	43.6	+2.9	53.8	+1.8	68.8	+ 7.3	70.4	+3.6	66.8	+1.9	61.0	+4.8	47.2	+3.5	29.7	+3.2	20.1	+11.5	44.0	+6.6
Carrington	20.6	+13.9	25.0	+16.3	24.2	+0.8	42.3	+2.7	50.8	−1.7	66.6	+ 3.6	67.9	−0.8	[c]64.8	−2.0	60.6	+4.0	46.4	+2.6	28.4	+0.6	19.0	+ 7.3	43.0	+3.9
Carson	24.2	+15.2	28.0	+12.6	24.8	−1.5	43.6	+0.9	53.4	+0.3	68.2	+ 5.8	70.0	+1.2	65.9	−2.0	60.8	+4.4	46.0	+2.7	30.6	+0.6	26.7	+12.0	45.2	+4.4
Crosby	19.6	+16.0	24.1	+14.7	21.4	−2.1	43.6	+3.4	52.8	+1.6	67.6	+ 6.5	69.2	+2.4	65.6	+1.0	57.2	+3.1	46.4	+4.6	27.2	+0.5	19.9	+ 8.3	42.9	+5.0
Devils Lake	16.6	+14.8	25.6	+20.5	23.9	+4.1	42.4	+3.6	51.4	−1.2	66.8	+ 4.9	69.3	+1.9	66.2	+1.4	60.4	+4.5	47.0	+4.6	29.9	+4.5	20.0	+10.5	43.3	+6.3
Dickinson	24.6	+14.1	28.6	+15.5	24.8	−0.5	43.3	+1.2	52.8	+0.6	67.8	+ 6.1	69.2	+1.0	65.8	−0.5	58.9	+2.9	45.6	+2.0	29.0	+0.7	22.8	+ 6.4	44.4	+4.1
Dogden Butte	22.6	.....	29.2	.....	25.2	.....	44.2	.....	53.7	.....	67.5	.....	69.0	.....	67.4	.....	60.8	.....	47.9	.....	30.7	.....	22.4	.....	45.0	.....
Drake	22.8	.....	27.3	.....	24.2	.....	43.6	.....	53.1	.....	67.4	.....	69.2	.....	65.4	.....	59.2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dunn Center	25.4	+11.6	29.4	+14.8	25.6	+0.1	43.6	+1.8	52.9	+0.2	68.1	+ 6.1	69.6	+1.6	65.4	−0.8	57.6	+1.4	47.6	+3.2	30.3	+2.4	22.2	+ 4.5	44.8	+3.9
Dunseith	16.4	+13.9	24.9	+18.3	18.8	−1.4	40.4	+0.5	52.8	+0.7	67.8	+ 6.9	69.6	+3.7	66.6	+2.7	59.0	+4.6	46.0	+4.6	28.8	+4.4	19.8	+ 9.1	42.6	+5.7
Eckman	18.8	+15.7	27.8	+20.2	23.5	+0.6	43.6	+3.0	53.2	+1.8	67.4	+ 5.8	70.0	+3.2	66.4	+2.2	58.9	+3.7	45.5	+3.7	28.0	+2.2	19.8	+10.5	43.6	+6.1
Edgeley	24.8	+16.0	30.8	+18.1	27.2	−0.1	45.9	+3.2	52.6	−1.1	[c]69.2	+ 6.3	72.2	+3.4	66.8	−0.1	63.6	+6.0	49.4	+4.1	32.6	+2.8	21.3	+ 5.5	46.4	+5.4
Ellendale	23.8	+13.1	28.0	+17.3	26.5	+0.9	44.8	+1.2	52.2	−3.5	68.8	+ 2.8	72.4	+1.7	68.0	0.8	64.2	+5.8	48.8	+3.2	30.8	+4.7	20.6	+ 3.8	45.7	+4.1
Energy	25.1	.....	30.9	.....	26.5	.....	46.0	.....	55.1	.....	69.6	.....	71.0	.....	67.8	.....	62.0	.....	47.9	.....	31.6	.....	21.8	.....	46.3	.....
Epping	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[a]71.4	.....	70.2	.....	67.8	.....	[c]60.5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fessenden	20.7	+15.2	27.7	+17.6	25.0	+1.6	42.4	+1.7	53.8	+1.8	69.1	+ 7.4	70.2	+2.2	66.1	+0.2	60.4	+4.7	46.7	+3.7	29.8	+2.7	19.6	+ 9.0	44.3	+5.7
Fort Yates	23.8	+14.6	31.8	+20.0	29.2	+2.9	45.3	+0.4	53.8	−2.3	71.4	+ 5.2	75.1	+3.4	68.1	−1.2	65.0	+5.2	51.6	+5.2	33.6	+3.8	20.1	+ 1.7	47.4	+4.9
Foxholm (near)	22.0	.....	29.1	.....	24.3	.....	44.2	.....	53.4	.....	68.1	.....	70.0	.....	66.6	.....	58.8	.....	46.5	.....	28.4	.....	21.8	.....	44.4	.....
Fullerton	24.0	+15.1	28.6	+16.6	27.6	+0.8	45.0	+2.2	52.5	−1.5	69.1	+ 5.7	72.6	+3.6	68.6	+1.5	64.6	+7.4	49.4	+4.6	31.4	+2.2	20.6	+ 6.2	46.2	+5.4
Garrison	24.6	+17.0	30.6	+19.7	26.4	+2.6	45.4	+3.1	54.9	+2.2	69.0	+ 6.8	71.2	+3.0	67.2	+1.1	61.5	+6.6	47.6	+1.9	30.6	+4.3	22.4	+ 8.7	46.0	+6.7
Grafton	13.9	+11.7	24.0	+17.3	24.3	+3.1	44.4	+3.8	53.4	+0.1	68.8	+ 6.0	71.8	+4.1	68.4	+3.2	62.0	+5.7	49.2	+7.1	32.0	+7.3	20.2	+11.3	44.4	+6.8
Grand Forks	16.2	+12.7	24.4	+16.8	26.0	+3.6	43.6	+1.9	52.4	−1.3	67.8	+ 4.8	71.0	+3.5	67.8	+2.4	62.0	+5.6	48.7	+5.1	31.3	+5.3	19.6	+ 9.0	44.2	+5.8
Granville	22.3	+17.7	29.2	+19.1	25.2	+1.1	44.1	+3.3	53.2	+1.6	68.0	+ 5.8	69.3	+1.8	65.1	+0.2	57.2	+2.4	45.0	+1.7	29.2	+2.5	22.8	+10.8	44.2	+5.6
Hankinson	23.9	.....	29.4	.....	31.4	.....	49.8	.....	55.9	.....	71.7	.....	75.6	.....	69.0	.....	67.4	.....	51.4	.....	34.4	.....	24.6	.....	48.7	.....
Hansboro	13.3	+13.4	22.0	+16.2	18.5	−2.1	37.7	−1.2	45.0	5.7	59.2	− 1.2	62.4	−2.8	64.7	+2.3	57.8	+4.3	47.0	+6.3	28.2	+4.7	21.0	+13.0	39.7	+3.9
Hettinger	27.3	+14.3	30.9	+14.4	28.6	0.0	43.0	+0.2	52.6	−1.0	69.0	+ 6.1	70.8	+0.7	66.6	−2.2	61.2	+3.6	47.2	+1.6	30.3	−1.3	24.6	+ 7.8	46.0	+3.7
Hillsboro	15.4	+10.8	24.8	+14.5	26.0	+0.4	43.4	+0.6	[a]52.8	−1.1	68.4	+ 4.2	71.6	+2.0	[a]67.1	−0.4	[c]63.3	+4.7	[c]48.4	+3.2	31.0	+3.2	19.3	+ 8.1	44.3	+4.2
Howard (near)	20.4	+16.0	30.3	+21.3	23.9	+2.0	45.0	+5.9	53.0	+3.2	70.8	+10.6	69.6	+3.6	65.5	+0.6	57.6	+3.3	45.6	+4.0	27.8	+1.5	23.4	+11.8	44.4	+7.0
Jamestown	21.0	+14.0	27.8	+18.2	25.8	+1.8	42.3	+0.2	51.8	−1.7	67.6	+ 4.4	71.0	+2.5	66.7	+0.3	61.4	+4.9	48.8	+4.3	31.4	+4.1	19.4	+ 6.0	44.6	+4.9
Langdon	10.2	+11.1	19.8	+15.0	18.7	−0.9	40.0	+2.2	49.6	−1.3	64.2	+ 4.1	61.1	−0.5	62.5	0.0	58.0	+5.7	44.2	+3.3	26.7	+2.7	17.3	+ 9.0	39.6	+4.2
Larimore	15.3	+11.7	23.6	+16.3	24.3	+2.0	42.2	+1.8	51.8	−0.8	66.5	+ 4.1	70.4	+3.4	[a]66.2	+1.2	61.0	+5.7	49.2	+5.3	30.6	+4.8	18.9	+ 7.9	43.3	+5.3
Linton	19.1	+ 9.6	29.3	+14.8	27.6	−0.1	43.8	+1.1	53.1	−1.1	69.6	+ 5.3	72.6	+1.3	67.5	−1.7	64.0	+5.5	47.4	+2.7	30.5	+1.5	17.2	+ 3.3	45.1	+3.5
Lisbon	22.2	+14.9	27.5	+16.3	27.8	+0.7	45.0	+2.6	53.6	−0.3	69.0	+ 5.5	73.0	+3.7	67.2	+0.2	63.2	+5.7	49.0	+5.2	32.4	+3.5	21.2	+ 7.1	45.9	+5.4
McClusky	20.3	.....	28.1	.....	26.1	.....	43.8	.....	53.2	.....	67.6	.....	69.4	.....	65.8	.....	60.9	.....	46.6	.....	31.5	.....	20.6	.....	44.5	.....
McLeod	22.1	+13.7	27.4	+14.1	29.4	+1.7	47.8	+3.6	53.4	−1.1	68.4	+ 3.9	72.4	+2.2	68.3	+0.4	65.8	+6.8	51.2	+5.0	33.0	+2.7	20.4	+ 6.0	46.6	+4.9
Maddock	17.2	+12.4	27.5	+16.4	24.3	−0.3	42.7	+1.7	51.4	−1.3	67.4	+ 6.3	69.9	+2.3	66.2	+0.5	61.0	+5.5	46.8	+3.9	30.4	+3.8	20.7	+10.7	43.8	+5.2
Mandan	23.2	+14.9	29.4	+16.5	25.8	−0.9	44.8	+2.1	53.6	−0.3	68.9	+ 5.6	71.2	+0.6	67.2	−0.9	63.0	+5.6	48.0	+4.0	30.6	+1.4	20.7	+ 7.0	45.5	+4.6
Marmarth	[a]25.6	+12.8	32.8	+15.1	30.4	+2.7	44.9	+1.9	54.8	+3.6	70.8	+ 8.8	71.0	+1.6	[a]68.5	+1.2	62.2	+5.7	47.7	+2.2	30.1	−1.3	23.2	+ 6.4	46.8	+5.0
Max	[b]22.5	.....	[a]29.2	.....	25.8	.....	44.7	.....	[a]54.0	.....	68.7	.....	[d]70.8	.....	[b]66.8	.....	[a]69.3	.....	47.1	.....	[a]29.1	.....	[b]20.8	.....	45.0	.....
Mayville	16.8	+11.0	24.1	+14.6	24.8	+0.3	43.0	0.0	52.7	+1.4	68.6	+ 4.6	73.0	+1.5	68.0	+1.0	63.8	+6.4	50.2	+4.3	31.8	+3.6	19.8	+ 6.9	44.7	+4.6
Minot	23.8	+17.6	30.6	+20.9	26.5	+3.7	44.0	+3.2	52.6	+0.4	67.6	+ 5.3	69.9	+2.0	66.6	+1.6	58.8	+2.9	47.4	+4.1	30.6	+3.1	22.8	+10.9	45.1	+6.3
Mohall	20.4	+15.8	28.3	+21.2	25.0	+4.1	44.0	+3.5	[b]54.6	+2.3	71.5	+10.4	72.7	+6.4	68.9	+5.0	58.4	+4.4	49.2	+7.5	29.4	+4.6	19.9	+ 8.9	45.2	+7.8
Mott	27.8	+19.0	32.2	+18.7	28.4	+1.5	44.6	+2.8	53.5	0.0	69.9	+ 5.5	73.4	+3.1	67.2	+0.1	62.0	+5.4	49.4	+6.1	31.7	+2.5	22.2	+ 8.4	46.9	+6.1
Napoleon	19.8	+13.4	28.6	+20.3	25.2	+2.5	44.2	+2.8	52.8	+0.4	68.3	+ 5.9	70.9	+2.3	66.2	−0.2	63.6	+6.9	48.2	+4.5	29.8	+3.1	18.5	+ 5.9	44.7	+5.7
New England	25.7	+12.3	31.0	+16.9	27.6	+2.4	46.2	+3.9	[f]55.4	+3.4	70.4	+ 7.8	70.8	+2.0	66.8	−0.1	[a]64.3	+7.9	46.6	+3.2	[a]32.4	+3.3	23.3	+ 6.8	46.7	+5.8
New Salem	26.8	+17.7	30.6	+17.5	26.8	+0.9	45.2	+2.8	54.2	+1.8	69.2	+ 6.3	72.6	+2.7	68.9	+1.7	63.4	+5.9	49.4	+4.6	32.0	+2.2	22.8	+ 7.5	46.8	+5.9
Oakes	24.2	.....	28.4	.....	28.8	.....	45.5	.....	53.4	.....	70.0	.....	72.4	.....	68.4	.....	65.0	.....	49.4	.....	31.8	.....	18.8	.....	46.3	.....
Park River	15.5	+12.8	25.0	+17.3	23.7	+0.6	[c]44.4	+3.1	[b]51.8	−1.2	67.0	+ 4.1	67.0	−0.9	[c]67.5	+1.3	61.0	+4.4	47.9	+4.1	30.8	+3.0	17.6	+ 7.1	43.3	+4.7
Parshall	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30.2	.....	21.0	.....	.....	.....
Pembina	13.0	+15.4	20.0	+17.0	18.2	0.0	41.0	+2.4	50.9	−1.9	66.2	+ 3.5	68.0	+0.5	65.8	+1.5	59.4	+5.3	45.9	+4.5	29.3	+6.0	18.6	+12.3	41.4	+5.6
Pettibone	18.6	+15.6	27.8	+19.0	24.4	+0.1	43.3	+2.4	55.3	+3.5	68.7	+ 7.2	72.2	+4.2	66.6	−1.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portal	20.0	+17.5	27.0	+21.6	23.4	+5.7	45.2	+3.8	52.4	+1.9	67.6	+ 8.4	[c]68.5	+2.3	65.4	+1.2	60.3	+5.9	47.6	+6.2	28.0	+2.6	19.7	+ 7.5	43.8	+7.1
Powers Lake	22.3	.....	31.5	.....	26.8	.....	44.2	.....	50.7	.....	60.6	.....	68.6	.....	65.0	.....	57.1	.....	48.4	.....	24.8	.....	18.8	.....	43.2	.....
Richardton	26.0	+15.8	30.0	+14.8	25.4	−1.7	45.7	+4.6	53.6	+1.0	68.1	+ 5.5	70.9	+0.8	66.3	−1.8	61.6	+4.8	47.2	+3.8	29.8	+1.5	23.0	+ 9.0	45.6	+4.8
Sanish	.....	.....	.....	.....	.....	.....	44.2	.....	54.1	.....	69.6	.....	70.4	.....	67.6	.....	58.7	.....	46.2	.....	28.2	.....	.....	.....	.....	.....
Sharon	16.6	.....	24.9	.....	25.0	.....	42.6	.....	51.0	.....	67.2	.....	70.5	.....	65.8	.....	61.2	.....	47.8	.....	29.6	.....	18.0	.....	43.4	.....
Steele	[b]20.8	+13.5	28.0	+18.6	25.2	+1.9	42.4	−0.8	52.6	−0.8	69.1	+ 6.6	73.2	+3.8	65.8	−0.9	62.9	+6.0	46.7	+2.9	29.2	+2.9	18.4	+ 6.1	44.5	+5.0
Towner	12.7	+ 8.9	22.4	+14.7	19.5	−2.6	44.7	+2.8	54.6	+1.4	[a]68.7	+ 5.9	71.0	+3.0	67.6	+2.2	60.8	+4.6	47.3	+3.9	30.8	+5.6	21.4	+11.3	43.5	+5.2
Valley City	20.5	+15.0	27.7	+16.2	27.8	+1.8	45.4	+2.8	53.9	+0.4	69.1	+ 6.0	72.2	+3.5	67.2	+0.4	63.4	+5.2	49.2	+4.6	31.3	+3.3	20.2	+ 6.5	45.7	+5.5
Velva	23.8	.....	29.9	.....	26.2	.....	45.9	.....	55.3	.....	69.4	.....	70.6	.....	67.7	.....	60.7	.....	47.4	.....	30.6	.....	22.8	.....	45.9	.....
Wahpeton	24.0	+15.6	30.2	+18.2	30.6	+3.1	47.2	+2.8	55.7	+0.1	71.0	+ 5.9	74.6	+4.8	70.4	+2.5	68.4	+9.2	52.8	+6.2	35.6	+6.8	23.2	+ 7.9	48.6	+6.9
Washburn	25.6	+18.2	32.0	+22.5	27.4	+3.0	45.1	+1.3	51.6	+0.8	69.4	+ 5.3	71.2	+1.7	67.4	0.0	62.8	+4.3	47.4	+2.9	31.8	+1.5	23.6	+ 9.6	46.5	+5.9
Westhope	17.2	+15.9	26.8	+19.8	25.2	+3.2	43.6	+3.7	53.6	+1.8	[a]69.9	+ 7.9	71.4	+4.6	67.9	+3.2	59.6	+4.7	46.6	+4.5	29.0	+3.4	20.6	+10.6	41.3	+7.0
Williston	24.6	+18.2	31.0	+22.9	25.7	+2.8	46.0	+4.0	55.2	+1.2	69.3	+ 6.6	71.0	+2.1	69.0	+2.9	60.8	+4.2	47.6	+4.2	29.0	+1.8	23.4	+ 9.6	46.0	+6.7
Willow City	[a]15.0	+14.1	26.9	+21.7	24.2	+4.5	42.4	+2.8	51.8	+0.3	[d]66.8	+ 5.8	68.8	+3.1	65.6	+2.0	[c]59.5	+5.3	45.2	+3.8	28.6	+6.0	19.1	+10.4	42.8	+6.6
Wishek	[a]18.8	+11.8	[a]28.3	+19.3	24.6	−1.7	42.5	+0.6	[b]52.3	+1.6	[d]67.0	+ 4.7	[c]69.5	+0.9	64.4	−1.4	[a]61.0	+5.4	[a]46.7	+2.8	[e]26.2	−3.6	[d]18.6	+ 5.6	43.3	+3.8
Moorhead, Minn.	19.6	+15.8	26.2	+18.1	27.7	+5.0	44.6	+4.0	53.2	−1.9	69.0	+ 4.6	72.5	+4.4	67.6	+1.5	64.9	+6.7	50.5	+6.0	33.0	+5.9	21.2	+ 9.7	45.8	+6.6

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49]

SEPTEMBER.—Unusually high temperature and deficient precipitation prevailed over most of the state during the first decade. The second decade, though somewhat cooler, continued dry. During these two decades threshing and late flax harvesting made excellent progress; the ground, however, was mostly too dry for fall plowing and seeding of winter rye, and pastures deteriorated considerably. The last decade was both wet and cooler, improving conditions for fall plowing and potato digging. Early planted rye germinated quite favorably. Corn shocking and silo filling were nearly completed at the close of the month.

OCTOBER.—Mild temperature and pleasant weather prevailed generally. During the first decade only light precipitation occurred, allowing fall work on farms, consisting of seeding winter rye, fall plowing, potato digging and corn husking, to progress rapidly, though the ground was somewhat dry in some sections for plowing and potato digging. Generous showers occurred during the latter portion of the month.

NOVEMBER.—Mild temperature prevailed in all sections during the first two decades and during this period only light scattered precipitation occurred. The last decade was much colder with light to heavy snow over most sections. During the first mentioned period highways were in excellent condition, and livestock ranged freely on ranges, pastures and harvested fields. Corn picking and other late farm work made good progress. During the last decade much yard feeding of livestock was necessary in many localities, and a few of the main highways and many sideroads were blockaded with snow.

DECEMBER.—The month opened with temperature somewhat below normal, a condition which prevailed until the middle of the second decade, when there was a general rise, and the mean temperature for the month was the third highest of record for December for the state. There was less than the normal precipitation, occurring generally from the 5th to the 11th, inclusive, and on the last two days of the month. Due to absence of snow cover in most sections livestock ranged freely; the lack of cover, however, was injurious to winter rye. The ice in lakes and rivers of the state was unusually thin and little ice harvesting was accomplished.

Climatological Summary, 1931

Month	Temperature in degrees Fahrenheit				Precipitation, in inches				Sky			Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Number of rainy days	Clear	Pt. cloudy	Cloudy	
January	21.4	+15.2	68	−31	0.15	−0.32	1.4	2	15	8	8	nw.
February	28.0	+17.8	62	−31	0.28	−0.21	2.9	2	14	6	8	nw.
March	25.7	+1.6	63	−24	0.94	+0.24	4.8	5	11	8	12	nw.
April	44.1	+2.5	87	3	0.43	−0.96	0.7	2	18	8	4	nw.
May	53.1	+0.3	100	10	1.41	−0.99	0.3	6	16	7	8	nw.
June	68.4	+5.9	110	27	2.35	−1.10	0	8	14	10	6	se.
July	70.6	+2.2	111	37	3.03	+0.61	0	8	17	8	6	nw.
August	67.0	+0.8	105	30	2.09	+0.05	0	6	16	9	6	nw.
September	61.4	+5.0	107	27	2.14	+0.49	T.	6	18	7	5	nw.
October	47.7	+4.2	90	10	1.39	+0.35	0.2	6	15	6	10	nw.
November	30.3	+2.9	78	−10	0.55	−0.06	5.0	3	13	7	10	nw.
December	21.0	+8.4	58	−21	0.23	−0.29	2.7	2	13	8	10	nw.
Annual	44.9	+5.6	111	−31	14.99	−2.19	18.0	56	180	92	93	nw.

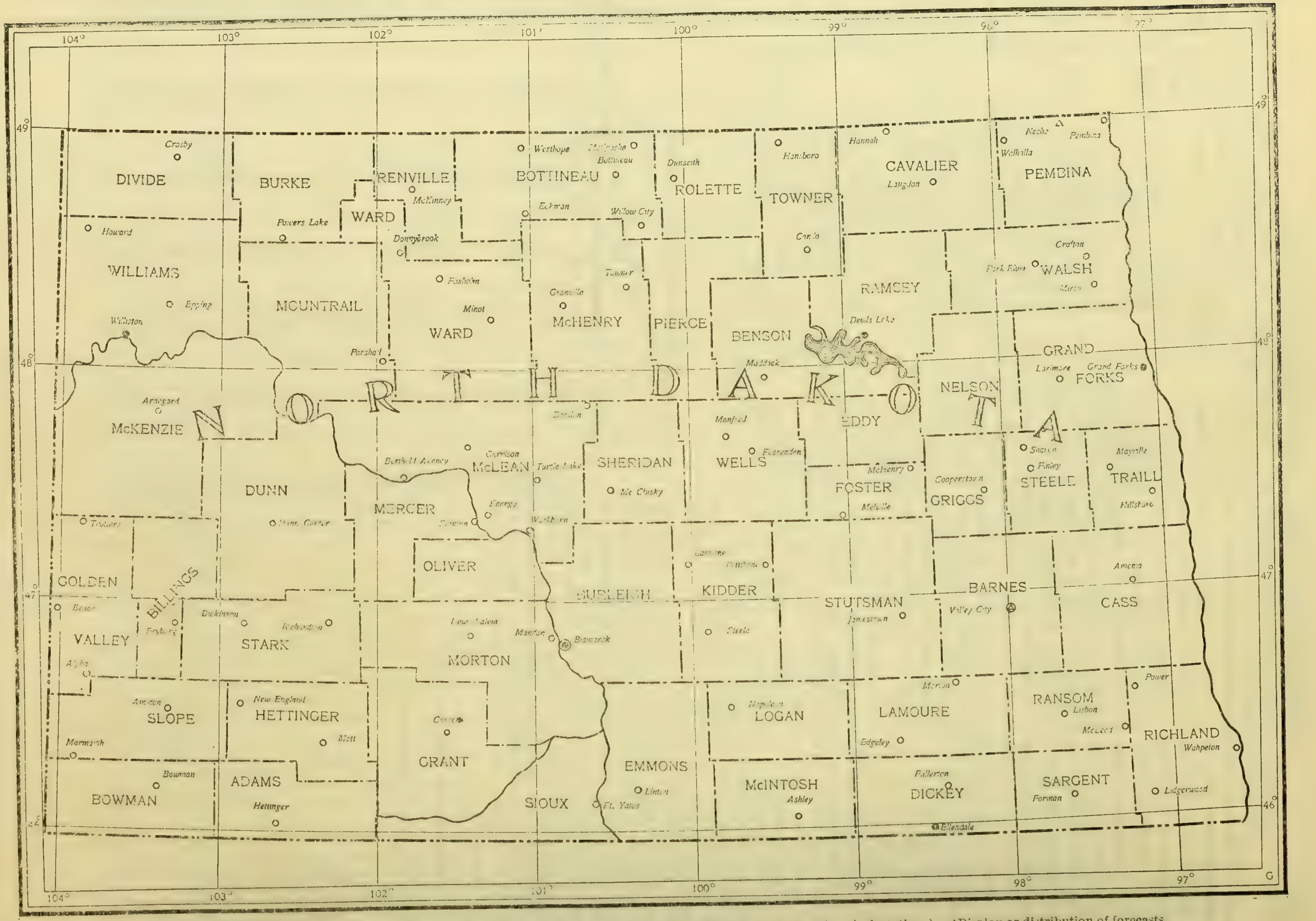
Killing Frosts

STATIONS	Last in Spring	First in Autumn	STATIONS	Last in Spring	First in Autumn
Amenia	May 22	Sept. 24	Langdon	June 7	Oct. 11
Arnegard	" 22	Oct. 7	Larimore	May 22	" 11
Ashley	" 22	Sept. 21	Linton	" 23	Sept. 26
Beach	" 21	" 23	Lisbon	" 22	" 24
Berthold Agency	" 21	" 26	McClusky	" 22	Oct. 8
Bismarck	" 20	Oct. 8	McLeod	" 22	Sept. 21
Bottineau	" 22	Sept. 23	Maddock	June 7	" 24
Bowman	" 22	Oct. 8	Mandan	May 20	Oct. 8
Cando	" 22	" 11	Marmarth	" 21	" 8
Carrington	" 22	" 7	Max	" 22	" 7
Carson	" 21	Sept. 23	Mayville	" 22	Sept. 24
Crosby	" 21	" 18	Minot	" 22	" 15
Devils Lake	" 22	Oct. 11	Mohall	" 21	" 22
Dickinson	" 21	" 8	Mott	" 21	Oct. 7
Dogden Butte	" 22	" 8	Napoleon	" 22	" 8
Drake	" 21	Sept. 30	New England	" 21	" 8
Dunn Center	" 22	Oct. 8	New Salem	" 22	" 8
Dunseith	" 22	" 8	Oakes	" 21	Sept. 24
Eckman	June 7	Sept. 15	Park River	" 22	Oct. 11
Edgeley	May 22	" 24	Pembina	June 7	" 12
Ellendale	" 22	Oct. 11	Portal	May 21	Sept. 17
Energy	" 22	Sept. 15	Powers Lake	" 22	Oct. 20
Fessenden	" 22	" 15	Richardton	" 22	Sept. 23
Fort Yates	" 21	" 26	Sanish	" 21	" 26
Foxholm	" 20	Oct. 8	Sharon	" 22	Oct. 11
Fullerton	" 22	" 11	Steele	" 22	Sept. 23
Garrison	" 22	" 8	Towner	" 20	Oct. 8
Grafton	" 30	" 5	Valley City	" 20	Sept. 24
Grand Forks	" 22	" 11	Velva	" 20	" 15
Granville	" 22	Sept. 15	Wahpeton	" 22	Oct. 8
Hankinson	" 21	" 23	Washburn	" 21	" 8
Hansboro	June 7	" 15	Westhope	" 22	" 8
Hettinger	May 22	Oct. 8	Williston	" 21	" 8
Hillsboro	" 22	Sept. 21	Willow City	June 7	Sept. 15
Howard	" 23	Oct. 8	Wishek	May 22	" 24
Jamestown	" 22	Sept. 24	Moorhead, Minn.	" 22	" 21

Comparative Annual State Data

Year	Temperature				Average precipitation	Departure
	Mean	Departure	Highest	Lowest		
1892	37.8	−1.5	108	−52	18.34	+1.16
1893	35.8	−3.5	112	−54	15.91	−1.27
1894	40.4	+1.1	107	−47	15.64	−1.54
1895	37.8	−1.5	104	−50	17.32	+0.14
1896	37.3	−2.0	107	−42	23.57	+6.39
1897	37.8	−1.5	109	−48	15.88	−1.30
1898	39.1	−0.2	106	−38	15.17	−2.01
1899	36.3	−3.0	109	−48	17.67	+0.49
1900	41.0	+1.7	114	−48	18.96	+1.78
1901	40.4	+1.1	110	−43	19.48	+2.30
1902	39.6	+0.3	106	−39	19.34	+2.16
1903	38.4	−0.9	108	−49	19.25	+2.07
1904	38.0	−1.3	103	−52	19.02	+1.84
1905	39.3	0.0	107	−46	19.96	+2.78
1906	39.5	+0.2	109	−40	19.72	+2.54
1907	37.0	−2.3	104	−49	14.41	−2.77
1908	40.6	+1.3	104	−41	18.64	+1.46
1909	38.2	−1.1	109	−48	17.73	+0.55
1910	41.0	+1.7	114	−50	12.19	−4.99
1911	38.3	−1.0	108	−43	19.40	+2.22
1912	38.2	−1.1	124	−52	20.34	+3.16
1913	40.1	+0.8	106	−54	14.69	−2.49
1914	40.0	+0.7	109	−47	19.16	+1.98
1915	39.6	+0.3	104	−48	19.42	+2.24
1916	36.0	−3.3	105	−56	20.50	+3.32
1917	36.3	−3.0	114	−48	10.92	−6.26
1918	39.9	+0.6	102	−44	16.02	−1.16
1919	38.6	−0.7	108	−44	15.76	−1.42
1920	39.5	+0.2	108	−44	15.34	−1.84
1921	42.0	+2.7	110	−33	19.59	+2.41
1922	39.7	+0.4	115	−46	19.75	+2.57
1923	40.7	+1.4	103	−40	17.76	+0.58
1924	38.2	−1.1	105	−46	17.55	+0.37
1925	40.6	+1.3	111	−39	16.81	−0.37
1926	40.7	+1.4	108	−36	15.70	−1.48
1927	38.0	−1.3	101	−44	21.52	+4.34
1928	41.1	+1.8	107	−41	18.40	+1.22
1929	38.0	−1.3	109	−44	14.32	−2.86
1930	41.4	+2.1	107	−43	14.90	−2.28
1931	44.9	+5.6	111	−31	14.99	−2.19

CHART SHOWING METEOROLOGICAL OBSERVATION, FORECAST DISTRIBUTION AND DISPLAY STATIONS.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations). △ Display or distribution of forecasts.

[WBO, Minneapolis, 2-13-32—1500]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

VOL. XXXXI BISMARCK, N. D., JANUARY, 1932 No. 1

GENERAL SUMMARY

The weather was somewhat changeable. Scattered snows during the latter portion of the first decade and during the second decade totaled more than the monthly normal. While the temperature averaged in excess of the normal, subzero readings were frequent, and, being accompanied by occasional high winds, blocked sideroads and many main highways, and necessitated considerable yard feeding of livestock. Ice harvest made excellent progress.

TEMPERATURE

The mean temperature for the state was 9.5°, or 3.3° above the normal, and 11.9° lower than the mean for January, 1931. The highest mean reported was 14.2° at Wahpeton, Richland County; the lowest was 3.1° at Portal, Burke County. The highest temperature reported was 50° at Berthold Agency, McLean County on the 11th, and at Washburn, McLean County on the 12th; the lowest was -34° at Willow City, Bottineau County on the 31st. The greatest monthly range of temperature was 77° at Minot, Ward County; the least was 56° at Moorhead, Minn., Clay County. The greatest daily range in temperature was 48° at Mohall, Renville County on the 28th.

PRECIPITATION

The average precipitation for the state was 0.55 inch, or 0.08 inch above the normal, and 0.40 inch higher than the average for January, 1931. The greatest monthly amount reported was 1.60 inches at Dunseith, Rolette County; the least was a trace at Cooperstown, Griggs County and Howard, Williams County. The greatest amount recorded in any 24 consecutive hours was 1.10 inches at Richardton, Stark County on the 18th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 6.3 inches.

AURORAS

Auroras were observed at Grand Forks on the 1st; at McLeod and Williston on the 3d; at Bottineau on the 7th; at Grand Forks on the 9th and 10th; at Napoleon on the 21st; at Eckman on the 26th; at Willow City on the 29th; at Devils Lake on the 30th; and at McLeod and Napoleon on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Wind					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest	Direction	Date
Bismarck	30.07	30.85	31	28.92	11	57	5,835	7.8	30	nw.	13
Devils Lake	30.05	30.90	31	28.86	11	41	7,226	9.1	31	n.	12
Ellendale	30.05	30.85	31	29.07	12	56	9,889	13.3	38	n.	13
Grand Forks	30.02	30.85	31	29.01	11	90	....	.....	31	se.	11
Williston	30.06	30.82	31	28.84	11	48	5,470	7.4	28	n.	12
Moorhead, Minn	30.06	30.93	31	29.01	11	58	6,512	8.8	21	s.	11
Av'ges and extremes	30.05	30.93	31	28.84	11	.....	....	9.3	38	n.	13

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-ct.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	170.2	279.2	61	+ 9	84	76	80	63	24
Devils Lake	162.4	275.8	59	+ 8	92	82	89	57	25
Ellendale	153.6	282.9	54	+ 1	88	84	....	59	29
Grand Forks	......	......	......	......	95	....	94	......	....
Williston	160.4	275.8	58	+ 5	86	73	76	56	25
Moorhead, Minn	112.2	279.2	40	−13	94	82	88	56	14
Averages and extremes	151.7	278.6	54	+ 2	90	80	85	56	14†

† And other dates.

COMPARATIVE STATE DATA FOR JANUARY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	3.3	−2.9	58	−52	0.32	−0.15	4	15	8	8	nw.
1893	0.8	−5.4	52	−48	0.98	+0.51	7	11	11	9	nw.
1894	0.6	−5.6	60	−47	0.39	−0.08	4	13	9	9	nw.
1895	−2.9	−9.1	42	−46	0.56	+0.09	5	16	8	7	nw.
1896	5.3	−0.9	58	−42	0.70	+0.23	6	9	9	13	nw.
1897	3.6	−2.6	49	−38	0.79	+0.32	5	11	9	11	nw.
1898	14.6	+8.4	69	−32	0.11	−0.36	2	15	8	8	nw.
1899	5.2	−1.0	55	−41	0.25	−0.22	3	13	9	9	nw.
1900	15.4	+9.2	70	−30	0.22	−0.25	3	15	9	7	nw.
1901	7.7	+1.5	68	−39	0.28	−0.19	4	14	8	9	nw.
1902	12.7	+6.5	51	−40	0.14	−0.33	2	17	7	7	nw.
1903	9.4	+3.2	56	−37	0.66	+0.19	5	13	8	10	nw.
1904	3.6	−2.6	50	−52	0.37	−0.10	5	15	6	10	nw.
1905	0.9	−5.3	48	−40	0.30	−0.17	3	15	8	8	nw.
1906	12.2	+6.0	60	−38	0.69	+0.22	4	14	6	11	nw.
1907	−6.2	−12.4	45	−45	1.40	+0.93	8	12	8	11	nw.
1908	17.0	+10.8	70	−41	0.18	−0.29	2	17	8	6	nw.
1909	3.5	−2.7	53	−48	0.42	−0.05	4	14	8	9	nw.
1910	9.4	+3.2	49	−35	0.33	−0.14	3	16	8	7	nw.
1911	−1.0	−7.2	56	−43	0.91	+0.44	6	11	8	12	nw.
1912	−4.6	−10.8	63	−52	0.35	−0.12	4	16	6	9	nw.
1913	3.2	−3.0	60	−54	0.45	−0.02	5	12	9	10	nw.
1914	14.8	+8.6	62	−38	0.50	+0.03	4	12	8	11	nw.
1915	5.8	−0.4	51	−48	0.29	−0.18	3	12	9	10	nw.
1916	−6.4	−12.6	49	−56	1.38	+0.91	6	13	8	10	nw.
1917	1.7	−4.5	47	−46	0.73	+0.26	5	13	8	10	nw.
1918	0.5	−5.7	48	−44	0.45	−0.02	5	12	8	11	nw.
1919	18.7	+12.5	66	−44	0.17	−0.30	2	17	8	6	nw.
1920	2.7	−3.5	49	−44	0.93	+0.46	5	10	9	12	nw.
1921	15.9	+9.7	58	−31	0.24	−0.23	2	13	9	9	nw.
1922	7.0	+0.8	55	−46	0.49	+0.02	5	12	9	10	nw.
1923	10.1	+3.9	56	−35	0.53	+0.06	5	9	9	13	nw.
1924	2.6	−3.6	61	−42	0.23	−0.24	3	14	9	8	nw.
1925	8.6	+2.4	52	−35	0.22	−0.25	3	11	10	10	nw.
1926	16.3	+10.1	55	−30	0.38	−0.09	4	13	8	10	nw.
1927	10.1	+3.9	60	−44	0.41	−0.06	4	14	8	9	nw.
1928	13.0	+6.8	50	−41	0.21	−0.26	3	14	9	8	nw.
1929	−4.8	−11.0	42	−42	0.63	+0.16	6	13	8	10	nw.
1930	−1.9	−8.1	41	−43	0.29	−0.18	4	12	9	10	nw.
1931	21.4	+15.2	68	−31	0.15	−0.32	2	15	8	8	nw.
1932	9.5	+3.3	50	−34	0.55	+0.08	4	12	7	12	nw.
Av.	6.2	....	70	−56	0.47	....	4	13	8	10	nw.

Climatological Data for January, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		6								0.36		0.16	3.6	4					H. A. Bury.
Amenia	Cass	954	36	12.9	+8.0	36	12†	−26	31	46	0.52	+0.04	0.50	5.2	2	7	10	14	nw.	I. Idso.
Amidon	Slope		17																	R. R. Beebe.
Arnegard (near)	McKenzie		19	10.6	+1.6	41	11†	−27	30†	41	0.60	+0.05	0.30	6.0	3	17	5	9	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	9.5	+0.9	37	12	26	30	36	0.99	+0.48	0.36	13.2	9	14	5	12	nw.	H. D. Piper.
Beach	Golden Valley	2,759	26	12.8	+1.7	44	12	−25	30	46	0.44	−0.07	0.30	4.4	4	15	7	9	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	9.6	+1.0	50	11	25	30	44	0.20	−0.14	0.20	2.0	1	10	6	15	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	9.8	+2.0	43	25	−22	30	36	0.35	−0.10	0.21	4.7	6	12	8	11	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	8.0	+7.4	42	25	−32	31	43	0.58	−0.02	0.15	3.8	4	9	15	7	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	12.8	−0.2	47	19	−24	30	38	1.50	+1.05	0.62	12.0	7	17	5	9	nw.	George Larsen.
Cando	Towner	1,488	31	9.4	+9.4	41	25	−30	30	35	1.24	+0.82	0.56	12.4	3	13	3	15		A. J. Swanson.
Carrington	Foster	1,579	34	7.9	+1.2	40	10	−25	30	32	0.40	+0.08	0.35	4.0	2	16	3	12	nw.	L. A. Swanson.
Carson	Grant	2,500	20	10.7	+1.7	40	19	30	31	38	0.52	+0.17	0.30	5.5	5	15	7	9	nw.	J. W. Evens.
Cavalier	Pembina	894	22								0.92	+0.18	0.18	7.8	9	16	3	12	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	35								T.	−0.42	T.	T.	0	13	2	16	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4								0.50		0.10	5.0	6	19	4	8	nw.	W. A. Clem.
Courtenay	Stutsman	1,523	3								0.50		0.30	5.0	2	9	13	9	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	7.4	+3.8	42	12	−28	29	37	0.51	+0.08	0.26	5.1	6	9	10	12	s.	John Jensen.
Devils Lake	Ramsey	1,478	35	7.4	+5.6	39	12	−28	30	33	0.35	−0.12	0.22	4.6	6	9	9	13	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	10.4	−0.1	42	11	−23	30†	36	0.90	+0.46	0.45	8.8	11	12	9	10	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	10.4		45	12	−26	31	29	0.43		0.23	7.0	2	13	4	14	nw.	R. L. Williams.
Drake	McHenry	1,634	3																	J. Rindt.
Dunn Center	Dunn	2,191	33	10.8	−3.0	42	12	−24	30	37	0.53	+0.10	0.43	5.0	2	12	6	13	nw.	W. F. Moede.
Dunseith	Rolette	1,682	36	7.8	+4.8	41	12	−27	30†	34	1.60	+1.20	0.70	16.0	6	10	3	18	ne.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	5.9	+2.8	42	12	−34	31	36	0.27	−0.17	0.13	7.2	5	13	6	12	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	31	10.2	+1.4	35	12	−25	31	33	0.47	+0.14	0.30	4.7	3	6	11	14	nw.	O. A. Thompson.
Ellendale	Dickey	1,449	37	8.1	−2.6	34	12	−23	30	31	0.28	−0.20	0.15	8.4	8	8	4	19	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	20	10.6		48	12	−23	30	40	0.41	+0.15	0.30	4.5	3	11	13	7	nw.	H. S. Solenberger.
Epping	Williams	2,224	24	7.3		40	11	−29	30	37	0.55	+0.09	0.30	5.0	3	18	4	9	nw.	A. O. Wang.
Fairfield	Billings		3								0.40		0.30	4.0	2	18	11	2	nw.	F. R. Hecker.
Fessenden	Wells	1,610	20	7.6	+3.1	40	25	−28	31	33	0.45	0.03	0.24	4.8	6	13	8	10	nw.	T. D. Monsen.
Forman	Sargent	1,249	39								0.18	−0.36	0.08	3.5	5	9	1	21	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	9.0	−0.2	41	12	−24	30	37	0.80	+0.28	0.60	8.0	6	13	9	9		P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	8.0		43	12	−28	30	32	0.86	+0.50	0.30	7.5	7	11	9	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	14								0.78	+0.33	0.30	8.1	5	14	6	11	nw.	Verne King.
Fullerton	Dickey	1,439	34	10.7	+1.7	36	12	−23	31	35	0.99	+0.19	0.60	9.9	6	11	9	11	nw.	F. O. Alin.
Gackle	Logan	1,951	2								0.31		0.15	4.1	3	7	7	17	nw.	Geo. Hummel.
Garrison	McLean	1,901	55	11.2	+3.6	48	12	−24	30	33	0.50	+0.08	0.25	6.0	2	13	8	10	nw.	W. F. Robinson.
Grafton	Walsh	827	40	10.2	+8.0	39	26	−21	31	34	0.40	−0.17	0.27	4.4	3	16	3	12	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	41	9.4	+5.9	35	12†	−24	31	29	0.34	−0.20	0.25	5.4	3	8	7	16	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	8.6	+4.0	46	12	−28	31	39	0.55	+0.15	0.30	5.5	3	12	7	12	nw.	W. A. Christianson.
Hankinson	Richland	1,068	3	13.9		40	25	−23	30	41	0.05		0.03	0.7	3	11	3	17	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40								0.60	−0.08	0.27	6.0	7					James Meier.
Hansboro	Towner	1,597	24	5.4	+5.5	36	12	−33	31	40	0.60	−0.09	0.20	12.0	5	17	4	10	nw.	C. F. Blackorby
Hettinger	Adams	2,675	25	11.3	1.7	42	19	−25	30	36	0.46	+0.13	0.33	4.6	6	15	5	11	nw.	C. H. Plath.
Hillsboro	Traill	901	26	11.0	+6.4	34	12†	25	31	31	0.55	−0.03	0.51	5.5	3	12	4	15	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	25	8.4	+4.0	38	11†	−29	31	39	T.	−0.61	T.	T.	0	15	5	11	sw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	10.2	+3.2	38	12	−25	30†	31	0.55	−0.03	0.40	5.5	2	13	10	8	nw.	S. Calvelage.
Langdon	Cavalier	1,615	36	5.5	+6.4	34	12	−31	31	40	0.70	+0.13	0.20	7.0	5	6	22	3	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	9.2	+5.6	35	12	−25	31	31	0.42	−0.23	0.29	7.5	3	14	3	14	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	7.7	−1.8	41	12	−29	31	39	0.47	+0.04	0.19	7.1	5	12	9	10	e.	Rev. F. J Oberding.
Lisbon	Ransom	1,091	28	11.6	+4.3	40	12	−22	31	36	0.46	−0.11	0.30	4.8	4	1	12	18		N. S. Lindstrom.
McClusky	Sheridan	1,943	14	9.8		43	12	−26	30	34	0.70	+0.25	0.30	7.0	6	13	8	10	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	11.9	+3.5	39	12	−26	31	44	0.41	−0.19	0.27	4.1	3	9	9	13	nw	J. G. Carlson.
Maddock	Benson	1,604	17	11.0	+6.2	38	12	−31	31	36	0.55	+0.28	0.50	5.5	2	10	9	12	nw.	A. T. Felland.
Mandan	Morton	1,750	18	9.6	+1.3	42	25	−23	30	37	0.44	+0.16	0.18	5.0	8	13	3	15	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29								0.72	+0.16	0.35	10.2	6					P. B. Anderson.
Marmarth	Slope	2,714	23	11.6		44	11	−31	30	41	1.11	+0.74	0.40	13.4	6	10	7	14		S. P. Grane.
Mary	McKenzie		3								0.15		0.07	4.5	3	16	6	9	nw.	Fred Hartman.
Max	McLean	2,093	3	9.5		48	13	−28	30		0.55		0.30	5.5	2					A. W. Rice.
Mayville	Traill	975	36	11.4	+5.6	38	12	−26	31	34	0.10	−0.32	0.05	1.0	2	4	10	17	n.	H. B. Addicott.
Minot	Ward	1,557	36	9.6	+3.4	47	12	−30	30	32	0.37	−0.01	0.15	5.4	4	18	4	9	w.	Julia B. Rue.
Mohall	Renville	1,646	38	10.2	+5.6	40	11†	−28	29	48	1.05	+0.72	0.57	5.5	4	5	20	6	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	25	9.0	+0.2	42	25	−27	30	35	0.57	−0.27	0.37	6.0	4	20	3	8	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	7.0	+0.6	39	12	−30	30	36	0.70	+0.27	0.40	7.0	4	12	2	17	nw.	C. J. Hoof.
New England	Hettinger	2,400	38	12.4	−1.0	44	11	−25	29	36	0.70	+0.20	0.20	7.0	5	14	6	11	se.	F. S. Sleight.
New Salem	Morton	2,163	28	12.6	+3.5	40	12†	−24	30	40	0.26	−0.24	0.12	2.0	6	10	12	9	nw.	J. Christiansen.
Oakes	Dickey	1,318	3	9.9		39	12	−23	31	38	0.55		0.50	8.7	2	7	11	13	nw.	Eugene Naylor.
Park River	Walsh	998	28	8.2	+5.5	38	12†	−24	31	27	0.12	−0.26	0.06	1.2	3	10	5	16	nw.	C. B. Wright.
Parshall (near)	Mountrail		17	8.1		46	12	−28	31	37	0.70	+0.51	0.40	7.0	3	14	9	8	nw.	C. E. Shubert.
Pembina	Pembina	789	58	7.0	+9.4	36	11	−24	31	35	0.85	+0.23	0.18	12.4	10	6	7	18	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2								0.29		0.22	2.9	3	13	9	9	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	23																	A. L. Carlson.
Portal	Burke	1,954	27	3.1	+0.6	40	10	−32	30	43	0.10	−0.38	0.10	0.5	1	14	3	14	w.	R. G. Wegener.
Power‡‡	Richland	1,020	38								0.90	+0.27	0.50	9.0	5	9	10	12	sw.	Frank B. Power.
Powers Lake	Burke	2,205	27	9.0		35	25	−30	28	28	0.74	+0.13	0.37	9.5	4	24	3	4	w.	Geo. B. Gee.
Richardton	Stark	2,467	16	10.4	+0.2	42	12	−25	30	41	1.20	+0.78	1.10	12.0	2	14	5	12	nw.	John Muggli.
Rugby (near)	Pierce	1,562	3								1.00		0.40	10.0	5	16	2	13	nw.	E. C. Erickson.
Ryder	Ward	2,108	3								0.66		0.47	5.3	5					S. C. Schellenbaum.
Sanish	Mountrail	1,835		8.8		49	12	−26	30†	38	0.60		0.50	6.0	3	8	6	17	nw.	H. W. Monson.
Sharon	Steele	1,516	8	7.6		34	12	−28	31	32	0.62		0.46	6.7	8	12	6	13	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8								0.50		0.30	5.0	2	11	11	9	nw.	J. H. Giffey.
Steele	Kidder	1,857	38	6.8	−0.5	38	12	−26	30	36	0.23	−0.23	0.07	5.8	8	10	7	14	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	17								0.59	+0.23	0.48	8.5	4	14	7	10		Thos. D. Alkire.
Tagus	Mountrail	2,179	3								0.47		0.40	4.8	3	13	5	13	nw.	J. C. Abbott.
Tioga	Williams	2,279	3								0.30		0.20	3.0	2	9	11	11	nw.	Anton Carlson.
Towner	McHenry	1,482	30	8.0	+4.2	39	25	−30	31	37	0.43	−0.01	0.21	9.6	5	14	6	11	w.	Karl Weber.
Trotters	Golden Valley		6								0.59		0.40	7.0	3	12	12	7		A. J. Nellermoe
Turtle Lake	McLean	1,899	18								0.53	+0.15	0.27	5.3	4					E. T. Kusler.
Valley City	Barnes	1,245	26	11.2	+5.7	35	12†	−23	31	33	0.35	−0.20	0.20	4.5	2	12	5	14	nw.	I. C. Robertson.
Velva	McHenry	1,511	5	9.4		46	12	−28	31	34	0.66		0.26	10.0	4	10	8	13	w.	Oscar Anderson.
Verona	LaMoure	1,387	4								0.07		0.07	3.0	1	12	2	17	nw.	W. C. Taylor.
Wahpeton	Richland	962	40	14.2	+5.8	39	25	−23	31	39	0.70	+0.26	0.50	11.0	5	14	0	17	nw.	C. G. Lauck.
Washburn	McLean	1,731	31	12.6	+5.2	50	12	−25	30	35	0.24	−0.10	0.14	3.4	4	11	4	16	sw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	6.8	+5.5	40	12	−32	31	41	0.34	−0.06	0.14	3.4	3	19	5	7	nw.	C. M. Condit.
Williston	Williams	1,878	53	10.6	+4.2	43	11	−24	30	42	0.59	+0.05	0.41	6.3	4	15	7	9	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	5.3	+4.4	41	12	−34	31	38	1.35	+0.81	0.80	13.5	4	13	11	7	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	3	8.3	+1.3	38	11	−25	30	44	1.19	+0.66	0.60	11.9	5	7	3	21	nw.	E. W. Davis.
Zap	Mercer	1,838	17								0.09	−0.25	0.04	1.0	3					R. A. Norton.
Moorhead, Minn	Clay	935	51	11.4	+7.6	35	12	−21	31	33	0.32	−0.35	0.23	5.4	6	5	8	18	s.	U. S. Weather Bureau.
Averages				9.5	+3.3	50	11†	−34	31	48	0.55	+0.08	1.10	6.3	4	12	7	12	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D

Daily Precipitation for January, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri												.11		.16	T.		.02	T	.04													0.36
Amenia	Red	T									T							.50			T	.02	T										0.52
Amidon	Lit. Missouri																																
Arnegard (near)	Missouri							.05					.30	.25																			0.60
Ashley	Missouri			T		T	.05	.02			.08			.01			.05	.06			.21	.36							.08				0.99
Beach	Lit. Missouri						.16	.02					.30	.02				T.			T.												0.11
Berthold Agency	Missouri						T			T	T		T					.20															0.20
Bismarck ***	Missouri					T	.01	T		T	T		.06	.01			.03	.03			.21	T	T						T			T	0.35
Bottineau	Mouse					T	T	T		.08	T	T.	.03	.15	T.			.12		T.		T	T	T					T				0.38
Bowman	Grand						.09	.08			.06		.20	.12				.03			.12								T			T	1.50
Cando	Devils Lake							T.	T		.20		T.											.56	.48				T				1.24
Carrington||	James					T.	T.				T	T					.35				.05								T				0.40
Carson	Heart							.02				.05						.05			.30	.10											0.52
Cavalier	Red								.02	.18	.15	.15		.15				.15		.05									.05	.02			0.92
Cooperstown	Sheyenne	T.								T	T	T					T.	T.				T.									T.		T.
Corinth	Missouri					.05	.10						.10	.10						.10									.05				0.50
Courtenay	James																.30				.20											T	0.50
Crosby	Mouse	T.	T			T	.08	.04				.09	.02	.26												.02							0.51
Devils Lake ***	Devils Lake			T		T.	T.	T.		.05	T	T.	.02	.03			.05	.17		T.		T	T.					T	.03				0.35
Dickinson||	Heart	T		T.			T.	.01	.01	T.	.08	.01		.45	.20			.09			.01	.02							T	.01		.01	0.90
Dogden Butte	Mouse					T	T	T.			T		T	.23			T.	.20			T		T										0.43
Drake||	Mouse																																
Dunn Center	Knife										T		.13					.10			T												0.53
Dunseith	Mouse						.10			.30	.10	.10	.30					.70											T				1.60
Eckman	Mouse						T.			.01			.04	.13	.01			.08					T.										0.27
Edgeley	James										.05							.30		.12													0.47
Ellendale***	James	T.	T.	T.		T	.01	T.		T.	.03	T.	T.	.01	T.	T.	.11	.01		T.	.04	.03	T						.01			T	0.28
Energy	Missouri						T	T.			T		.05	.30				.06			T.												0.41
Epping	Missouri					T.	.05					T.	.30	.20									T.						T.				0.55
Fairfield	Knife						.10						.30																				0.40
Fessenden||	James							.01				.03		.02	.10			.24				.02											0.45
Forman	Sheyenne	T.				T.	.02	T.		T.	T.					.02	.02	.04			T	.08								T.			0.18
Fort Yates	Missouri						T	.10			T		.10				T				.60								T.				0.80
Foxholm (near)	Mouse					T.	.01			.02	T		.30	.30				.15		.02		T.	.03						T.				0.83
Fryburg	Heart						T.		T.	T.	.06		.25	.30			T.	.12			.05								T.				0.78
Fullerton	James	T.	T.	T.			T.		T.	T.	.02	.04	T.				.60				T.	.18							.04	.11			0.99
Gackle	James				T.		.02	T.			T.							.14			.15										T.	T.	0.31
Garrison	Missouri						T.	T.				T.	.25	.25				T		T.	T	T.	T.						T.				0.50
Grafton	Red							T.		T.	.08		T			T.		.27		.05									T.	T.			0.40
Grand Forks ***	Red	T		T		T.	T.	T.	T.	.07	.02		T.	T		T.	T		.25		T		T						T.	T.			0.34
Granville	Mouse					T.	.05	T.			T.	T.	T.	.20				.30		T.	T		T.						T.				0.55
Hankinson	Red					.01										.01	.03																0.05
Hannah	Pembina				T.		T.	T.		.05	T.	.03	T	.27	.03			.07		.14		T.	.01	T.				T.	T.				0.60
Hansboro	Devils Lake									.10			.10	.15				.20											.05				0.60
Hettinger	Grand						.01	T.	.02		.03		.04	.03				T.			.33	T.										T.	0.46
Hillsboro	Red		T.												.02	T.		.51				.02							T.				0.55
Howard (near)	Missouri								T.			T.																					T.
Jamestown	James	T.																.40			.15												0.55
Langdon	Pembina									.20	.10	.20												.10					.10				0.70
Larimore	Red	T					T	T.		.05	.08		T.	T.				.29											T.		T.		0.42
Linton	Missouri			T.			T.	T.			.15			T.			.01	.02			.19	.10											0.47
Lisbon	Sheyenne															.02	.12	.30				.02											0.46
McClusky	Missouri					.05		.05			.05						.20	.30				.05											0.70
McLeod	Sheyenne	T.						.07			T.							.27		T.		.07		T.									0.41
Maddock	Sheyenne					T	T	T.		T.	T.		T	.05			T	.50				T	T.										0.55
Mandan||	Missouri		T.			T.	.03	.01		.02			.07				.06			.05	.18											.02	0.44
Manfred	James					T.	.06	T.			.05		T.	.07			.12	.35			.67								T.				0.72
Marmarth	Lit. Missouri						.16	.02			.07		.40	.15				T.			.31											T.	1.11
Mary	Lit. Missouri					T.	T.	.07					.03	.05																			0.15
Max||	Missouri													.30				.25															0.55
Mayville	Red									T	.05					T.		.05				T.											0.10
Minot	Mouse									.01		T	.10	.15				.11					T.										0.37
Mohall	Mouse						T.			.10		.20	T.	.57			.18																1.05
Mott	Cannon Ball					T.	.06	.05		T.							.09				.37												0.57
Napoleon||	Missouri						.05							.05				.40				.20											0.70
New England	Cannon Ball							.05			.20			.20			.05				.20												0.70
New Salem	Heart					T.	.01	T.			.02		.02	.03			T.	.06			.12												0.26
Oakes	James						T			T.	T			T.				.50				.05	T.						T.				0.55
Park River	Red	T.									.02		.04					.06											T.				0.12
Parshall (near)	Missouri												.20	.40				.10															0.70
Pembina||	Red		T.					T	.01	.10	.04	.04	.10	.12			T.	.08		.18	T.	T	T.	T.	T.				T.	.14	.04		0.85
Petersburg	Red	T.					T.	T.		.03	.04		T.	T.				.22											T.				0.29
Pettibone	James																																
Portal||	Mouse					T.			T.			.10	T.																				0.10
Power	Sheyenne														.10			.50		.10	.10			.10						T.			0.90
Powers Lake	Missouri						.06						.12	.19						.37													0.74
Richardton	Heart										.10								1.10														1.20
Rugby [near]	Mouse					T.	.10	T.		.05	T.	T.	.05	.40			.40	T.											T.				1.00
Ryder	Missouri						.01	T.			T.			.47	.09	T.	.07		T.	T.		T.	.02									T.	0.66
Sanish||	Missouri								T	T.	T.		.08	.50			.02				T.			T.									0.60
Sharon	Red	.01	T.	T.			T.	.01		.02	.02	.02	T.	T.		T	T.	.46			T.	.07	.01						T.	T.			0.62
Stanton	Missouri												.30								.20												0.50
Steele	Missouri					.01	.03	.02			.01		T				.03	.04			.02	.07		T				T.	T.				0.23
Stowers	Cannon Ball						T.	.01	T.				.03	T.				T.			.48	.07										T.	0.59
Tagus	Mouse					.05								.40															.02				0.47
Tioga	Missouri											.20	.10																				0.30
Towner	Mouse						.01				T.	.02	.05	.21				.14	T.										T.	T.			0.43
Trotters	Lit. Missouri						.10	T.		.09				.40																			0.59
Turtle Lake	Missouri						.04						.27							.15	.07												0.53
Valley City	Sheyenne	T.								T.	T					T.	T.	.20				.15											0.35
Velva	Mouse					T.	T.			T.	T.	T.	.22	.26			.02	.16		T			T										0.66
Verona	James																.07																0.07
Wahpeton	Red						.05									.08		.50				.05								.02			0.70
Washburn	Missouri						.02				T.			.14				.06			.02												0.24
Westhope	Mouse									.08		T		.12			.14																0.34
Williston ***	Missouri		T.			T	.04	T.					.37	.17			.01				T.		T	T.					T.				0.59
Willow City	Mouse					T.	T.			.05	T.	T.	.80					.40					T.						.10				1.85
Wishek||	Missouri							.14								.08			.25			.60								.12			1.19
Zap	Knife												.03				.02							.04									0.09
Moorhead, Minn ***	Red	T.	T.	T.	T.	T.	.02	T.	T.	T.	T.	T.		T.	.01	.10	.13		T.	.03	.03	T.	T.						T.	T.	T.	T.	0.32

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	24	28	26	26	28	24	13	20	18	24	32	36	22	28	24	23	22	22	23	22	20	26	22	32	36	35	30	29	22	21	20	25.1
	Minimum	-2	-1	0	8	9	6	0	1	-6	8	5	10	4	-6	-6	-2	8	-5	2	-1	4	16	1	-5	9	11	-1	0	-12	-18	-26	0.7
Arnegard (near)	Maximum	27	19	21	26	18	18	17	32	32	23	41	41	6	7	6	8	12	28	32	17	23	27	23	34	39	31	22	18	-8	-8	-4	20.3
	Minimum	14	-4	9	-1	3	9	-4	8	14	7	17	0	-10	-21	-10	-10	2	2	11	7	7	5	0	17	21	13	3	-6	-20	-27	-27	0.9
Ashley	Maximum	19	11	21	29	16	17	15	9	29	24	28	37	29	3	15	20	21	20	31	19	19	20	22	27	29	29	23	20	5	-9	-6	19.1
	Minimum	-5	-9	-3	6	-3	8	5	7	-7	10	10	28	-3	-16	-6	-10	10	4	15	0	9	9	0	-2	14	8	5	4	-18	-26	-25	-0.1
Beach	Maximum	27	21	22	25	17	17	20	28	36	34	41	44	-2	15	16	12	18	30	37	24	25	27	22	32	37	29	24	24	2	-10	-6	22.2
	Minimum	3	2	10	8	6	-7	-4	16	20	12	20	-2	-12	-17	-4	-2	0	5	23	11	17	12	2	15	20	10	5	0	-19	-25	-18	3.5
Berthold Agency	Maximum	15	22	22	24	18	18	14	16	34	20	50	48	4	5	4	8	15	25	22	12	24	30	30	35	45	35	22	22	6	-8	-5	20.4
	Minimum	-8	-12	10	-4	5	14	8	4	12	8	15	4	-10	-22	-15	-22	4	-10	4	4	8	8	0	15	8	5	-4	-5	-14	-25	-23	-1.3
Bismarck	Maximum	10	18	23	20	23	16	15	13	34	21	40	40	10	6	15	19	17	25	24	13	23	29	21	34	43	31	25	20	-5	-7	-6	19.7
	Minimum	-12	-18	10	-2	-8	12	8	-2	12	11	14	10	-7	-12	-7	-11	3	2	9	2	10	-3	3	16	11	10	6	-6	-15	-22	-21	-0.2
Bottineau	Maximum	17	20	19	24	24	18	9	8	20	18	30	37	28	10	9	15	12	13	19	15	19	20	17	30	42	38	36	18	16	13	5	20.0
	Minimum	2	-7	0	-2	-2	7	0	-15	1	4	7	19	-3	-22	-13	-22	7	-11	1	-12	5	8	-8	2	7	14	-7	0	-18	-30	-32	-3.9
Cando	Maximum	28	30	32	31	19	19	14	9	16	26	30	39	6	7	8	15	18	17	19	9	19	21	18	30	41	31	27	23	9	-10	-6	19.3
	Minimum	18	17	14	11	2	10	3	-10	-1	7	5	6	-3	-12	-11	-14	0	-6	-9	-12	8	11	-4	18	0	15	-8	7	-17	-30	-28	-0.4
Carrington §§	Maximum	20	24	27	16	16	16	7	21	19	40	37	18	9	14	19	16	24	17	12	19	22	24	32	37	29	25	21	-9	-10	-3	0	18.0
	Minimum	-3	-3	10	5	6	2	-8	-9	6	8	18	1	-10	-10	-10	-9	-2	-1	-11	-7	10	-2	-2	16	19	1	4	-16	-24	-25	-21	-2.2
Crosby	Maximum	12	19	13	15	16	12	11	18	30	16	40	42	10	0	0	3	11	24	21	15	20	20	28	32	38	33	26	21	-5	-14	-7	16.8
	Minimum	-1	-3	5	-1	-4	5	-8	-10	16	4	5	5	-10	-19	-15	-14	-10	-2	7	1	6	6	14	16	18	15	6	-10	-28	-27	-27	-1.9
Devils Lake	Maximum	15	18	21	23	18	15	15	2	16	11	37	39	6	7	8	15	18	17	19	9	19	21	18	30	36	31	23	21	-2	-11	-4	16.5
	Minimum	-3	-1	4	6	4	5	-1	-8	2	8	11	6	-3	-12	-11	-14	0	6	-9	-12	8	11	-4	18	16	10	0	-2	-21	-28	-26	-1.7
Dickinson §§	Maximum	18	20	22	24	19	18	18	32	37	28	42	32	-6	6	17	11	17	32	35	20	22	27	21	30	39	29	20	7	-9	-11	-7	19.7
	Minimum	7	-12	10	2	2	9	8	9	14	11	10	28	-6	-20	-19	-6	-5	2	6	9	10	7	3	3	17	11	-2	7	-17	-23	-23	[illegible].2
Dunn Center	Maximum	20	20	21	23	22	19	17	21	38	31	28	42	8	6	17	7	19	27	27	16	24	29	23	31	39	32	25	17	-2	-11	-5	2[illegible].4
	Minimum	-5	-8	9	2	8	9	8	7	19	7	11	5	-8	-19	-11	-20	4	3	9	4	3	11	2	16	25	20	-2	-4	-18	-24	-23	[illegible]
Dunseith	Maximum	26	18	19	21	22	15	12	4	16	10	31	41	14	-2	-5	15	20	20	1	8	17	24	24	34	34	34	26	20	1	-10	-5	1[illegible].3
	Minimum	5	-1	5	0	2	7	1	-14	0	4	4	11	3	-17	-11	-16	8	-5	-7	-10	5	17	-3	0	10	17	5	0	-20	-27	-27	-[illegible].7
Edgeley	Maximum	17	10	22	20	18	18	14	10	21	15	27	35	31	7	18	17	19	22	27	29	19	21	21	30	32	29	25	20	8	1	-3	1[illegible].4
	Minimum	-3	-6	-1	11	-3	12	-1	-7	-11	12	12	23	-2	-14	-6	-9	14	1	9	-3	5	11	1	2	16	17	3	8	-14	-22	-25	1.0
Ellendale	Maximum	13	11	22	21	17	17	14	5	18	17	31	34	19	5	9	23	21	14	30	11	20	23	18	28	31	28	24	22	-3	-12	-4	17.1
	Minimum	0	-7	2	1	-4	3	3	-9	-9	12	13	19	-8	-16	-6	-8	8	-2	9	-1	11	14	-4	-1	4	4	6	-3	-15	-23	-22	-0.9
Fessenden §§	Maximum	19	20	27	30	12	13	18	18	26	21	38	36	5	10	12	18	12	24	15	13	21	24	15	35	40	32	29	13	-8	-9	-2	18.6
	Minimum	-1	-5	0	5	3	6	4	-9	-7	8	9	19	-1	-13	-11	-15	-8	-9	-10	-15	-10	5	-2	0	14	14	4	0	-19	-26	-28	-3.4
Foxholm (near)	Maximum	28	17	22	29	22	16	13	10	28	20	39	43	17	0	-1	-1	11	19	22	6	22	28	21	33	37	31	25	21	-5	-8	-5	18.1
	Minimum	-4	-5	7	3	6	9	2	-8	7	2	7	15	-5	-17	-15	-22	-4	-3	3	-7	-7	4	4	12	19	15	2	-6	-20	-28	-25	-2.2
Fullerton	Maximum	17	12	24	23	19	18	15	10	18	18	32	36	32	5	12	18	21	16	26	16	19	24	29	30	31	29	29	24	9	-8	-4	19.4
	Minimum	-1	-5	-4	4	-2	14	0	-5	-8	13	14	32	-3	-9	-3	-7	15	0	8	-1	9	13	-3	17	7	8	4	8	-14	-22	-23	1.8
Garrison	Maximum	26	21	23	29	23	21	15	17	37	24	38	48	22	6	4	14	15	21	22	15	22	29	20	37	41	38	27	21	-2	-5	-5	21.4
	Minimum	8	-5	14	6	2	12	8	-3	11	8	11	20	-9	-16	-10	-13	6	-4	10	-2	10	-4	-2	10	14	18	0	-4	-18	-24	-20	1.1
Grafton	Maximum	32	18	23	23	19	17	17	16	12	16	27	37	26	8	15	12	19	12	18	2	21	26	21	34	37	39	32	25	16	-11	-1	19.6
	Minimum	3	2	-7	2	9	9	-3	-4	-5	8	9	24	3	-5	-9	-14	-15	0	1	-12	0	12	3	11	14	23	4	15	-14	-19	-21	0.8
Grand Forks	Maximum	17	14	24	23	24	18	16	15	11	17	32	35	15	8	16	18	20	13	18	3	19	26	14	33	35	32	22	25	-9	-10	-5	17.5
	Minimum	8	2	0	6	16	6	1	-1	0	11	16	15	0	-5	-2	-11	0	-7	-5	-11	2	17	2	5	10	16	3	3	-15	-19	-24	1.3
Granville	Maximum	21	18	25	35	20	18	14	10	23	15	42	46	23	5	0	14	11	17	22	10	22	28	20	33	39	32	27	25	-8	-8	-5	19.2
	Minimum	-5	-8	14	4	3	1	6	-10	7	7	12	22	-3	-19	-20	-25	5	-12	3	-9	10	-1	-5	18	15	2	-5	0	-17	-26	-28	-2.1
Hansboro	Maximum	25	25	23	24	18	12	10	10	20	13	28	36	18	2	-5	10	12	10	0	10	20	25	20	35	35	32	30	20	0	-12	-10	16.0
	Minimum	-5	-5	5	4	-1	-1	0	-15	0	2	2	18	2	-17	-21	-23	2	-20	-7	-18	-2	10	-5	-5	10	16	-4	0	-20	-30	-33	-5.2
Hettinger	Maximum	18	23	25	25	21	18	23	23	39	36	40	40	4	3	21	14	21	32	42	21	23	27	18	30	36	28	18	17	-2	-11	-9	21.4
	Minimum	-6	-10	5	-2	3	6	6	15	22	11	13	4	-10	-15	-11	-3	-3	4	20	11	7	-7	4	10	19	9	-1	-2	-16	-25	-21	1.2
Hillsboro	Maximum	20	18	20	23	23	18	21	10	8	21	26	34	34	12	18	20	20	10	18	3	18	18	30	30	27	28	26	22	20	-10	-10	19.2
	Minimum	6	4	0	10	8	12	8	0	-5	6	9	25	8	-6	-2	13	-1	-6	8	-10	3	3	0	10	11	10	0	20	-11	-22	-25	2.8
Howard (near)	Maximum	22	18	14	14	15	15	15	14	19	28	38	38	0	4	3	8	11	23	17	16	19	23	20	31	37	30	27	16	-10	-15	10	16.8
	Minimum	12	8	3	9	0	12	-10	10	8	10	9	0	-10	-21	-19	-11	-3	0	6	9	10	10	-3	17	15	10	6	10	-23	-28	-29	-0.1
Jamestown	Maximum	15	16	24	22	17	18	18	12	23	19	33	38	28	11	20	21	21	25	25	12	20	23	23	31	36	29	28	21	5	-10	-3	20.0
	Minimum	-1	-5	0	4	1	7	3	-5	-3	10	11	28	-3	-10	-4	-9	10	-3	9	-6	6	5	-1	1	12	16	-1	3	-17	-25	-25	0.3
Langdon	Maximum	22	15	20	23	17	15	15	10	11	18	30	34	16	6	7	12	15	18	20	22	23	24	12	30	30	29	25	16	10	-5	-5	17.3
	Minimum	-4	-5	-4	-10	0	-1	-5	-10	-10	1	5	15	-1	-14	-14	-15	-12	-12	-12	-18	-2	-2	-7	-2	10	12	-1	1	-19	-18	-31	-6.3
Larimore	Maximum	20	15	22	22	19	16	15	14	12	15	28	35	27	8	16	10	18	13	18	4	20	23	23	31	33	30	20	23	10	-11	-7	17.5
	Minimum	0	0	1	4	4	9	0	-3	-7	10	8	23	4	-10	-7	-15	10	-3	7	-12	1	18	2	6	15	22	-2	10	-14	-22	-25	0.9
Linton	Maximum	15	7	29	11	19	19	14	12	32	23	29	41	33	4	22	19	20	23	32	18	21	20	25	33	36	29	24	20	3	-10	-4	20.0
	Minimum	-13	-21	-8	-4	-20	-4	-5	-5	-1	11	11	27	-5	-22	-9	-9	10	-11	8	4	9	0	0	-5	3	-4	-7	2	-17	-28	-29	-4.6
Lisbon	Maximum	20	16	26	25	26	20	16	13	19	21	30	40	29	11	11	20	23	23	26	17	20	26	17	34	32	31	27	20	13	-10	0	20.2
	Minimum	10	1	4	13	13	8	1	0	-2	13	12	21	11	-5	2	-3	-1	-3	3	-4	7	17	3	-2	9	7	0	13	-14	-20	-22	3.0
McClusky	Maximum	20	21	26	25	18	17	14	11	32	20	31	43	23	6	7	18	13	19	23	13	21	21	27	32	37	33	23	22	12	-8	-3	19.9
	Minimum	0	-5	13	5	3	5	8	-6	4	4	9	21	-3	-15	-6	-13	4	-6	7	-6	10	2	-2	6	14	16	-1	-12	-20	-26	-24	-0.4
Maddock	Maximum	28	17	24	31	26	15	11	12	21	18	30	38	25	9	7	16	17	11	19	7	19	22	20	32	37	33	25	27	5	-10	-4	19.1
	Minimum	-3	-5	4	5	3	9	3	-14	-2	5	7	22	-1	-14	-7	-19	5	-9	-2	-18	2	-3	-6	3	14	13	-11	5	-19	-29	-31	-3.0
Marmarth	Maximum	25	27	24	26	22	24	24	31	40	34	44	41	1	-1	17	13	24	29	37	21	23	27	22	32	37	30	24	19	1	-8	-7	22.7
	Minimum	4	3	8	-2	3	-1	-1	20	20	17	22	5	-10	-22	-8	-15	-2	-2	19	17	4	-14	7	6	10	-3	-4	0	-16	-31	-20	0.4
Minot	Maximum	22	21	24	34	21	17	14	12	32	20	41	47	15	5	2	3	13	20	23	10	22	28	21	33	38	37	26	24	-3	-5	-4	19.8
	Minimum	-5	-8	11	2	5	11	4	-5	10	5	10	15	-5	-16	-9	-23	0	-2	5	-5	8	5	-1	13	13	19	1	-5	-18	-30	-25	-0.6
Mohall	Maximum	30	25	35	35	30	24	18	12	23	30	40	40	18	11	0	9	15	17	20	20	20	21	35	36	40	38	34	28	2	2	-1	22.9
	Minimum	-7	-17	-7	10	6	4	-7	-7	0	10	21	26	0	-18	-14	-15	-5	-2	0	-1	2	3	10	12	13	8	0	-20	-28	-24	-21	-2.4
Mott	Maximum	9	24	22	21	24	25	14	23	38	25	38	36	8	6	16	16	15	28	24	24	16	28	27	33	42	30	24	10	-6	-5	-9	20.2
	Minimum	-15	-4	0	-6	12	-2	-2	6	12	11	17	0	-13	-9	-12	-3	-4	-2	14	2	-19	-5	2	12	15	6	5	-18	-19	-27	-23	-2.2
Napoleon §§	Maximum	5	19	21	17	18	12	13	18	28	15	38	39	0	6	14	18	14	24	23	12	20	25	18	29	28	25	23	15	-10	-13	-1	16.5
	Minimum	-10	-16	0	6	-8	9	-9	-11	-6	0	9	27	-3	-18	-6	-9	10	-5	14	-3	8	4	-1	-3	13	8	-5	12	-20	-30	-29	-2.4
New Salem	Maximum	29	23	26	24	23	19	15	15	38	29	39	40	25	5	14	12	15	28	30	17	20	29	25	32	40	32	23	20	22	-10	-6	22.4
	Minimum	23	-8	13	6	6	10	4	-2	10	10	9	19	-5	-15	-8	-10	6	3	15	2	7	3	0	9	19	19	5	0	-18	-24	-20	2.8
Oakes	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Pembina §§	Maximum	17	14	22	22	20	16	16	4	13	17	36	34	3	3	14	16	14	16	16	9	19	23	22	31	33	31	23	23	-13	-13	-5	16.0
	Minimum	4	2	1	2	6	6	-4	-4	-7	3	4	16	2	-5	-9	-14	-15	0	0	-15	-16	8	9	0	11	13	1	2	-13	-23	-24	-1.9
Sharon	Maximum	13	13	23	20	16	17	15	11	13	13	28	34	23	9	15	12	19	15	19	8	17	22	18	30	32	32	21	21	5	-12	-2	16.8
	Minimum	0	-4	-3	1	0	5	-3	-11	-9	9	9	23	-1	-13	-8	-13	9	-5	-2	-11	2	12	-2	-2	11	15	-4	5	-15	-26	-28	-1.6
Steele	Maximum	15	6	18	15	18	16	15	9	28	13	31	38	27	-1	10	16	15	18	22	12	21	20	18	29	30	26	25	13	1	-14	-6	16.3
	Minimum	-5	-10	-3	4	-5	-6	-7	-6	0	10	10	27	-9	-15	-8	-8	-9	-4	10	-3	8	0	-3	-2	12	8	-1	0	-19	-26	-25	-2.7
Towner	Maximum	22	22	25	32	22	17	14	7	21	20	35	35	23	3	-2	12	15	15	20	18	21	26	17	34	39	32	28	26	6	-8	-5	19.1
	Minimum	-6	-9	6	1	4	4	3	-10	2	7	9	22	0	-17	-11	-23	-8	-15	6	-16	5	0	-3	4	9	18	-9	3	-17	-26	-30	-3.1
Valley City	Maximum	21	16	24	24	22	20	16	13	20	19	26	35	32	8	20	16	24	22	22	16	20	25	21	33	35	31	27	27	9	-9	-15	20.0
	Minimum	3	-2	1	6	5	13	1	-5	-5	12	12	25	2	-8	-1	-7	15	-1	10	-7	5	17	10	0	10	12	-1	9	-12	-22	-23	2.4
Wahpeton	Maximum	29	23	25	30	27	23	18	11	15	20	28	37	37	11	16	24	25	22	24	19	20	24	21	36	39	32	28	28	21	-5	-5	22.7
	Minimum	14	7	5	11	21	16	0	-2	-5	14	14	27	9	-5	6	-8	19	-2	10	-3	11	17	6	-3	10	9	9	20	-8	-21	-23	5.6
Westhope	Maximum	28	16	23	31	33	20	15	14	20	18	38	40	21	3	-2	7	12	10	16	6	21	27	26	33	39	37	28	24	6	-6	-6	19.3
	Minimum	-7	-11	9	-1	0	1	1	-12	3	5	8	17	-2	-18	-20	-23	-10	-14	2	-9	9	6	-8	-8	8	10	-7	-7	-20	-30	-32	-5.7
Williston	Maximum	19	20	16	22	19	18	15	25	34	21	43	42	0	4	5	7	15	28	25	19	23	28	25	37	41	31	27	19	-7	-6	-3	19.7
	Minimum	-1	-7	3	-2	7	12	-2	9	19	7	21	0	-8	-16	-9	-9	3	1	10	8	11	7	0	22	20	11	8	-11	-19	-24	-24	1.5
Moorhead, Minn	Maximum	20	15	25	28	25	20	13	12	15	19	33	35	27	10	15	23	24	17	22	13	19	23	18	33	33	30	26	25	7	-11	-7	19.6
	Minimum	13	3	4	11	16	8	1	-3	-4	13	16	27	1	-4	2	-5	7	0	0	-5	8	18	-1	0	9	11	0	7	-15	-21	-21	3.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 3-3-32—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXXI   Bismarck, N. D., February, 1932   No. 2

GENERAL SUMMARY

The month opened with subnormal temperatures, a condition that prevailed until the end of the second decade. During this period most of the snowfall for the month occurred, and being occasionally accompanied by high winds caused considerable blocking of highways, and necessitated much yard feeding of livestock. The last decade, however, was mild and pleasant, the mean temperature being decidedly above normal, with only light scattered snow. The snow covering was greatly reduced, and the ice in some of the smaller streams broke up.

TEMPERATURE

The mean temperature for the state was 13.6°, or 3.4° above the normal, and 14.4° lower than the mean for February, 1931. The highest mean reported was 19.6° at Beach, Golden Valley County; the lowest was 2.2° at Langdon, Cavalier County. The highest temperature reported was 69° at Pettibone, Kidder County on the 28th; the lowest was -31° at three stations in the north-central part of the state on the 1st, 8th and 14th. The greatest monthly range of temperature was 94° at Eckman, Bottineau County; the least was 65° at Langdon, Cavalier County. The greatest daily range in temperature was 51° at Portal, Burke County on the 19th.

PRECIPITATION

The average precipitation for the state was 0.35 inch, or 0.14 inch below the normal, and 0.07 inch higher than the average for February, 1931. The greatest monthly amount reported was 1.06 inches at Hillsboro Traill, County; there was none at Edgeley, Lamoure County and Richardton, Stark County. The greatest amount recorded in any 24 consecutive hours was 0.67 inch at Hillsboro, Traill County on the 8th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 4.3 inches.

AURORAS

Auroras were observed at Devils Lake, Eckman, Foxholm and Hettinger on the 2d; at Devils Lake, Eckman, McLeod, Stowers, Trotters and Williston on the 3d; at Eckman, Foxholm and Trotters on the 4th; at Ellendale and Trotters on the 5th; at Moorhead on the 7th; at Rugby on the 9th; at Trotters on the 12th; at Eckman, Foxholm, Grand Forks and Pembina on the 13th; at Moorhead on the 15th; at Eckman on the 24th; and at Epping on the 25th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level: Average	Highest	Date	Lowest	Date	Winds: Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.00	30.67	14	29.23	10	57	6,631	9.5	31	nw.	11
Devils Lake	29.99	30.70	1	29.20	10	44	7,509	10.8	32	nw.	11
Ellendale	30.00	30.70	1	29.25	10	56	9,286	13.3	45	nw.	11
Grand Forks	29.98	30.66	14	29.11	11	90	......	......	25	w.	28
Williston	29.98	30.66	13	29.20	16	48	6,273	9.0	37	se.	29
Moorhead, Minn	30.01	30.76	1	29.16	11	58	6,627	9.5	27	nw.	11
Av'ges and extremes	29.99	30.76	1	29.14	11	......	....	10.4	45	nw.	11

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine: Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Humidity: Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	265.9	299.8	69	+11	86	75	80	42	28
Devils Lake	177.8	297.9	60	+ 2	91	85	88	43	28
Ellendale	199.3	301.4	66	+ 8	83	80	...	57	28
Grand Forks	......	......	......	......	90	....	87	......	......
Williston	181.2	297.9	61	+ 8	87	72	73	37	28
Moorhead, Minn	178.0	299.8	59	+ 1	93	81	87	48	28
Averages and extremes	188.4	299.4	63	+ 6	88	79	83	37	28

† And other dates.

COMPARATIVE STATE DATA FOR FEBRUARY

Year	Temperature: Mean	Dep.	Highest	Lowest	Precipitation: Average	Dep.	No. rainy days	Sky: Clear days	P.cdy days	Cl'dy days	Wind Dir.
1892...	10.0	−0.2	62	−41	0.58	+0.09	4	14	7	8	nw.
1893...	- 0.3	−10.5	52	−54	0.59	+0.10	4	12	7	9	nw.
1894...	8.0	−2.2	55	−40	0.22	−0.27	2	14	9	5	nw.
1895...	5.9	−4.3	65	−50	0.36	−0.13	4	13	7	8	nw.
1896...	14.8	+4.6	64	−29	0.44	−0.05	3	12	9	8	nw.
1897...	6.1	−4.1	52	−40	1.15	+0.66	7	12	7	9	nw.
1898...	13.3	+3.1	65	−34	0.46	−0.03	3	13	8	7	nw.
1899...	0.4	−9.8	60	48	0.20	−0.29	3	14	8	6	nw.
1900...	1.3	−8.9	46	−48	0.47	−0.02	4	12	9	7	nw.
1901...	7.1	−3.1	60	−31	0.31	−0.18	3	15	7	6	nw.
1902...	12.1	+1.9	51	−33	0.98	+0.49	6	10	6	12	nw.
1903...	3.1	−7.1	46	−49	0.38	−0.11	3	19	4	5	nw.
1904...	- 2.1	−12.3	52	−42	0.54	+0.05	5	13	6	10	nw.
1905...	8.2	−2.0	64	−46	0.30	−0.19	2	19	4	5	nw.
1906...	9.8	−0.4	57	−38	0.13	−0.36	2	13	8	7	nw.
1907...	10.7	+0.5	58	−49	0.27	−0.22	3	15	7	6	nw.
1908...	13.8	+3.6	62	−34	1.07	+0.58	5	12	7	10	nw.
1909...	9.6	−0.6	56	−34	0.34	−0.15	4	11	7	10	nw.
1910...	3.4	−6.8	56	−50	0.50	+0.01	4	14	7	7	nw.
1911. .	7.3	−2.9	55	−38	0.73	+0.24	3	15	8	5	nw.
1912...	11.8	+1.6	48	−33	0.15	−0.34	2	10	9	10	nw.
1913...	8.5	−1.7	64	−44	0.10	−0.39	2	12	9	7	nw.
1914...	1.0	−9.2	57	−47	0.34	−0.15	3	12	8	8	nw.
1915...	17.4	+7.2	50	−20	0.62	+0.13	3	9	5	14	nw
1916...	6.4	−3.8	55	−39	0.46	−0.03	4	14	8	7	nw.
1917...	- 0.7	−10.9	61	−48	0.66	+0.17	5	10	8	10	nw.
1918...	10.8	+0.6	60	−41	0.19	−0.30	3	13	9	6	nw.
1919...	7.7	−2.5	58	−40	0.66	+0.17	5	10	8	10	nw.
1920...	12.5	+2.3	53	−36	0.30	−0.19	3	11	9	9	nw.
1921...	19.9	+9.7	64	−33	0.39	−0.10	3	11	10	7	nw.
1922...	0.7	−9.5	45	−39	1.21	+0.72	5	13	6	9	nw.
1923...	4.1	−6.1	48	−40	0.65	+0.16	4	13	7	8	nw.
1924...	20.3	+10.1	67	−27	0.41	−0.08	3	14	6	9	nw.
1925...	16.5	+6.3	62	−39	0.31	−0.18	3	10	9	9	nw.
1926..	22.3	+12.1	58	−19	0.41	−0.08	4	9	9	10	nw.
1927...	13.3	+3.1	50	−31	0.36	−0.13	4	12	7	9	nw.
1928...	18.8	+8.6	59	−19	0.10	−0.39	2	14	8	7	nw.
1929...	2.8	−7.4	44	44	0.29	−0.20	4	12	8	8	nw.
1930...	21.7	+11.5	63	−30	1.18	+0.69	6	11	8	9	nw.
1931...	28.0	+17.8	62	−31	0.28	−0.21	2	14	6	8	nw.
1932...	13.6	+3.4	69	−31	0.35	−0.14	3	12	9	8	nw.
Av....	10.2	....	67*	−54*	0.49	....	4	13	7	8	nw.

*Extremes.

Climatological Data for February, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		6								0.40		0.40	4.0	1					H. A. Bury.
Amenia	Cass	954	36	16.0	+7.2	55	27†	-20	3	44	0.22	-0.32	0.10	3.0	3	8	15	6	nw.	I. Idso.
Arnegard (near)	McKenzie		19	15.0	+1.1	59	27	-25	14	44	0.50	+0.05	0.25	5.0	2	17	8	4	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	14.0	+2.9	54	28	-17	3	32	0.15	-0.37	0.07	2.9	5	19	3	7	nw.	H. D. Piper.
Beach	Golden Valley	2,759	26	19.6	+3.4	67	27	-16	1†	40	0.14	-0.26	0.13	2.0	2					J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	13.2	+1.0	65	27	-27	14	44	0.28	-0.19	0.20	4.5	3	20	1	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	15.7	+5.4	65	27	-18	3	37	0.20	-0.26	0.12	2.2	4	10	13	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	9.2	+5.0	60	28	-29	14	37	0.13	-0.22	0.11	2.0	3	6	21	2	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	19.2	+0.7	66	27	-17	1	42	0.10	-0.19	0.03	1.0	5	16	11	2	se.	George Larsen.
Cando	Towner	1,488	31	12.3	+6.7	55	27†	-31	1	36	0.64	+0.27	0.41	7.0	5	10	8	11	s.	A. J. Swanson.
Carrington	Foster	1,579	34	12.0	+3.3	60	27	-19	7	37	0.63	+0.24	0.25	7.5	6	18	3	8	nw.	L. A. Swanson.
Carson	Grant	2,500	20	16.4	+1.0	68	28	-20	1	40	0.10	-0.21	0.05	1.0	2	19	4	6	s.	J. W. Evens.
Cavalier	Pembina	894	22								0.53	-0.08	0.22	5.2	5	18	3	8	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	35								0.32	-0.09	0.30	3.2	3	14	8	7	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4								0.14		0.08	1.8	3	19	8	2	sw.	W. A. Clem.
Courtenay	Stutsman	1,523	3								0.68		0.32	6.7	8	13	7	9	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	13.8	+3.8	66	27	-18	13	41	0.52	+0.24	0.40	6.0	3	10	12	7	nw.	John Jensen.
Devils Lake	Ramsey	1,478	35	10.5	+5.4	56	27	-21	8	43	0.40	-0.11	0.17	4.7	6	7	10	12	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	14.7	+1.6	66	27	-18	14	44	0.23	-0.20	0.08	2.3	5	13	13	3	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	14.8		62	27	-22	8†	33	0.53		0.25	6.0	3	11	5	13	nw.	R. L. Williams.
Drake	McHenry	1,634	3																	J. Rindt.
Dunn Center	Dunn	2,191	33	15.8	+1.2	65	27	-26	14	45	0.30	-0.24	0.15	8.0	3	10	10	9	sw.	W. F. Moede.
Dunseith	Rolette	1,682	36	10.0	+3.6	56	27	-22	1	32	0.45	+0.03	0.15	4.5	5	7	11	11	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	10.0	+2.4	63	27	-31	8	40	0.16	-0.20	0.07	3.0	4	11	3	15	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	31	15.8	+3.1	57	27	-16	3†	33	0.00	-0.34	0.00	0.0	0	3	19	7	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	13.8	+3.1	56	27	-19	3	33	0.11	-0.48	0.03	2.8	7	5	10	14	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	20	15.2		64	27	-25	14	40	0.27	-0.06	0.15	4.0	2	10	16	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	24	14.2		63	27	-22	13†	37	0.60	+0.19	0.50	7.8	3	22	6	1	nw.	A. O. Wang.
Fairfield	Billings		3								0.25		0.10	2.5	3	14	10	5	nw.	F. R. Hecker.
Fessenden	Wells	1,610	20	11.3	+1.2	62	27	-24	8	46	0.69	+0.14	0.22	7.0	6	18	3	8	sw.	T. D. Monsen.
Forman	Sargent	1,249	39								T.	-0.65	T.	T.	0	18	0	11	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	16.4	+4.6	68	27†	25	3	40	0.72	+0.10	0.32	9.0	4	13	8	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	13.0		62	27	-21	8	40	0.56	-0.01	0.30	6.2	7	8	8	13	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	14								0.46	-0.08	0.21	5.0	4	15	9	5	nw.	Verne King.
Fullerton	Dickey	1,439	34	16.3	+4.3	56	27	-16	3	27	0.43	-0.49	0.35	4.3	3	12	6	11	nw.	F. O. Alin.
Gackle	Logan	1,951	2								0.23		0.15	3.5	2	9	10	10	nw.	Geo. Hummel.
Garrison	McLean	1,901	55	15.2	+4.3	63	27	-21	14	39	0.70	+0.20	0.30	7.0	3	17	5	7	nw.	W. F. Robinson.
Grafton	Walsh	827	40	11.2	+4.5	56	27	-21	3	39	0.40	-0.19	0.22	8.9	3	17	0	12	s.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	41	10.0	+2.4	51	27†	-20	3†	39	0.68	+0.10	0.36	10.3	5	9	11	9	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	12.6	+2.5	64	27	-27	1	44	0.42	-0.03	0.20	8.0	5	11	10	8	nw.	W. A. Christianson.
Hankinson	Richland	1,068	3	19.4		61	27	-10	7†	36	0.20		0.20	2.0	1	18	2	9	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40								0.47	-0.11	0.14	4.7	7					James Meier.
Hansboro	Towner	1,597	24	7.4	+1.6	52	27†	-25	8	36	0.10	-0.48	0.10	1.0	1	20	1	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	25	17.6	+1.1	65	27	-15	1†	44	0.04	-0.30	0.04	0.4	1	19	4	6	nw.	C. H. Plath.
Hillsboro	Traill	901	26	11.8	+1.5	59	27†	-22	3	39	1.06	+0.43	0.67	11.0	3	12	10	7	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	25	11.8	+2.8	64	27	-22	13	36	0.32	-0.28	0.24	4.0	2	13	12	4	sw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	40	13.6	+4.0	58	27	-20	3	37	0.51	-0.11	0.24	6.2	5	12	7	10	nw.	S. Calvelage.
Langdon	Cavalier	1,615	36	2.2	-2.6	40	27	-25	8†	48	0.30	-0.32	0.20	3.0	2	18	8	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	10.3	+3.0	51	27†	-26	8	42	0.65	+0.07	0.34	10.0	2	15	4	10	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	13.8	-0.7	61	27	27	3	44	0.16	-0.39	0.16	2.0	1	10	13	6	se.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	28	15.6	+4.4	61	27	-14	3†	39	0.25	-0.42	0.10	3.8	4	2	17	10		N. S. Lindstrom.
McClusky	Sheridan	1,943	14	14.0		60	27	-21	14	37	0.80	+0.12	0.30	8.0	3	14	9	6	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	15.2	+1.9	60	27	-26	3	41	0.14	-0.56	0.08	1.4	3	18	6	5	nw.	J. G. Carlson.
Maddock	Benson	1,604	17	11.6	+0.5	61	28	-27	8	38	0.31	-0.06	0.15	4.0	3	6	14	9	nw.	A. T. Felland.
Mandan	Morton	1,750	18	14.0	+1.1	65	27	16	1†	43	0.19	-0.17	0.09	2.2	4	16	2	11	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29								0.67	+0.16	0.30	9.8	5					P. B. Anderson.
Marmarth	Slope	2,714	23	19.0	+1.3	68	27	-20	3	46	0.06	-0.34	0.03	1.0	3	9	8	12		S. P. Grane.
Mary	McKenzie		3								0.24		0.21	4.2	2	10	7	2	nw.	Fred Hartman.
Max	McLean	2,093	3	14.5		65	27	-18	8†	50	0.50		0.30	5.0	2				nw.	A. W. Rice.
Mayville	Traill	975	36	12.6	+3.1	55	27†	-24	8	44	0.16	-0.29	0.15	2.0	2	5	16	8	nw.	H. B. Addicott.
Minot	Ward	1,557	36	14.0	+4.3	63	27	-23	8	41	0.17	-0.30	0.10	2.5	6	17	4	8	w.	Julia B. Rue.
Mohall	Renville	1,646	38	15.8	+8.7	57	28	-21	13	36	0.37	+0.05	0.37	2.0	1	4	23	2	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	25	17.2	+3.7	56	27	-22	1	31	0.41	-0.17	0.25	4.2	3	16	9	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	12.9	+4.6	57	27	-18	14	43	0.30	0.13	0.10	3.0	3	11	5	13	nw.	C. J. Hoof.
New England	Hettinger	2,400	38	18.8	+4.7	66	27	-17	2	33	0.24	-0.26	0.08	3.0	4	17	8	4	se.	F. S. Sleight.
New Salem	Morton	2,163	28	15.0	+1.9	64	27†	-15	1†	37	0.18	-0.26	0.10	2.0	4	16	6	7	nw.	J. Christiansen.
Oakes	Dickey	1,318	3	16.2		59	27	20	3	35	0.01		0.01	0.1	1	10	12	7	sw.	Eugene Naylor.
Park River	Walsh	998	28	10.0	+2.3	55	27	-23	8	35	0.36	-0.04	0.18	4.0	3	9	5	15	nw.	C. B. Wright.
Parshall (near)	Mountrail		17	13.5		64	27	-26	14	44	0.50	+0.14	0.20	5.0	3	6	21	2	sw.	C. E. Shubert.
Pembina	Pembina	789	58	6.3	+3.3	49	28	-25	1	46	0.44	-0.29	0.13	5.0	9	5	14	10	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2								0.22		0.14	3.0	4	9	13	7	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	23	10.7	+1.9	69	28	-22	3†	40	0.52	+0.09	0.40	6.5	3	11	6	12	nw.	A. L. Carlson.
Portal	Burke	1,954	27	10.1	+4.7	63	26	-25	13	51	0.02	-0.41	0.02	1.0	1	18	4	7	w.	R. G. Wegener.
Power‡‡	Richland	1,020	38								0.90	+0.26	0.32	11.5	5	13	9	7	se.	Frank B. Power.
Powers Lake	Burke	2,205	27	9.2							0.68	+0.20								Geo. B. Gee.
Richardton	Stark	2,467	16	15.6	+0.4	66	26	-17	1	40	0.00	-0.37	0.00	0.0	0	13	10	6	nw.	John Muggli.
Rugby (near)	Pierce	1,562	3								0.55		0.30	5.5	4	7	10	12	nw.	E. C. Erickson.
Ryder	Ward	2,108	3								0.28		0.08	3.5	7					S. C. Schellenbaum.
Sanish	Mountrail	1,835																		H. W. Monson.
Sharon	Steele	1,516	8	10.3		51	27	-21	8	41	0.63		0.43	7.0	5	7	10	12	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8								0.21		0.21	5.0	1	18	5	6	se.	J. H. Giffey.
Steele	Kidder	1,857	38	12.3	+2.9	56	27	-19	14	27	0.16	-0.31	0.06	3.2	5	7	12	10	sw.	V. A. Laney.
Stowers‡‡	Adams	2,325	17								0.08	-0.47	0.08	1.0	1	17	11	1		Thos. D. Aikire.
Tagus	Mountrail	2,179	3								0.56		0.24	7.0	5	10	8	11	nw.	J. C. Abbott.
Tioga	Williams	2,279	3								0.35		0.26	5.0	3	10	3	16	nw.	Anton Carlson.
Towner	McHenry	1,482	30	12.2	+4.5	62	27	-28	8	39	0.37	-0.07	0.18	8.0	3	12	7	10	nw.	Karl Weber.
Trotters	Golden Valley		6								0.28		0.15	2.8	3	7	15	7		A. J. Nellermoe
Turtle Lake	McLean	1,899	18								0.09	-0.32	0.05	0.9	2					E. T. Kusler.
Valley City	Barnes	1,245	26	14.2	+2.7	54	27†	-18	8	43	0.58	+0.09	0.26	7.6	5	14	6	9	n.	I. C. Robertson.
Velva	McHenry	1,511	5	13.8		63	27	-24	14	41	0.28		0.17	6.3	6	9	10	10	w.	Oscar Anderson.
Verona	LaMoure	1,387	4								T.		T.	T.	0	14	4	11	nw.	W. C. Taylor.
Wahpeton	Richland	962	40	18.2	+6.2	60	27	-15	3	33	0.23	-0.28	0.08	3.5	4	18	0	11	nw.	C. G. Luick.
Washburn	McLean	1,731	31	17.2	+7.7	65	27	-19	14	37	0.34	-0.05	0.17	3.0	3	11	8	10	sw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	11.8	+4.8	62	28	-25	14	40	0.10	-0.10	0.05	1.0	2	16	8	5	se.	C. M. Condit.
Williston	Williams	1,878	53	15.0	+6.7	66	27	-21	14	37	0.37	-0.06	0.23	4.0	4	9	10	10	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	8.6	+3.7	60	27	-31	14	43	0.40	0.12	0.24	5.0	3	10	16	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	3	13.0	+4.0	60	27	-23	1	45	0.85	+0.26	0.39	9.0	4	8	4	17	nw.	E. W. Davis.
Zap	Mercer	1,838	17								0.17	-0.10	0.08	1.7	3					R. A. Norton.
Moorhead, Minn.	Clay	935	51	13.2	+5.1	56	27	-18	3	41	0.60	-0.11	0.28	10.5	7	3	10	16	s.	U. S. Weather Bureau.
Averages				13.6	+3.4	69	28	-31	1†	51	0.35	-0.14	0.67	4.3	3	12	9	8	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for February, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
lpha	Lit Missouri	T.	T.				.40																										0.40
menia	Red	T.	T.				.10	.08	T.			.01	T.																				0.22
rnegard (near)	Missouri						.25	.25				T.						T.				T.											0.50
shley	Missouri						.02	.03	T.			.07			T.	T.			T.				.02	.01									0.15
each	Lit. Missouri	T.																	.01			.10											0.11
erthold Agency	Missouri						.20	.03	.05										T.														0.28
ismarck ***	Missouri	T.	T.				.12	.03	.01						T.	T.	T.		T.				.01							T.			0.20
ottineau	Mouse	T.	.01		T.	T.		.11	T.	T.		T.	T.	T.			T.	T.	.01					T.									0.13
owman	Grand						.01	.03				T.					.03		.01			.02											0.10
ando	Devils Lake		.03	T.		T.	.01	.41	.04	T.			.15	T.			T.		T.						T.								0.64
arrington‖	James	T.					.07	.25	.05			.15	.08	.03																			0.63
arson	Heart							.05														.05											0.10
avalier	Red	.05	.08					.08	.10			.22																					0.53
ooperstown	Sheyenne	T.		T.				T.	.30	.01	T.	.01																					0.32
orinth	Missouri					.01		.08										.02															0.11
ourtenay	James	.02	.02				.32	.05	.10			.07	.05				.05																0.68
rosby	Mouse	.06						.40											.06														0.52
evils Lake ***	Devils Lake	.02	.01		T.	T.	.02	.16	.02			.17				T.	T.	T.	T.					T.	T.								0.40
ickinson‖	Heart		T.				.03	.08	.05	T.		T.					T.	T.		.02		.05	T.					T.		T.			0.23
ogden Butte	Mouse	T.	T.				.18	.25	.10								T.		T.	T.				T.									0.53
rake‖	Mouse																																
unn Center	Knife						.15	.10	.05														T.										0.30
unseith	Mouse	.05	.10					.10	.15							T.		T.	.05					T.									0.45
ckman	Mouse		.04				.02	.07	.03			T.	T.																				0.16
dgeley	James																																0.00
llendale***	James	T.	T.				.02	.01	T.			.03			.01	T.	T.		.02			T.	.01	T.	T.					.01			0.11
nergy	Missouri	T.					.15	.12	T.			T.							T.				T.										0.27
pping	Missouri	.05					.50	.05		T.													T.										0.60
airfield	Knife						.10	.10														.05											0.25
essenden‖	James						.09	.22		.05		.20	.10	.03																			0.69
orman	Sheyenne	T.	T.				T.	T.			T.	T.	T.				T.																T.
ort Yates	Missouri		T.				T.	T.	.16			.32			T.		.16		.08			T.	T.										0.72
oxholm (near)	Mouse	.02	.06	T.			.06	.30	.03								T.		.04				T.	.05									0.56
ryburg	Heart						.10	.10									.05					.21											0.46
ullerton	James	T.					.02	.06	T.			.35			T.	T.	T.		T.	T.				T.									0.43
ackle	James						.15					.08																					0.23
arrison	Missouri	T.	T.				.20	.30	.20								T.		T.														0.70
rafton	Red	T.	.05					.13	T.	T.		T.	.22			T.	T.		T.														0.40
rand Forks ***	Red	.01	T.			T.	T.	.29	.01			.36	T.			T.	T.		T.			T.		.01									0.68
ranville	Mouse	.02	.05				.05	.20	.20			T.	T.				T.	T.	T.					T.									0.42
ankinson	Red	T.										.20																					0.20
annah	Pembina		.03			.01		T.	.14	.01		.08	.12	.08				T.	T.						T.	T.							0.47
ansboro	Devils Lake	T.							.10																								0.10
ettinger	Grand							T.				T.					T.		T.			.04											0.04
illsboro	Red	T.	T.				.08		.67		T.		.31				T.					T.											1.06
oward (near)	Missouri	T.				T.	.24				T.						T.		.08					T.						T.			0.32
amestown	James	T.	.02				.24	.15	.04			.06																					0.51
angdon	Pembina							.20										T.						.10									0.30
arimore	Red	T.						.31	T.			.34	T.																				0.65
inton	Missouri							T.	T.			.16					T.						T.						T.				0.16
isbon	Sheyenne	.02					.10		.03			.10																					0.25
cClusky	Missouri						.20	.30	.30																								0.80
cLeod	Sheyenne	.02					.04						.08						T.														0.14
addock	Sheyenne	T.	T.				T.	.08	T.	T.		.15	.08	T.					T.						T.								0.31
andan‖	Missouri	T.	T.			.09	.03	T.	T.		T.					T.	T.					.03	.04							T.			0.19
anfred	James	.03	T.				.07	.40	.07			.10					T.		T.					T.									0.67
armarth	Lit. Missouri						.02	T.									.01		T.			.03											0.06
ary	Lit. Missouri						.21										.03																0.24
ax‖	Missouri						.30		.20					T.																			0.50
ayville	Red	T.					T.	.15	T.			.01																					0.16
inot	Mouse	.02					.02	.10	.01										.01		.01												0.17
ohall	Mouse								.37													T.											0.37
ott	Cannon Ball						.14	T.									.02		T.			.25											0.41
apoleon‖	Missouri						.10		.10								T.							.10									0.30
ew England	Cannon Ball						.08	.08									.04		T.		.04												0.24
ew Salem	Heart	T.					.02	.10	.04														.02										0.18
akes	James						T.					.01																					0.01
ark River	Red	T.						.08	T.			.10	.18																				0.36
arshall (near)	Missouri						.20	.15	.15																								0.50
embina‖	Red	T.	.12	T.		T.		.02	.09	.03	T.	T.	.13		.02	T.	T.	.01	.01	T.		T.			.01								0.44
etersburg	Red	.01					.01	.06				.14						T.															0.22
ettibone	James			T.			.40	.04	.08			T.					T.				T.				T.								0.52
ortal‖	Mouse							.02					T.																				0.02
ower	Sheyenne		.16		T.		.16	.10				.32	.16																				0.90
owers Lake	Missouri																																
ichardton	Heart																																0.00
ugby [near]	Mouse	T.						.30	.10			.10					T.	.05															0.55
yder	Missouri		.01			.08	.08	.02				.04					T.			.01			.01							T.			0.28
anish‖	Missouri																																
haron	Red	.01					T.	.43	.02	.02		.15				T.	T.							T.									0.63
tanton	Missouri						.21																										0.21
eele	Missouri		.02				.04					.06	.02				T.		.02				T.							T.			0.16
owers	Cannon Ball	T.	T.					T.				T.			T.							.08											0.08
agus	Mouse						.08	.16	.24										.04				.01										0.56
oga	Missouri	.08					.26													.01													0.35
owner	Mouse	T.	T.				.07	.12	.18										T.					T.									0.37
otters	Lit. Missouri						.15										.05					.08											0.28
urtle Lake	Missouri											.04	.05																				0.09
alley City	Sheyenne		T.				.26	.06	.05			.16	.05			T.																	0.58
elva	Mouse	.01	T.				.05	.17	.03								T.		T.	.01			T.	.01									0.28
erona	James						T.																										T
ahpeton	Red						.05	.05				.05	.08																				0.23
ashburn	Missouri						.17	.15	.02			T.											T.							T.			0.34
esthope	Mouse	T.						.05	.05			T.	T.																				0.10
illiston ***	Missouri	T.				.17	.14	.01	.02			T.					T.		T.			T.	T.				T.			T.			0.37
illow City	Mouse	T.	.08					.24	.08			T.							T.														0.40
ishek‖	Missouri						.07					.28	.39	.11																			0.85
p	Knife					.05	.08		.04																								0.17
oorhead, Minn ***	Red	.01	T.				.14	.14	.01			.28	.01		T.	T.	T.	T.	.01	T.		T.	T.	T.									0.60

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of servation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for February, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	12	16	12	10	30	27	22	21	32	30	28	28	32	22	20	25	27	24	22	36	35	33	34	34	43	48	55	55	44	....	....	29.6
	Minimum	−17	0	−20	−15	−6	−1	−14	−18	5	12	9	−11	−12	−19	2	17	−8	10	−10	12	0	−5	−9	4	28	36	33	36	31	....	....	2.4
Arnegard (near)	Maximum	1	3	5	27	27	18	14	17	37	40	32	5	−1	14	22	22	27	31	39	23	17	34	37	38	44	55	59	55	40	....	....	27.0
	Minimum	−15	−6	−12	−13	2	2	−12	−9	−7	11	1	−20	−12	−25	−9	−3	3	−11	10	−3	1	11	12	19	25	38	40	39	30	....	....	3.0
Ashley	Maximum	5	5	9	8	32	28	10	9	32	35	29	7	4	8	18	21	14	26	21	32	27	16	36	33	43	45	52	54	42	....	....	24.2
	Minimum	−11	−7	−17	−16	2	7	1	−12	5	3	5	−10	−13	−12	0	5	−12	8	−9	5	10	−4	5	12	29	32	35	37	30	....	....	3.7
Beach	Maximum	−2	5	10	29	32	24	12	20	38	44	22	11	6	14	25	20	24	27	34	44	38	25	45	45	53	60	67	63	50	....	....	30.5
	Minimum	−16	−11	−6	−11	17	12	−8	−6	16	21	11	−8	−16	−15	−8	−1	−6	15	−4	16	4	5	21	31	38	48	42	41	34	....	....	8.8
Berthold Agency	Maximum	4	5	8	25	25	18	6	8	38	32	32	12	0	10	20	20	28	28	22	42	22	13	22	45	53	56	65	58	40	....	....	26.1
	Minimum	−18	−15	−20	−13	5	4	−20	−12	5	6	−6	−6	−20	−27	−6	−12	−16	8	−11	4	2	2	2	20	32	35	45	40	30	....	....	0.4
Bismarck	Maximum	3	6	10	20	33	14	7	9	29	33	32	5	3	8	21	20	28	32	22	42	30	13	38	44	52	58	65	58	39	....	....	26.7
	Minimum	−11	−9	−18	−11	12	5	−11	−12	−1	0	2	−6	−10	−15	−3	2	−9	7	−7	8	3	2	13	21	38	37	40	36	32	....	....	4.7
Bottineau	Maximum	0	−2	8	8	11	9	6	0	25	34	29	5	−2	8	18	20	15	24	22	35	28	17	16	34	47	50	57	60	47	....	....	21.7
	Minimum	−20	−18	−27	−17	−11	−6	−10	−22	−6	14	2	−15	−22	−29	−8	−6	−18	3	−12	6	−3	−15	−5	5	25	31	30	32	24	....	....	−3.4
Cando	Maximum	−4	−1	2	4	12	15	14	6	25	29	29	7	2	8	20	20	17	23	20	34	34	18	26	33	44	47	55	55	48	....	....	22.1
	Minimum	−31	−18	−7	−20	−4	−4	−5	−22	−2	6	5	−11	−19	−25	−7	−4	−18	−1	−15	1	−2	−11	−9	2	30	34	31	28	26	....	....	2.5
Carrington §§	Maximum	0	0	8	15	26	12	6	12	34	38	11	−1	4	10	21	21	28	21	21	35	15	11	32	40	46	53	60	54	33	....	....	23.0
	Minimum	−7	−12	−10	−3	4	−6	−19	−11	6	5	−9	−14	−17	−12	1	9	−9	−7	−6	5	−4	−4	3	8	33	34	35	27	23	....	....	0.9
Crosby	Maximum	0	−1	4	18	16	14	4	12	30	39	32	2	0	10	20	24	24	30	28	38	30	10	23	45	54	51	66	60	38	....	....	24.9
	Minimum	−17	−10	−12	−12	−4	−5	−10	−11	2	10	−1	−10	−18	−11	−5	2	−10	0	8	11	−8	−11	8	13	13	33	39	36	25	....	....	1.6
Devils Lake	Maximum	−1	0	4	13	20	6	4	8	29	29	24	−4	−1	9	19	21	22	26	19	35	23	5	26	40	45	50	56	52	34	....	....	21.1
	Minimum	−15	−12	−13	−13	1	−3	−16	−21	4	7	−4	−11	−16	−19	−3	2	−12	−1	−10	7	−2	−7	−8	−3	36	37	36	34	27	....	....	−0.1
Dickinson §§	Maximum	−1	3	8	28	32	15	8	23	37	38	11	7	1	9	22	12	29	23	26	39	9	25	40	46	52	58	66	56	42	....	....	26.3
	Minimum	−14	−13	−15	16	−5	12	4	−9	1	10	6	−7	−16	−18	−10	−6	−10	−8	−8	5	8	−4	8	20	29	36	39	39	31	....	....	3.1
Dunn Center	Maximum	1	6	10	27	30	18	9	12	36	39	36	6	0	13	22	21	25	30	30	31	34	15	40	45	53	58	65	59	45	....	....	28.1
	Minimum	−16	−8	−12	−11	16	9	−11	−11	6	0	3	−11	−25	−26	−11	−10	−11	9	−15	−1	3	−1	7	26	35	46	40	48	36	....	....	3.6
Dunseith	Maximum	−5	−2	9	6	18	9	1	−1	26	31	29	−1	0	5	16	21	14	20	17	29	30	6	24	34	41	54	56	55	34	....	....	19.9
	Minimum	−22	−9	−16	−11	1	−3	−5	−17	−2	11	−1	−14	−15	−18	−8	5	−13	5	−10	7	1	−10	−6	2	29	33	35	34	23	....	....	0.2
Edgeley	Maximum	4	7	4	7	31	27	10	10	39	29	31	12	7	10	21	25	16	28	23	37	34	22	34	33	42	48	57	55	49	....	....	25.9
	Minimum	−8	−3	−16	−16	1	6	0	−13	9	6	8	−8	10	−13	3	13	−6	10	5	11	12	−3	1	11	27	36	38	42	29	....	....	5.6
Ellendale	Maximum	5	5	9	2	31	13	14	14	28	23	32	5	4	6	23	25	13	29	17	31	31	16	35	28	45	47	56	54	37	....	....	23.4
	Minimum	−5	−11	−19	−15	1	4	−8	−11	5	5	2	−6	−9	−8	1	10	−5	8	−4	6	−2	−2	4	11	27	36	34	37	32	....	....	4.1
Fessenden §§	Maximum	2	4	8	15	26	12	6	12	34	38	11	−1	4	10	21	21	28	22	21	39	14	16	33	39	50	53	62	54	39	....	....	23.9
	Minimum	−19	−5	−18	−13	0	−1	−10	−24	−9	3	5	−11	−17	−21	−7	−1	−14	−12	−14	−7	4	−3	0	10	14	33	33	36	27	....	....	−1.3
Foxholm (near)	Maximum	−1	0	4	16	19	12	4	5	33	35	32	2	1	9	20	23	21	27	24	37	36	8	26	44	51	53	62	57	44	....	....	24.3
	Minimum	−18	−11	−16	−9	3	−4	−11	−21	2	15	0	−12	−18	−20	−6	−1	−11	12	−10	5	−4	−5	4	10	34	39	38	37	26	....	....	1.7
Fullerton	Maximum	5	6	10	14	31	13	14	14	33	28	31	12	6	12	24	25	16	29	24	33	30	15	35	32	43	49	56	55	45	....	....	25.5
	Minimum	−7	0	−16	3	4	4	4	−12	6	6	8	−5	9	−10	1	15	−7	8	−3	15	15	−2	11	12	27	36	34	39	30	....	....	7.1
Garrison	Maximum	3	5	8	21	25	19	4	7	35	32	31	4	3	11	22	21	25	30	24	42	36	12	34	48	52	53	63	61	52	....	....	27.0
	Minimum	−14	−3	−15	−13	8	0	−4	−19	−3	7	1	−8	−16	21	−7	−6	−10	15	−9	3	3	0	10	17	36	36	39	39	30	....	....	3.3
Grafton	Maximum	0	4	6	3	22	17	12	2	24	26	25	10	3	9	19	22	16	18	16	33	34	10	23	28	44	49	56	54	49	....	....	21.9
	Minimum	−13	−6	−21	−9	−3	1	−4	−19	−1	6	7	11	−17	17	20	8	−11	7	−9	10	10	−7	−14	−1	23	34	32	32	27	....	....	0.5
Grand Forks	Maximum	2	5	4	8	14	9	8	4	21	25	24	−3	3	6	20	22	14	23	16	33	27	6	26	28	43	46	51	51	44	....	....	20.0
	Minimum	−16	−16	−20	−13	−5	−4	−8	−19	3	12	−4	−9	14	−20	−4	1	−13	3	−10	15	−1	−9	−13	4	30	35	32	32	28	....	....	−0.1
Granville	Maximum	1	2	5	23	20	10	5	5	35	35	35	5	3	7	23	22	29	23	25	37	35	10	25	46	52	55	64	55	35	....	....	25.1
	Minimum	−27	−9	−23	−13	−2	5	−5	−22	−3	7	5	−9	−15	23	−7	−4	−15	14	−12	0	3	−8	8	10	35	36	34	33	25	....	....	0.1
Hansboro	Maximum	0	−5	0	7	20	15	5	0	20	25	20	−2	−2	10	15	15	20	15	20	30	25	15	15	32	46	47	52	52	32	....	....	18.8
	Minimum	−24	−22	−22	−18	0	−5	−18	−25	−8	−2	−2	14	17	23	−10	0	−14	0	−16	0	−2	−14	−9	0	27	31	32	32	22	....	....	−4.1
Hettinger	Maximum	2	5	9	29	33	28	18	12	38	40	33	11	6	6	17	20	23	26	22	39	31	22	39	46	48	57	65	56	45	....	....	28.6
	Minimum	−15	−13	−15	−15	16	12	0	−7	3	7	6	−4	−10	9	−9	−3	8	16	−8	6	10	6	14	26	35	36	41	39	34	....	....	6.6
Hillsboro	Maximum	5	5	5	3	22	22	5	5	24	25	25	10	0	3	20	23	18	20	15	33	33	20	28	30	45	47	59	59	48	....	....	22.7
	Minimum	−18	0	−22	−15	−5	0	−5	−21	5	−8	−10	−10	−12	−16	−3	15	−10	10	−12	16	−3	0	11	4	24	35	34	38	30	....	....	1.0
Howard (near)	Maximum	−1	−1	1	20	20	10	1	13	30	40	32	−1	−6	10	19	23	24	20	22	26	22	13	28	45	52	53	64	53	41	....	....	23.2
	Minimum	−17	−19	−14	−14	8	−6	−14	−15	4	6	−1	−14	−22	−20	−7	−6	−12	−10	10	−10	−6	−5	8	12	33	39	40	35	26	....	....	0.3
Jamestown	Maximum	2	4	9	8	30	16	5	8	32	28	31	8	4	14	20	24	19	29	21	37	30	12	34	32	44	51	58	54	45	....	....	24.4
	Minimum	−13	−5	−20	−10	5	−4	−6	−18	2	2	3	−10	−15	−18	−1	7	−11	11	9	9	8	−4	3	8	29	39	34	40	29	....	....	2.7
Langdon	Maximum	−2	−12	0	0	10	8	12	22	28	26	0	−6	18	6	17	18	15	14	15	30	12	2	3	20	35	36	40	33	25	....	....	14.7
	Minimum	−17	−10	−20	−18	−10	8	−10	−25	−20	−2	−6	−9	−16	−25	−15	−2	−18	−15	−15	−12	2	−12	−15	−2	0	25	30	25	21	....	....	−10.3
Larimore	Maximum	−2	3	5	4	21	14	4	4	27	23	23	6	−3	4	19	22	14	14	15	33	32	6	29	27	44	45	51	51	49	....	....	19.9
	Minimum	−19	−3	−16	−16	−1	−1	−6	−26	−3	1	6	−9	−15	−19	−4	8	−12	8	−10	7	9	−5	−13	1	21	36	34	38	28	....	....	0.7
Linton	Maximum	3	4	8	11	33	24	9	8	34	28	30	10	3	9	21	21	20	26	29	36	26	17	37	38	48	51	61	55	50	....	....	25.9
	Minimum	−11	−11	−27	−19	−4	6	1	−15	4	0	7	−9	−15	−15	−5	−4	−18	6	−15	9	10	−8	10	15	26	29	34	34	30	....	....	1.6
Lisbon	Maximum	5	9	8	11	34	20	12	7	34	32	17	9	4	19	25	26	20	28	26	38	32	22	33	37	48	48	61	56	39	....	....	26.2
	Minimum	−9	2	−14	−14	4	6	3	−14	2	7	7	−5	−10	−11	2	19	−4	2	5	12	8	4	−4	8	9	34	34	33	29	....	....	4.9
McClusky	Maximum	2	10	14	16	21	17	6	8	30	36	28	3	5	7	19	20	18	28	18	38	33	12	34	37	48	52	60	56	51	....	....	25.1
	Minimum	−16	−16	−9	4	8	0	−9	−19	4	16	−9	−8	−17	−21	−7	−4	−14	12	−9	7	3	−7	8	15	34	35	37	39	31	....	....	3.0
Maddock	Maximum	−1	0	6	14	18	18	4	3	32	35	33	3	−1	11	22	21	18	27	21	36	33	16	28	35	49	53	59	61	49	....	....	24.0
	Minimum	−24	−5	−18	−11	3	−4	−11	−27	−3	0	2	−10	−18	−23	−8	2	−14	7	−17	0	2	−9	−4	5	32	35	32	39	27	....	....	−0.7
Marmarth	Maximum	0	7	12	30	36	33	20	20	37	39	30	13	5	10	20	20	20	28	30	45	27	35	48	50	56	61	68	58	50	....	....	31.3
	Minimum	−16	−10	−20	−16	13	16	0	−1	11	9	8	−13	−16	−10	8	−5	−10	15	−10	1	3	5	27	26	33	37	42	40	40	....	....	6.6
Minot	Maximum	3	3	7	18	21	11	3	7	37	34	27	5	4	12	22	22	23	29	25	39	36	9	30	46	54	54	63	61	47	....	....	25.9
	Minimum	−17	−8	−18	−7	2	−2	−7	−23	5	12	3	−10	−15	−22	−4	−5	−18	14	−15	5	0	−6	6	13	36	39	37	39	26	....	....	2.1
Mohall	Maximum	20	8	9	12	15	35	34	37	36	24	7	−1	−9	10	14	10	18	20	24	30	30	33	35	37	38	42	54	57	54	....	....	25.3
	Minimum	−14	−20	−18	−6	−5	0	−2	13	19	−7	−11	−19	−21	−10	−6	−4	0	4	10	12	20	26	27	27	30	36	35	33	30	....	....	6.2
Mott	Maximum	0	5	12	18	26	22	12	27	30	29	12	6	9	10	23	20	30	27	21	38	20	18	38	46	54	52	56	55	40	....	....	26.4
	Minimum	−22	−7	−12	11	12	−3	−14	8	6	7	−7	−12	−11	−5	5	−4	10	−4	7	12	9	10	22	36	38	37	39	33	32	....	....	8.0
Napoleon §§	Maximum	4	2	5	17	31	16	5	16	34	33	10	3	0	8	20	20	28	25	21	33	13	15	33	39	42	48	57	54	35	....	....	23.0
	Minimum	−13	−12	−16	−10	5	6	−3	−15	4	4	7	−12	−17	−18	−4	−1	−15	8	−11	10	7	−8	6	12	31	34	36	38	28	....	....	2.8
New Salem	Maximum	0	3	8	20	31	15	5	6	34	34	25	5	2	7	20	20	18	27	20	40	16	10	38	44	51	56	64	64	45	....	....	25.1
	Minimum	−15	−5	−12	−4	13	5	−5	−14	5	5	5	−15	−13	−14	5	0	−10	−10	−5	7	4	0	9	18	36	36	43	41	30	....	....	4.8
Oakes	Maximum	8	11	11	7	36	22	15	12	30	26	30	10	10	13	25	26	17	28	23	35	30	15	35	31	47	57	59	58	40	....	....	26.4
	Minimum	−5	0	−20	−17	1	7	3	−14	6	8	7	−6	−9	−10	3	14	−5	10	−1	15	15	0	1	9	28	31	33	36	30	....	....	5.9
Pembina §§	Maximum	0	0	3	7	14	4	3	8	20	29	23	−8	0	9	20	20	18	12	17	31	14	−7	16	37	46	46	48	49	34	....	....	17.7
	Minimum	−25	−10	−23	−22	−12	−5	−8	−22	−22	4	10	−13	−17	−17	−20	6	−10	−10	−9	−10	10	−13	−14	−8	0	12	31	41	28	....	....	−5.1
Sharon	Maximum	−1	4	9	6	22	12	5	3	26	25	21	4	−1	6	18	22	14	24	19	33	28	7	29	28	40	44	51	49	39	....	....	20.2
	Minimum	−17	−13	−18	−16	−1	−4	−7	−21	3	7	4	−9	−16	−20	−1	7	−13	7	−12	10	3	−9	−12	1	26	34	34	38	27	....	....	0.4
Steele	Maximum	0	3	7	11	30	15	6	7	28	29	20	5	2	3	19	18	13	27	19	30	26	12	34	35	40	48	56	53	35	....	....	21.8
	Minimum	−14	−13	−18	−8	6	2	−4	−17	2	3	4	−10	−15	−19	−7	−2	−13	10	−8	8	6	−5	10	18	30	34	35	38	29	....	....	2.8
Towner	Maximum	1	2	5	16	18	11	5	5	30	33	30	8	3	12	22	21	19	28	23	37	37	12	30	41	53	56	62	61	47	....	....	25.1
	Minimum	−21	−6	−24	−10	−3	0	−5	−28	−4	4	4	−18	−17	−27	−16	−4	−16	10	−16	3	1	−9	3	9	35	36	34	39	27	....	....	−0.7
Valley City	Maximum	4	7	10	9	32	22	9	6	32	31	28	10	12	11	22	24	19	20	23	35	33	16	35	30	45	51	54	54	35	....	....	24.8
	Minimum	−12	0	−17	−15	−1	−1	−9	−18	−4	6	10	−7	−2	−17	3	15	−8	12	−8	15	12	−2	−8	5	27	32	32	33	30	....	....	3.6
Wahpeton	Maximum	7	10	14	10	35	33	19	13	36	34	32	14	16	10	21	28	22	26	25	40	39	21	34	34	51	54	60	58	55	....	....	29.3
	Minimum	−10	4	−15	−14	0	5	5	−14	6	9	10	−5	−8	−12	5	16	−4	12	−1	17	17	4	−4	9	27	35	34	38	31	....	....	7.1
Westhope	Maximum	4	1	6	11	13	12	3	3	24	33	29	7	3	13	24	23	20	25	24	38	37	8	28	41	50	53	61	62	45	....	....	24.2
	Minimum	−20	−10	−23	−11	−9	−2	−5	−22	−4	10	2	−11	−18	−25	−9	3	−16	8	−15	2	−3	−13	0	6	35	37	34	37	26	....	....	−0.6
Williston	Maximum	−1	4	8	21	22	16	6	18	36	37	10	2	−1	11	20	25	28	28	30	40	17	16	32	48	51	55	66	55	37	....	....	25.4
	Minimum	−9	−7	−10	−5	16	1	−9	−7	5	10	−6	−10	−19	−21	−7	−2	−9	−1	−4	8	−2	4	13	20	37	40	43	32	29	....	....	4.5
Moorhead, Minn	Maximum	6	6	5	6	27	10	11	9	31	30	26	3	1	7	23	25	17	24	18	35	34	5	32	29	47	48	56	54	40	....	....	22.9
	Minimum	−11	−7	−18	−12	−4	−4	−7	−15	9	16	3	−6	−10	−16	6	2	−5	10	−4	16	4	−9	−9	6	29	34	33	36	31	....	....	3.4

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 3-30-32—1050

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

VOL. XXXXI BISMARCK, N. D., MARCH, 1932 No. 3

GENERAL SUMMARY

Unseasonably low temperature prevailed in all sections during the first and second decades, and the mean for the month was the lowest for March during the past eight years. The precipitation, while averaging nearly the normal, was somewhat unevenly distributed. Livestock required much yard feeding, especially during the first and second decades. Practically no spring work on farms was accomplished. The surface moisture of the soil was generally excellent, with the exception of the extreme northwest section, but nearly all portions reported a deficiency in moisture content in the subsoil.

TEMPERATURE

The mean temperature for the state was 18.9°, or 5.2° below the normal, and 6.8° lower than the mean for March, 1931. The highest mean reported was 23.8° at Marmarth, Slope County; the lowest was 10.4° at Powers Lake, Burke County. The highest temperature reported was 64° at Hankinson, Richland County on the 29th; the lowest was -30° at Powers Lake, Burke County on the 22d. The greatest monthly range of temperature was 81° at Bottineau, Bottineau County, and Eckman, Bottineau County; the least was 57° at Langdon, Cavalier County, and Pembina, Pembina County. The greatest daily range in temperature was 53° at Valley City, Barnes County on the 23d.

PRECIPITATION

The average precipitation for the state was 0.63 inch, or 0.07 inch below the normal, and 0.31 inch less than the average for March, 1931. The greatest monthly amount reported was 2.40 inches at Alpha, Golden Valley County; the least was a trace at Grafton, Walsh County, and Howard, Williams County. The greatest amount recorded in any 24 consecutive hours was 1.00 inch at Hansboro, Towner County on the 29th. The average number of days with 0.01 inch or more of precipitation was 6. The average snowfall was 6.0 inches.

AURORAS

Auroras were observed at Eckman, Foxholm, Howard McClusky and Williston on the 2d; at Howard on the 3d; at Devils Lake, Edmore, Foxholm, Howard and Willow City on the 4th; at Eckman, Edmore, Foxholm and Williston on the 5th; at Howard on the 6th; at Devils Lake, Edmore and Foxholm on the 8th; at Devils Lake, Eckman, Edmore, Foxholm, Grand Forks, Rugby, Tagus, Trotters, Velva, Williston and Willow City on the 9th; at Devils Lake, Eckman, Edmore, Foxholm, Grand Forks, Pembina, Sharon and Willow City on the 10th; at Pembina on the 11th; at Foxholm on the 12th; at Pembina and Rugby on the 13th; at Williston on the 15th; at Grand Forks on the 22d; at Eckman on the 24th; at McClusky on the 26th; at Devils Lake, Eckman, Edmore, Oakes and Tagus on the 27th; at Carson and Oakes on the 28th; at Dogden Butte and Eckman on the 29th; at Bottineau, Crosby, Devils Lake, Eckman, Edmore, Ellendale, Foxholm, Rugby, Sharon and Willow City on the 30th; and at Foxholm, McLeod and Oakes on the 31st.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.07	30.73	9	29.37	29	57	7,969	10.7	32	nw.	8
Devils Lake	30.07	30.66	9	29.44	29	44	8,455	11.4	33	nw.	16
Ellendale	30.07	30.57	11	29.35	29	56	10,944	14.7	44	nw.	8
Grand Forks	30.04	30.57	11	29.43	29	90	.....	....	32	nw.	8
Williston	30.10	30.85	9	29.36	29	48	6,933	9.3	40	se.	1
Moorhead, Minn	30.07	30.62	11	29.34	29	58	7,941	10.7	28	nw.	30
Av'ges and extremes	30.07	30.85	9	29.34	29	....	....	11.4	44	nw.	8

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	201.1	369.9	54	− 2	86	72	72	41	22
Devils Lake	221.4	369.7	60	+ 2	87	73	78	53	31
Ellendale	250.8	370.0	68	+12	85	69	...	43	30
Grand Forks	......	......	.....	.....	96	....	96	.....	....
Williston	203.7	369.7	55	+ 3	84	72	71	40	23
Moorhead, Minn	233.5	369.9	63	+ 7	83	71	77	37	1
Averages and extremes	222.1	369.8	60	+ 4	87	71	79	37	1

† And other dates.

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COMPARATIVE STATE DATA FOR MARCH

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	24.2	+0.1	66	−35	0.83	+0.13	4	12	8	11	se.
1893...	13.9	−10.2	68	−35	0.99	+0.27	5	13	7	11	nw.
1894..	24.8	+0.7	69	−22	1.45	+0.75	5	12	9	10	nw.
1895..	23.2	−0.9	75	−35	0.16	−0.54	2	16	10	5	nw.
1896...	15.7	−8.4	70	−35	1.18	+0.48	8	12	10	9	nw.
1897...	11.9	−12.2	58	−48	1.27	+0.57	7	15	7	9	nw.
1898...	21.3	−2.8	79	−24	0.79	+0.09	5	13	8	10	nw.
1899...	7.5	−16.6	72	−30	1.00	+0.30	5	12	10	9	nw.
1900...	20.3	−3.8	77	−24	1.01	+0.31	5	14	7	10	nw.
1901...	25.3	+1.2	85	−32	0.86	+0.16	5	15	8	8	nw.
1902...	27.4	+3.3	65	−25	2.73	+2.03	8	10	6	15	nw.
1903..	22.1	−2.0	80	−24	0.55	−0.15	3	12	6	13	nw.
1904...	18.2	−5.9	64	−26	1.33	+0.63	5	11	6	14	nw.
1905...	32.5	+8.4	81	−25	0.87	+0.17	4	11	8	12	nw.
1906..	18.5	−5.6	67	−34	0.38	−0.32	3	15	6	10	nw.
1907...	23.1	−1.0	83	−20	0.70	0.00	4	14	9	8	nw.
1908...	21.1	−3.0	68	−31	1.16	+0.46	8	10	9	12	nw.
1909...	24.0	−0.1	61	−24	0.32	−0.38	4	10	9	12	nw.
1910...	41.3	+17.2	90	− 7	0.97	+0.27	3	18	8	5	nw.
1911..	30.6	+6.5	78	−18	0.24	−0.46	2	16	10	5	nw.
1912..	15.4	−8.7	65	−28	0.33	−0.37	3	17	8	6	nw.
1913...	17.2	−6.9	70	−31	0.81	+0.11	6	12	9	10	nw.
1914...	25.5	+1.4	76	−20	0.90	+0.20	5	10	9	12	nw.
1915...	23.3	−0.8	63	−23	0.22	−0.48	2	16	6	9	nw.
1916...	20.3	−3.8	69	−45	1.48	+0.78	6	11	9	11	nw.
1917...	22.2	−1.9	67	−39	0.39	−0.31	3	13	10	8	nw.
1918...	35.0	+10.9	82	−15	0.39	−0.31	2	16	8	7	sw.
1919...	17.8	−6.3	67	−35	0.82	+0.12	4	12	9	10	nw.
1920...	22.4	−1.7	67	−32	0.79	+0.09	4	15	8	8	nw.
1921...	25.2	+1.1	75	−22	1.00	+0.30	6	9	12	10	nw.
1922...	25.8	+1.7	60	−30	0.72	+0.02	4	12	7	12	se.
1923...	18.3	−5.8	65	−35	0.41	−0.29	4	10	10	11	nw.
1924...	25.5	+1.4	58	−20	0.45	−0.25	4	10	9	12	nw.
1925...	27.4	+3.3	75	−26	0.67	−0.03	4	14	9	8	nw.
1926..	25.8	+1.7	83	−23	0.24	−0.46	3	13	10	8	nw.
1927...	30.4	+6.3	77	−10	0.74	+0.04	5	13	8	10	nw.
1928...	28.1	+4.0	85	−17	0.54	−0.16	3	15	8	8	nw.
1929...	30.5	+6.4	77	−15	0.78	+0.08	5	12	8	11	nw.
1930...	26.1	+2.0	62	−17	0.09	−0.61	1	17	8	6	nw.
1931...	25.7	+1.6	63	−24	0.94	+0.24	5	11	8	12	nw.
1932...	18.9	−5.2	64	−30	0.63	−0.07	6	10	11	10	nw.
Av....	24.1	....	90*	−48*	0.70	....	4	13	8	10	nw.

*Extremes.

Climatological Data for March, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	....	6	....	....	....	....	....	....	....	2.40	....	0.80	24.0	4	....	....	....	....	H. A. Bury.
Amenia	Cass	954	36	21.8	−2.8	52	29	−12	7	45	0.29	−0.23	0.16	2.9	6	1	20	10	nw.	I. Idso.
Arnegard (near)	McKenzie	....	19	19.6	−5.7	52	31	−20	7	30	0.65	−0.07	0.30	6.0	5	9	13	9	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	20.0	−4.3	52	24	−17	6†	36	0.56	−0.46	0.32	11.0	8	13	4	14	nw.	H. D. Piper.
Beach	Golden Valley	2,759	26	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	19.0	−7.0	50	16	−23	7	35	0.43	−0.26	0.33	3.5	2	16	4	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	20.5	−3.7	55	24	−17	6	33	0.73	−0.16	0.33	7.8	10	9	14	8	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	15.9	−4.2	54	25	−27	6	34	0.63	−0.06	0.22	6.3	7	5	23	3	nw.	N. D. School of Forestry.
Bowman	Bowman	2.961	18	22.0	−5.7	58	28	−18	6	35	1.07	+0.61	0.30	....	11	14	11	6	nw.	George Larsen.
Cando	Towner	1,488	31	18.2	−4.0	51	25	−20	7	36	0.74	+0.06	0.38	7.4	5	8	11	12	nw.	A. J. Swanson.
Carrington	Foster	1,579	34	16.8	−6.6	51	23	−18	5	41	0.35	−0.32	0.20	3.5	3	12	9	10	nw.	L. A. Swanson.
Carson	Grant	2,500	20	20.9	−5.4	54	31	−21	6	38	0.73	+0.14	0.25	7.5	10	15	9	7	nw.	J. W. Evens.
Cavalier	Pembina	894	22	....	....	....	....	....	....	....	0.21	−0.47	0.15	2.2	5	19	5	7	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	....	....	....	....	....	....	....	1.00	+0.42	0.60	10.0	4	10	10	11	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	....	....	....	....	....	....	....	0.71	....	0.40	5.1	5	17	12	2	w.	W. A. Clem.
Courtenay	Stutsman	1,523	3	....	....	....	....	....	....	....	0.87	....	0.20	8.7	8	9	13	9	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	18.0	−5.5	51	23	−23	6	47	0.50	−0.01	0.20	5.0	8	11	11	9	nw.	John Jensen.
Devils Lake	Ramsey	1,478	35	16.0	−3.8	50	24	−17	7	33	0.72	−0.06	0.24	8.4	12	3	14	14	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	19.0	−6.3	55	28	−18	6†	37	0.61	−0.18	0.17	5.9	11	7	14	10	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	19.0	....	52	24	18	6†	36	0.60	....	0.25	7.0	4	5	14	12	nw.	R. L. Williams.
Drake	McHenry	1.634	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Peter Anton.
Dunn Center	Dunn	2,191	33	20.6	−4.9	53	28	−20	6†	34	0.78	−0.14	0.28	7.0	6	6	11	14	nw.	W. F. Moede.
Dunseith	Rolette	1,682	36	15.2	−5.0	49	24	−22	6	31	0.35	−0.31	0.10	3.5	4	9	10	12	n.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	17.0	−5.9	55	24	−26	6	36	0.20	−0.28	0.06	5.1	6	5	15	11	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	31	21.4	−5.9	55	24	−15	7	39	0.20	−0.46	0.15	2.0	2	2	20	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	20.3	−5.3	55	24	−14	7	32	0.25	−0.58	0.07	4.2	11	3	14	14	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	20	22.8	....	51	24	17	7	30	0.68	+0.18	0.35	5.0	3	4	24	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	24	19.8	....	52	31	−24	7	31	1.05	+0.54	0.50	11.5	5	18	9	4	nw.	A. O. Wang.
Fairfield	Billings	....	3	....	....	....	....	....	....	....	1.00	....	0.30	10.0	7	11	6	14	nw.	F. R. Hecker.
Fessenden	Wells	1,610	20	17.5	−5.9	53	24	−20	6	43	0.79	+0.09	0.21	7.5	7	18	9	4	nw.	T. D. Monsen.
Forman	Sargent	1,249	39	....	....	....	....	....	....	....	0.35	−0.45	0.15	4.9	5	5	14	12	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	22.8	−3.5	60	23	19	7	33	0.50	−0.44	0.30	5.0	3	12	10	9	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	17.4	....	50	24	−23	7	32	0.98	+0.31	0.69	8.0	9	3	13	15	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	....	....	....	....	....	....	....	1.46	+0.74	0.20	12.3	11	5	15	11	nw.	Verne King.
Fullerton	Dickey	1,439	34	21.2	−5.6	53	24	−14	7	36	1.02	−0.16	0.30	10.2	7	9	15	7	nw.	F. O. Alin.
Gackle	Logan	1,951	2	....	....	....	....	....	....	....	0.70	....	0.30	4.8	7	4	17	10	nw.	Geo. Hummel.
Garrison	McLean	1,901	55	20.3	−3.5	54	24	−20	6	30	0.45	−0.48	0.20	4.5	5	17	9	5	nw.	W. F. Robinson.
Grafton	Walsh	827	40	17.6	−3.6	44	27	−14	6†	34	T.	−0.66	T.	T.	0	14	8	9	n.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	41	17.0	−5.4	45	27†	−13	7	27	0.55	−0.18	0.26	6.7	10	2	14	15	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	18.0	−6.1	54	24	−21	6	36	0.57	+0.09	0.30	5.5	5	7	13	11	nw.	W. A. Christianson.
Hankinson	Richland	1,068	3	21.8	....	64	29	−11	6	48	0.36	....	0.10	4.5	5	6	16	9	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40	....	....	....	....	....	....	....	0.28	−0.38	0.11	2.8	6	....	....	....	....	James Meier.
Hansboro	Towner	1,597	24	15.8	−4.8	47	24	−22	6	35	1.30	+0.58	1.00	9.0	3	25	3	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	25	22.4	−6.2	57	28	−17	6†	45	0.38	−0.30	0.19	3.5	6	8	12	11	nw.	C. H. Plath.
Hillsboro	Traill	901	26	18.7	−6.9	51	29	−12	7	38	0.72	+0.05	0.16	....	8	13	9	9	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	25	17.2	−4.7	52	24†	−25	6	32	T.	−1.02	T.	T.	0	9	8	14	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	19.1	−4.9	53	24	−19	7	42	0.77	−0.14	0.33	4.4	5	13	13	5	nw.	S. Calvelage.
Langdon	Cavalier	1,615	36	13.1	−6.5	38	24†	−19	6†	37	1.10	+0.29	0.40	11.0	5	12	9	10	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	17.3	−5.0	45	29	14	7	35	0.74	−0.02	0.15	8.8	9	11	9	11	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	20.2	−7.5	55	24	−21	6	46	1.09	+0 61	0.50	4.0	5	5	19	7	nw.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	28	18.8	−8.3	52	29	−17	7	49	0.52	0.00	0.20	5.2	4	3	15	13	....	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	19.0	....	53	24	20	6†	34	0.22	−0.52	0.10	1.5	4	16	7	8	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	22.0	−5.7	52	29	−13	7	44	0.38	−0.16	0.10	3.8	5	17	7	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	17	17.4	−7.2	52	25	−21	6	42	0.36	−0.03	0.09	....	5	4	20	7	nw.	A. T. Felland.
Mandan	Morton	1,750	18	19.8	−6.9	54	24	−18	6†	35	1.00	+0.29	0.52	7.8	10	4	5	22	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	....	....	....	....	....	....	....	0.74	−0.01	0.28	8.2	8	....	....	....	....	P. B. Anderson.
Marmarth	Slope	2,714	23	23.8	−3.9	60	28	−17	10	40	0.83	+0.25	0.20	7.0	10	5	9	17	nw.	S. P. Grane.
Mary	McKenzie	....	3	....	....	....	....	....	....	....	0.51	....	0.33	2.1	5	17	6	8	nw.	Fred Hartman.
Max	McLean	2,093	3	19.2	....	53	24	−22	6	41	1.12	....	0.80	11.2	3	11	1	19	nw.	A. W. Rice.
Mayville	Traill	975	36	18.2	−6.3	49	27	−14	6†	40	0.18	−0.54	0.12	1.6	4	1	26	4	n.	H. B. Addicott.
Minot	Ward	1,557	36	19.4	−3.4	54	24	−21	6	32	0.34	−0.35	0.15	4.9	6	13	7	11	w.	Julia B. Rue.
Mohall	Renville	1,646	38	16.2	−4.7	41	1†	−22	8	26	0.96	+0.28	0.72	5.5	3	2	26	3	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	25	20.8	−6.1	54	24	−17	5	35	1.13	+0.21	0.27	6.0	10	9	8	14	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	17.9	−4.8	53	24	−22	6†	43	0.86	+0.03	0.20	8.9	8	14	6	11	nw.	C. J. Hoof.
New England	Hettinger	2,400	38	22.3	−2.9	54	28	−17	6	27	0.90	+0.11	....	9.0	5	6	11	14	nw.	F. S. Sleight.
New Salem	Morton	2,163	28	19.8	−6.1	50	24	−21	6	32	0.85	+0.02	0.20	8.0	14	9	12	10	nw.	J Christiansen.
Oakes	Dickey	1,318	3	21.9	....	55	29	−13	6†	42	0.43	....	0.11	3.7	8	9	17	5	nw.	Eugene Naylor.
Park River	Walsh	998	28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	C. B. Wright.
Parshall (near)	Mountrail	....	17	19.4	....	53	24	−21	7	39	0.39	+0.17	0.20	2.5	7	7	20	4	nw.	C. E. Shubert.
Pembina	Pembina	789	58	12.9	−5.3	42	24	−15	6†	40	0.29	−0.58	0.07	2.2	11	2	17	12	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	....	....	....	....	....	....	....	0.37	....	0.12	6.0	7	7	22	2	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	23	18.5	−5.8	52	24	−21	7	33	0.30	−0.25	0.10	2.2	4	8	13	10	nw.	A. L. Carlson.
Portal	Burke	1,954	27	14.7	−3.0	50	24	−29	5	48	0.25	−0.39	0.15	3.0	3	14	5	12	nw.	R. G. Wegener.
Power‡‡	Richland	1,020	38	....	....	....	....	....	....	....	0.85	+0.15	0.30	8.5	5	12	10	9	n.	Frank B. Power.
Powers Lake	Burke	2,205	27	10.4	....	41	30	−30	22	26	0.78	−0.04	0 31	9.2	4	19	3	9	e.	Geo. B. Gee.
Richardton	Stark	2,467	16	19.2	−7.9	52	28†	−22	6	37	0.60	+0.07	0.32	6.0	4	7	14	10	nw.	John Muggli.
Rugby (near)	Pierce	1,562	3	....	....	....	....	....	....	....	0.40	....	0.20	4.0	3	13	7	11	nw.	E. C. Erickson.
Ryder	Ward	2,108	3	....	....	....	....	....	....	....	0.57	....	0.25	4.5	10	....	....	....	....	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Geo. Buerkle.
Sharon	Steele	1,516	8	16.2	....	46	24	−16	7	40	0.52	....	0.15	5.3	8	3	19	9	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8	....	....	....	....	....	....	....	0.64	....	0.31	....	4	14	10	7	nw.	J. H. Giffey.
Steele	Kidder	1,857	38	18.8	−4.5	50	24	−19	7	31	0.27	−0.54	0.07	2.8	8	7	14	10	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	17	....	....	....	....	....	....	....	0.31	−0.48	0.13	3.2	6	9	15	7	....	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	....	....	....	....	....	....	....	0.39	....	0.25	3.9	4	16	5	10	nw.	J. C. Abbott.
Tioga	Williams	2,279	3	....	....	....	....	....	....	....	0.70	....	0.35	5.0	5	5	9	17	nw.	Anton Carlson.
Towner	McHenry	1,482	30	19.0	−3.1	54	24	−22	6	36	0.46	−0.27	0.32	8.9	5	10	9	12	nw.	Karl Weber.
Trotters	Golden Valley	....	6	....	....	....	....	....	....	....	0.87	....	0.22	8.5	8	8	11	12	....	A. J. Nellermoe
Turtle Lake	McLean	1,899	18	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	E. T. Kusler.
Valley City	Barnes	1,245	26	20.0	−6.0	48	24†	−15	6†	53	0.79	+0.22	0.32	4.0	5	17	9	5	n.	I. C. Robertson.
Velva	McHenry	1,511	5	19.7	....	55	24	−21	6	35	0.82	....	0.32	10.0	8	6	13	12	w.	Oscar Anderson.
Verona	LaMoure	1,387	4	....	....	....	....	....	....	....	0.30	....	0.16	....	4	18	1	12	nw.	W. C. Taylor.
Wahpeton	Richland	962	40	22.2	−5.3	61	29	−11	7	36	0.23	−0.55	0.05	3.0	7	18	0	13	nw.	C. G Luick.
Washburn	McLean	1,731	31	21.4	−3.0	58	25	−20	6†	37	0.50	−0.02	0.21	5.0	5	6	12	13	sw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	18.2	−3.8	53	24†	−24	6	37	0.39	−0.07	0.11	4.0	5	17	11	3	nw.	C. M. Condit.
Williston	Williams	1,878	53	20.2	−2.7	52	31	−20	7	28	0.92	+0.23	0.23	7.6	8	10	12	9	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	16.0	−3.7	52	24	−22	6	37	0.60	−0.13	0.35	6.0	4	13	14	4	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	3	18.8	−7.5	51	24	−20	6	43	0.40	−0.32	0.13	....	5	4	2	25	nw.	E. W. Davis.
Zap	Mercer	1,838	17	....	....	....	....	....	....	....	0.51	−0.12	0.37	1.4	5	....	....	....	....	R. A. Norton.
Moorhead, Minn.	Clay	935	51	17.8	−4.9	53	29	−10	7	39	0.74	−0.27	0.20	11.4	10	3	9	19	nw.	U. S. Weather Bureau.
Averages	....	....	....	18.9	−5.2	64	29	−30	22	53	0.63	−0.07	1.00	6.0	6	10	11	10	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for March, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missour	.70							.40									T	T	.80				T			.50	T					2.40
Amenia	Red	T			.03							T					.02		.01				.06			.16		.01					0.29
Arnegard (near)	Missouri	.30		.05																						.05	T	.05		.20			0.65
Ashley	Missouri	.06		T	.32				T									.01	.02				.07					.01			.02	.05	0.56
Beach	Lit. Missouri																																
Berthold Agency	Missouri	.33		T	T							T					T	T					T	T		T		T				.10	0.43
Bismarck ***	Missouri	.33		.07					.02		T	T		T		.02		.01	T			T	.01	.06	T	.01	T	.12		T		.08	0.73
Bottineau	Mouse	.22	.21	T	.01				T		T	T					T	T	.04				.08			T	.01	T		.06			0.63
Bowman	Grand	.30	.10	.14					T		T							.02		.12		.01	T			.01	.25	.02		.09	.01		1.07
Cando	Devils Lake	.18	.10	T	.01				T		T							T		.07			.38			T				T			0.74
Carrington|| ||	James	.20	T	T	T			T	T	T	T	T				T	T	T	.10				.05		T	T				T			0.35
Carson	Heart	.05		.10	.10														.02	.10			.02			.05		.25		.02		.02	0.73
Cavalier	Red	.01	.15						.01										.02							.02							0.21
Cooperstown	Sheyenne	T		T														.30					.60				.09		.01	T			1.00
Corinth	Missouri	.40																.01							.10			.15			.05		0.71
Courtenay	James	.10		.15				.05	.02	T		T							.20				.20			.10						.05	0.87
Crosby	Mouse	.20		T	T				.05										.05				.05			.02	.01	.02	.10				0.50
Devils Lake ***	Devils Lake	.19	.01	.03	.03	T	T	T	.01	T	.01	T		T		.05	T	.02	.11			T	.24			T	T	.01	T	.01		T	0.72
Dickinson|| ||	Heart	.11	.47		.05				T			T			T		T	.01	T	.10		T	.03	T		.04	.03	.05	.01	T	.01	T	0.61
Dogden Butte	Mouse	.25	T	T	T				T	T		T				T	T	T	.20			T	.06			.09				T	T		0.60
Drake|| ||	Mouse																																
Dunn Center	Knife	.16		.08														.14				T				.28		.08		T		.04	0.78
Dunseith	Mouse								.05									.10				.10						T		.10			0.35
Eckman	Mouse	.06	.03						.01										.03				.06							.01			0.20
Edgeley	James			.15								T							.05												T		0.20
Edmore	Devils Lake	.15	.02	.01	.03	T			T	T	T	.01		T			.01	T	.11			T	.26			.06	T	T		.03			0.69
Ellendale***	James	.05		.04	.03	T	T	T	.01	T	.01	T		T	T	T		.02	T				.03	T	.01	T	T	.01	T	.01	T	.03	0.25
Energy	Missouri	.35		.08					T																	.25				T		T	0.68
Epping	Missouri	.50		T					T									.10								.10	.15			.20			1.05
Fairfield	Knife	.30	.10	.10															.20							.10		.10		.10			1.00
Fessenden|| ||	James		.21		.14												.06		.18				.06			.12					.02		0.79
Forman	Sheyenne	.02		.04	.15			T	T			T	T						T				.11			T	T	T			.03		0.35
Fort Yates	Missouri	.10		.10					.30													T	T				T	T	T	T		T	0.50
Foxholm (near)	Mouse	.69	.03	.02	T				.02		T	.01					T	T	.11				.01			.01	T	T	T	.08			0.98
Fryburg	Heart	.16	.20	.20		T	T	T	T		T	T			T	T	T	.10	T	T	.18	T	.15	T	T	.17	.05	.03	.12	.10	T	T	1.46
Fullerton	James	.11		.08	.26				.15		T								.10				.30			T		T		T	.02		1.02
Gackle	James	.30		.19						T		T							.12				.03		.01	.03		T			.02		0.70
Garrison	Missouri	.20		T				T	T							T			.05					T		.05		T		.05		.10	0.45
Grafton	Red	T		T	T				T									T	T									T					T.
Grand Forks ***	Red	.26		.01	.01	T		T	.02	T	T		T	T		T	.13	.02	.03			T	T			.01	T	.05		.01			0.55
Granville	Mouse	.30	T	T	T			T	T	T	T						T		.15		T	T	.05			.04	T	T		.03			0.57
Hankinson	Red	.10		.10															.10				.05			.01					T		0.36
Hannah	Pembina		.11		.02					T			T	T			.03		.02				.02			T	T		T	T	.08	T	0.28
Hansboro	Devils Lake	.10																					.20							1.00			1.30
Hettinger	Grand	.19		.09	.01															.02			T	T			.05	T		.02			0.38
Hillsboro	Red	.03	T		.14					.03							.06	T	.11			.16			.05				.14				0.72
Howard (near)	Missouri	T	T	T								T				T		T	T				T			T	T	T	T	T			T.
amestown	James	.02		.22															.05				.15				.33						0.77
Langdon	Pembina		.30																.20				.40			.10				.10			1.10
Larimore	Red	.07	.13	T	.06				.02		T						.10		.15			T	.15			T		.05			.01		0.74
Linton	Missouri	.22		.11								T					T	.06				T	T			T		.50				.20	1.09
Lisbon	Sheyenne				.15													.15					.20								.02		0.52
McClusky	Missouri	.10		.05				T																				.03		.04			0.22
McLeod	Sheyenne		.07	T	T				T		T	T							.10			T	.07	T		.06					.08		0.38
Maddock	Sheyenne	.08	.09		.05			T	T		T	T					T		.06				.08	T		T		T		T	T		0.36
Mandan|| ||	Missouri	.52		.16				T	.02		T					T	.01	.02				.04	.05	T		T		.08		T	.01	.09	1.00
Manfred	James	.28		.02	.05				T		T						.05	T	.15				.15			.02				.02			0.74
Marmarth	Lit. Missouri	.15	.20		.01			T	.01			T				T	T	.01		.19			.04	T	T	T	.11	.08		.03	T		0.83
Mary	Lit. Missouri	.11										T							T							.33		.01		.03		.03	0.51
Max|| ||	Missouri		.80							.30									.02				T							T	T		1.12
Mayville	Red	T			.03														.01				.12			.02							0.18
Minot	Mouse	.15		.01					.01										.06				.09			.02							0.34
Mohall	Mouse	.72	.09									T						T	.15	T		T				T	T						0.96
Mott	Cannon Ball	.27		.04						.05							T	.02		.10			.09	.11	.15		.06	.24					1.13
Napoleon|| ||	Missouri		.20		.20								.02					T	.10				.20		.01			.05			.08		0.86
New England	Cannon Ball			.40															.20			.10		T			.20						0.90
New Salem	Heart	.30		.12				.01	.10			T				.01		.01	.01					.01	.03	.01		.02	.06	.04		.12	0.85
Oakes	James	.10	.05		.11		.03		T			T							.02				.09		T	.01		T			.02		0.43
Park River	Red																																
Parshall (near)	Missouri	.20			.05													.01					.01		.01			T		.03		.08	0.39
embina|| ||	Red		.06	T	.02	T			.02	.02							.03	.01	.02	.02				T		T	T	.01	.01	T	.07		0.29
etersburg	Red	.10	.01		.02							T				.04	T	.02	.06				.12			T		T			T		0.37
ettibone	James	.10	.05			T						T					T		.05				T			.10							0.30
ortal|| ||	Mouse	.15																	.05											.05			0.25
ower	Sheyenne				.20						T											.30	T		.10	.10				.15			0.85
owers Lake	Missouri						.26				.07								.14								.31						0.78
Richardton	Heart	.32																.07										.16		T		.05	0.60
ugby [near]	Mouse	.20			T				T		T	T				T			.10				.10			T		T		T			0.40
yder	Missouri	.25	.01	.03					.06		T	T				.01	T	.07					.02			.04	T	.02				.06	0.57
anish|| ||	Missouri																																
haron	Red	.06	T	T	.05	T	T	T	.01	T	T	T		T			.02	T	.07	T		T	.15			.12		.04		T	T		0.52
tanton	Missouri	T		.20					.05														T			.31				.08			0.64
teele	Missouri	.04		.01					T		T	T					T	T	.06			T	.01		.03	.07		T	T	T	.02	.03	0.27
towers	Cannon Ball		.13	.04	.07				T											.02	T		.03	T			T	T		.02			0.31
agus	Mouse	.25																	.10				.02							.02		T	0.39
ioga	Missouri	.25															.08								.01					.01		.35	0.70
owner	Mouse	.32	T	T	T	T	T	T	T		.03	T					T	T	.06			T	.03					T	T	.02			0.46
rotters	Lit. Missouri	.22	.08	.08													T	T		.17			.03			.16	.08	.05		T			0.87
urtle Lake	Missouri																																
alley City	Sheyenne	.19			.13				T			T							.04				.32			.11					T		0.79
elva	Mouse	.32	T	T	.07		T		.08			T					.01	T	.10			T	.07			.06				.11	T		0.82
erona	James				.04	.02													.16				.08										0.30
Wahpeton	Red	.07			.05					.02													.05			.03		.02			.01		0.23
Washburn	Missouri	.15		.08					T							T							T			.21		.03	T	.03	T		0.50
Westhope	Mouse		.11									.03						T	T			.05	.10							.10			0.39
Williston ***	Missouri	.23		.09	T				T		T					T		.08	T			T	T	T		.13	.01	.13		.20		.05	0.92
Willow City	Mouse	.35	T	T				T	T		T							T	.05				.10			T	T	T	T	.10			0.60
Wishek|| ||	Missouri		.13															.11					.10						.02		.04		0.40
ap	Knife	.04		.03																				.37				.03				.04	0.51
oorhead, Minn ***	Red	.18	.02	T	.04	T	T		.02	T	T	T		T			.02	T	.16	T		T	.06	T	T	.09	T	.14		.01	T		0.74

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the -hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for March, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	39	35	34	30	26	25	21	19	15	17	19	28	30	26	37	38	34	36	32	34	34	29	38	47	49	40	47	46	52	41	38	34.3
	Minimum	25	23	23	7	-7	-11	-12	-7	-5	-8	-5	4	7	2	19	19	15	11	1	5	22	15	-7	20	30	20	21	22	30	18	22	10.3
Arnegard (near)	Maximum	37	28	15	9	2	-3	-7	0	10	12	12	25	23	40	45	32	29	37	35	42	40	30	45	49	36	37	47	50	44	34	52	28.6
	Minimum	28	12	1	-8	-18	-12	-20	-9	-13	-10	1	-5	1	16	27	19	19	19	10	22	20	24	19	26	28	27	30	27	17	11	23	10.7
Ashley	Maximum	34	33	29	23	9	0	0	7	9	17	16	25	23	23	39	37	31	37	35	37	33	31	42	52	48	43	49	40	51	35	34	29.7
	Minimum	26	22	18	1	-14	-17	-17	-11	-9	-9	-4	-4	8	6	14	21	15	25	5	16	15	18	6	25	30	22	26	27	25	12	21	10.3
Beach	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Berthold Agency	Maximum	35	20	20	10	0	0	-5	8	6	15	12	30	24	35	32	50	30	40	32	32	38	30	47	45	43	33	32	40	40	25	40	27.4
	Minimum	26	20	4	-8	-15	-20	-23	-8	-12	-10	-4	-5	10	18	20	18	22	20	7	24	30	20	18	22	28	28	28	22	16	10	22	10.6
Bismarck	Maximum	33	30	18	9	2	0	-5	11	12	14	16	30	20	30	44	32	31	40	25	42	36	33	44	55	41	40	50	44	40	36	39	28.8
	Minimum	27	17	6	-1	-11	-17	-15	-8	-7	-5	-3	-2	11	12	18	22	22	24	6	22	25	18	18	22	29	28	30	31	19	16	25	12.2
Bottineau	Maximum	31	27	20	15	6	0	-3	10	14	16	15	21	26	21	35	36	25	23	26	42	38	33	35	52	54	37	44	37	37	29	33	27.2
	Minimum	20	20	-4	-12	-23	-27	-25	-12	-16	-12	-13	-2	-5	8	16	10	6	9	-4	8	20	15	7	25	26	25	20	24	21	6	11	4.6
Cando	Maximum	31	31	28	18	6	7	10	9	13	17	24	29	29	27	35	30	27	25	27	38	41	29	35	50	51	37	45	49	36	31	34	29.0
	Minimum	20	21	5	-1	-15	-16	-20	-11	-9	-7	8	9	-4	5	15	12	12	15	-3	7	5	11	5	22	25	25	26	22	19	12	10	7.3
Carrington §§	Maximum	29	22	8	5	7	2	9	12	16	17	28	17	24	37	28	30	29	18	40	31	25	40	51	35	36	45	39	39	31	39	27	26.3
	Minimum	23	10	3	-14	-18	-17	-17	-9	-9	-8	-4	3	4	6	17	16	18	-1	-1	12	23	4	12	27	24	25	25	25	13	13	21	7.3
Crosby	Maximum	22	12	8	-6	-10	-2	5	9	13	18	28	22	34	46	32	26	34	28	46	46	38	45	51	40	29	41	42	42	31	50	45	27.9
	Minimum	22	11	0	-11	-19	-23	-22	-12	-14	-8	-5	0	0	9	23	17	10	10	-1	11	28	21	22	28	29	21	24	26	15	12	22	8.0
Devils Lake	Maximum	30	30	22	10	-1	0	-2	6	11	14	16	26	15	21	36	30	25	26	16	39	31	25	34	50	38	34	43	35	34	28	34	24.5
	Minimum	21	21	8	-3	-13	-17	-17	-10	-7	-6	-4	-3	3	5	17	15	16	1	-2	6	20	8	4	24	26	26	24	24	18	13	17	7.6
Dickinson §§	Maximum	36	24	11	7	-2	-2	-8	2	5	11	12	25	21	41	49	33	37	42	26	41	36	31	43	50	35	39	48	55	38	35	54	28.2
	Minimum	28	17	6	10	-14	-18	-18	-14	-11	-10	-8	-6	-8	4	16	22	22	22	9	12	26	26	20	20	31	26	27	27	29	15	19	9.9
Dunn Center	Maximum	37	31	20	10	2	-1	-7	6	9	14	13	27	27	42	49	35	34	40	35	45	38	33	46	51	35	40	49	53	45	37	52	30.5
	Minimum	26	16	5	-12	-16	-20	-20	-10	-13	-11	-5	-7	7	14	22	20	20	21	9	21	28	24	18	22	28	29	29	28	20	15	23	10.7
Dunseith	Maximum	33	29	22	12	0	-6	-4	6	13	14	17	21	15	22	35	35	19	26	26	41	42	32	34	49	42	32	42	34	33	29	31	25.0
	Minimum	19	19	0	-6	-20	-22	-20	-13	-10	-5	-9	2	6	4	12	8	7	10	-5	10	18	12	3	22	31	25	18	20	20	5	9	5.5
Edgeley	Maximum	34	32	28	24	11	5	5	11	10	18	19	29	25	25	39	37	35	36	35	38	36	28	42	55	49	43	51	46	51	43	38	31.5
	Minimum	24	22	16	5	-10	-14	-15	-8	-5	-4	-6	0	9	7	18	22	14	23	4	14	26	18	3	25	32	21	27	26	27	14	14	11.3
Ellendale	Maximum	32	34	27	17	1	1	-2	9	9	16	17	27	19	25	39	38	32	37	28	33	30	33	40	55	44	43	49	40	51	34	35	28.8
	Minimum	26	22	17	-1	-9	-12	-14	-7	-5	-3	-5	2	10	7	18	22	17	25	6	17	24	9	8	25	26	23	29	26	22	16	24	11.8
Fessenden §§	Maximum	33	36	25	11	-2	0	15	9	12	19	19	30	18	27	40	28	32	32	21	44	31	24	42	53	36	37	45	38	37	33	40	27.9
	Minimum	21	21	7	-3	-17	-20	-19	-8	-13	-10	-8	6	3	5	9	15	15	18	-2	1	22	15	6	12	29	25	24	24	27	12	15	7.1
Foxholm (near)	Maximum	31	28	19	9	1	-2	-5	10	11	13	14	27	24	26	45	36	28	29	26	44	40	32	41	50	46	37	43	41	41	32	40	27.8
	Minimum	19	18	-1	-10	-19	-22	-23	-12	-14	9	-2	0	1	9	18	15	12	10	-4	12	21	15	15	26	24	24	22	25	19	7	16	6.9
Fullerton	Maximum	35	34	29	22	8	2	0	8	10	16	17	27	24	25	40	37	35	35	33	35	30	32	40	53	45	41	48	49	50	31	36	30.0
	Minimum	26	24	21	8	-9	-12	-14	-7	-4	-5	-2	2	10	7	18	23	17	24	6	15	23	15	4	26	27	24	28	26	27	15	23	12.5
Garrison	Maximum	30	32	23	10	5	2	-1	12	13	16	14	28	28	30	45	30	30	37	31	45	43	33	30	54	51	40	47	44	41	35	43	29.7
	Minimum	25	20	4	-8	-15	-20	-19	-8	-11	-9	-3	-2	7	12	30	18	17	20	3	20	23	20	17	28	29	32	25	27	22	12	22	10.9
Grafton	Maximum	33	33	33	22	9	3	5	9	11	14	20	31	30	12	34	35	25	28	29	39	39	27	35	40	41	32	44	39	37	31	33	27.5
	Minimum	12	21	11	6	-8	-14	-14	-9	-6	-4	-5	-3	2	1	11	9	8	14	1	8	12	13	8	19	28	22	19	15	27	15	17	7.6
Grand Forks	Maximum	33	33	37	19	5	1	3	7	9	12	16	30	19	18	33	25	24	28	15	34	25	22	31	38	36	32	45	31	45	32	32	24.8
	Minimum	22	23	19	1	-7	-12	-13	-8	-6	-6	-7	5	4	2	14	14	8	6	2	7	18	12	6	22	27	22	24	16	28	18	22	9.1
Granville	Maximum	31	30	17	10	7	0	0	10	15	17	15	30	20	25	45	30	29	30	25	45	40	33	48	54	42	37	45	42	36	35	41	28.5
	Minimum	22	15	4	-10	-18	-21	-20	-10	-10	-8	-10	-2	-2	12	20	17	12	13	-4	10	20	12	12	28	28	25	22	27	17	11	17	7.4
Hansboro	Maximum	30	30	22	15	5	-3	0	10	15	18	24	30	26	20	32	30	30	30	25	40	35	28	38	47	40	48	40	38	28	28	35	26.9
	Minimum	25	20	3	-7	-19	-22	-20	-14	-12	-7	-10	0	-1	3	10	8	10	7	-5	5	16	10	16	20	20	23	20	20	18	5	4	4.7
Hettinger	Maximum	39	31	25	10	2	1	-4	2	8	13	13	30	25	44	52	40	41	48	40	36	36	34	43	52	45	41	47	57	50	50	56	32.5
	Minimum	28	24	7	-10	-11	-17	-17	-9	-11	-11	1	-5	7	11	24	25	27	27	14	19	26	26	21	29	30	23	29	26	23	15	11	12.3
Hillsboro	Maximum	34	36	33	24	10	0	1	8	9	12	18	22	18	20	34	34	32	30	30	33	30	33	38	38	39	34	33	36	51	48	33	27.5
	Minimum	26	24	23	10	-6	-11	-12	-7	-8	-4	-4	5	6	0	15	18	6	18	2	2	15	-5	16	17	31	22	20	19	30	20	18	9.9
Howard (near)	Maximum	33	28	15	8	-10	-5	-12	1	10	12	12	26	20	37	45	28	28	35	29	44	41	30	44	52	37	35	44	48	42	34	52	27.2
	Minimum	19	15	0	-15	-20	-25	-24	-15	-17	-13	-10	-6	-4	13	25	15	12	17	1	17	21	21	18	28	28	22	27	24	18	10	22	7.2
Jamestown	Maximum	32	32	27	22	4	0	0	10	10	17	17	27	22	24	39	37	32	33	28	38	34	25	41	53	44	38	49	42	41	31	40	28.7
	Minimum	23	22	14	2	-14	-18	-19	-11	-7	-8	-4	0	6	4	15	19	15	18	0	12	23	14	-1	27	29	24	27	25	22	14	23	9.5
Langdon	Maximum	26	30	25	14	10	5	0	5	11	15	17	30	15	17	30	25	25	26	20	33	20	10	34	38	31	34	38	33	36	30	31	23.0
	Minimum	18	20	9	0	-15	-19	-19	-19	-10	-10	-10	8	-2	0	1	10	2	5	-5	-2	7	-10	-3	6	25	20	20	15	18	30	10	3.2
Larimore	Maximum	34	31	29	20	7	0	0	5	9	12	15	28	28	18	32	32	24	26	24	38	36	24	32	38	38	32	36	30	45	32	34	25.5
	Minimum	23	23	18	6	-9	-13	-14	-19	-6	-4	-6	6	5	2	13	17	13	16	0	5	18	13	-3	18	28	23	25	17	25	15	18	9.1
Linton	Maximum	36	31	26	16	7	-3	-5	10	11	15	26	28	29	29	44	40	32	33	37	39	37	32	33	55	49	41	50	41	47	37	38	30.4
	Minimum	27	24	14	-3	-15	-21	-19	-10	-10	-15	-11	-11	9	10	17	22	27	25	6	20	23	17	15	9	23	22	24	29	25	12	21	10.0
Lisbon	Maximum	32	34	30	13	8	0	-3	8	10	17	18	24	25	18	41	31	32	35	20	36	28	26	39	49	42	38	42	41	52	34	39	27.7
	Minimum	16	18	11	8	-8	-11	-17	-7	-5	-10	-6	3	5	3	10	21	19	20	4	10	20	14	-10	20	35	22	30	25	33	16	21	10.0
McClusky	Maximum	32	30	23	18	17	0	-9	9	11	15	16	27	25	25	43	40	32	33	30	42	41	31	43	53	45	38	45	41	38	32	38	29.2
	Minimum	24	22	6	-6	-17	-20	-20	-12	-10	-12	-4	-3	4	10	17	17	18	17	0	15	26	14	11	21	27	26	24	25	20	11	22	8.8
Maddock	Maximum	32	30	26	21	8	0	1	8	12	15	17	27	24	25	37	40	28	26	24	40	38	26	39	51	52	35	44	41	44	31	36	28.3
	Minimum	20	21	4	-3	-17	-21	-20	-13	-12	-11	-9	1	1	5	16	13	15	11	-5	5	20	11	-3	26	27	25	21	23	22	10	18	6.5
Marmarth	Maximum	40	23	30	13	10	4	-4	1	9	12	15	29	32	47	51	36	48	50	42	42	40	37	42	52	46	42	46	60	55	34	58	33.6
	Minimum	29	5	10	-9	-11	-16	-15	-10	-13	-17	2	-11	24	21	27	26	28	29	21	22	25	26	26	29	34	34	27	27	22	12	29	14.0
Minot	Maximum	33	30	21	10	7	0	-3	10	12	15	15	29	24	27	45	37	29	25	31	46	46	34	44	54	52	45	45	42	43	33	42	29.8
	Minimum	21	20	2	-7	-16	-21	-19	-9	-10	-7	-5	-1	4	11	20	17	15	15	-1	14	29	17	15	28	24	28	21	26	21	8	18	9.0
Mohall	Maximum	41	34	24	12	8	9	4	-1	4	0	9	11	14	20	22	24	30	32	30	33	34	28	31	40	35	34	36	33	41	36	39	24.2
	Minimum	22	8	-1	-5	-7	-6	-12	-22	-21	-12	-12	-10	-11	0	5	10	15	20	18	19	22	20	21	26	26	19	19	22	25	28	26	8.1
Mott	Maximum	33	28	21	15	4	1	-4	12	-3	10	17	27	22	29	45	35	32	39	32	41	35	36	42	51	40	44	48	43	31	41	38	28.6
	Minimum	25	12	10	-11	-17	-14	-9	-10	-10	-11	-2	-8	10	16	25	22	27	12	16	22	26	24	23	33	27	32	31	30	27	19	27	13.0
Napoleon §§	Maximum	31	29	23	9	-3	-1	-5	9	10	15	17	24	18	27	45	30	33	35	25	39	32	31	42	53	38	40	49	38	45	34	38	27.4
	Minimum	25	23	12	-1	-17	-22	-22	-13	-14	-13	-10	-9	5	5	14	21	14	25	1	5	20	20	-1	26	32	22	26	28	29	10	19	8.4
New Salem	Maximum	34	24	19	9	5	0	-5	5	6	12	10	27	23	30	47	31	28	36	40	39	33	35	42	50	37	38	40	47	41	38	39	28.2
	Minimum	21	19	3	-9	-17	-21	-20	-10	-10	-10	-5	-6	8	13	15	21	21	28	22	21	29	25	18	21	29	28	29	28	29	15	21	11.5
Oakes	Maximum	35	37	29	24	8	7	1	10	10	21	21	29	25	28	42	36	36	37	33	35	32	32	41	51	47	43	50	49	55	36	39	31.6
	Minimum	25	24	23	6	-9	-13	-13	-8	-5	-6	4	1	9	5	19	25	16	23	5	14	23	15	-1	26	32	24	28	26	29	15	23	12.2
Pembina §§	Maximum	27	32	20	8	-1	-3	-2	5	9	10	16	26	8	16	31	21	20	27	13	38	23	21	32	42	30	32	41	32	33	21	24	21.0
	Minimum	21	21	14	6	-10	-15	-15	-13	-8	-9	-8	-8	1	0	0	12	8	7	-1	-2	10	12	8	10	25	20	19	10	11	12	11	4.8
Sharon	Maximum	35	29	24	18	0	0	-2	5	10	16	17	26	14	20	33	33	28	28	24	36	32	21	36	46	38	32	44	32	38	30	34	25.1
	Minimum	18	21	17	-1	-11	-14	-16	-10	-8	-7	-6	2	3	1	13	16	12	16	-2	4	18	6	-4	21	24	22	22	19	22	14	18	7.4
Steele	Maximum	32	30	23	17	-2	-4	-5	8	10	16	15	25	26	25	43	34	32	34	26	37	34	29	41	50	42	38	48	38	41	33	36	27.5
	Minimum	24	23	11	-3	-15	-18	-19	-10	-10	-9	-5	-4	6	10	17	20	18	24	2	18	28	17	10	22	29	25	28	26	25	12	21	10.1
Towner	Maximum	34	31	27	16	9	10	-2	13	17	18	19	30	30	27	42	43	29	30	30	45	44	32	43	54	43	40	46	41	40	35	40	30.8
	Minimum	22	22	2	-9	-18	-22	-20	-18	-12	-11	-13	0	1	10	20	13	14	13	-3	9	22	11	8	26	28	28	20	26	23	10	17	7.2
Valley City	Maximum	30	31	32	31	6	2	3	8	10	18	16	28	26	26	37	37	33	34	34	38	37	28	41	48	48	39	48	48	48	33	39	30.2
	Minimum	23	22	18	6	-11	-13	-13	-10	-7	-8	-8	2	8	2	19	20	15	18	1	10	22	10	-12	22	29	23	25	23	29	16	23	9.8
Wahpeton	Maximum	45	41	40	30	14	4	5	10	10	29	19	29	29	26	39	39	34	33	32	30	32	27	36	44	49	42	44	41	61	45	40	32.2
	Minimum	25	24	24	10	-4	-9	-11	-7	-5	-7	-4	-4	11	2	19	22	12	21	2	7	20	14	0	21	31	22	29	37	34	18	22	12.2
Westhope	Maximum	33	28	28	14	8	3	2	11	18	19	20	30	20	25	41	39	28	30	30	40	42	33	42	53	53	39	46	38	39	32	38	30.1
	Minimum	21	21	-3	-11	-21	-24	-22	-22	-13	-11	-8	2	0	11	19	13	10	7	-7	9	22	15	8	28	26	26	22	24	22	12	15	6.2
Williston	Maximum	32	27	9	10	-4	-1	-6	5	12	15	13	26	21	39	45	32	28	35	31	43	41	33	44	52	41	38	47	49	46	35	52	28.
	Minimum	27	9	1	-7	-15	-18	-20	-8	-11	-9	3	-1	4	18	25	19	18	18	8	23	30	25	21	28	30	26	29	28	19	16	24	11.
Moorhead, Minn	Maximum	33	36	29	19	4	1	3	8	8	13	16	29	18	23	36	34	29	31	16	29	27	21	36	40	37	39	45	35	53	30	37	26.
	Minimum	24	24	19	4	-6	-10	-10	-7	-6	-2	-2	5	5	2	18	17	12	4	0	3	18	4	-3	18	24	22	28	21	21	19	23	9.3

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXXI Bismarck, N. D., April, 1932 No. 4

GENERAL SUMMARY

Due to wet grounds spring work on farms was delayed in many sections, and it was not until the beginning of the second decade that much farm work was accomplished. During the second and third decades progress was made in seeding of spring wheat, oats, barley, speltz and spring rye, and at the close of the month was nearing completion in the south portion. Early planted grains were up to good stand and color, and both tame and wild grasses afforded ample food for livestock.

TEMPERATURE

The mean temperature for the state was 44.1°, or 2.5° above the normal, and the same as the mean for April, 1931. The highest mean reported was 48.8° at Fort Yates, Sioux County; the lowest was 38.7° at Langdon, Cavalier County. The highest temperature reported was 79° at Minot, Ward County on the 17th; the lowest was zero at Pembina, Pembina County on the 3d. The greatest monthly range of temperature was 72° at Pembina, Pembina County; the least was 56° at Fort Yates, Sioux County, Parshall, Mountrail County, and Williston, Williams County. The greatest daily range in temperature was 49° at Grafton, Walsh County on the 19th.

PRECIPITATION

The average precipitation for the state was 2.16 inches, or 0.77 inch above the normal, and 1.73 inches more than the average for April, 1931. The greatest monthly amount reported was 6.00 inches at Napoleon, Logan County; the least was 0.38 inch at Bottineau, Bottineau County. The greatest amount recorded in any 24 consecutive hours was 4.20 inches at Napoleon, Logan County on the 23d. The average number of days with 0.01 inch or more of precipitation was 8. The average snowfall was 0.7 inch.

AURORAS

Auroras were observed at McLeod on the 1st; at Eckman, Edmore, Foxholm, Grand Forks and Willow City on the 2d; at Bottineau, Hannah, Rugby and Stowers on the 3d; at Bismarck, Bottineau, Carson, Devils Lake, Eckman, Edmore, Foxholm, Grand Forks, Napoleon and Sharon on the 4th; at Bismarck, Crosby and Dogden Butte on the 5th; at Devils Lake, Eckman, Foxholm, Stowers and Tagus on the 6th; at Hannah on the 7th; at Rugby, Trotters and Willow City on the 9th; at Devils Lake, Edmore, Foxholm and Pembina on the 13th; at Crosby, Devils Lake, Edmore, Foxholm, Grand Forks and Pembina on the 14th; at Pembina on the 15th; at Epping on the 19th; at Moorhead, Minn. on the 23d; at Cooperstown, Devils Lake, Eckman, Fessenden, Foxholm, Grand Forks, Rugby, Tagus and Moorhead, Minn. on the 25th; at Devils Lake, Eckman, Fessenden, Foxholm, Grand Forks, Rugby and Tagus on the 26th; at Parshall on the 27th; at Crosby and Eckman on the 28th; and at Crosby on the 29th and 30th.

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BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement	Average	Highest*	Direction	Date
Bismarck	29.96	30.58	26	29.56	1	57	8,085	11.2	30	[illegible]	25
Devils Lake	30.03	30.53	26	29.65	29	44	8,295	11.5	26	[illegible]	25
Ellendale	30.01	30.50	26	29.51	21	56	11,107	15.4	38	se.	22
Grand Forks	30.01	30.43	26	29.59	29	90	....	......	26	n.	25
Williston	29.96	30.58	26	29.47	20	48	7,315	10.2	35	nw.	1
Moorhead, Minn	30.02	30.48	26	29.54	29	58	7,235	10.0	21	n.	30
Av'ges and extremes	30.00	30.58	26	29.47	20	.....	....	11.7	38	se.	22

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Departure from normal, p-c t.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	191.1	408.5	47	−11	89	58	56	27	14
Devils Lake	218.1	410.5	53	− 3	86	63	65	33	27
Ellendale	216.0	407.2	53	− 5	90	59	....	24	20
Grand Forks	......	......	......	......	80	....	64	....	....
Williston	216.1	410.5	53	− 5	81	57	55	23	19
Moorhead, Minn	227.6	408.5	56	0	81	56	61	28	17
Averages and extremes	213.9	409.0	52	− 5	84	59	60	23	19

† And other dates.

COMPARATIVE STATE DATA FOR APRIL

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	37.6	−4.0	75	− 2	2.65	+1.26	7	10	6	14	ne.
1893	34.3	−7.3	77	− 8	1.73	+0.34	6	7	9	14	nw.
1894	42.8	+1.2	92	12	3.06	+1.67	9	7	9	12	se.
1895	49.6	+8.0	87	10	2.23	+0.84	5	13	8	9	nw.
1896	40.1	−1.5	92	2	4.37	+2.98	9	9	8	13	nw.
1897	40.8	−0.8	93	7	1.01	−0.38	5	12	8	10	nw.
1898	41.9	+0.3	87	− 4	1.38	−0.01	5	14	9	7	nw.
1899	38.0	−3.6	86	−22	1.36	−0.03	6	12	10	8	nw.
1900	49.3	+7.7	93	11	0.75	−0.64	3	20	6	4	se.
1901	44.5	+2.9	92	10	0.98	−0.41	4	12	9	9	se.
1902	40.2	−1.4	87	− 2	1.06	−0.33	3	12	8	10	nw.
1903	42.5	+0.9	83	8	1.23	−0.16	5	16	6	8	nw.
1904	37.4	−4.2	91	2	1.70	+0.31	5	13	5	12	se.
1905	40.2	−1.4	83	3	0.63	−0.76	3	15	8	7	nw.
1906	46.7	+5.1	88	8	1.50	+0.11	5	14	7	9	nw.
1907	31.9	−9.7	80	− 6	0.57	−0.82	4	10	9	11	nw.
1908	43.9	+2.3	91	−19	1.47	+0.08	5	16	6	8	nw.
1909	34.2	−7.4	80	3	0.81	−0.58	6	10	9	11	nw.
1910	48.0	+6.4	96	4	1.30	−0.09	4	16	8	6	nw.
1911	41.5	−0.1	90	− 5	1.30	−0.09	5	15	6	9	nw.
1912	44.4	+2.8	88	2	2.34	+0.95	7	14	8	8	nw.
1913	46.8	+5.2	94	11	0.71	−0.68	4	16	6	8	se.
1914	40.9	−0.7	84	2	1.66	+0.27	6	9	10	11	nw.
1915	50.3	+8.7	99	5	1.08	−0.31	5	15	8	7	nw.
1916	39.2	−2.4	79	− 6	1.40	+0.01	5	10	10	10	nw.
1917	37.2	−4.4	73	5	1.68	+0.29	7	9	9	12	ne.
1918	41.4	−0.2	81	0	2.15	+0.76	7	12	8	10	nw.
1919	42.3	−0.7	79	6	1.50	+0.11	6	11	9	10	ne.
1920	32.1	−9.5	63	−11	0.83	−0.56	5	13	8	9	nw.
1921	41.1	−0.5	91	1	1.81	+0.42	7	14	7	9	nw.
1922	42.3	+0.7	89	− 2	0.92	−0.47	6	10	9	11	se.
1923	38.7	−2.9	89	−15	1.45	+0.06	5	13	8	9	nw.
1924	39.3	−2.3	84	6	2.55	+1.16	9	8	9	13	nw.
1925	47.8	+6.2	85	10	1.64	+0.25	6	11	10	9	se.
1926	42.8	+1.2	98	− 4	0.28	−1.11	3	17	8	5	nw.
1927	41.4	−0.2	95	7	1.70	+0.31	7	10	8	12	se.
1928	35.9	−5.7	84	− 6	0.88	−0.51	5	12	10	8	nw.
1929	41.5	−0.1	85	− 9	1.31	−0.08	6	12	9	9	nw.
1930	47.3	+5.7	86	8	1.25	−0.14	6	14	7	9	se.
1931	44.1	+2.5	87	3	0.43	−0.96	2	18	8	4	nw.
1932	44.1	+2.5	79	0	2.16	+0.77	8	9	9	12	se.
Av.	41.6	....	99*	−22*	1.39	....	6	12	8	10	nw.

*Extremes.

Climatological Data for April, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	6	......	......	......	......	......	......	......	2.22	......	0.58	0	8	......	......	......	......	H. A. Bury.
Amenia	Cass	954	36	43.2	+1.2	75	22	13	3	34	2.58	+0.78	0.90	0.5	10	1	11	18	se.	I. Idso.
Arnegard (near)	McKenzie	......	19	46.0	+4.9	72	12	20	26	41	1.71	+0.24	0.52	0	9	14	6	10	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	45.6	+3.0	73	22	18	3	40	3.39	+1.47	2.39	0	7	15	2	13	se.	H. D. Piper.
Beach	Golden Valley	2,759	26	47.4	+5.4	78	14	19	10	41	2.74	+1.52	1.85	0	10	......	......	......	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	44.8	+1.3	75	21	20	3†	45	4.38	+3.29	3.70	0	6	12	2	16	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	46.8	+4.7	74	22	21	26	41	2.08	+0.56	0.69	1.2	8	7	10	13	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	40.2	+1.1	70	19	9	3	37	0.38	−0.51	0.24	0.5	6	6	18	6	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	46.4	+3.8	76	22	16	26	45	5.41	+4.28	2.17	0	11	15	8	7	nw.	George Larsen.
Cando	Towner	1,488	31	42.0	+1.3	67	21†	9	3	39	2.34	+1.26	0.68	T.	7	10	7	13	se.	A. J. Swanson.
Carrington	Foster	1,579	34	41.8	+2.2	72	21	13	2	42	2.52	+1.29	0.93	T.	6	16	3	11	e.	L. A. Swanson.
Carson	Grant	2,500	20	47.2	+4.5	74	12	15	26	47	1.43	−0.05	0.60	1.0	8	12	6	12	se.	J. W. Evens.
Cavalier	Pembina	894	22	......	......	......	......	......	......	......	2.33	+1.11	0.66	1.2	8	18	2	10	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	......	......	......	......	......	......	......	3.12	+1.56	1.30	0	6	11	7	12	ne.	Theo. Marquardt.
Corinth	Williams	2,180	4	......	......	......	......	......	......	......	1.32	......	1.00	0	6	11	7	9	se.	W. A. Clem.
Courtenay	Stutsman	1,523	3	......	......	......	......	......	......	......	2.29	......	1.38	0	8	11	6	13	se.	Geo. E. Berg.
Crosby	Divide	1,954	25	42.1	+1.9	72	14	20	2†	42	1.15	+0.03	0.73	0.5	8	10	7	13	ne.	John Jensen.
Devils Lake	Ramsey	1,478	35	41.8	+3.0	69	21	9	3	28	2.58	+1.06	0.79	1.8	13	6	11	13	e.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	44.5	+2.4	71	12†	17	26	46	1.95	+0.72	0.59	1.1	15	11	7	12	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	45.2	......	71	22	18	3	38	2.76	......	1.00	T.	9	10	7	13	se.	R. L. Williams.
Drake	McHenry	1,634	3	44.4^{e}	......	73^{e}	22	18^{f}	26	41^{f}	1.71	......	0.67	......	8	......	......	......	......	Peter Anton.
Dunn Center	Dunn	2,191	33	45.0	+3.2	70	12†	16	26	43	1.47	+0.09	0.39	......	9	9	7	11	se.	W. F. Moede.
Dunseith	Rolette	1,682	36	41.5	+1.6	69	19	7	3	37	0.97	+0.16	0.34	1.5	8	9	2	19	e.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	42.6	+2.0	72	19	12	2†	43	2.45	+1.49	2.19	0	7	8	7	15	se.	C. E. Strock.
Edgeley	LaMoure	1,568	31	46.2	+3.5	75	22	18	12	40	3.81	+2.01	3.25	0	8	3	17	10	se.	O. A. Thompson.
Ellendale	Dickey	1,457	37	45.2	+1.6	78	22	19	3	38	4.47	+2.37	3.53	0.6	13	6	4	20	se.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	20	47.1	......	72	22	17	26	41	0.80	−0.33	0.27	0.5	4	7	15	8	se.	H. S. Solenberger.
Epping	Williams	2,224	24	43.8	......	72	13†	20	3	42	1.49	+0.30	0.66	T.	8	14	6	10	se.	A. O. Wang.
Fairfield	Billings	......	3	......	......	......	......	......	......	......	1.56	......	0.41	2.0	6	11	7	12	se.	F. R. Hecker.
Fessenden	Wells	1,610	20	42.0	+1.3	73	22	13	3	39	1.98	+0.47	0.72	0.1	11	12	9	9	se.	T. D. Monsen.
Forman	Sargent	1,249	39	......	......	......	......	......	......	......	2.32	+0.17	1.12	1.0	9	13	3	14	se.	Helge Dyste.
Fort Yates	Sioux	1,670	32	48.8	+3.9	72	5†	22	11†	45	2.09	+0.50	0.57	T.	5	14	6	10	n.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	42.5	......	70	17	12	2	42	2.23	+0.88	1.37	0.8	5	7	8	15	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	......	......	......	......	......	......	......	2.34	+1.01	0.74	1.0	7	12	7	11	nw.	Verne King.
Fullerton	Dickey	1,439	34	45.6	+2.8	78	22	17	3	37	4.73	+2.61	3.48	1.5	8	8	5	17	se.	F. O. Alin.
Gackle	Logan	1,951	2	......	......	......	......	......	......	......	2.52	......	1.86	0	9	10	7	13	se.	Geo. Hummel.
Garrison	McLean	1,901	55	46.0	+3.7	72	22	18	26	43	0.53	−0.69	0.28	T.	3	14	9	7	se.	W. F. Robinson.
Grafton	Walsh	827	40	41.8	+1.2	73	21	3	3	49	2.39	+0.99	0.76	T.	6	11	9	10	se.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	41	41.8	+0.1	73	21†	6	3	29	2.48	+0.64	0.57	1.8	12	6	7	17	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	43.1	+2.3	75	21	16	3	43	1.03	−0.02	0.36	0.5	10	7	9	14	se.	W. A. Christianson.
Hankinson	Richland	1,068	3	45.2	......	78	22	21	10	36	2.01	......	0.57	3.0	9	13	3	14	s.	R. G. Stock.
Hannah	Cavalier	1,568	40	......	......	......	......	......	......	......	1.70	+0.43	0.70	1.8	7	......	......	......	......	James Meier.
Hansboro	Towner	1,597	24	40.6	+1.7	67	22	4	1†	36	1.79	+0.30	0.50	T.	7	11	9	7	se.	C. F. Blackorby.
Hettinger	Adams	2,675	25	47.0	+4.2	73	12	15	26	44	2.11	+1.11	0.54	T.	12	10	9	11	se.	C. H. Plath.
Hillsboro	Traill	901	26	42.4	−0.4	71	21†	10	3	33	2.70	+0.85	1.38	1.0	10	11	10	9	ne.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	25	43.6	+4.5	71	14	20	1†	44	1.44	+0.14	1.37	4.0	3	8	10	12	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	43.4	+1.3	76	21	14	3	46	3.05	+1.32	2.10	T.	8	8	13	9	se.	S. Calvelage.
Langdon	Cavalier	1,615	36	38.7	+0.9	70	21	5	3	43	1.23	−0.11	0.50	3.0	5	13	4	13	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	39.8	−0.6	73	21	6	3	36	3.29	+1.61	0.64	0.8	9	13	5	12	se.	Mabel Walsh.
Linton	Emmons	1,711	15	47.1	+4.4	75	22	20	11†	42	2.22	+0.70	0.84	T.	9	8	14	8	se.	Rev. F. J. Olberding.
Lisbon	Ransom	1,091	28	44.1	+1.7	76	21†	17	3†	37	3.25	+1.41	1.21	0	11	6	4	20	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	44.9	......	73	22	18	26	39	2.37	+0.95	0.95	T.	4	12	11	7	se.	Edw. Tapley.
McLeod	Ransom	1,075	21	44.9	+0.7	78	21	19	10†	35	1.78	−0.39	0.59	1.2	8	16	6	8	sw.	J. G. Carlson.
Maddock	Benson	1,604	17	43.0	+2.0	72	22	8	3	37	1.87	+0.52	0.78	0.5	7	8	9	13	se.	A. T. Felland.
Mandan	Morton	1,750	18	45.7	+3.0	74	22	19	26	45	1.99	+0.57	0.65	1.0	11	7	3	20	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	......	......	......	......	......	......	......	1.80	+0.45	0.69	T.	9	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	23	47.4	+4.4	78	12†	18	26	44	1.46	+0.42	0.53	1.0	8	8	7	15	......	S. P. Grane.
Mary	McKenzie	......	3	......	......	......	......	......	......	......	1.46	......	0.47	T.	8	14	6	10	se.	Fred Hartman.
Max	McLean	2,093	3	44.0	......	75	16†	18	3	44	1.15	......	0.65	T.	7	6	5	19	se.	A. W. Rice.
Mayville	Traill	975	36	42.6	−0.4	75	22	8	3	35	2.00	+0.30	1.00	T.	5	6	15	9	s.	H. B. Add'cott.
Minot	Ward	1,557	36	43.8	+3.0	79	17	17	2	42	2.40	+1.17	1.65	0.3	10	14	0	16	e.	Julia B. Rue.
Mohall	Renville	1,646	38	43.3	+2.8	72	19	10	2	35	4.08	+3.14	2.25	0.5	7	2	19	9	se.	E. H. Wolsey.
Mott	Hettinger	2,424	25	47.1	+5.3	70	21†	17	26	37	1.49	+0.09	0.70	2.0	6	5	7	18	e.	O. H. Opland.
Napoleon	Logan	1,955	40	44.8	+3.4	72	21†	19	3†	40	6.00	+4.39	4.20	3.0	12	10	9	11	se.	C. J. Hoof.
New England	Hettinger	2,400	38	46.4	+4.1	73	19	19	25	39	1.84	+0.81	0.41	1.0	10	10	9	11	nw.	F. S. Sleight.
New Salem	Morton	2,163	28	45.8	+3.4	69	22†	14	26	38	1.28	+0.05	0.63	1.0	6	8	12	10	se.	J. Christiansen.
Oakes	Dickey	1,318	3	46.2	......	77	22	17	3	43	2.33	......	1.42	T.	12	7	9	14	se.	Eugene Naylor.
Park River	Walsh	998	28	40.6	−0.7	72	21	2	3	37	2.77	+1.25	0.70	T.	8	7	10	13	se.	C. B. Wright.
Parshall (near)	Mountrail	......	17	44.3	......	70	20	20	3†	39	2.30	+1.16	1.65	T.	7	3	17	10	se.	C. E. Shubert.
Pembina	Pembina	789	58	39.0	+0.4	72	21	0	3	34	1.97	+0.53	0.61	2.9	11	9	9	12	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	......	......	......	......	......	......	......	2.70	......	0.91	0.5	10	4	18	8	se.	T. M. Rykken.
Pettibone	Kidder	1,856	23	44.3	+3.4	74	22	15	3	36	2.51	+1.18	1.05	T.	8	10	4	16	se.	A. L. Carlson.
Portal	Burke	1,954	27	42.0	+0.6	71	16†	13	1	42	1.08	−0.04	0.71	0	3	13	5	12	se.	R. G. Wegener.
Power‡‡	Richland	1,020	38	......	......	......	......	......	......	......	2.40	+0.60	1.30	6.0	5	14	7	9	se.	Frank B. Power.
Powers Lake	Burke	2,205	27	42.6	......	69	19	15	1	39	1.46	−0.12	0.71	0	5	14	11	5	e.	Geo. B. Gee.
Richardton	Stark	2,467	16	45.3	+4.2	71	12	13	26	47	2.45	+0.97	0.79	0	8	8	9	13	se.	John Muggli.
Rugby (near)	Pierce	1,562	3	......	......	......	......	......	......	......	0.58	......	0.32	T.	3	13	7	10	se.	E. C. Erickson.
Ryder	Ward	2,108	3	......	......	......	......	......	......	......	1.14	......	0.80	T.	4	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	45.2	......	75	21	20	3	46	2.09	......	1.49	0	8	10	0	20	se.	Geo. Buerkle.
Sharon	Steele	1,516	8	41.4	......	70	21	6	3	34	2.14	......	1.04	1.6	10	9	8	13	se.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8	......	......	......	......	......	......	......	1.40	......	0.61	0.5	4	8	16	6	se.	J. H. Giffey.
Steele	Kidder	1,857	38	45.2	+2.0	75	22	19	3	36	3.30	+2.11	0.80	0	12	6	14	10	se.	V. A. Laney.
Stowers‡‡	Adams	2,325	17	......	......	......	......	......	......	......	1.55	+0.39	0.47	0	7	16	6	8	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	......	......	......	......	......	......	......	2.48	......	1.89	......	8	12	4	14	se.	J. C. Abbott.
Tioga	Williams	2,279	3	......	......	......	......	......	......	......	1.24	......	0.82	......	7	10	5	15	se.	Anton Carlson.
Towner	McHenry	1,482	30	44.4	+2.5	72	19	13	3	39	0.89	−0.21	0.30	1.1	8	8	11	11	se.	Karl Weber.
Trotters	Golden Valley	......	6	......	......	......	......	......	......	......	1.61	......	0.57	1.0	9	8	8	14	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	18	......	......	......	......	......	......	......	1.15	−0.04	0.38	......	4	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	26	43.4	+0.8	74	22	14	3	34	2.26	+0.74	2.01	T.	7	13	6	11	se.	I. C. Robertson.
Velva	McHenry	1,511	5	45.2	......	73	19	19	2†	44	1.59	......	0.74	T.	8	5	9	16	e.	Oscar Anderson.
Verona	LaMoure	1,387	4	......	......	......	......	......	......	......	3.60	......	2.50	0	9	12	1	17	se.	W. C. Taylor.
Wahpeton	Richland	962	40	45.9	+1.5	77	22	18	3	41	1.99	−0.16	0.49	0	9	15	0	15	se.	C. G. Luick.
Washburn	McLean	1,731	31	46.0	+2.2	74	22	16	26	44	1.74	+0.67	0.45	3.2	8	10	8	12	se.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	43.7	+3.8	74	19	11	2	39	1.93	+1.02	1.50	1.6	8	18	7	5	se.	C. M. Condit.
Williston	Williams	1,878	53	46.2	+4.2	72	14	22	26	37	1.13	−0.07	0.32	1.1	10	10	9	11	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	42.4	+2.8	70	19†	12	3	37	0.83	−0.17	0.25	2.5	6	12	11	7	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	3	44.6^{d}	+2.7	74^{d}	22	19^{d}	4	39^{d}	5.24	+4.20	3.94	1.0	6	7	0	23	se.	E. W. Davis.
Zap	Mercer	1,838	17	......	......	......	......	......	......	......	1.47	+0.42	0.80	0.3	5	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	51	43.6	+3.0	75	22	14	3	30	1.06	−1.12	0.39	1.9	11	5	7	18	se.	U. S. Weather Bureau.
Averages	......	......	......	44.1	+2.5	79	17	0	3	49	2.16	+0.77	4.20	0.7	8	9	9	12	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for April, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			T.	T.	.03																	.58	.39	.15	.20	T	T.	.17	.58	.12		2.22
Amenia	Red		.03		.01		.10	.75			.12									.05				.90	.43		T			.03	.16		2.58
Arnegard (near)	Missouri					.03										.52							.40	.10	.05	.22			.17	.17	.05		1.71
Ashley	Missouri									.02									.40					2.39	.03	.04			.18	.33	T		3.39
Beach	Lit. Missouri	.01				T	.06									T.						.03	.05	1.85	.14	.26			.11	.09	.11		2.71
Berthold Agency	Missouri						T.								T.								3.70	T	.05	.10		T.	.25	.23	.05		4.38
Bismarck ***	Missouri	T.		T.		.18										T			.69				.40	.10	.06	.14			.36	.15			2.08
Bottineau	Mouse	.02	.03		T.			T.																.24	.02	T.			.02	.05			0.38
Bowman	Grand		.01													.06			.17			.07	.04	2.17	.55	.42			.10	1.35	.17		5.11
Cando	Devils Lake		T	T.	T.		.21												.68	.26			.59	.30		T.			T	.28	.02		2.34
Carrington‖	James	T.		T.		.35	T.									T			.29				.45	.45					.05	.92			2.52
Carson	Heart															.01				.05		.10	.06	.08		.13		.60	.40				1.43
Cavalier	Red	.10		.02			.60												.22	.13				.66						.47	.13		2.33
Cooperstown	Sheyenne						.20												.17					1.30	.40	T.				.25	.80		3.12
Corinth	Missouri			.05		.05										.02							1.00						.15	.05			1.32
Courtenay	James						.22									.03			.15					1.38		.05			.05	.25	.16		2.29
Crosby	Mouse		.02					T.															.18	.73	.13	.02			.04	.02	.01		1.15
Devils Lake ***	Devils Lake	.13	T.	.02		.37	.01												.30	.01			.56	.33	.01	.03		T.	.02	.78	.01		2.58
Dickinson‖	Heart	.03	.01	T.	.01		.01									.13	.10			.05		T.	.19	.14	.13	.09	.08		.06	.59	.33		1.95
Dogden Butte	Mouse	T.	T.	T.												.45	.01		.34				.13	1.00	.02	T.	T		.17	.55	.09		2.76
Drake‖	Mouse																.05			.50				.27	.03	.01			.14	.04	.67		1.71
Dunn Center	Knife						.04									T.	.30						.39	.04	.07	T.	.16		.08	.25	.20		1.47
Dunseith	Mouse	.09			T		.03	.04											.25				.34	.02	.17	T.			.03	T.			0.97
Eckman	Mouse	.01																					2.19	.02	.03				.15	.02	.03		2.45
Edgeley	James							.10								.03			.08					3.25	.08	.02			.05		.20		3.81
Edmore	Devils Lake	.07	T.	.18			.37				T.								.28				T.	.27		.01			T.	.33	.05		1.56
Ellendale***	James	T.	T.	.03	T.		.12			.21						.05			.07				1.12	2.57	.03	.01	.01		.05	.18	.02		4.47
Energy	Missouri															T.							.18			.10			.25	.27			0.80
Epping	Missouri					T.	.02									.11							.66	.02	.12				.28	.25	.03		1.49
Fairfield	Knife															.41							.39	.11		.15			.12	.38			1.56
Fessenden‖	James	.01					.35										.01		.28	.33				.12	.04	.03			.06	.03	.72		1.98
Forman	Sheyenne			T	T.		.35			.14	.10					T.			T.	.12				1.12	T.	.20	.05			.13	.11		2.32
Fort Yates	Missouri					.50													.42					.50		T.			.57	.10			2.09
Foxholm (near)	Mouse	.09	T.				.29											T.	T.				1.37	T	.32	T.			.16	T.			2.23
Fryburg	Heart	.06	T.	T.																			.66	.13	.10	.32	T.	T.	T	.74	.33		2.34
Fullerton	James						.28			.12						.07			.07	T.			T.	3.48	T.	T	.25		T.	.12	.34		4.73
Gackle	James	.01			T.											.02		.15						1.86	.04	.03			.04	.28	.09		2.52
Garrison	Missouri															T.							.13			T.			.28	.12			0.53
Grafton	Red	T.					.70			.13									.22					.66	.01	T.				.67			2.39
Grand Forks ***	Red	.07	.09	.02	T.	.25	.30		.41		T.								.04	.04			.05	.57						.38	.28		2.48
Granville	Mouse	.02	T.	.02	T.											T.		T.		.07			.36	.15	.02	.03		T.	.17	.14	.05		1.03
Hankinson	Red	T.			.30		.57			.16						.03			.02				.53		T.	.28			.03	.09			2.01
Hannah	Pembina		.10		.08		.08					T.							T.	.70				.10	.49	T.			T	T.	.15		1.70
Hansboro	Devils Lake	.15																	.35				.40	.50	.11	T.			.18	.10			1.79
Hettinger	Grand				.07											.01			.06	.01		.06		.27	.38	.33	.04		.18	.51	.18		2.11
Hillsboro	Red	.06		.04	.03	T	.88	T.			.08							.08						1.38		.04				.03	.08		2.70
Howard (near)	Missouri	T.	T.	T		T.			T.							.01						T.	1.37		T.	.06	T.	T.		T.			1.44
Jamestown	James	T.	T.					T.									.09		.14					2.10	.42	.07	T.		.02	.01	.20		3.05
Langdon	Pembina		.30				.10												T.	.50				.10	.23					T.			1.23
Larimore	Red		.07				.48	.11		.50										.34				.50	.57	.08					.64		3.29
Linton	Missouri			T	.06		.04									T.			.23					.59	.04	.06	T		.27	.84	.09		2.22
Lisbon	Sheyenne						.18	.47				.21					.15			.09				1.21	.40	.02	.03			.13	.36		3.25
McClusky	Missouri			T.												.50			.87					.05		T				.95			2.37
McLeod	Sheyenne	T.					.51				.19					.05				.13				.59		.12		T.	.05	.14			1.78
Maddock	Sheyenne	.05	T.	T.			.17												.78	.06				T.	T.	T.			.12	.55	.14		1.87
Mandan‖	Missouri			T.		.29											T.		.65	.10			.07	.03	.13	.04	.06		.30	.28	.04		1.99
Manfred	James	.04					.30									T.	.02		.69					.10		.03			.05	.50	.07		1.80
Marmarth	Lit. Missouri		T.	.02		T.										.03						T.	.05	.11	.25	.30				.53	.17		1.46
Mary	Lit. Missouri	.03				.05										.32							.11	.25		.10			.10	.47	T.		1.46
Max‖	Missouri																.65		.02				.06	.08		T.			.12	.14	.08		1.15
Mayville	Red					T.	.70													.12				1.00						.08	.10		2.00
Minot	Mouse	.04	.01				.01										.01						.03	1.65	.20				.15	.20	.10		2.40
Mohall	Mouse	.15	T.																				2.25	.20	.53	.36			.23	.30			4.08
Mott	Cannon Ball					T.									.11	T.			T.			.03	.08				.31	T.	.70	.26			1.49
Napoleon‖	Missouri	.20			.03		.05												.06	.24				4.20	.13	.05	.10		.13	.72	.09		6.00
New England	Cannon Ball					T.									.05				.10			.26	.05	.33	.10	.17		.11	.41	.26			1.84
New Salem	Heart															T			.10				.05		.07	.10			.33	.63			1.28
Oakes	James				T.		.35			.22	.02					.06			.01	.07				1.42	.02		.02		.03	.03	.08		2.33
Park River	Red	T.		T	.08		.66												.06	.24				.70	.01					*	.85		2.57
Parshall (near)	Missouri						.05																1.65	.26	T.	.01	T.		.08	.15	.10		2.30
Pembina‖	Red	.02	.12	.04	.14	T.	.38	.06		T.									T.	.24			T.	.02	.29	T.			T.	.02	.64		1.97
Petersburg	Red	.02		.03			.55		.28										.06	.20				.40		.04				.91	.21		2.70
Pettibone	James	T.				.22										.15			.30				1.05	.35		T.			.13	.27	.04		2.51
Portal‖	Mouse					T.																.35	.71					.02	T.				1.08
Power	Sheyenne	.10			T.		.50			.30						T.								1.30		.20				T.			2.40
Powers Lake	Missouri																					.71	.19	.33		.14			.09				1.46
Richardton	Heart															.17			T.				.32	.41	.17	.23			.23	.79	.13		2.45
Rugby [near]	Mouse	T.					T.												.32				.14	.12		T.			T				0.58
Ryder	Missouri		T.			T.										T.		T.					.80			.03			.17	.14			1.14
Sanish‖	Missouri						.02									.05							1.49	.31	.05	.03			.05	.09			2.09
Sharon	Red	.20	.01	T.			.21		.18										.04	.15			T.	1.01		.05			T	.17	.12		2.14
Stanton	Missouri																				.61					.05			.21	.53			1.40
Steele	Missouri				.08		.52									.06	.03		.55	.05				.80	.10	.06			.30	.70	.05		3.30
Stowers	Cannon Ball	T.		T.												T.				.12		T	.13	.09	.22	.12			.47	.40			1.55
Tagus	Mouse					.02										.08				.03			1.89	.05					.16	.20	.05		2.48
Tioga	Missouri						.10									.06							.82	.04	.08				.10	.04			1.24
Towner	Mouse	.07	T.	T.	.03		T.				T.								.30	T.			.03	.07	.05	T			.09	.25	T.		0.89
Trotters	Lit. Missouri			.01												.10	.04					.04	.18	.57		.30			.20		.17		1.64
Turtle Lake	Missouri																		.32				.33					.12		.38			1.15
Valley City	Sheyenne	.03	T		.03		.02			.08									.05					2.01					.04	T			2.26
Velva	Mouse	T.	T.	T.	.03		T									.14			T.	.01			.25	.74		T.		T.	.17	.16	.06		1.59
Verona	James						.09			.15					.16									2.90	.05	.08	.02			.03	.12		3.60
Wahpeton	Red	.05			.30		.36				.25									.03				.49		.25	.16				.10		1.99
Washburn	Missouri						T.												.27	.05			.18	.08		.32	T.		.10	.29	.45		1.74
Westhope	Mouse	.16					.04																1.50	.05	.04	T.			.08	.02	.04		1.93
Williston ***	Missouri			.01		.03										.32						T.	.30	.04	.05	.14			.13	.10	.01		1.13
Willow City	Mouse	.25		T.															.16				.21	.08		T.			.07	.06			0.83
Wishek‖	Missouri	.18																		.25				3.94		.20			.12	.55			5.24
Zap	Knife																						.80	.07		.03		.30		.27			1.47
Moorhead, Minn ***	Red	.06	T.	.01	T.		.39			.22	.01								T.	.02	T.		.03	.09		.05			T.	.07	.11		1.06

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	32	28	35	44	54	50	57	60	53	52	45	46	52	60	58	64	63	64	65	70	73	75	63	63	58	44	54	62	63	52	..	55.3
	Minimum	27	23	13	25	26	30	30	31	32	30	29	20	25	28	29	35	31	38	43	41	40	41	42	33	36	25	24	28	42	37	..	31.1
Arnegard (near)	Maximum	67	52	48	60	66	60	65	59	50	58	57	72	66	70	62	62	65	70	71	68	64	62	64	51	45	41	43	45	44	47	..	58.5
	Minimum	32	31	22	32	34	33	28	31	28	29	26	31	29	39	41	36	40	35	35	34	47	48	43	39	27	20	27	34	38	34	..	33.4
Ashley	Maximum	58	54	41	60	67	61	63	68	63	54	49	55	56	64	60	62	64	58	61	68	72	73	70	61	48	40	44	49	51	47	..	58.1
	Minimum	26	28	18	31	28	40	29	36	32	25	28	19	30	24	41	33	36	45	43	40	43	55	44	35	27	20	22	39	39	36	..	33.1
Beach	Maximum	67	63	55	59	64	56	62	64	53	59	66	73	61	78	69	63	66	68	70	72	66	77	65	57	48	43	41	45	45	44	..	60.7
	Minimum	37	33	30	32	34	32	28	29	29	19	25	34	29	40	40	25	39	28	35	45	47	54	50	42	25	25	29	36	37	35	..	34.1
Berthold Agency	Maximum	67	44	42	61	67	60	64	57	49	58	51	70	62	70	50	64	69	68	71	65	75	62	62	53	32	41	42	46	46	49	..	57.2
	Minimum	30	23	20	23	32	30	25	28	21	20	26	25	42	35	37	32	40	46	38	45	48	40	45	30	28	22	28	38	38	38	..	32.5
Bismarck	Maximum	69	50	37	61	66	60	66	63	41	56	50	67	59	67	54	63	68	62	69	68	70	74	62	50	45	43	46	50	49	52	..	57.9
	Minimum	32	25	23	34	37	38	30	38	30	24	29	26	32	36	39	36	44	48	46	47	45	56	46	38	27	21	27	39	42	38	..	35.8
Bottineau	Maximum	21	26	32	52	57	58	55	55	49	54	41	54	58	62	55	62	67	46	70	68	68	59	46	52	30	46	54	50	50	55	..	51.7
	Minimum	20	11	9	15	30	31	30	29	30	19	18	20	22	25	35	35	31	45	35	38	40	43	44	36	25	18	22	30	38	32	..	28.6
Cando	Maximum	27	25	48	53	54	56	56	59	59	55	41	48	47	61	61	63	60	58	64	66	67	67	60	55	40	45	54	51	51	53	..	53.7
	Minimum	14	12	9	21	29	37	30	32	33	36	21	21	26	31	31	30	37	36	42	39	40	45	38	33	26	22	24	39	41	31	..	30.4
Carrington §§	Maximum	28	33	56	58	55	56	63	38	53	40	53	54	62	55	60	66	52	68	67	69	72	49	56	32	43	54	51	51	51	58	..	53.4
	Minimum	18	13	14	30	31	30	31	31	25	25	22	23	29	30	37	37	37	45	38	38	40	45	31	29	20	21	26	40	35	30	..	30.1
Crosby	Maximum	50	31	39	58	66	57	57	54	48	57	52	66	63	72	55	62	66	69	69	51	61	45	42	40	36	41	44	45	45	53	..	53.4
	Minimum	25	20	20	26	31	32	26	29	30	30	25	21	28	30	42	31	31	36	34	38	42	41	39	36	24	22	25	32	37	35	..	30.8
Devils Lake	Maximum	30	22	32	51	54	51	54	59	41	51	36	47	54	60	56	62	64	52	67	67	69	64	56	57	38	44	53	54	48	51	..	51.6
	Minimum	18	13	9	32	31	38	32	35	31	28	23	24	28	32	36	32	39	41	45	40	41	48	38	36	25	23	26	42	41	34	..	32.1
Dickinson §§	Maximum	69	51	49	59	66	57	64	57	49	56	56	71	62	71	52	62	66	66	68	63	66	69	67	46	32	36	42	42	43	46	..	56.9
	Minimum	27	32	25	27	30	31	27	27	30	20	23	25	31	34	36	37	37	35	35	37	47	46	52	40	31	17	19	30	35	39	..	32.1
Dunn Center	Maximum	67	51	46	60	67	59	64	59	51	57	54	70	63	70	58	61	65	68	70	65	66	68	68	48	32	40	42	44	44	47	..	57.5
	Minimum	32	31	23	27	29	30	26	27	30	20	23	27	31	33	40	36	37	36	34	43	44	51	50	38	31	16	27	30	37	37	..	32.5
Dunseith	Maximum	31	22	28	51	56	58	54	60	54	51	49	51	56	63	59	62	66	62	69	67	66	61	59	51	37	45	53	49	50	48	..	53.0
	Minimum	10	9	7	27	31	35	31	33	30	25	12	20	27	32	37	34	37	44	39	39	44	50	36	34	23	20	25	37	40	32	..	30.0
Edgeley	Maximum	38	38	38	62	68	60	65	68	66	58	53	55	56	62	53	63	66	61	67	69	72	75	74	60	52	63	52	52	54	50	..	59.0
	Minimum	26	22	27	32	29	38	31	28	35	28	28	18	26	26	37	34	34	41	47	37	39	54	43	37	31	23	25	41	40	38	..	33.3
Ellendale	Maximum	43	47	36	60	68	56	61	68	46	54	44	55	54	61	55	63	66	54	58	69	73	78	67	48	43	40	50	53	50	48	..	55.6
	Minimum	30	25	19	34	30	39	33	32	33	30	24	21	28	32	37	40	36	48	45	38	42	59	45	37	30	25	24	42	43	36	..	34.8
Fessenden §§	Maximum	27	29	33	52	60	58	58	58	45	54	43	58	58	66	54	63	67	52	72	70	71	73	49	61	32	45	55	52	47	52	..	53.8
	Minimum	23	16	13	20	27	34	29	31	31	25	21	22	26	27	34	34	30	45	40	38	38	44	42	36	28	18	19	32	39	33	..	30.2
Foxholm (near)	Maximum	40	25	35	54	65	57	55	55	49	55	47	61	58	66	61	63	70	62	68	67	68	65	57	50	46	42	48	48	49	52	..	54.7
	Minimum	22	12	13	29	28	31	30	28	30	25	21	22	23	35	38	31	38	40	40	42	38	40	38	35	23	22	26	36	38	34	..	30.3
Fullerton	Maximum	40	43	37	59	69	57	60	68	51	54	45	55	55	59	55	63	67	58	61	72	73	78	66	60	45	42	52	51	51	50	..	56.7
	Minimum	28	27	17	32	30	36	33	31	33	30	30	21	25	31	39	39	33	46	48	38	42	56	45	38	24	25	28	41	40	39	..	34.5
Garrison	Maximum	57	48	36	60	65	61	64	59	47	57	46	68	69	67	53	63	69	62	71	65	69	72	69	57	52	46	47	57	48	53	..	58.6
	Minimum	30	25	20	30	32	32	29	34	32	21	27	25	27	29	42	37	43	46	38	47	43	51	47	38	26	18	22	38	41	36	..	33.5
Grafton	Maximum	29	25	33	42	51	49	53	53	53	53	52	41	52	59	57	62	60	60	65	70	73	72	68	54	54	46	56	59	58	49	..	53.6
	Minimum	18	18	3	29	28	37	30	31	4	30	22	22	32	30	32	31	31	42	48	39	36	39	39	36	21	26	25	41	45	32	..	30.0
Grand Forks	Maximum	30	23	31	39	54	50	53	56	44	50	35	41	50	57	60	62	61	60	64	70	73	73	46	56	39	44	55	60	54	49	..	51.4
	Minimum	20	11	6	32	29	31	29	33	30	31	25	22	32	30	35	35	31	43	45	41	44	49	42	36	30	25	26	43	47	31	..	32.2
Granville	Maximum	30	28	35	65	61	65	60	52	40	57	45	65	59	66	56	64	65	60	72	69	75	65	48	69	50	50	52	54	48	53	..	55.6
	Minimum	19	18	16	22	31	28	26	31	25	23	18	25	23	35	39	32	42	39	38	45	35	42	39	37	29	19	22	40	42	35	..	30.6
Hansboro	Maximum	34	27	32	45	52	54	54	55	50	50	46	47	54	64	63	64	63	55	64	65	66	67	55	52	37	50	60	55	48	55	..	52.8
	Minimum	4	10	4	20	28	27	27	32	30	25	18	20	20	40	40	33	36	35	37	38	40	41	35	33	23	20	24	38	34	32	..	28.4
Hettinger	Maximum	71	56	53	61	69	56	65	60	50	55	62	73	65	69	61	62	68	65	67	64	66	75	65	57	43	39	40	45	44	45	..	59.0
	Minimum	32	36	29	33	32	39	27	29	33	22	23	29	33	37	41	32	41	42	34	48	47	56	56	40	25	15	27	33	38	38	..	34.9
Hillsboro	Maximum	31	25	34	38	46	46	53	55	55	41	36	43	52	56	55	61	61	61	58	65	71	71	71	59	56	46	57	55	54	54	..	52.3
	Minimum	20	20	10	22	23	41	30	32	35	31	28	21	30	41	32	32	48	40	36	41	39	38	41	39	35	26	27	33	42	38	..	32.4
Howard (near)	Maximum	62	52	41	57	62	59	60	56	49	57	66	57	63	71	60	61	58	67	68	62	64	64	57	44	42	40	47	43	45	47	..	56.0
	Minimum	20	22	20	28	28	28	30	28	28	23	22	24	24	45	42	38	38	30	34	45	46	45	40	37	25	21	25	34	33	35	..	31.3
Jamestown	Maximum	34	31	58	61	56	58	67	39	54	42	53	53	62	55	61	67	55	66	69	71	76	61	55	35	41	52	53	53	50	62	..	55.1
	Minimum	28	22	14	15	27	31	32	33	34	27	27	19	22	27	30	40	38	40	45	37	45	45	46	35	33	22	25	32	41	37	..	31.6
Langdon	Maximum	18	25	30	33	50	50	51	56	36	51	32	42	52	60	55	63	61	53	62	66	70	65	40	51	33	44	66	50	50	50	..	48.8
	Minimum	11	10	5	17	29	33	30	32	31	26	18	20	25	29	32	31	36	42	44	43	40	40	39	33	25	22	23	30	33	30	..	28.6
Larimore	Maximum	21	20	33	45	51	46	54	55	37	48	32	40	51	55	56	60	61	53	64	68	73	70	42	53	35	44	54	57	48	48	..	49.1
	Minimum	20	18	6	11	30	35	34	31	35	30	24	22	25	29	31	30	35	42	44	37	37	44	40	34	30	24	27	35	44	35	..	30.6
Linton	Maximum	69	67	55	62	69	66	67	65	56	56	54	65	60	54	60	64	67	60	69	69	73	75	70	64	49	42	46	49	52	53	..	60.9
	Minimum	28	37	21	33	30	40	25	36	34	23	20	24	22	20	33	34	41	47	42	43	43	55	49	37	27	20	20	38	40	36	..	33.3
Lisbon	Maximum	38	36	35	51	56	49	58	66	45	51	41	50	52	59	55	59	64	59	61	70	76	76	69	58	40	42	54	55	53	55	..	54.5
	Minimum	29	26	17	17	25	39	33	30	38	31	30	21	28	26	33	42	33	43	49	42	41	46	43	37	38	25	25	42	44	39	..	33.7
McClusky	Maximum	38	36	33	58	63	58	61	60	55	51	53	62	57	66	61	61	66	61	69	68	70	73	70	57	50	41	50	49	48	51	..	56.5
	Minimum	22	21	23	31	33	28	28	34	30	22	25	23	25	31	42	39	40	44	41	62	56	55	43	35	26	18	22	28	40	33	..	33.3
Maddock	Maximum	36	29	32	55	59	56	55	56	57	53	52	54	55	63	61	63	67	66	67	67	70	72	67	62	54	44	54	53	52	52	..	56.1
	Minimum	19	15	8	28	27	35	29	32	30	24	23	21	25	26	36	33	36	36	39	38	38	46	41	36	26	19	19	39	39	36	..	30.0
Marmarth	Maximum	71	63	59	61	64	61	66	58	51	58	67	78	69	75	67	60	66	65	68	62	64	78	68	57	43	40	44	42	42	49	..	60.5
	Minimum	35	30	33	38	27	33	26	30	34	23	23	36	33	38	38	29	37	30	30	42	48	58	51	41	25	18	30	36	36	36	..	34.2
Minot	Maximum	51	25	37	57	67	59	60	52	50	55	44	66	60	68	54	65	79	60	72	68	68	64	56	50	41	45	49	51	50	59	..	56.1
	Minimum	25	17	18	22	27	30	25	28	30	26	25	24	24	31	40	35	38	43	36	45	41	46	45	40	27	23	25	35	40	35	..	31.5
Mohall	Maximum	26	25	30	45	55	65	38	50	41	48	49	55	60	63	65	68	70	71	72	70	68	60	64	60	48	60	55	40	55	50	..	54.2
	Minimum	11	10	15	20	28	30	17	17	30	28	30	34	40	41	45	50	40	41	46	44	48	40	33	32	26	34	35	34	40	34	..	32.4
Mott	Maximum	67	52	50	60	68	66	65	64	54	58	53	69	60	68	61	65	66	64	68	67	70	70	61	52	44	38	44	47	48	54	..	59.1
	Minimum	30	25	26	38	39	37	36	35	25	26	27	32	37	43	37	37	38	40	45	46	43	49	40	38	18	17	27	38	40	43	..	35.1
Napoleon §§	Maximum	60	48	34	60	68	57	63	66	38	55	48	59	57	66	55	64	67	52	71	69	72	72	65	50	34	43	52	54	50	50	..	56.6
	Minimum	28	26	19	32	31	40	28	35	31	21	26	20	27	26	40	31	39	47	43	40	44	56	51	35	32	19	24	27	40	36	..	33.1
New Salem	Maximum	68	52	37	60	67	47	65	55	58	56	51	65	64	66	68	66	69	64	68	64	68	69	69	52	48	37	42	45	46	46	..	57.4
	Minimum	30	28	22	31	37	31	28	30	31	26	24	24	32	32	42	40	40	46	41	46	44	56	52	36	25	14	21	37	40	38	..	34.1
Oakes	Maximum	41	44	37	59	71	54	62	68	59	54	51	55	55	63	56	63	68	62	62	70	73	77	72	62	49	42	54	55	52	51	..	58.0
	Minimum	27	27	17	33	28	41	32	32	32	30	29	20	26	28	39	42	37	44	48	40	40	55	44	39	34	24	24	41	44	39	..	34.5
Pembina §§	Maximum	19	20	34	39	49	42	49	54	37	50	29	41	48	51	57	62	62	58	64	69	72	66	42	54	40	45	57	60	54	47	..	49.0
	Minimum	12	12	0	5	29	27	30	27	34	29	20	18	25	32	34	34	35	43	44	40	39	39	41	35	28	25	26	28	44	36	..	29.0
Sharon	Maximum	30	24	30	50	53	49	53	55	50	51	40	42	50	59	57	60	60	54	64	67	70	69	63	52	44	44	52	54	51	50	..	51.6
	Minimum	19	17	6	28	31	36	32	31	33	28	24	21	28	31	32	33	33	43	46	38	36	45	40	33	28	23	25	38	43	34	..	31.2
Steele	Maximum	48	42	33	58	64	62	61	62	44	52	44	59	58	64	50	60	66	54	68	67	71	75	70	54	46	40	50	53	48	48	..	55.7
	Minimum	29	26	19	32	34	40	30	37	32	25	28	23	28	30	42	38	41	48	44	42	43	54	52	37	27	20	23	40	43	36	..	34.8
Towner	Maximum	39	30	34	58	64	63	59	61	57	57	46	62	60	66	63	66	70	63	72	68	69	67	65	58	43	49	55	54	51	56	..	57.5
	Minimum	20	16	13	31	28	33	27	33	31	22	22	23	24	28	38	33	40	47	39	43	41	48	41	37	27	18	20	40	42	35	..	31.3
Valley City	Maximum	40	28	32	56	57	52	58	62	57	51	35	47	52	59	53	60	60	51	58	66	70	74	74	65	59	45	54	49	55	44	..	54.1
	Minimum	24	22	14	32	25	38	33	30	34	29	27	19	29	25	33	41	33	44	47	40	38	48	42	36	32	24	22	42	43	36	..	32.7
Wahpeton	Maximum	40	37	34	38	48	50	57	62	60	50	50	46	54	60	59	63	63	64	62	72	74	77	76	69	62	46	56	61	60	54	..	56.8
	Minimum	29	28	18	32	22	42	30	35	38	32	31	22	34	28	35	42	34	43	41	44	43	53	45	28	36	26	25	40	47	44	..	35.0
Westhope	Maximum	39	24	33	57	63	61	58	60	55	58	43	60	61	68	61	65	69	66	74	69	70	68	55	51	46	49	54	50	49	56	..	56.4
	Minimum	19	11	12	28	29	30	29	33	31	24	22	21	25	29	39	35	40	44	36	44	45	39	41	37	25	22	25	40	40	35	..	31.0
Williston	Maximum	66	44	76	59	63	59	63	57	49	57	55	71	65	72	57	61	65	69	71	64	66	62	64	50	40	39	42	45	45	47	..	57.1
	Minimum	34	25	24	32	38	36	28	32	31	25	29	36	32	41	41	39	44	32	40	46	50	48	41	40	27	22	29	37	40	36	..	35.2
Moorhead, Minn	Maximum	33	27	36	36	55	48	54	60	46	48	40	43	50	57	58	62	61	62	62	69	73	75	67	63	45	43	57	59	58	48	..	53.2
	Minimum	27	18	14	29	27	36	30	34	33	31	26	23	32	34	35	41	34	45	44	42	43	52	44	41	31	25	27	39	45	34	..	33.9

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 5-31-32—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XXXXI   Bismarck, N. D., May, 1932   No. 5

GENERAL SUMMARY

The favorable weather conditions that obtained at the opening of the month continued throughout the first and second decades, and during this period rapid progress was made in seeding small grains, in plowing for and planting corn and potatoes, and in seeding flax. Soil conditions, except in the extreme northwestern and north-central portions were good to excellent, and crops of all kinds made rapid growth. Due to heavy rains during the last decade farm work was somewhat delayed, but crops of all kinds, including pastures, ranges and meadows, were greatly benefitted, and conditions at the close of the month were the best for several years. The heavy rains greatly reduced the menace from grasshoppers.

TEMPERATURE

The mean temperature for the state was 55.9°, or 3.1° above the normal, and 28° higher than the mean for May, 1931. The highest mean reported was 59.8° at Hankinson, Richland County; the lowest was 53.3° at Berthold Agency, McLean County. The highest temperature reported was 98° at Westhope, Bottineau County on the 13th; the lowest was 25° at ten stations on the first and other dates. The greatest monthly range of temperature was 71° at Westhope, Bottineau County; the least was 58° at Ellendale, Dickey County, and Wishek, McIntosh County. The greatest daily range in temperature was 54° at Crosby, Divide County on the 22d.

PRECIPITATION

The average precipitation for the state was 2.14 inches, or 0.26 inch below the normal, and 0.73 inch more than the average for May, 1931. The greatest monthly amount reported was 4.50 inches at Jamestown, Stutsman County; the least was 0.21 inch at Parshall, Mountrail County. The greatest amount recorded in any 24 consecutive hours was 2.41 inches at McClusky, Sheridan County on the 26th. The average number of days with 0.01 inch or more of precipitation was 6. The average snowfall was 2.2 inches.

AURORAS

Auroras were observed at Crosby, Devils Lake and Eckman on the first; at Carson, Crosby, Devils Lake, Velva, Williston, Willow City and Moorhead, Minn. on the 2d; at Crosby and Foxholm on the 3d; at Eckman and Foxholm on the 6th; at Powers Lake on the 9th; at Eckman and Edmore on the 10th; at Foxholm on the 11th; at Devils Lake and Fessenden on the 12th; at Crosby and Foxholm on the 13th; at Crosby on the 14th; at Eckman on the 22d; at Devils Lake and Eckman on the 23d; at Carson, Edmore, Foxholm and Pettibone on the 24th; at Hannah on the 25th; at Epping on the 26th; at Howard on the 27th; at Arnegard, Edmore, Grand Forks, Howard, Pembina, Sharon and Trotters on the 28th; at Crosby, Edmore, Grafton, Grand Forks, Hettinger, Larimore, New England, Parshall, Petersburg and Trotters on the 29th; and at Bowman, Crosby, Hannah and Oakes on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure in inches, reduced to sea level					Wind					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of anemometer	Total movement, miles	Average	Highest*	Direction	Date
Bismarck	29.95	30.38	25	29.50	21	57	7,305	9.8	35	se.	22
Devils Lake	29.96	30.30	28	29.44	14	41	7,931	10.7	39	ne.	19
Ellendale	29.98	30.36	28	29.42	14	56	10,327	13.9	41	sw.	24
Grand Forks	29.93	30.25	21	29.34	14	90	......	......	27	nw.	14†
Williston	29.94	30.40	27	29.50	22	48	6,777	9.1	28	w.	22
Moorhead, Minn	29.96	30.32	28	29.37	14	58	6,903	9.4	24	s.	23
Av'ges and extremes	29.95	30.40	27	29.34	14	......	......	10.6	41	sw.	24

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-ct.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	262.9	467.3	56	− 2	84	56	53	25	18
Devils Lake	307.9	471.0	65	+ 7	74	49	48	15	13
Ellendale	286.9	463.8	62	+ 4	82	58	...	26	24
Grand Forks	......	......	......	......	67	....	54	......	....
Williston	324.0	471.0	69	+11	72	42	40	15	18
Moorhead, Minn	297.0	467.3	64	+ 7	73	50	50	18	12
Averages and extremes	295.7	468.1	63	+ 6	75	49	49	15	13†

† And other dates.

COMPARATIVE STATE DATA FOR MAY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cldy days	Cl'dy days	
1892...	46.6	−6.2	96	13	2.21	−0.19	12	6	8	17	n.
1893...	52.2	−0.2	97	19	1.61	−0.79	6	11	8	12	se.
1894...	54.6	+1.8	98	23	1.51	−0.89	5	16	9	6	ne.
1895...	54.4	+1.6	101	15	2.48	+0.08	8	10	11	10	nw.
1896...	56.9	+4.1	103	22	4.89	+2.49	13	6	14	11	nw.
1897...	55.4	+2.6	97	16	0.71	−1.69	4	16	10	5	nw.
1898...	52.7	−0.1	92	14	1.98	−0.42	5	15	9	7	n.
1899...	50.6	−2.2	91	16	3.49	+1.09	8	9	9	13	se.
1900...	59.2	+6.4	106	15	0.69	−1.71	3	18	8	5	se.
1901...	60.0	+7.2	99	19	0.31	−2.09	2	21	4	6	se.
1902...	55.9	+3.1	94	24	3.57	+1.17	10	13	6	12	se.
1903...	54.3	+1.5	96	11	3.12	+0.72	4	14	8	9	s.
1904...	54.2	+1.4	93	20	1.76	−0.64	6	14	9	8	nw.
1905..	50.1	−2.7	88	10	3.05	+0.65	8	12	8	11	nw.
1906...	50.8	−2.0	99	11	4.63	+2.23	12	9	8	14	ne.
1907...	44.0	−8.8	84	6	1.11	−1.29	6	12	10	9	nw.
1908...	50.8	−2.0	88	9	2.97	+0.57	8	13	7	11	ne.
1909...	51.0	−1.8	98	5	4.29	+1.89	10	12	9	10	nw.
1910...	50.7	−2.1	94	10	0.96	−1.44	6	12	11	8	nw.
1911...	55.0	+2.2	99	6	2.88	+0.48	8	14	9	8	nw.
1912 ..	54.2	+1.4	90	16	4.52	+2.12	11	10	10	11	nw.
1913...	51.2	−1.6	100	11	1.68	−0.72	9	10	10	11	nw.
1914...	55.2	+2.4	95	16	2.12	−0.28	8	16	8	7	nw.
1915...	51.1	−1.7	98	15	3.16	+0.76	9	10	10	11	se.
1916...	51.0	−1.8	95	7	2.22	−0.18	8	11	11	9	nw.
1917...	51.2	−1.6	98	15	0.30	−2.10	2	20	7	4	ne.
1918...	51.7	−1.1	99	6	2.30	−0.10	9	10	11	10	nw.
1919...	55.5	+2.7	101	16	3.25	+0.85	9	16	8	7	se.
1920..	53.9	+1.1	89	20	1.74	−0.66	7	13	10	8	se.
1921...	53.8	+1.0	90	21	2.46	+0.06	9	13	10	8	se.
1922...	56.3	+3.5	93	24	3.11	+0.71	12	10	11	10	nw.
1923...	54.1	+1.3	100	13	1.77	−0.63	6	15	10	6	nw.
1924...	46.9	−5.9	84	15	0.79	−1.16	5	12	10	9	nw.
1925...	53.6	+0.8	111	10	1.44	−0.96	4	17	9	5	nw.
1926..	58.5	+5.7	105	10	2.18	−0.22	7	13	11	7	nw.
1927...	48.0	−4.8	87	13	5.62	+3.22	14	6	8	17	nw.
1928...	58.2	+5.4	107	16	1.15	−1.25	5	18	7	6	nw.
1929...	49.1	−3.7	92	8	2.99	+0.59	7	16	9	6	nw.
1930...	50.8	−2.0	98	18	2.62	+0.22	9	12	8	11	nw.
1931...	53.1	+0.3	100	10	1.41	−0.99	6	16	7	8	nw.
1932...	55.9	+3.1	98	25	2.14	−0.26	6	13	9	9	se.
Av....	52.8	....	111*	5*	2.40	....	8	13	9	9	nw.

*Extremes.

Climatological Data for May, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	6	......	......	...	...	...	...	.....	1.19	....	0.57	0	7	.....	.....	.....	.....	H. A. Bury.
Amenia	Cass	954	36	58.0	+4.0	94	13	25	1	47	2.56	−0.29	1.58	0	7	5	16	10	ne.	I. Idso.
Arnegard (near)	McKenzie	......	19	57.0	+4.3	94	13	25	16	52	1.88	−0.18	1.19	0	4	22	4	5	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	56.5	+3.0	90	13	31	1†	40	2.81	+0.41	1.12	1.0	11	17	3	11	se.	H. D. Piper.
Beach	Golden Valley	2,759	26	57.0	+5.6	87	18†	28	27	43	2.44	−0.14	1.63	0	7	.....	.....	.....	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	53.3	−0.8	88	22	28	28	42	2.90	+0.46	1.10	0	4	17	6	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	56.5	+2.0	91	13	32	1	39	3.78	+1.46	2.08	4.0	8	12	8	11	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	54.6	+3.3	94	13†	27	1	45	0.66	−1.43	0.35	2.0	4	14	8	9	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	55.2	+3.0	92	13	27	27	43	2.52	+0.10	0.70	T.	12	17	8	6	nw.	George Larsen.
Cando	Towner	1,488	31	55.2	+3.2	91	13	26	1	46	1.54	−0.78	1.06	3.7	3	11	12	8	nw.	A. J. Swanson.
Carrington	Foster	1,579	34	53.4	+0.9	90	12†	30	14†	52	2.48	−0.15	0.98	8.0	6	22	1	8	e.	L. A. Swanson.
Carson	Grant	2,500	20	57.2	+4.1	93	13	30	1†	53	2.88	+0.59	1.33	2.0	7	15	7	9	nw.	J. W. Evens.
Cavalier	Pembina	894	22	......	......	...	...	...	...	.....	1.43	−1.28	1.13	0	4	19	6	6	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	......	......	...	...	...	...	.....	3.05	+0.67	1.10	2.0	7	14	9	8	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	......	......	...	...	...	...	.....	1.60	....	1.25	0	2	21	7	3	se.	W. A. Clem.
Courtenay	Stutsman	1,523	3	......	......	...	...	...	...	.....	2.83	....	1.35	5.0	7	18	5	8	se.	Geo. E. Berg.
Crosby	Divide	1,954	25	54.8	+3.6	90	13	29	3	54	0.58	−1.43	0.29	0	4	9	14	8	se.	John Jensen.
Devils Lake	Ramsey	1,478	35	54.6	+2.0	90	13	30	26	36	2.24	+0.21	1.11	6.0	8	10	11	10	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	54.4	+2.2	90	13	27	27	44	1.63	−0.73	0.87	T.	8	8	13	10	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	55.6	......	91	13	31	26	50	2.61	....	1.45	5.0	7	10	11	10	ne.	R. L. Williams.
Drake	McHenry	1,634	3	53.8	......	90	13	29	3	42	2.22	....	1.18	7.0	5	11	11	9	sw.	Peter Anton.
Dunn Center	Dunn	2,191	33	54.1	+1.4	91	13	27	27	50	1.80	−0.72	0.80	0	4	6	12	13	e.	W. F. Moede.
Dunseith	Rolette	1,682	36	55.5	+3.4	91	13	28	26	41	0.90	−0.94	0.30	3.0	6	12	10	9	ne.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	55.1	+3.7	95	13	25	3	50	0.34	−1.77	0.13	0.2	5	9	11	11	se.	C. E. Strock.
Edgeley	LaMoure	1,568	31	57.0	+3.3	90	13	29	1	45	2.83	+0.17	0.93	5.0	9	7	15	9	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	55.8	+0.1	90	13	32	26	45	2.49	−0.59	0.75	1.3	12	7	12	12	ne.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	20	56.8	......	90	13	31	1†	38	2.07	−0.15	0.81	1.5	7	15	8	8	n.	H. S. Solenberger.
Epping	Williams	2,224	24	56.0	......	92	13	25	16	44	1.71	−0.60	0.83	0	4	15	11	5	se.	A. O. Wang.
Fairfield	Billings	......	3	......	......	...	...	...	...	.....	2.53	....	1.21	0	3	15	10	6	nw.	F. R. Hecker.
Fessenden	Wells	1,610	20	54.7	+2.7	93	13	30	1†	47	2.70	+0.32	1.08	5.0	8	15	9	7	se.	T. D. Monsen.
Forman	Sargent	1,249	39	......	......	...	...	...	...	.....	4.16	+1.29	1.32	4.0	7	19	6	6	sw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	58.0	+1.9	94	13	30	28	50	2.95	+0.71	1.42	T.	7	18	6	7	nw.	P. J. Jacobsen.
Foxholm (near)	Ward	1,657	11	55.6	......	91	13	28	3†	38	0.42	−1.55	0.20	2.0	4	6	17	8	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	......	......	...	...	...	...	.....	1.72	−0.52	1.00	T.	5	12	10	9	ne.	Verne King.
Fullerton	Dickey	1,439	34	57.1	+3.4	90	13†	30	1	46	3.86	+0.66	1.35	5.4	8	13	10	8	s.	F. O. Alin.
Gackle	Logan	1,951	2	......	......	...	...	...	...	.....	3.12	....	1.52	6.0	9	16	6	9	ne.	Geo. Hummel.
Garrison	McLean	1,901	55	56.0	+3.3	92	13	31	1†	41	1.82	−0.41	0.84	1.0	7	20	1	10	se.	W. F. Robinson.
Grafton	Walsh	827	40	57.3	+4.0	92	13	25	1	48	1.75	−0.44	0.93	0	5	15	8	8	ne.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	41	56.4	+2.7	92	13	26	1	45	2.30	−0.31	1.06	0	7	7	14	10	ne.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	55.8	+4.2	92	13	28	3	39	1.43	−0.50	0.74	3.0	6	16	6	9	se.	W. A. Christiansen.
Hankinson	Richland	1,068	3	59.8	......	94	13†	33	3	53	2.82	....	1.20	0	13	14	6	11	.....	R. G. Stock.
Hannah	Cavalier	1,568	40	......	......	...	...	...	...	.....	0.86	−1.27	0.60	T.	5	.....	.....	.....	.....	James Meier.
Hansboro	Towner	1,597	24	52.7	+2.0	92	13	25	3	51	1.60	−0.71	1.00	3.0	4	19	5	7	se.	C. E. Blackorby.
Hettinger	Adams	2,675	25	56.0	+2.4	89	13	26	27	41	2.70	+0.35	1.01	0	9	13	10	8	se.	C. H. Plath.
Hillsboro	Traill	901	26	57.8	+3.9	94	13	28	1	44	2.74	−0.45	1.05	0	5	16	10	5	sw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	25	54.5	+4.7	90	13	25	16	44	2.01	−0.37	2.00	0	2	17	9	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	55.3	+1.8	92	13	28	1	44	4.50	+1.72	1.48	5.5	11	14	11	6	ne.	S. Calvetage.
Langdon	Cavalier	1,615	36	53.3	+2.4	90	13	25	1	45	1.20	−1.01	0.10	0	3	22	3	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	54.8	+2.2	92	13	29	1	48	2.48	−0.28	1.07	5.0	5	12	10	9	ne.	Mabel Walsh.
Linton	Emmons	1,711	15	57.2	+3.0	94	13	26	28	43	3.32	+1.04	1.74	8.0	7	9	16	6	se.	Rev. E. J. Oberding.
Lisbon	Ransom	1,091	28	55.4	+1.5	90	13	26	1†	45	2.77	−0.26	1.04	1.0	7	12	9	10	.....	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	54.0	......	90	13	29	1	40	3.78	+1.13	2.41	9.0	6	17	7	7	se.	Edw. Tapley.
McLeod	Ransom	1,075	21	59.0	+4.5	94	14	32	4†	48	4.40	+1.08	1.72	0	8	15	8	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	17	55.5	+2.8	90	13	30	1†	44	2.42	+0.22	1.18	6.3	7	2	16	13	se.	A. T. Felland.
Mandan	Morton	1,750	18	55.8	+1.9	93	18	31	1	45	3.48	+1.06	1.70	1.0	12	7	3	21	ne.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	......	......	...	...	...	...	.....	2.60	+0.25	1.41	4.0	8	.....	.....	.....	.....	P. B. Anderson.
Marmarth	Slope	2,714	23	57.3	+6.1	92	13	29	27	45	1.48	−0.99	0.65	0	7	10	9	12	.....	S. P. Grane.
Mary	McKenzie	......	3	......	......	...	...	...	...	.....	2.29	....	1.50	0	5	19	7	5	se.	Fred Hartman.
Max	McLean	2,093	3	55.6	......	97	13	29	27	50	0.68	....	0.35	0.5	5	15	3	13	ne.	A. W. Rice.
Mayville	Traill	975	36	57.2	+5.9	93	14	27	1	51	3.26	+0.24	1.37	4.0	6	16	3	12	n.	H. B. Addicott.
Minot	Ward	1,557	36	55.2	+3.0	94	13	29	3†	42	3.45	+1.41	1.80	10.0	6	13	7	11	w.	Julia B. Rue.
Mohall	Renville	1,646	38	57.2	+4.9	97	18	30	4†	51	0.47	−1.54	0.32	0	3	5	23	3	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	25	56.6	+3.1	91	13	27	27	46	2.09	−0.29	0.65	T.	6	11	6	14	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	55.2	+2.8	90	13†	28	1	40	3.25	+0.89	2.25	4.0	8	13	4	14	se.	C. J. Hoof.
New England	Hettinger	2,400	38	57.2	+5.2	94	13	27	26	42	1.69	−0.38	0.62	0	5	5	21	5	se.	F. S. Sleight.
New Salem	Morton	2,163	28	56.4	+4.0	91	13	31	1	40	1.74	−0.51	0.88	4.0	6	15	9	7	se.	J. Christiansen.
Oakes	Dickey	1,318	3	57.9	......	93	13	29	1	45	3.52	....	0.89	0.5	13	9	12	10	sw.	Eugene Naylor.
Park River	Walsh	998	28	56.4	+3.4	92	13	28	1	42	1.30	−1.07	0.91	2.0	4	15	5	11	sw.	C. B. Wright.
Parshall (near)	Mountrail	......	17	54.7	......	91	13	25	28	48	0.21	−1.90	0.16	T.	3	7	11	10	se.	C. E. Shubert.
Pembina	Pembina	789	58	54.0	+1.2	92	13	28	1†	51	1.14	−1.29	0.48	0	8	6	15	10	ne.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	......	......	...	...	...	...	.....	2.37	....	1.15	6.0	7	8	16	7	ne.	T. M. Rykken.
Pettibone	Kidder	1,856	23	55.2	+3.4	90	13	27	1	45	1.84	−0.78	0.91	6.0	7	15	6	10	w.	A. L. Carlson.
Portal	Burke	1,954	27	55.6	+5.1	94	13	25	15	46	0.62	−1.55	0.45	0	4	19	3	9	e.	R. G. Wegeler.
Power‡‡	Richland	1,020	38	......	......	...	...	...	...	.....	2.35	−0.36	1.25	1.0	3	16	8	7	s.	Frank B. Power.
Powers Lake	Burke	2,205	27	55.1	......	95	13	30	27	40	2.55	+0.28	1.58	0	4	23	7	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	16	55.6	+3.0	92	13†	26	27	44	2.41	−0.08	1.51	1.0	6	7	15	9	se.	John Muggli.
Rugby (near)	Pierce	1,562	3	......	......	...	...	...	...	.....	1.43	....	0.73	3.5	4	22	3	6	e.	E. C. Erickson.
Ryder	Ward	2,108	3	......	......	...	...	...	...	.....	2.26	....	1.02	0.4	6	.....	.....	.....	.....	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	56.4	......	95	13	30	2	48	0.49	....	0.29	0.5	3	6	0	25	se.	Geo. Buerkle.
Sharon	Steele	1,516	8	54.7	......	89	13	27	1	38	3.10	....	1.40	3.0	7	11	11	9	ne.	Nels O. Greisheim.
Stanton	Mercer	1,722	8	......	......	...	...	...	...	.....	1.44	....	0.61	0	4	15	8	8	se.	J. H. Giffey.
Steele	Kidder	1,857	38	55.0	+1.6	90	13†	29	1	42	3.20	+0.62	1.62	3.0	11	10	11	10	sw.	V. A. Larey.
Stowers‡‡	Adams	2,325	17	......	......	...	...	...	...	.....	3.17	+0.79	1.11	0	6	21	3	7	.....	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	......	......	...	...	...	...	.....	0.37	....	0.12	1.0	4	20	1	10	se.	J. C. Abbott.
Tioga	Williams	2,279	3	......	......	...	...	...	...	.....	0.57	....	0.47	0	2	10	7	14	nw.	Anton Carlson.
Towner	McHenry	1,482	30	56.7	+3.5	93	13	29	3	43	1.54	−0.67	0.71	5.5	5	13	10	8	nw.	Karl Weber.
Trotters	Golden Valley	......	6	......	......	...	...	...	...	.....	2.18	....	1.60	0	5	13	8	10	.....	A. J. Nelermoe
Turtle Lake	McLean	1,899	18	......	......	...	...	...	...	.....	2.69	+0.37	1.30	5.0	4	.....	.....	.....	.....	E. T. Kessler.
Valley City	Barnes	1,245	26	56.5	+3.0	91	13†	26	1†	46	2.58	−0.33	1.08	3.0	9	19	6	6	ne.	I. C. Robertson.
Velva	McHenry	1,511	5	56.7	......	93	13	31	26	42	1.17	....	0.46	3.0	7	4	16	11	se.	Oscar Anderson.
Verona	LaMoure	1,387	4	......	......	...	...	...	...	.....	3.05	....	1.31	5.0	6	18	3	10	sw.	W. C. Taylor.
Wahpeton	Richland	962	40	59.6	+1.0	96	14	28	1	44	3.19	+0.51	0.87	1.0	11	19	0	12	ne.	C. G. Fluck.
Washburn	McLean	1,731	31	55.8	+2.0	93	13	28	1	46	1.56	−0.51	0.82	1.5	5	12	8	11	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	58.1	+6.3	98	13	27	3	50	0.47	−1.47	0.30	0	5	17	10	4	ne.	C. M. Condit.
Williston	Williams	1,878	53	56.4	+3.0	90	13	31	16	43	1.52	−0.54	0.72	0	6	17	9	5	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	54.2	+2.7	94	13	27	1†	51	0.89	−1.03	0.47	6.0	5	19	5	7	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	3	54.2^{d}	+3.5	88^{d}	18	30	28	42^{c}	2.65	−0.23	1.60	10.0	9	9	2	20	nw.	E. W. Davis.
Zap	Mercer	1,838	17	......	......	...	...	...	...	.....	2.52	+0.13	1.36	0.5	4					R. A. Norton.
Moorhead, Minn.	Clay	935	51	57.0	+1.9	93	14	31	1	41	2.05	−0.84	1.46	0	10	5	12	14	s.	U. S. Weather Bureau.
Averages	......	......	....	55.9	+3.1	98	13	25	1†	54	2.14	−0.26	2.41	2.2	6	13	9	9	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for May, 1932

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri					.09	.05					.05									.01			.57		[illegible]	T				T	[illegible]	1.19
Amenia	Red					.05	.35	.02	.40																	.01	[illegible]	[illegible]					[illegible]
Arnegard (near)	Missouri				.13											T							T	.52			.14					[illegible]	[illegible]
Ashley	Missouri					.04	.03	[illegible]	.02												.04	.11		.66		.28	1.12	[illegible]			T		[illegible]
Beach	Lit. Missouri				.10		T					.02		T.		.01					.15			[illegible]		T	.02					[illegible]	2.44
Berthold Agency	Missouri				.50	1.00										T						T	T	.30		T						[illegible]	2.90
Bismarck ***	Missouri				.03	.27	.16	.12						T	T	T					T	T	T	.07	T	.94	1.14	T			T	[illegible]	[illegible]
Bottineau	Mouse					.35	T																T	T	[illegible]		[illegible]	[illegible]				T	[illegible]
Bowman	Grand		T.	.01		.24	.01		T.							[illegible]					.45	.02	.30	[illegible]	[illegible]	.16	[illegible]					[illegible]	[illegible]
Cando	Devils Lake				T	1.06	T					.11											T	T			[illegible]					T	[illegible]
Carrington‖	James				.02	.97	T	T	.18						.02								T		T	.31	.98					T	[illegible]
Carson	Heart				.06	.06		.03																.11		1.01	.25					[illegible]	[illegible]
Cavalier	Red					1.15			.05											.11												[illegible]	[illegible]
Cooperstown	Sheyenne					1.10	.06	.02	.22	T.	T														T	.11	.62	[illegible]				T	[illegible]
Corinth	Missouri																						[illegible]									[illegible]	[illegible]
Courtenay	James				T.	.21	T.	T	.17															.10		.25	1.35	.21			T	[illegible]	[illegible]
Crosby	Mouse					.01	.01	T		T.														.25			[illegible]						[illegible]
Devils Lake ***	Devils Lake				.31	.84	.02	T.	.11			.03		T		T							T.	.03	T	T	[illegible]						[illegible]
Dickinson‖	Heart	T.			.13	.23	.07					T			.03	T.	.01					T		.87	T		.16	T			T	.13	1.63
Dogden Butte	Mouse				T.	1.45	.01								.09									.01			.76	[illegible]			T	.10	2.61
Drake	Mouse					1.18			.02						T.										.03		.73	[illegible]					2.22
Dunn Center	Knife				.11	.45									T									.80								.44	1.80
Dunseith	Mouse				.05	.27									T.					T.			.06	.16			.30					[illegible]	0.90
Eckman	Mouse				.07	.05																		.07			.02					[illegible]	0.34
Edgeley	James						.50		.23												.10	.04		.06		.23	.93	.32				.42	2.83
Edmore	Devils Lake				.05	1.01	.06	T.	.11			.16		T.			T.							.03			.34					[illegible]	1.75
Ellendale***	James		T.		T.	.13	T.	.44	.15						T.	.05		T			.12	.02		.02	.03	.21	[illegible]	.01				.65	2.49
Energy	Missouri				.19	.81								.05		T.								.10			.30	.03			T	[illegible]	2.67
Epping	Missouri				.12				.05															.71		T.						.83	1.71
Fairfield	Knife				.32																			.99								1.21	2.53
Fessenden‖	James					1.08	.03	.02	.05																.17	.01	.57	.77					2.70
Forman	Sheyenne		T.		T.	.30	T.	1.32	.52							T									.23	1.66	.43				T	[illegible]	4.16
Fort Yates	Missouri						.22	.15						T.	T.						.30			.67		.12	1.42					.67	2.95
Foxholm (near)	Mouse				.01	.06										T.								T			.20					[illegible]	0.42
Fryburg	Heart				T.	.08	T.					T.		.04		T.	T.							1.09		T		.06				.54	1.72
Fullerton	James		.63			.35	T.	.47								T.					.04			T.	T.	.12	1.35	.25		T.		.65	3.86
Gackle	James				.11	.25	.04		.11						T.	T.							.13		.40	1.52	.24					.32	3.12
Garrison	Missouri				.11	.10	.05																	.13		.02	.27					.84	1.82
Grafton	Red				T.	.93	.05		.20			T.															.24					.33	1.75
Grand Forks ***	Red					.84		.01	.13															.24	.01		1.06					.01	2.30
Granville	Mouse				T.	.74						T.		.05	T	T.								.10			.41	.04			T.	.09	1.43
Hankinson	Red		.02		.02	.51	.02	.48	.02						.12						.03				.18	.06	1.20	.02				.14	2.82
Hannah	Pembina					.69	.08	T.	T											.03			.13	T.	.02		T.						0.86
Hansboro	Devils Lake					1.00																		.36			.20					.10	1.60
Hettinger	Grand			.06	.01	.49	T.								.17						.15			1.01		.30	.01					.50	2.70
Hillsboro	Red	T.				.96	T.	T	.07						T.											.22	1.65	.44					2.74
Howard (near)	Missouri				.01				T.							T.	T.						2.00				T						2.01
Jamestown	James					1.32	.03	.07	.19						.05									.06	.05	.01	1.48	.98				.26	4.50
Langdon	Pembina					.90	.20	.10												T.					T								1.20
Larimore	Red					.93	.23	.05	.20																		T.	1.07					2.48
Linton	Missouri					.18	.17	.05								T.					.05			T.		.34	1.74					.79	3.12
Lisbon	Sheyenne					.21	.34	.02	.91																	.10	.15	1.04					2.77
McClusky	Missouri				T.	.85		.02						.10		T.								T.		.18	2.41					.22	3.78
McLeod	Sheyenne				T.	.19		.78	.17							.11					T.				T.	.14	1.72	.62				.67	4.40
Maddock	Sheyenne				T	1.18		T	.01			T.			T.		.03							.14			.35	.22				.49	2.42
Mandan‖	Missouri			.02	.17	T	.06	.02						.02		T							.08	.02	T.	1.70	.03	.01			.48	.87	3.48
Manfred	James					1.41	.03	T.	.02															.04	.02		.65	.35			T.	.08	2.60
Marmarth	Lit. Missouri	[illegible]			.06							T.				.01	T.				.16			.65		.34						.22	1.48
Mary	Lit. Missouri				.01				.01															.70			.04					1.50	2.29
Max‖	Missouri				.10	.35									T.									T.	.08		.04	.11					0.68
Mayville	Red					1.37		.04	.30																	.15	1.00	.40					3.26
Minot	Mouse					1.80					.06				.06									.02			1.33	.18					3.45
Mohall	Mouse				.05	T.														.10				T.			T					.32	0.47
Mott	Cannon Ball			.14	.20	T															.16	T.		.62			.32	T.				.65	2.09
Napoleon‖	Missouri				.04	.15		.12	.01														T		.03		2.25	.20				.45	3.24
New England	Cannon Ball				.33																.44		.62			.04					.26		1.69
New Salem	Heart				.03	.10	T.							T.		T.								.11		.22	.46					[illegible]	1.74
Oakes	James			.13		.63	.01	.05	.54							.03					.03	.02		.03		.10	.85	.21				.89	3.52
Park River	Red					.91	.08																				.25					.06	1.30
Parshall (near)	Missouri				.04	.16									T.												.01						0.21
Pembina‖	Red	T				.30	.48	.02	.01				T.			.02	T.			.01	T.			.29	.01								1.14
Petersburg	Red					1.15	.03	.01	.25			.01			T.									T.	T.		.90					.07	2.37
Pettibone	James					.64		.04							.13									.02	.03		.91	.67					1.84
Portal‖	Mouse					.06																	.08	.03								.45	0.62
Power	Sheyenne						.70														T.			T.			1.25					.40	2.35
Powers Lake	Missouri																						.51	.03		.43						1.58	2.55
Richardton	Heart				.08	.34	.03														T.			.28			.17					1.51	2.41
Rugby [near]	Mouse				T.	.73										T.								.10			.54				.06		1.43
Ryder	Missouri				.05	1.02								.02		T.								.12		T.	.04					1.01	2.26
Sanish‖	Missouri					.02																		.29			.08					T	0.39
Sharon	Red		T		T.	1.02	.05	.01	.31			T.			T.	T								T	T.	T.	1.40	.12				.19	3.10
Stanton	Missouri					.42								.02													.39					.61	1.44
Steele	Missouri					.25	.05	.20	.02						[illegible]									.05	T.	.30	1.62	.07		T.	.01	.50	3.20
Stowers	Cannon Ball		T.			.30	T.														.60	.12				.87	.17					1.11	3.17
Tagus	Mouse				.10	.05																					.10					.12	0.37
Tioga	Missouri			.10																				.47									0.57
Towner	Mouse				T	.67	T.					T.			T.		.03							.04	T.		.71					.09	1.54
Trotters	Lit. Missouri				.11																.03			1.60			.05					.39	2.18
Turtle Lake	Missouri					1.30								.15													.67					.57	2.69
Valley City	Sheyenne			.06		.17	T.	.02	.37															.01		.11	1.08	.45				.33	2.58
Velva	Mouse		T.		.07	.40								.03										.04		T.	.46	.09				.08	1.17
Verona	James					.78	.09	.48	.05																		.34	1.31					3.05
Wahpeton	Red				.04	.62		.41	.06							.12						.02		.06		.22	.67	.87				.10	3.19
Washburn	Missouri				.02	.62									T.										.02		.82	.08					1.56
Westhope	Mouse				.03	.10																	.02	.30			.02					T.	0.47
Williston ***	Missouri				.16	T.	T.		.01							T					T.		.53	.09			.01					.72	1.52
Willow City	Mouse				.06	.27						T.		T.		T.								.06			.47					.03	0.89
Wishek‖	Missouri		.07		.05	.24	T.	.10		T.												.02				.02	1.60	.10				.41	2.65
Zap	Knife				1.36																			.07			.68					1.01	2.52
Moorhead, Minn ***	Red		.01		T.	.08	T.	.21	.02						T.	T.							T.	.02	.04	.03	1.26	.20				.18	2.05

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	64	73	65	67	54	52	53	54	70	73	79	77	91	93	72	71	78	88	84	89	87	90	91	87	89	62	60	70	72	75	71	74.3
	Minimum	25	37	33	31	35	41	40	41	38	39	40	48	47	51	46	30	34	42	47	48	40	47	50	42	48	40	37	37	40	57	57	41.6
Arnegard (near)	Maximum	60	68	65	57	52	58	65	76	77	71	71	86	94	79	58	65	77	91	78	71	72	90	67	72	62	53	80	72	70	80	67	71.1
	Minimum	33	44	32	37	42	42	39	37	45	51	50	41	59	55	34	25	38	50	57	50	46	47	48	41	47	35	28	32	40	56	52	43.0
Ashley	Maximum	58	73	70	67	61	49	48	52	69	70	77	78	90	89	79	60	70	88	86	76	66	81	79	78	75	54	54	65	68	75	74	76.3
	Minimum	31	40	38	36	47	38	39	42	37	36	40	49	55	68	39	33	37	45	53	50	45	50	51	43	42	31	31	31	37	55	56	42.7
Beach	Maximum	62	67	67	64	59	62	66	74	74	77	74	86	84	78	67	64	75	87	87	73	65	75	73	70	54	48	59	65	68	71	74	70.0
	Minimum	30	43	38	40	46	44	38	38	46	47	50	43	50	54	35	32	33	50	70	52	45	58	50	41	45	46	28	34	41	50	51	44.1
Berthold Agency	Maximum	60	70	48	50	54	50	50	60	64	65	68	65	75	75	54	47	60	63	63	68	68	88	70	76	70	55	62	70	72	72	66	63.8
	Minimum	30	35	32	38	45	40	35	35	44	42	52	48	48	50	36	34	34	53	58	48	48	56	52	38	50	33	31	28	40	58	56	42.8
Bismarck	Maximum	60	73	60	65	57	46	48	64	72	70	78	78	91	84	59	62	72	90	78	68	69	85	72	77	63	42	55	63	68	72	63	67.9
	Minimum	32	45	39	38	41	40	42	45	42	41	48	50	59	59	40	36	43	51	57	51	47	56	50	44	42	33	34	36	43	59	54	45.1
Bottineau	Maximum	60	70	64	48	52	57	54	67	72	70	75	75	94	94	54	59	72	89	73	71	72	85	68	75	65	42	62	70	72	73	69	68.5
	Minimum	27	40	28	36	35	38	35	40	40	42	46	40	52	54	36	34	35	44	50	50	44	49	56	38	42	30	28	32	36	46	57	40.6
Cando	Maximum	60	69	69	56	52	45	47	59	69	72	74	72	91	87	83	74	71	88	85	87	72	82	64	75	76	55	63	70	69	70	72	70.3
	Minimum	26	38	29	31	38	38	41	43	38	41	43	37	54	51	52	28	36	47	51	44	37	41	55	44	42	30	34	34	38	40	39	40.0
Carrington §§	Maximum	72	53	63	43	43	48	52	65	71	76	75	90	90	50	59	73	88	73	66	76	82	71	77	72	35	53	68	70	69	70	80	66.9
	Minimum	31	32	33	34	38	38	33	37	39	40	38	38	57	30	35	36	45	56	43	38	40	59	47	41	31	30	33	36	40	56	50	39.8
Crosby	Maximum	60	63	62	45	47	57	58	76	74	76	70	84	90	77	67	63	76	84	72	72	74	88	65	70	64	47	58	68	74	78	70	68.7
	Minimum	33	38	29	35	39	39	35	36	42	46	48	42	52	58	35	30	32	48	55	45	43	34	53	45	43	35	34	32	38	40	58	41.0
Devils Lake	Maximum	59	70	53	58	47	43	48	55	65	69	75	73	90	86	55	58	72	87	73	68	73	80	74	77	70	42	60	66	70	72	66	66.3
	Minimum	32	41	32	33	38	39	40	43	40	44	49	41	54	55	36	32	42	53	52	45	39	52	53	47	42	30	35	36	43	54	57	42.9
Dickinson §§	Maximum	60	67	62	55	51	50	63	70	73	73	72	83	90	78	55	61	72	89	79	65	70	88	63	71	55	45	55	64	66	76	59	67.1
	Minimum	29	37	37	36	36	40	35	31	47	43	48	45	48	55	37	32	37	45	53	51	48	48	51	41	45	36	27	29	41	53	53	41.8
Dunn Center	Maximum	61	67	62	51	51	53	61	71	75	75	73	84	91	74	55	63	73	89	75	65	69	86	66	71	59	47	58	64	67	74	60	67.4
	Minimum	28	38	34	35	37	40	34	31	43	45	48	40	46	53	35	29	30	39	53	44	43	54	51	41	45	34	27	28	46	57	54	40.8
Dunseith	Maximum	60	59	64	61	50	59	54	63	69	72	71	74	91	85	76	59	73	86	84	70	70	82	81	73	71	50	61	71	72	74	69	69.5
	Minimum	29	40	29	30	37	36	40	42	43	42	45	41	50	55	35	33	35	50	54	48	40	48	51	42	46	28	33	37	38	55	56	41.5
Edgeley	Maximum	61	73	69	65	63	62	53	53	67	70	76	77	96	87	82	67	71	89	85	70	69	82	80	81	74	70	65	65	70	75	74	72.1
	Minimum	29	37	37	34	35	40	40	40	38	38	43	46	52	59	40	33	37	44	49	49	43	46	53	45	52	32	32	35	39	53	53	42.0
Ellendale	Maximum	58	72	57	67	56	47	47	52	66	69	75	78	90	86	63	59	70	87	85	65	63	82	77	79	70	45	54	64	68	76	70	67.6
	Minimum	32	41	39	36	42	41	42	45	42	41	47	50	54	59	41	35	39	42	58	53	47	52	46	41	45	32	33	39	40	58	54	44.1
Fessenden §§	Maximum	61	74	59	65	45	44	47	53	71	73	79	77	93	88	54	66	74	90	75	70	85	76	72	78	70	39	56	67	71	67	65	67.7
	Minimum	30	36	32	33	34	37	38	41	33	39	41	38	57	61	40	38	38	50	56	44	38	60	50	43	41	31	31	30	39	56	56	41.7
Foxholm (near)	Maximum	59	67	60	53	48	58	56	67	71	71	71	77	91	85	58	61	74	86	75	70	72	87	78	74	67	54	59	68	72	74	65	68.6
	Minimum	33	39	28	35	39	40	35	40	47	47	51	39	55	57	35	32	42	53	52	42	34	52	53	44	46	28	33	35	44	57	55	42.6
Fullerton	Maximum	62	74	58	67	57	48	48	52	66	72	79	77	90	70	77	60	75	89	83	63	74	82	79	80	78	58	56	68	77	76	71	70.6
	Minimum	30	45	39	35	47	41	42	45	42	40	40	49	52	60	43	33	40	43	58	52	46	41	56	43	45	32	31	36	52	54	54	44.1
Garrison	Maximum	61	67	61	55	51	52	54	68	72	72	74	80	92	84	61	63	74	90	76	67	71	86	77	76	66	53	59	68	71	70	65	69.1
	Minimum	31	41	32	37	44	37	37	41	45	42	49	44	51	56	37	31	37	51	58	45	43	51	53	42	45	31	34	33	40	58	56	43.0
Grafton	Maximum	62	71	68	55	55	47	50	57	68	75	75	74	92	91	88	59	74	90	89	75	72	80	85	79	78	57	65	74	75	79	76	72.1
	Minimum	25	37	30	34	38	40	42	44	41	45	42	42	45	66	39	30	38	42	54	46	38	48	51	44	47	37	38	38	42	56	59	42.5
Grand Forks	Maximum	63	70	53	61	50	47	49	52	62	74	76	74	92	91	83	60	74	89	75	70	73	79	85	79	74	49	62	71	73	76	73	69.6
	Minimum	26	37	32	33	38	40	42	43	39	40	46	41	47	66	42	28	38	49	58	42	40	50	52	48	48	38	38	37	43	58	61	43.2
Granville	Maximum	61	70	57	54	51	54	52	65	72	72	73	77	92	85	55	62	75	90	77	73	78	88	70	77	68	40	70	70	72	73	65	69.0
	Minimum	31	40	28	39	42	41	34	39	41	39	42	38	55	52	38	33	39	53	53	48	52	54	51	45	42	32	34	32	41	58	56	42.6
Hansboro	Maximum	62	65	67	50	48	48	48	63	70	72	73	73	92	85	65	65	75	87	70	60	60	85	80	80	72	53	65	65	75	78	70	68.4
	Minimum	28	27	25	32	30	32	34	41	35	35	34	34	50	58	26	34	35	36	35	32	32	45	50	50	50	32	30	30	40	46	50	37.0
Hettinger	Maximum	59	72	60	56	55	49	66	70	73	70	75	81	89	79	59	62	73	88	82	71	66	85	75	73	67	48	54	63	66	80	63	68.5
	Minimum	34	37	41	39	46	39	42	35	43	45	47	50	51	56	39	32	42	47	52	50	45	57	52	41	47	57	26	31	42	53	51	43.5
Hillsboro	Maximum	61	79	78	65	65	49	49	49	58	73	74	79	94	92	85	57	58	83	83	73	74	73	78	79	83	65	57	69	68	70	70	70.6
	Minimum	28	40	34	31	40	41	44	40	41	43	47	52	55	64	49	31	39	52	53	49	46	47	56	43	56	43	38	37	43	58	56	45.1
Howard (near)	Maximum	58	61	60	47	49	57	62	71	73	76	68	85	90	75	51	61	80	60	70	84	84	89	74	66	59	49	56	68	71	78	64	67.6
	Minimum	30	40	27	27	38	42	37	38	44	46	42	41	50	45	34	25	45	45	46	50	55	56	48	40	40	34	33	34	42	54	54	41.4
Jamestown	Maximum	62	74	56	64	46	45	47	51	65	71	78	76	92	89	62	61	74	89	79	69	83	75	76	85	75	45	55	67	70	72	73	68.6
	Minimum	28	30	34	33	36	39	39	40	39	40	42	45	50	62	45	32	39	46	56	48	42	56	50	46	45	35	31	34	37	47	57	42.0
Langdon	Maximum	62	71	53	53	40	45	48	56	66	73	71	74	90	87	47	60	71	89	71	70	70	80	81	75	54	44	62	73	75	75	71	66.4
	Minimum	25	40	28	30	35	35	36	38	48	40	41	40	45	59	36	36	34	48	52	42	35	45	50	45	42	31	31	32	38	51	58	40.2
Larimore	Maximum	62	69	52	60	42	44	48	52	61	74	73	75	92	90	61	56	73	90	74	70	73	79	80	79	73	49	62	69	69	74	65	67.4
	Minimum	29	38	32	30	36	36	40	42	43	45	41	40	50	61	42	31	38	42	55	44	38	50	57	42	49	36	35	32	42	56	55	42.2
Linton	Maximum	61	76	71	68	65	50	48	68	74	70	81	81	94	90	78	62	73	91	87	75	70	83	85	80	65	50	55	66	69	76	74	72.2
	Minimum	27	43	39	39	49	38	39	34	33	33	45	49	53	58	38	32	36	48	57	51	46	47	50	38	42	32	32	26	40	56	56	42.1
Lisbon	Maximum	61	71	57	66	53	48	51	53	63	73	76	77	90	49	60	58	72	88	84	68	75	79	78	80	72	49	59	65	70	75	74	67.5
	Minimum	26	26	37	34	44	42	43	45	42	40	40	50	48	47	35	34	40	47	64	48	42	48	59	47	49	41	33	37	41	57	58	43.4
McClusky	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Maddock	Maximum	59	71	69	59	59	44	49	54	65	70	75	77	90	89	82	60	72	86	86	75	74	84	83	80	76	67	55	65	76	69	67	70.4
	Minimum	30	36	30	31	39	37	41	41	34	37	43	37	48	58	38	33	39	48	56	40	36	50	51	44	39	31	31	36	35	54	56	40.6
Marmarth	Maximum	60	71	58	61	56	67	68	75	74	75	75	86	92	82	64	65	77	90	82	72	65	86	67	73	65	60	56	63	69	76	67	70.9
	Minimum	32	41	41	46	46	44	45	35	43	47	50	46	47	50	39	22	32	47	52	51	47	60	50	41	45	41	29	32	43	50	52	43.7
Minot	Maximum	62	69	58	53	49	56	50	61	73	73	73	79	94	84	57	63	75	89	76	70	75	86	66	77	66	49	60	71	72	73	65	68.5
	Minimum	30	40	29	38	37	40	33	39	42	46	45	39	52	58	36	34	37	54	57	42	37	45	57	44	44	29	29	30	43	57	56	41.9
Mohall	Maximum	55	65	65	63	60	60	65	70	75	74	71	76	95	81	63	65	75	97	85	75	75	87	73	68	65	65	66	72	75	74	70	71.8
	Minimum	36	42	38	30	33	36	35	40	46	46	40	46	65	60	38	33	46	46	55	44	36	56	46	42	39	34	30	35	40	55	54	42.6
Mott	Maximum	60	72	62	64	54	48	56	67	74	73	77	82	91	86	83	63	72	90	80	68	66	87	66	76	67	49	41	66	68	76	64	69.3
	Minimum	31	39	42	43	41	40	44	45	44	48	49	53	58	54	37	42	50	56	52	49	48	50	43	45	35	36	27	32	41	43	45	43.9
Napoleon §§	Maximum	62	76	60	67	52	44	46	54	70	73	81	80	90	85	60	60	73	90	81	69	67	82	68	80	68	42	54	65	68	72	65	67.9
	Minimum	28	41	35	35	46	37	39	42	33	33	41	45	55	60	41	32	38	50	55	48	44	52	60	42	42	30	30	32	38	55	56	42.4
New Salem	Maximum	58	70	63	65	65	48	51	65	72	69	74	75	91	83	62	58	72	88	83	73	68	88	79	76	69	49	55	68	66	74	71	69.3
	Minimum	31	41	38	37	45	38	41	42	43	40	45	48	60	58	37	32	42	48	47	48	41	55	52	44	45	22	35	35	38	57	47	43.4
Oakes	Maximum	63	74	70	68	62	48	47	55	65	71	78	78	93	92	77	62	74	89	88	72	70	84	81	82	75	57	57	67	72	78	74	71.7
	Minimum	29	39	39	35	45	42	43	44	43	39	41	50	50	59	46	31	35	44	60	52	45	53	58	44	49	33	32	35	37	57	58	44.1
Pembina §§	Maximum	63	67	52	58	46	46	48	54	68	76	75	74	92	88	43	56	71	89	69	79	68	79	83	76	63	50	64	73	75	76	77	67.4
	Minimum	28	34	28	32	38	38	40	40	39	42	46	37	41	51	41	29	33	41	52	46	37	41	58	46	41	35	35	37	41	51	60	40.7
Sharon	Maximum	60	76	55	62	56	42	46	52	61	72	74	74	89	87	71	58	72	87	75	67	72	77	78	77	76	48	61	67	69	70	65	67.4
	Minimum	27	41	32	31	30	38	40	42	41	43	44	43	54	64	40	29	34	49	54	45	39	48	53	44	47	32	32	35	39	56	55	42.0
Steele	Maximum	59	73	65	65	58	52	45	52	66	70	78	79	90	84	54	61	73	90	78	69	68	83	75	78	67	43	52	61	72	70	67	67.6
	Minimum	29	43	36	36	43	41	40	42	36	38	44	51	55	60	40	30	40	48	55	48	44	54	51	41	43	30	30	32	42	48	58	42.5
Towner	Maximum	62	72	68	55	53	51	50	65	71	74	76	76	93	86	75	63	76	90	89	71	75	86	81	79	73	54	63	69	72	72	67	71.2
	Minimum	31	40	29	37	41	41	37	44	39	39	45	36	50	58	39	35	35	50	60	42	39	53	55	42	41	32	33	33	38	58	57	42.2
Valley City	Maximum	53	71	67	64	62	45	47	50	58	67	76	78	91	90	88	59	73	91	90	73	71	81	80	80	78	56	59	68	71	73	73	70.4
	Minimum	26	36	34	33	42	39	41	42	43	38	38	48	45	64	42	35	32	45	59	49	44	49	57	45	46	33	31	34	37	56	57	42.6
Wahpeton	Maximum	63	69	67	65	67	52	51	50	57	75	79	81	92	96	94	61	73	89	92	84	75	78	87	83	82	73	60	70	72	77	77	73.9
	Minimum	28	40	40	34	45	44	43	45	43	37	40	49	48	57	45	33	36	49	62	53	42	50	59	48	57	46	34	36	41	59	60	45.3
Westhope	Maximum	61	71	67	56	50	60	60	72	74	77	78	81	98	87	76	68	77	93	92	76	77	88	87	75	73	50	66	75	79	77	73	74.0
	Minimum	33	41	27	38	40	41	34	45	42	42	46	40	48	60	38	33	35	50	55	41	37	53	56	45	42	30	36	33	35	55	58	42.2
Williston	Maximum	61	66	61	52	55	58	69	75	75	77	70	85	90	76	57	62	75	88	74	70	69	90	67	69	60	49	59	68	70	77	65	69.0
	Minimum	35	43	37	39	42	45	36	41	47	56	51	42	54	44	36	31	41	54	56	55	49	58	52	46	45	37	31	34	46	57	55	45.0
Moorhead, Minn	Maximum	63	70	57	64	50	50	49	50	59	74	78	78	93	93	67	58	72	89	83	71	74	77	86	81	71	50	58	68	72	74	68	69.3
	Minimum	31	38	35	33	42	42	42	43	41	42	44	52	52	64	41	33	39	49	57	49	43	52	51	47	49	37	37	40	43	59	58	44.7

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ª 1 day missing. ᵇ 2 days, etc.

[WBO, Minneapolis 6-2[illegible]-32-[illegible]]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXXI BISMARCK, N. D., JUNE, 1932 No. 6

GENERAL SUMMARY

Taken as a whole, the weather conditions throughout North Dakota were favorable, and at the close of the month crop prospects were the best for several years. The precipitation was quite evenly distributed both geographically and throughout the month, the average for the state being slightly in excess of the normal. Generous rains occurred in most sections during the first and second decades, while scattered showers prevailed throughout the last decade. These heavy and scattered showers greatly reduced the grasshopper menace, and only small damage was reported. The hay crop was generally abundant, and first cuttings of tame grasses were mostly in stack. Livestock and pastures were excellent.

TEMPERATURE

The mean temperature for the state was 67.0°, or 4.5° above the normal, and 1.4° higher than the mean for June, 1931. The highest mean reported was 71.1° at Wahpeton, Richland County; the lowest was 64.2° at Howard, Williams County. The highest temperature reported was 98° at Hankinson and Wahpeton, in Richland County on the 24th; the lowest was 34° at Willow City, Bottineau County on the 30th. The greatest monthly range of temperature was 54° at Powers Lake, Burke County; the least was 35° at Devils Lake, Ramsey County. The greatest daily range in temperature was 45° at Hansboro, Towner County on the 22d.

PRECIPITATION

The average precipitation for the state was 3.83 inches, or 0.38 inch above the normal, and 1.48 inches more than the average for June, 1931. The greatest monthly amount eported was 8.22 inches at Powers Lake, Burke County; the east was 1.11 inches at Hillsboro, Traill County. The greatest mount recorded in any 24 consecutive hours was 5.19 inches t Edgeley, Lamoure County on the 17th. The average number of days with 0.01 inch or more of precipitation was 10.

AURORAS

Auroras were observed at Tagus on the 4th; at Crosby and Tagus on the 5th; at Eckman on the 7th; at Powers Lake on he 9th; at Bottineau on the 12th; at Foxholm on the 21st; at Howard on the 25th; at Eckman on the 26th; and at Crosby on he 28th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Wind					
						Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date			Average	Highest*	Direction	Date
Bismarck	29.83	30.09	23	29.44	30	57	6,588	9.2	38	nw.	30
Devils Lake	29.82	30.18	23	29.33	30	44	6,102	8.5	29	nw.	30
Ellendale	29.87	30.16	22	29.43	30	56	7,547	10.5	46	s.	1
Grand Forks	29.80	30.19	23	29.35	30	90	....	.....	42	nw.	30
Williston	29.82	30.14	10	29.38	29	48	5,334	7.4	35	nw.	30
Moorhead, Minn	29.84	30.18	23	29.38	30	58	5,421	7.5	31	nw.	30
Av'ges and extremes	29.83	30.19	23	29.23	30	.....	....	8.6	46	s.	1

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	337.0	475.1	71	+10	83	55	[illegible]	24	30
Devils Lake	352.0	478.7	74	+14	85	57	66	40	14†
Ellendale	374.1	470.9	79	+18	88	62	.....	32	30
Grand Forks	....	....	......	......	79	.....	57	.....	.....
Williston	318.0	478.7	66	+5	81	58	56	29	4
Moorhead, Minn	379.7	475.1	80	+17	82	[illegible]	55	28	30
Averages and extremes	352.1	475.7	74	[illegible]	84	57	59	24	30

† And other dates.

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COMPARATIVE STATE DATA FOR JUNE

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	60.5	−2.0	94	28	3.35	−0.10	8	11	9	10	nw.
1893	67.4	+4.9	103	33	3.38	−0.07	9	13	10	7	s.
1894	68.8	+6.3	103	25	3.44	−0.01	7	17	6	7	se.
1895	59.7	−2.8	97	29	4.67	+1.22	12	8	13	9	nw.
1896	65.6	+3.1	97	37	3.80	+0.35	9	16	9	5	s.
1897	61.7	−0.8	109	20	3.75	+0.30	9	11	10	9	se.
1898	62.6	+0.1	105	26	3.19	−0.26	9	10	10	10	nw.
1899	62.2	−0.3	105	30	3.81	+0.36	10	12	11	7	w.
1900	66.9	+4.4	109	27	1.39	−2.06	5	15	11	4	se.
1901	61.6	−0.9	95	22	6.14	+2.69	15	10	11	9	nw
1902	58.0	−4.5	97	28	3.65	+0.20	11	12	9	9	nw
1903	62.4	−0.1	96	27	1.44	−2.01	4	17	8	5	se.
1904	61.4	−1.1	100	30	5.77	+2.32	11	13	8	9	nw.
1905	59.7	−2.8	97	32	4.52	+1.07	12	10	7	13	nw.
1906	62.0	−0.5	95	32	4.06	+0.61	11	13	8	9	nw.
1907	61.9	−0.6	95	25	2.85	−0.60	10	12	10	8	nw.
1908	60.4	−2.1	93	27	3.37	−0.08	10	12	9	9	nw.
1909	62.9	+0.4	98	28	3.21	−0.24	10	12	11	7	e.
1910	67.3	+4.8	111	19	1.83	−1.62	6	16	9	5	se.
1911	66.9	+4.4	108	25	3.12	−0.33	9	13	10	7	se.
1912	61.8	−0.7	104	28	2.05	−1.40	6	16	8	6	nw.
1913	65.8	+3.3	101	27	2.35	−1.10	8	16	9	5	se.
1914	62.2	−0.3	93	29	6.26	+2.81	13	9	11	10	se.
1915	56.7	−5.8	94	20	5.00	+1.55	12	9	12	9	nw.
1916	58.0	−4.5	92	29	3.89	+0.44	11	10	11	9	nw.
1917	59.7	−2.8	103	19	2.09	−1.36	8	13	11	6	nw.
1918	63.3	+0.8	102	27	1.63	−1.82	7	14	11	5	nw.
1919	67.2	+4.7	108	22	2.31	−1.14	5	15	10	5	se.
1920	62.2	−0.3	98	26	3.62	+0.17	11	12	12	6	se.
1921	68.2	+5.7	108	30	3.51	+0.06	9	14	10	6	se.
1922	63.5	+1.0	108	30	3.78	+0.33	9	15	8	7	nw.
1923	66.1	+3.6	100	30	3.82	+0.37	8	13	12	5	se.
1924	58.6	3.9	89	26	4.17	+0.72	11	10	12	8	nw.
1925	61.5	−1.0	98	30	6.07	+2.62	14	11	10	9	nw.
1926	60.7	−1.8	104	22	2.65	−0.80	9	13	9	8	nw.
1927	61.2	−1.3	99	22	2.84	−0.61	9	11	13	6	nw.
1928	58.2	−4.3	92	24	5.07	+1.62	12	10	10	10	nw.
1929	61.4	−1.1	98	21	1.44	−2.01	7	16	9	5	nw.
1930	63.8	+0.8	96	30	3.09	−0.36	10	13	11	6	nw.
1931	68.4	+5.9	110	27	2.35	−1.10	8	14	10	6	se.
1932	67.0	+4.5	98	34	3.83	+0.38	10	14	10	6	se.
Av.	62.5	....	111*	19*	3.45	....	9	12	10	8	nw.

*Extremes.

Climatological Data for June, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	6	......	......	......	......	......	......	......	5.20	......	0.94	0	11	......	......	......	......	H. A. Bury.
Amenia	Cass	954	36	66.4	+3.0	89	30	46	27	37	2.47	−1.32	1.07	0	10	3	19	8	s.	I. Idso.
Arnegard (near)	McKenzie	......	19	67.4	+5.7	89	23†	47	1†	39	3.58	+0.42	1.20	0	12	21	5	4	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	66.6	+4.2	89	24	46	3	35	3.64	+0.10	0.95	0	9	20	5	5	se.	H. D. Piper.
Beach	Golden Valley	2,759	26	65.0	+3.3	88	22†	44	1	33	6.98	+3.09	2.56	0	12	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	68.4	+5.6	90	15†	44	18	43	4.02	+0.14	0.90	0	9	14	9	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	67.5	+3.8	86	21	49	1	30	2.57	−0.78	0.85	0	8	12	12	6	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	66.4	+5.1	88	5	42	18	38	5.91	+2.60	2.83	0	12	7	22	1	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	64.6	+2.1	89	22†	42	1	36	3.44	−0.05	1.14	0	13	22	6	2	se.	George Larsen.
Cando	Towner	1,488	31	67.6	+6.1	86	12	47	18	34	4.55	+0.95	1.52	0	11	12	14	4	se.	A. J. Swanson.
Carrington	Foster	1,579	34	65.6	+2.6	84	14	42	30	32	4.14	+0.63	1.88	0	7	20	6	4	se.	L. A. Swanson.
Carson	Grant	2,500	20	65.4	+3.0	88	15	44	18	42	3.57	−0.50	0.99	0	9	18	9	3	se.	J. W. Evens.
Cavalier	Pembina	894	22	......	......	......	......	......	......	......	4.97	+2.05	1.52	0	12	14	12	4	se.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	......	......	......	......	......	......	......	3.37	−0.19	1.16	0	7	26	1	3	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	......	......	......	......	......	......	......	3.34	......	0.73	0	11	12	7	11	se.	W. A. Clem.
Courtenay	Stutsman	1,523	3	......	......	......	......	......	......	......	4.10	......	1.82	0	13	14	11	5	se.	Geo. E. Berg.
Crosby	Divide	1,954	25	65.2	+4.1	87	22	47	18	36	5.94	+2.78	2.49	0	12	5	18	7	se.	John Jensen.
Devils Lake	Ramsey	1,478	35	67.6	+5.7	85	6	50	18	28	4.16	+0.60	0.98	0	13	10	10	10	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	64.6	+2.9	88	23	43	1	35	5.16	+1.97	2.29	0	11	15	7	8	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	66.6	......	85	29	49	1†	30	2.78	......	1.21	0	8	14	12	4	se.	R. L. Williams.
Drake	McHenry	1,634	3	66.4	......	85	21	45	18	33	4.18	......	1.36	0	13	11	12	7	se.	Peter Anton.
Dunn Center	Dunn	2,191	33	65.4	+3.4	87	23†	44	18	37	3.67	−0.34	1.08	0	8	13	7	10	nw.	W. F. Moede.
Dunseith	Rolette	1,682	36	66.8	+5.9	84	6†	47	18	32	4.93	+1.85	1.16	0	15	9	14	7	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	66.0	+4.4	88	5†	40	18	39	2.87	−0.07	1.31	0	9	8	17	5	sw.	C. E. Strock.
Edgeley	LaMoure	1,568	31	67.1	+4.2	90	24	49	1	35	6.89	+3.20	5.19	0	9	7	22	1	se.	O. A. Thompson.
Ellendale	Dickey	1,457	37	67.0	+1.0	90	24	49	1	31	4.67	+0.08	1.54	0	8	11	10	9	se.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	20	67.2	......	90	29	43	27	39	2.08	−1.40	1.09	0	5	15	13	2	se.	H. S. Solenberger.
Epping	Williams	2,224	24	64.8	......	87	15	44	18†	39	5.55	+1.98	1.28	0	14	10	12	8	se.	A. O. Wang.
Fairfield	Billings	......	3	......	......	......	......	......	......	......	3.80	......	1.26	0	8	14	12	4	se.	F. R. Hecker.
Fessenden	Wells	1,610	20	67.0	+5.3	85	5†	46	18	33	5.24	+1.41	1.60	0	12	16	8	6	se.	T. D. Monsen.
Forman	Sargent	1,249	39	......	......	......	......	......	......	......	2.54	−0.95	0.96	0	7	22	3	5	se.	Helge Dyste.
Fort Yates	Sioux	1,670	32	66.4	+0.2	87	23	44	7	40	4.64	+1.14	2.22	0	8	18	7	5	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	65.6	......	86	5	43	18	34	3.84	+0.75	0.88	9	9	8	13	9	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	......	......	......	......	......	......	......	4.21	+0.82	1.02	0	9	17	9	4	nw.	Verne King.
Fullerton	Dickey	1,439	34	68.0	+4.6	90	24	49	1†	40	4.80	+1.05	2.08	0	10	15	11	4	s.	F. O. Alin.
Gackle	Logan	1,951	2	......	......	......	......	......	......	......	3.47	......	1.11	0	9	17	4	9	se.	Geo. Hummel.
Garrison	McLean	1,901	55	67.4	+5.2	87	21	47	27	34	2.67	−0.75	0.58	0	8	10	14	6	se.	W. F. Robinson.
Grafton	Walsh	827	40	70.0	+7.2	92	6	47	23†	33	3.10	−0.26	1.12	0	8	15	10	5	s.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	41	69.6	+6.6	90	6	47	27	33	2.27	−1.15	1.10	0	10	6	16	8	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	67.6	+5.4	87	21	44	27	36	4.06	+1.17	1.25	0	12	13	12	5	se.	W. A. Christianson.
Hankinson	Richland	1,068	3	70.2	......	98	24	51	2	37	4.83	......	1.17	0	12	17	9	4	se.	R. G. Stock.
Hannah	Cavalier	1,568	40	67.4	......	90	7	42	22	38	2.94	−0.46	0.70	0	10	......	......	......	......	James Meier.
Hansboro	Towner	1,597	24	69.6	+9.2	95	22	42	10	45	4.96	+1.87	1.30	0	15	10	16	4	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	25	65.5	+2.6	90	23	43	18	37	3.45	−0.15	1.58	0	9	19	8	3	se.	C. H. Plath.
Hillsboro	Traill	901	26	69.2	+5.0	96	15	44	23†	44	1.11	−2.31	0.74	0	4	20	8	2	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	25	64.2	+4.0	85	23	41	26	32	4.89	+2.11	1.14	0	11	10	13	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	67.8	+4.6	87	23	49	27	37	3.70	−0.10	1.64	0	9	12	14	4	nw.	S. Calvelage.
Langdon	Cavalier	1,615	36	67.3	+7.4	87	5†	45	29	33	4.14	+0.73	1.88	0	10	21	6	3	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	67.7	+5.3	89	14	47	23†	33	2.45	−1.49	0.80	0	8	19	7	4	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	66.2	+1.9	87	21†	41	19	39	3.95	+1.39	1.57	0	11	14	14	2	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	28	68.0	+4.5	90	24	49	23	33	2.79	−1.17	1.05	0	10	6	18	6	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	65.8	......	87	29	42	18	37	2.27	−0.98	1.10	0	7	18	9	3	se.	Edw. Tapley.
McLeod	Ransom	1,075	21	67.3	+2.8	93	24	44	30	40	2.54	−1.58	0.57	0	8	17	10	3	sw.	J. G. Carlson.
Maddock	Benson	1,604	17	66.1	+5.0	84	15	43	3	34	3.53	+0.15	1.59	0	10	5	17	8	se.	A. T. Felland.
Mandan	Morton	1,750	18	67.1	+3.8	87	29	47	1	34	3.33	0.00	0.75	0	8	12	2	16	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	......	......	......	......	......	......	......	3.66	+0.04	0.99	0	11	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	23	65.4	+3.4	89	22†	45	3†	35	5.14	+1.88	1.09	0	15	15	5	10	......	S. P. Grane.
Mary	McKenzie	......	3	......	......	......	......	......	......	......	4.48	......	1.01	0	11	20	4	6	se.	Fred Hartman.
Max	McLean	2,093	3	66.8	......	90	5†	42	18	42	3.97	......	0.79	0	11	......	......	......	......	A. W. Rice.
Mayville	Traill	975	36	68.9	+4.9	91	7	45	23†	35	2.98	−0.43	1.50	0	8	22	1	7	s.	H. B. Addicott.
Minot	Ward	1,557	36	66.8	+4.5	88	29	42	18	39	4.78	+1.56	1.23	0	10	14	9	7	w.	Julia B. Rue.
Mohall	Renville	1,646	38	68.0	+6.9	92	15	44	27	38	3.95	+0.65	0.82	0	9	5	23	2	nw.	E. H. Wolsey.
Mott	Hettinger	2,424	25	68.4	+4.0	87	23	44	30	32	5.49	+1.95	1.32	0	9	16	6	8	se.	O. H. Opland.
Napoleon	Logan	1,955	40	65.9	+3.5	86	29	45	18	35	3.23	−0.30	0.85	0	12	14	9	7	s.	C. J. Hoof.
New England	Hettinger	2,400	38	65.8	+3.2	92	23	40	30	37	3.93	+1.03	0.99	0	7	14	12	4	se.	F. S. Sleight.
New Salem	Morton	2,163	28	66.2	+3.3	89	4†	48	1†	35	2.43	−1.00	0.88	0	10	16	12	2	se.	J Christiansen.
Oakes	Dickey	1,318	3	69.2	......	93	24	49	1	35	2.93	......	1.10	0	11	15	12	3	se.	Eugene Naylor.
Park River	Walsh	998	28	68.1	+5.2	92	9	46	23†	38	2.05	−1.43	0.48	0	8	12	13	5	se.	C B. Wright.
Parshall (near)	Mountrail	......	17	65.2	......	89	30	42	18†	35	3.92	+0.83	1.55	0	12	5	21	4	se.	C. E. Shubert.
Pembina	Pembina	789	58	68.5	+5.8	93	6	48	22†	34	4.47	+0.87	1.65	0	12	5	16	9	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	......	......	......	......	......	......	......	3.29	......	1.43	0	10	15	14	1	s.	T. M. Rykken.
Pettibone	Kidder	1,856	23	66.1	+4.6	......	......	......	......	......	3.50	+0.34	......	......	......	......	......	......	......	A. L. Carlson.
Portal	Burke	1,954	27	65.5	+6.3	89	5	41	30	34	3.15	−0.20	1.51	0	10	18	5	7	s.	R. G. Wegener.
Power‡‡	Richland	1,020	38	......	......	......	......	......	......	......	1.90	−2.03	0.80	0	6	20	7	3	s.	Frank B. Power.
Powers Lake	Burke	2,205	27	63.8	......	91	28	37	17	40	8.22	+4.67	1.70	0	11	12	14	4	se.	Geo. B. Gee.
Richardton	Stark	2,467	16	65.8	+3.2	89	24	44	1	41	3.31	−0.14	0.93	0	7	17	10	3	se.	John Muggli.
Rugby (near)	Pierce	1,562	3	......	......	......	......	......	......	......	3.07	......	0.64	0	13	12	11	7	se.	E. C. Erickson.
Ryder	Ward	2,108	3	......	......	......	......	......	......	......	2.88	......	0.83	0	13	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	66.8	......	89	29	45	18	36	4.68	......	1.60	0	13	7	1	22	nw.	Geo. Buerkle.
Sharon	Steele	1,516	8	66.8	......	86	7	46	23	30	3.31	......	1.83	0	12	11	14	5	se.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8	......	......	......	......	......	......	......	2.40	......	1.09	0	5	17	7	6	se.	J. H. Giffey.
Steele	Kidder	1,857	38	67.4	+4.9	88	29	44	18	35	2.15	−1.35	0.50	0	10	15	11	4	sw.	V. A. Laney.
Stowers‡‡	Adams	2,325	17	......	......	......	......	......	......	......	1.93	+1.48	1.81	0	7	21	6	3	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	......	......	......	......	......	......	......	2.74	......	0.70	0	11	15	9	6	sw.	J. C. Abbott.
Tioga	Williams	2,279	3	......	......	......	......	......	......	......	5.57	......	1.38	0	12	11	7	12	nw.	Anton Carlson.
Towner	McHenry	1,482	30	68.1	+5.3	87	21	43	27	38	2.98	+0.08	0.58	0	11	12	13	5	sw.	Karl Weber.
Trotters	Golden Valley	......	6	......	......	......	......	......	......	......	5.67	......	1.60	0	11	11	12	7	......	A J. Nellermoe
Turtle Lake	McLean	1,899	18	......	......	......	......	......	......	......	2.83	−1.15	0.68	0	7	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	26	68.1	+5.0	88	7†	48	24†	33	3.01	−0.29	2.23	0	10	20	8	2	s.	I. C. Robertson.
Velva	McHenry	1,511	5	65.8	......	89	29	46	18	38	2.95	......	0.81	0	11	9	13	8	w.	Oscar Anderson.
Verona	LaMoure	1,387	4	......	......	......	......	......	......	......	5.42	......	2.83	0	5	21	5	4	se.	W. C. Taylor.
Wahpeton	Richland	962	40	71.1	+6.0	98	24	48	23†	36	1.50	−2.26	0.54	0	8	24	0	6	se.	C. G. Luick.
Washburn	McLean	1,731	31	67.6	+3.5	89	29	46	26	32	4.24	+0.93	1.00	0	7	15	8	7	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	69.0	+7.0	90	5†	45	18	40	3.08	+0.07	0.67	0	14	16	11	3	se.	C. M. Condit.
Williston	Williams	1,878	53	67.0	+4.3	90	23	50	26	33	6.98	+3.55	3.06	0	13	16	8	6	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	67.0	+6.0	86	6†	34	30	41	2.38	−0.73	0.37	0	15	17	8	5	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	3	66.0^{d}	+3.7	87^{d}	24	46^{d}	18	34^{c}	5.81	+2.89	2.15	0	10	6	2	22	se.	E. W. Davis.
Zap	Mercer	1,838	17	......	......	......	......	......	......	......	3.13	−0.64	0.96	0	8	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	51	68.9	+4.5	90	6	50	23	31	2.16	−1.89	0.63	0	6	6	13	11	s.	U. S. Weather Bureau.
Averages	......	......	......	67.0	+4.5	98	24	34	30	45	3.83	+0.38	5.19	0.0	10	14	10	6	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for June, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.13					.45	.65			.55	.10	.78				.79	.91		.08						.71					.05		5.20
Amenia	Red	.30		.28				.12			1.07		.03	.22	.20			.17	.05			.03											2.47
Arnegard (near)	Missouri	.03	.10				.12		1.20	.02	.03	.47	.53				.23	.70		.07						.08							3.58
Ashley	Missouri		.95	.40							.51		.03	.06			.67	.70									.32						3.64
Beach	Lit. Missouri	.01	.08				1.14	.02	.38		.36	.26	1.60				T.	.60		.51	.03					2.56					.01		6.98
Berthold Agency	Missouri	.26	T.				.87		.82	.63	.10	.90	.05				.19			.20									T.				4.02
Bismarck ***	Missouri	.51	.69				.37		T.		.85	.08	T.				.03	T.			T.				T.	.03			.01	T.			2.57
Bottineau	Mouse	.12	.20	.46	T.					2.83		.46	.12					T.	.06		.07	.06			T.	.12				.36	1.05		5.91
Bowman	Grand	.01	.03				.10	.57	.11		.38	.16	.09	T.			.10	.42							.10	1.14					.23		3.44
Cando	Devils Lake		T.		T.		.15	.23		.74		.18		.08				.81	.02		.64	.06			.12						1.52		4.55
Carrington ‖‖	James	T.	1.88			.15	.28			.05	.88		.03				T.	.87		T.	T.								T.				4.14
Carson	Heart	.39	.04				.74		.72		.99	.25	.10													.25	.09						3.57
Cavalier	Red	.12	.04					.88		.50		.51	.12					.59		1.52	.04	.07							.21		.37		4.97
Cooperstown	Sheyenne	.70		.40				.08	T.	.28								.74	1.16											.01			3.37
Corinth	Missouri	.50	.37				.20		.50			.73	.10					.41						.27		.12			.10	.04			3.34
Courtenay	James	.11	.86	.08			.12			T.	.32	.15		.05			.35	1.82									.05		.06	.09	.04		4.10
Crosby	Mouse	1.12	.23		T.			.06	.36	.38		.39	2.49	.51				.24	T.			.05			.07		.01						5.94
Devils Lake ***	Devils Lake		.62			.79	.23			.81	T.	.18	.13				.10	.75		.09	.01				.09		T.		.30	T.	.06		4.16
Dickinson ‖‖	Heart	.49	.04	.01					.96		.02	2.29	.18	.08				.97			T.				T.	.04	.08						5.16
Dogden Butte	Mouse		1.21		.03			.41			.42	.08	.38				T.	T.			T.			.21					T.		.04		2.78
Drake ‖‖	Mouse	.10	.44	.41				.01	.73	1.36		.49	.22	.02				.03		.19						.03			T.	.15	T.		4.18
Dunn Center	Knife	1.08	.05						1.03	.02		.58	.47					.34			.10												3.67
Dunseith	Mouse	.51		.64	.02				.56	1.00		.15	.03					.25	.01		.16	.32		T.	.06			.03	.03		1.16		4.93
Eckman	Mouse	.04	.63	.01					1.31		.40	T.	.11				T.								.16				.19		.02		2.87
Edgeley	James		.55	.30			.26				.15	.10	.22					5.19												.10	.02		6.89
Edmore	Devils Lake		T.	.08			T.	T.		.88	T.	T.	.21	T.			.05	2.52		T.		.10			.07				.07		.43		4.11
Ellendale***	James	.15	.78		T.		.96			T.	074	T.	.44	T.			.58	.96		T.	T.						.06			T.			4.67
Energy	Missouri	.23	.34						.14		1.09	.28	T.							T.													2.08
Epping	Missouri	.46	.06				.10		.68	T.	.07	1.03	.40				.25	1.28		.01				.01	.05	.15				.70	T.		5.55
Fairfield	Knife		.05						.95		1.26	.24	.36					.54		.27						.13							3.80
Fessenden ‖‖	James	.02	.08	.39						.35	.07	.42	.61	1.30				1.60	.30		.05									.05			5.24
Forman	Sheyenne		.33				.08			.02	.24	.68	.23	T.				.96						T.							T.		2.54
Fort Yates	Missouri	.38	.15						.57	T.	2.22	T.	T.	.18			.48									.51				.15			4.64
Foxholm (near)	Mouse		.88				.09		.55		.42	.71	.18					T.		T.				.19	.10				.72		T.		3.84
Fryburg	Heart	T.	.20			.06	T.		1.02		.73	.57	.23				T.	1.00	T.	T.	.22					.18							4.21
Fullerton	James		.05				.05			.10	.72	.17	.35	T.			1.20	2.08			T.				T.		.03		.05				4.80
Gackle	James		.53	.16							1.11	.16		.16			.15	1.11									.02		.07				3.47
Garrison	Missouri	.23	.41						.16		.36	.58	.02					.49												.39			2.67
Grafton	Red		.29					.58				.33	T.	.10				1.12			T.				.16				.15		.37		3.10
Grand Forks ***	Red	.10	.20	.03						.03		.08	.07				.04	1.10			T.				T.				.05		.57		2.27
Granville	Mouse	.06	1.25		.06			.06	.02	.20	.54	.58					T.	.25		.31	T.			T.	.04	T.			.69	T.			4.06
Hankinson	Red		.27			.25	.25		1.17	.22		1.14	.78				.17	.46		T.						.02	.01			.09			4.83
Hannah	Pembina	.04		.07	T.	T.		T.		.08	.09		.50	.70				T.	.70		T.	T.				.09	T.			.09	.58		2.94
Hansboro	Devils Lake	.05	.25	.15	.10	.08	.05		.42	1.20			.30					.70			.03	.05			.25				.03		1.30		4.96
Hettinger	Grand	.06	T.					1.58	.58		.21	.01	.04					.01									.75	T.			.21		3.45
Hillsboro	Red	.34									.02		.01		.74																T.		1.11
Howard (near)	Missouri	.13	.46				T.		.38	1.14	T.	.65	.05				T.	.56		T.					.68	.80			.02	.02			4.89
Jamestown	James		.05	1.64			.16				.15	.06	T.	.12			.26	1.11											.15		T.		3.70
Langdon	Pembina	.15		.15							.37		.77					T.	1.88	.07						.07		.08		.40	.20		4.14
Larimore	Red	.34		.22							.02		.05					.38	.63											.01	.80		2.45
Linton	Missouri		.55	.13					.10	.02	1.57	.11	.73	.06			T.	.07			T.						.35				.26		3.95
Lisbon	Sheyenne	.14		.32							.09	1.05	.26	.13	.25			.43	.05								.07						2.79
McClusky	Missouri	.17	1.10					.14	.02		.72	T.						.04		T.	.08								T.				2.27
McLeod	Sheyenne		.14	.47			.15			.54	T.	.12	.57				.53								.02		T.						2.54
Maddock	Sheyenne	.07	.45							.04	.03	.40					.08	1.59			.50				.06				.31				3.53
Mandan ‖‖	Missouri	.70	.65				.75	T.		.52	.45	T.	.02				.20	T.								.04			T.	T.			3.33
Manfred	James		.76	.03						.13	.62	.41	.39	T.			.05	.99			.23								.03		.02		3.66
Marmarth	Lit. Missouri	.10	.20				.88	.06	.40		.55	.13	.37				.17	1.09		.07	.17				.27	.58					.10		5.14
Mary	Lit. Missouri	.02	.03				.06		.96		1.01	.20	.82					.44		.52						.29			.13				4.48
Max ‖‖	Missouri	.53	.36	.60				.05	.07	.51		.79	.61	.16				.07													.22		3.97
Mayville	Red	.35	.05	.55						.05	.06							1.50												.35	.07		2.98
Minot	Mouse	.45	.56	1.23						.25		.55	.58	.77													.18		.10		.11		4.78
Mohall	Mouse	.82	.68		.55				.55		.33		.22												.40				.30	.10	T.		3.95
Mott	Cannon Ball	.41	.08						1.10		1.32	.68	.38				.86									.60	.06						5.49
Napoleon ‖‖	Missouri	.35	.50	.35							.20	.85	.01	.08	.42		.30		.02		.02						.13						3.23
New England	Cannon Ball	.09						.99			.46	.61	.42				.50									.86							3.98
New Salem	Heart	.30	.52				.13	.04	.07	.08	.88	.22	.07					T.								.12				T.			2.43
Oakes	James		.25	.04							.06	.01	1.10				.08	1.04							.18		.03			.01	.13		2.98
Park River	Red	.18	.02	T.			.38						.43					.48				.03			.15				T.		.38		2.05
Parshall (near)	Missouri	1.55	.13	.01					1.02	.18		.34	.27					.07			.04					.05	.07				.19		3.92
Pembina ‖‖	Red	.09		.20				.34			.19		.50						1.65		.17	.11			.01	.66				.04	.51		4.47
Petersburg	Red	.11	T.	.06				.06		.45			.39				.05	1.43			T.				.03				.04		.67		3.29
Pettibone	James																																......
Portal ‖‖	Mouse	.05	.07					.22	1.51		.21	.32	.13											.08		.28		.28					3.15
Power	Sheyenne						.25			.40		.20	.80	T.			.10	.15															1.90
Powers Lake	Missouri	1.70					.23	1.20	.09		1.13	1.66	.61				.31		.14				.11	1.01									8.22
Richardton	Heart	.13	.03						.93		.82	.61						.68								.11							3.31
Rugby [near]	Mouse	.17		.11	.10				.63		.37	.05	.55				.02	.11		.64					.09				.16	.01			3.07
Ryder	Missouri	.18	.24				.27	.22	.05	T.	.51	.83	.01					.21		.14				.15	.06				T.	.01			2.88
Sanish ‖‖	Missouri	1.60	.05					.02	.45	.07		.77	.70	.05				.38			.06				.01		.11				.41		4.68
Sharon	Red	.22	.08	.22			.02			.27			.02	.01			.06	1.83	T.		T.				.01				.55		.02		3.31
Stanton	Missouri		.61						.18		1.09	.17	.35																				2.40
Steele	Missouri	.10	.50				T.		.05		.50	.40	.10	.03			.25	.20			T.										.02		2.15
Stowers	Cannon Ball	.42	.07						.94		1.81	1.04															.56				.09		4.93
Tagus	Mouse	.40	.05						.06	.06	.60	.28	.10											.07	.04	.70			.08				2.74
Tioga	Missouri	1.31	.58				.07		.45	.02	.12	1.38	.22	.09				.92						.06		.32							5.57
Towner	Mouse		.48	.24	.02				T.	.21	.30	.58	.10					.33			.20			T.	.13		T.		.39				2.98
Trotters	Lit. Missouri	.20					.19		.61		1.11	.64	.39				.42	1.60		.27						.22			.02				5.67
Turtle Lake	Missouri	.30	.68				.53		.19		.55	.20																		.38			2.83
Valley City	Sheyenne		.06	.33			.05				.03	.01	.02		.06		.23	T.	2.23											.02			3.04
Velva	Mouse	.03	.62					.20	.17	.81	.53	.18	.15				T.	.11		.10	T.			T.	T.		T.		.05		T.		2.95
Verona	James			.96			.99					.43	.21					2.83															5.42
Wahpeton	Red	.34						.54		.04			.30	.04				.12	.10								.02						1.50
Washburn	Missouri	.50	.37	.96				.60			1.00	.45	.36																				4.24
Westhope	Mouse		.41	.17	.02			.02	.67	.03	.50	.07	T.				.08				.08	.04			.22	T.			.29		.48		3.08
Williston ***	Missouri	.21	.06				.08	.39	.48	3.05	.09	.64	.10				1.71	.04		T.					.08	.05			T.	T.			6.98
Willow City	Mouse		.36	.14	.02				.20	.37	.12	.20	.13				T.	.05			.03	.07		.08	.10	T.			.18		.33		2.38
Wishek ‖‖	Missouri	.30	.25	2.15							.26	1.87			.18			.30	.25									.15			.10		5.81
Zap	Knife	.15	.04				.11		.77	.62	.96	.32					.16																3.13
Moorhead, Minn ***	Red		.12				.41			.63		.12	.27	T.			T.	.61			T.				T.		T.		T.	T.	T.		2.16

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	81	74	79	84	87	85	88	83	76	76	74	75	74	84	82	70	73	73	74	60	83	74	78	85	85	76	78	80	83	89	..	78.8
	Minimum	50	55	51	52	53	62	63	55	57	60	51	51	57	55	59	60	62	52	51	53	51	53	47	48	50	54	46	52	52	57	..	53.9
Arnegard (near)	Maximum	78	77	79	86	85	75	75	77	78	72	76	72	76	87	81	77	68	79	80	78	85	88	89	79	72	77	82	85	89	78	..	79.4
	Minimum	47	50	47	54	62	58	53	56	53	58	57	56	54	57	67	62	54	47	62	52	63	58	60	64	50	47	57	50	50	56	..	55.4
Ashley	Maximum	79	72	76	80	82	81	85	80	78	72	72	72	74	83	82	76	69	76	73	80	86	84	80	89	79	74	78	83	84	78	..	78.6
	Minimum	48	51	46	55	61	60	54	59	57	58	56	54	48	55	57	60	60	48	55	50	56	55	49	64	57	55	50	48	53	62	..	54.7
Beach	Maximum	73	68	70	83	74	74	69	69	70	67	66	63	72	76	84	80	80	80	80	73	83	88	88	82	74	70	74	84	87	81	..	76.1
	Minimum	44	50	48	57	61	53	52	52	49	55	53	53	50	52	58	64	53	47	54	53	56	55	63	65	55	47	55	55	55	56	..	54.0
Berthold Agency	Maximum	76	72	80	80	84	80	73	78	87	67	66	72	77	85	90	86	84	87	82	84	85	88	90	86	86	77	81	87	90	81	..	81.4
	Minimum	50	56	46	60	65	62	53	52	58	60	56	55	54	55	58	65	57	44	58	56	55	58	57	65	56	48	45	54	49	58	..	55.5
Bismarck	Maximum	73	67	78	80	84	81	80	80	78	65	70	70	77	84	82	74	69	79	76	80	86	83	83	81	78	74	78	84	85	75	..	77.8
	Minimum	49	56	51	63	65	61	57	60	59	58	59	57	54	59	59	64	55	50	60	58	59	60	54	63	56	53	52	54	56	54	..	57.2
Bottineau	Maximum	81	70	79	85	88	86	85	75	72	76	74	72	77	83	85	82	71	80	83	78	85	74	78	78	77	75	76	77	81	65	..	78.3
	Minimum	52	53	50	50	60	65	65	58	55	56	57	56	54	58	62	62	58	42	52	57	55	51	52	57	50	50	45	50	50	57	..	54.6
Cando	Maximum	82	81	79	85	84	85	84	83	80	76	78	86	81	85	85	82	79	78	80	82	83	84	81	78	78	76	77	78	80	81	..	81.0
	Minimum	50	54	50	58	59	62	56	60	56	57	52	54	55	58	57	61	61	47	49	57	57	50	49	51	52	50	49	49	50	57	..	54.2
Carrington §§	Maximum	71	78	82	82	83	80	78	78	77	74	74	77	82	84	79	67	77	78	77	83	73	78	81	77	74	76	79	82	72	69	..	77.1
	Minimum	54	50	52	52	62	55	55	61	60	56	54	58	58	58	58	61	47	48	55	56	54	48	50	52	52	47	47	54	55	42	..	53.7
Crosby	Maximum	78	68	74	79	86	73	72	66	79	60	65	79	77	83	84	78	65	74	78	77	81	87	84	76	68	75	78	78	85	68	..	75.9
	Minimum	52	54	49	51	60	58	54	54	55	56	56	55	52	55	60	63	57	47	54	52	51	54	59	61	52	48	52	55	49	55	..	54.4
Devils Lake	Maximum	79	77	79	82	84	85	81	80	75	79	76	74	79	84	85	82	67	78	80	77	85	74	77	79	77	74	76	77	80	74	..	78.5
	Minimum	52	54	52	59	62	65	58	63	57	59	53	57	57	59	60	63	58	50	60	59	62	51	51	62	55	55	52	55	52	50	..	56.7
Dickinson §§	Maximum	73	69	79	82	84	76	74	75	73	62	63	68	73	81	83	78	67	78	75	77	82	87	88	80	75	71	76	82	86	75	..	76.4
	Minimum	43	46	45	55	62	57	47	54	50	54	55	52	51	56	55	60	55	44	52	54	55	54	59	61	51	48	50	50	51	59	..	52.8
Dunn Center	Maximum	73	69	80	81	83	76	73	76	77	63	65	70	69	81	83	76	67	79	77	79	82	86	87	87	81	73	74	79	87	68	..	76.7
	Minimum	45	54	47	57	62	59	50	56	58	59	57	55	53	54	55	63	54	44	55	55	54	56	57	59	57	51	45	45	50	60	..	54.2
Dunseith	Maximum	81	80	77	82	83	84	81	81	73	73	74	73	77	84	83	80	74	79	82	79	82	82	75	77	78	74	77	75	82	77	..	78.6
	Minimum	50	54	52	58	61	63	57	59	55	54	57	56	54	59	56	61	59	47	55	55	54	50	50	61	52	52	48	54	52	56	..	55.0
Edgeley	Maximum	81	72	77	82	85	85	85	80	77	73	75	73	76	83	82	79	72	78	76	78	84	82	80	90	82	75	78	81	85	75	..	79.4
	Minimum	49	55	50	54	59	60	54	60	58	59	55	53	50	57	57	57	50	50	57	52	57	54	50	62	55	53	50	52	50	65	..	54.8
Ellendale	Maximum	80	74	77	81	84	82	82	79	75	73	72	70	72	82	80	77	72	76	67	76	84	74	79	90	78	72	75	81	84	76	..	77.5
	Minimum	49	53	49	53	60	62	59	61	60	60	57	55	54	60	60	60	62	53	55	53	56	57	51	61	59	58	51	56	55	54	..	56.4
Fessenden §§	Maximum	80	69	78	83	85	85	83	80	78	70	75	75	80	82	85	81	68	79	78	78	85	76	78	82	78	75	80	81	84	72	..	78.8
	Minimum	49	56	50	57	62	62	51	61	60	59	57	54	56	57	54	59	61	46	53	58	58	54	48	55	51	52	47	54	54	61	..	55.2
Foxholm (near)	Maximum	78	68	76	82	86	81	76	72	73	67	70	72	76	80	81	79	70	77	81	79	83	81	82	78	77	73	78	76	81	78	..	77.0
	Minimum	50	52	48	60	60	60	54	56	54	55	54	55	53	56	60	60	56	43	56	54	58	52	51	61	51	49	45	54	51	56	..	54.1
Fullerton	Maximum	80	75	82	85	86	86	85	81	78	75	77	76	73	83	84	82	85	81	69	76	86	82	79	90	82	72	79	83	87	76	..	80.4
	Minimum	49	54	49	52	54	61	57	61	60	60	55	60	51	56	61	60	58	52	55	53	54	50	51	50	62	57	51	54	55	60	..	55.4
Garrison	Maximum	77	63	80	81	84	81	78	82	77	66	70	74	77	84	84	78	78	82	82	86	87	83	85	85	76	75	80	83	80	76	..	79.1
	Minimum	53	49	48	62	72	63	54	58	52	58	59	56	54	54	59	61	56	48	58	57	58	58	54	66	50	49	47	53	54	52	..	55.7
Grafton	Maximum	82	82	83	87	90	92	89	84	85	80	81	74	83	89	90	88	84	79	82	79	86	80	79	81	80	77	80	81	81	79	..	82.9
	Minimum	54	56	51	55	63	69	64	58	60	60	54	59	59	57	57	61	65	54	60	54	60	50	47	62	53	58	47	50	53	59	..	57.0
Grand Forks	Maximum	82	81	82	85	87	90	87	85	84	82	77	77	80	88	89	85	76	80	77	78	86	73	79	84	81	77	80	80	82	73	..	81.6
	Minimum	54	59	53	56	64	68	65	55	64	60	51	59	58	59	61	62	62	56	58	56	56	53	48	62	51	59	47	53	52	61	..	57.5
Granville	Maximum	82	65	79	82	85	85	79	79	75	67	75	72	77	85	86	82	71	80	85	80	87	82	85	80	84	75	80	79	85	80	..	79.6
	Minimum	52	52	49	63	65	63	54	60	59	59	60	62	58	56	61	62	53	48	57	59	58	52	53	49	59	53	44	49	52	48	..	55.5
Hansboro	Maximum	75	84	84	87	87	87	87	80	70	65	85	80	86	90	90	87	87	85	83	90	94	95	90	90	87	70	80	80	90	67	..	83.7
	Minimum	50	52	55	60	65	60	55	56	62	42	60	55	67	75	74	70	60	55	50	50	50	50	50	48	50	45	50	50	55	45	..	55.5
Hettinger	Maximum	69	67	78	80	83	76	75	74	72	61	66	65	73	81	82	79	68	79	73	77	84	89	90	84	83	71	70	83	87	83	..	76.7
	Minimum	47	44	47	57	62	62	53	53	52	55	52	50	54	55	58	62	57	43	57	55	54	52	59	63	56	52	59	51	56	52	..	54.3
Hillsboro	Maximum	70	82	82	83	83	90	90	80	80	80	79	76	83	93	96	88	75	83	83	80	83	82	88	90	81	80	76	80	80	86	..	82.7
	Minimum	53	60	58	61	63	64	66	50	61	62	51	56	51	61	63	56	54	52	59	53	61	50	44	56	53	47	44	52	55	57	..	55.8
Howard (near)	Maximum	72	68	72	84	84	70	73	64	68	64	66	68	76	83	80	73	72	76	72	75	82	84	85	79	75	70	75	75	83	70	..	74.6
	Minimum	50	52	63	52	52	56	54	54	51	53	54	55	51	54	51	61	51	48	51	51	56	57	60	65	55	41	46	54	54	62	..	53.9
Jamestown	Maximum	70	79	82	80	86	84	78	77	71	76	72	73	84	85	88	72	79	74	77	85	77	80	87	81	75	78	81	85	76	69	..	78.5
	Minimum	50	52	50	56	61	63	55	61	61	61	59	55	57	57	58	61	61	50	59	54	58	56	50	73	55	59	49	53	55	64	..	57.1
Langdon	Maximum	83	80	81	86	87	87	85	87	77	75	79	71	78	85	86	85	78	72	80	77	82	80	76	77	79	71	77	80	78	64	..	79.4
	Minimum	50	53	50	61	62	66	57	59	58	57	54	58	52	57	60	62	61	49	65	58	58	48	49	52	50	54	46	48	45	58	..	55.2
Larimore	Maximum	77	78	83	84	86	88	86	84	80	80	77	76	81	89	88	82	68	79	77	78	85	75	80	80	80	72	77	77	82	70	..	80.0
	Minimum	51	55	51	51	51	65	60	57	58	60	50	58	60	59	58	61	64	53	58	54	56	52	47	58	52	58	47	47	53	59	..	55.4
Linton	Maximum	77	67	79	80	83	81	84	80	81	69	73	71	74	84	81	78	68	78	80	83	87	85	85	87	80	75	80	84	85	77	..	79.2
	Minimum	44	53	43	58	62	61	51	58	52	57	59	48	46	50	56	62	60	57	41	53	54	52	53	64	51	53	48	45	47	57	..	53.2
Lisbon	Maximum	81	71	78	83	87	87	86	79	76	77	70	69	75	83	83	82	75	79	72	78	86	76	79	90	80	75	78	83	85	78	..	79.4
	Minimum	51	55	50	50	60	65	60	59	60	60	55	55	52	54	60	65	63	53	55	53	58	56	49	59	55	59	50	55	56	65	..	56.6
McClusky	Maximum	71	66	76	80	82	81	78	72	79	70	73	73	71	83	83	78	70	79	80	80	84	78	82	81	77	74	80	83	87	78	..	77.6
	Minimum	47	53	47	60	58	61	51	57	52	61	59	55	52	54	56	60	59	42	57	44	55	55	56	64	48	49	45	52	52	61	..	54.1
Maddock	Maximum	78	76	77	80	82	83	81	81	78	73	73	74	78	83	84	80	76	79	80	77	83	82	74	79	79	74	77	78	80	78	..	78.6
	Minimum	47	53	43	55	61	60	52	58	58	57	52	50	54	56	54	57	59	47	57	56	57	50	47	59	49	53	45	53	50	60	..	53.6
Marmarth	Maximum	76	70	78	81	83	74	69	70	70	66	67	65	76	81	85	82	68	80	76	76	83	89	89	70	72	70	74	84	89	78	..	76.4
	Minimum	46	56	45	55	62	55	52	53	59	53	52	50	50	50	50	64	56	45	54	55	53	54	65	62	57	50	58	55	58	60	..	54.5
Minot	Maximum	81	64	79	84	86	83	72	77	87	64	74	73	78	85	85	81	71	81	82	81	87	82	84	80	78	75	80	80	88	69	..	79.0
	Minimum	51	55	48	60	64	61	53	58	57	57	57	54	53	55	60	61	57	42	57	56	56	53	52	61	48	49	44	50	50	58	..	54.6
Mohall	Maximum	80	70	87	85	86	87	85	75	78	68	72	76	85	87	92	84	70	75	75	77	87	80	90	85	85	80	82	85	85	73	..	80.9
	Minimum	53	58	57	55	61	56	55	50	57	56	58	58	60	57	60	63	56	45	50	55	56	53	56	61	60	52	44	53	51	50	..	55.2
Mott	Maximum	72	70	74	77	84	80	83	80	77	79	76	72	76	84	83	77	80	79	83	80	85	86	87	80	83	76	77	82	84	76	..	79.4
	Minimum	56	50	50	60	65	53	62	61	60	60	58	54	58	60	61	60	56	61	62	57	59	60	62	56	61	51	53	56	54	44	..	57.5
Napoleon §§	Maximum	79	68	77	80	81	80	81	80	78	67	72	73	73	80	81	74	69	76	72	78	83	79	80	83	80	72	77	80	86	75	..	77.1
	Minimum	48	53	47	57	62	61	54	57	55	59	57	51	50	55	56	61	61	45	50	54	57	56	51	66	53	52	48	50	51	65	..	54.7
New Salem	Maximum	78	64	77	89	73	79	74	76	76	70	72	73	74	80	79	75	79	77	72	78	73	82	85	83	86	70	71	79	87	89	..	77.8
	Minimum	48	51	49	65	60	60	54	57	54	57	54	54	54	57	58	62	56	48	55	53	57	57	52	62	51	49	50	51	55	62	..	55.1
Oakes	Maximum	84	75	82	85	88	87	86	82	78	76	76	76	71	85	85	82	75	81	79	80	88	89	81	93	82	76	81	85	86	85	..	82.0
	Minimum	49	57	49	53	61	62	59	60	61	62	58	55	53	55	58	61	62	52	53	51	56	57	51	61	57	60	50	52	55	66	..	56.5
Pembina §§	Maximum	84	83	87	88	89	93	85	80	82	76	81	75	80	85	90	87	78	77	79	78	82	71	75	75	76	71	76	77	78	68	..	80.2
	Minimum	57	56	53	55	64	69	63	61	57	56	56	58	59	59	56	62	67	53	55	60	59	48	48	53	52	58	48	53	52	58	..	56.8
Sharon	Maximum	77	73	77	80	82	84	86	78	79	74	72	74	80	85	84	81	70	76	74	77	82	72	75	85	78	75	77	80	81	71	..	78.0
	Minimum	49	53	50	59	60	62	59	59	61	61	51	57	59	57	59	62	61	48	58	53	57	53	46	64	53	54	47	50	54	56	..	55.7
Steele	Maximum	78	68	78	80	84	81	82	80	78	69	71	73	76	81	83	80	70	79	78	81	85	81	83	85	81	75	80	83	88	76	..	78.9
	Minimum	48	55	58	59	64	52	53	59	56	61	57	55	54	53	57	62	61	44	58	55	56	58	53	67	52	53	47	51	53	65	..	55.9
Towner	Maximum	81	76	79	84	86	86	83	82	77	72	75	77	79	85	86	84	72	81	84	79	87	80	82	80	80	76	81	78	82	81	..	80.5
	Minimum	50	56	48	62	64	65	53	62	59	58	57	57	55	56	57	61	60	44	57	59	56	50	51	65	49	54	43	52	49	61	..	55.7
Valley City	Maximum	81	70	81	82	84	86	88	88	85	77	76	71	70	74	86	82	81	79	78	77	78	85	85	80	88	79	77	82	84	82	..	80.5
	Minimum	59	55	49	51	58	61	55	58	61	60	54	54	65	58	53	58	59	60	50	54	50	55	56	48	53	56	48	55	55	62	..	55.7
Wahpeton	Maximum	83	82	82	86	88	92	90	82	83	80	79	79	80	85	87	86	84	80	79	82	88	87	83	98	87	85	81	87	89	88	..	84.7
	Minimum	54	58	52	52	64	69	65	55	61	58	55	56	54	55	60	62	67	56	55	52	55	56	48	62	55	66	48	54	53	69	..	57.5
Westhope	Maximum	85	71	80	89	90	89	82	79	75	70	75	73	80	87	89	88	73	85	90	87	90	82	87	87	82	80	84	79	85	79	..	82.4
	Minimum	53	56	51	51	64	64	55	60	55	56	58	57	53	55	58	62	59	45	65	56	57	52	54	59	53	52	46	58	51	57	..	55.7
Williston	Maximum	76	70	78	86	85	72	72	73	71	64	65	71	78	85	86	74	70	81	76	79	84	89	90	78	74	73	80	81	89	75	..	77.5
	Minimum	50	55	52	55	61	59	56	58	52	58	57	56	55	58	64	58	55	51	54	55	59	63	61	64	54	50	52	56	56	54	..	56.4
Moorhead, Minn	Maximum	82	74	80	84	87	90	85	80	77	77	72	74	77	84	85	84	75	77	74	77	86	75	81	90	81	75	78	82	83	78	..	80.1
	Minimum	52	58	54	58	64	68	63	54	63	60	55	57	56	58	60	63	65	56	53	55	57	55	50	60	56	59	52	57	56	56	..	57.7

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 7-26-32—1050]

551.05
UNNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

Vol. XXXXI   Bismarck, N. D., July, 1932   No. 7

GENERAL SUMMARY

Favorable weather prevailed generally at the opening of the month and crop prospects were nearly normal. Small grains were mostly headed and general rains from the 3d to the 5th, inclusive, were very beneficial. Unseasonably high temperature prevailed during the last two decades, greatly reducing the soil moisture and caused late crops and corn to deteriorate considerably. Except for scattered showers on the 19th and 20th, there was practically no precipitation of importance during this period. Harvesting, combining and threshing were well advanced. Some reports of damage from grasshoppers were received. Pastures and ranges at the close of the month were greatly in need of rain, although livestock were generally in good condition.

TEMPERATURE

The mean temperature for the state was 70.0°, or 1.6° above the normal, and 0.6° lower than the mean for July, 1931. The highest mean reported was 74.5° at Wahpeton, Richland County; the lowest was 64.5° at Hansboro, Towner County. The highest temperature reported was 108° at Max, McLean County on the 17th; the lowest was 36° at Hansboro, Towner County on the 1st and 2d. The greatest monthly range of temperature was 71° at Max, McLean County; the least was 49° at Pembina, Pembina County. The greatest daily range in temperature was 54° at Hansboro, Towner County on the 23d.

PRECIPITATION

The average precipitation for the state was 2.01 inches, or .41 inch below the normal, and 1.02 inches less than the iverage for July, 1931. The greatest monthly amount eported was 5.95 inches at Dunseith, Rolette County; the east was 0.68 inch at Bowman, Bowman County. The greatest mount recorded in any 24 consecutive hours was 3.00 inches t Dunseith, Rolette County on the 31st. The average numer of days with 0.01 inch or more of precipitation was 7.

AURORAS

Auroras were observed at Eckman on the 1st; at Arnegard on he 4th; at Bottineau, Devils Lake, Ellendale, Howard, Velva nd Moorhead on the 5th; at Bowman, Dogden Butte, Ellenlale, Edmore, Epping and Foxholm on the 6th; at Eckman, Ellendale and Epping on the 7th; at Crosby and Rugby on the th; at Devils Lake, Eckman and Edmore on the 9th; at Crosby n the 16th; at Parshall on the 17th; at Eckman on the 22d nd 23d; at Howard and Velva on the 25th; at Eckman on the 6th; at Howard on the 28th; at Eckman and Howard on the 9th; and at Howard on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.86	30.22	10	29.50	3	57	6,651	[illegible]	[illegible]	nw.	6
Devils Lake	29.88	30.21	10	29.61	[illegible]	41	6,101	8.2	26	n.	21
Ellendale	29.91	30.20	10	29.54	25	[illegible]	[illegible]	11.3	32	s.	11
Grand Forks	29.83	30.16	29	29.54	25	90	......	......	40	nw.	25
Williston	29.84	30.20	10	29.50	3	48	[illegible]	[illegible]	34	w.	19
Moorhead, Minn	29.87	30.16	29	29.50	25	58	5,816	[illegible]	22	[illegible]	11
Av'ges and extremes	29.86	30.22	10	29.50	3†	......	....	8.7	40	nw.	25

* For any five-minute period. † And other dates.

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SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	377.0	479.2	79	+ 7	78	46	42	20	25
Devils Lake	356.9	483.1	74	+ 3	82	52	55	30	15
Ellendale	396.4	475.2	83	+11	82	50	...	24	21
Grand Forks	......	......	......	......	77	......	49	......	...
Williston	397.3	483.1	82	+12	76	40	38	19	12†
Moorhead, Minn	376.1	479.2	78	+11	75	45	44	22	21
Averages and extremes	380.7	480.0	79	+ 9	80	47	46	19	12†

† And other dates.

COMPARATIVE STATE DATA FOR JULY

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	68.7	+0.3	108	31	3.23	+0.81	8	19	8	4	se.
1893	69.5	+1.1	112	35	2.04	−0.38	7	17	10	4	nw.
1894	71.7	+3.3	107	38	0.63	−1.79	3	20	8	3	nw.
1895	66.1	−2.3	102	29	2.90	+0.48	8	14	11	6	s.
1896	67.5	−0.9	107	31	1.59	−0.83	6	15	10	6	nw.
1897	68.9	+0.5	109	38	4.43	+2.01	9	13	11	7	s.
1898	67.6	−0.8	106	28	2.49	+0.07	7	15	11	5	nw.
1899	68.3	−0.1	109	32	2.34	−0.08	6	18	9	4	nw.
1900	67.9	−0.5	107	33	2.25	−0.17	6	16	10	5	nw.
1901	70.8	+2.4	110	40	4.28	+1.86	6	18	7	6	se.
1902	67.6	−0.8	106	34	2.15	−0.27	5	20	7	4	nw.
1903	66.7	−1.7	109	26	2.23	−0.19	7	17	8	6	nw.
1904	64.4	−4.0	102	34	2.49	+0.07	6	17	8	6	nw.
1905	65.6	−2.8	100	32	3.90	+1.48	8	17	9	5	nw.
1906	66.9	−1.5	102	34	1.97	−0.45	11	13	8	10	nw.
1907	65.8	−2.6	103	31	3.14	+0.72	9	16	11	4	nw.
1908	68.6	+0.2	103	31	2.10	−0.32	6	19	9	3	nw.
1909	67.1	−1.3	99	34	2.89	+0.47	8	15	9	7	nw.
1910	70.0	+1.6	114	33	1.60	−0.82	5	18	9	4	nw.
1911	65.1	−3.3	107	23	1.82	−0.60	6	18	10	3	nw.
1912	66.0	−2.4	106	30	3.54	+1.12	10	12	13	6	nw.
1913	65.6	−2.8	103	35	2.30	−0.12	8	17	8	6	nw.
1914	72.1	+8.7	109	36	2.31	−0.11	6	19	9	3	se.
1915	62.3	−6.1	97	30	3.01	+0.59	11	12	11	8	nw.
1916	73.1	+4.7	105	33	3.16	+0.74	7	19	9	3	se.
1917	70.9	+2.5	114	27	1.66	−0.76	7	17	11	3	nw.
1918	65.5	−2.9	102	31	2.71	+0.29	7	14	10	7	se.
1919	71.2	+2.8	105	37	1.81	−0.61	5	18	10	3	se.
1920	68.3	−0.1	103	31	2.16	−0.26	7	18	11	2	nw.
1921	71.4	+3.0	110	35	3.07	+0.65	7	17	10	4	se.
1922	65.6	−2.8	100	30	2.43	+0.01	8	16	11	4	nw.
1923	71.2	+2.8	103	35	3.14	+0.72	8	16	11	4	se.
1924	65.5	−2.9	99	32	1.95	−0.47	6	18	9	4	nw.
1925	66.7	−1.7	106	29	1.34	−1.08	6	18	9	4	nw.
1926	70.3	+1.9	108	32	2.00	−0.42	7	18	8	5	se.
1927	65.4	−3.0	97	28	2.85	+0.43	9	15	10	6	nw.
1928	67.4	−1.0	96	38	5.05	+2.63	10	16	10	5	nw.
1929	70.6	+2.2	109	34	1.27	−1.15	5	21	8	2	nw.
1930	72.3	+3.9	107	34	1.04	−1.38	5	21	8	2	nw.
1931	70.6	+2.2	111	37	3.03	+0.61	8	17	8	6	nw.
1932	70.0	+1.6	108	36	2.01	−0.41	7	19	8	4	nw.
Av.	68.4	....	114	23	2.42	....	7	17	9	5	nw.

*Extremes.

Climatological Data for July, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	6	......	......	...	...	...	...	......	1.16	......	0.56	0	5	......	......	......	......	H. A. Bury.
Amenia	Cass	954	36	68.4	-0.3	101	17	40	2	48	1.77	−1.12	0.75	0	9	8	18	5	s.	I. Idso.
Arnegard (near)	McKenzie	......	19	71.0	+1.7	105	18	41	10	49	1.65	−0.11	0.70	0	8	25	4	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	70.2	+1.5	101	19	43	1	40	1.53	−1.30	0.97	0	5	25	4	2	se.	H. D. Piper.
Beach	Golden Valley	2,759	26	69.6	+1.1	104	18	41	10	46	1.39	−0.43	0.71	0	5	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	70.6	+1.4	103	18	40	1	46	2.57	+0.40	1.17	0	8	19	9	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	72.0	+2.2	99	19	46	1	40	1.38	−0.86	1.06	0	7	17	12	2	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	66.6	0.0	97	17†	40	1	39	3.15	+0.85	1.06	0	10	16	11	4	se.	N. D. School of Forestry.
Bowman	Bowman	2.961	18	71.6	+2.2	102	17†	43	10	42	0.68	−1.69	0.31	0	4	25	6	0	nw.	George Larsen.
Cando	Towner	1,488	31	68.0	+1.2	94	17†	43	1	38	3.83	+1.31	1.34	0	9	11	14	6	nw.	A. J. Swanson.
Carrington	Foster	1,579	34	68.6	−0.1	100	16†	43	1	46	1.41	−1.13	0.48	0	5	25	3	3	se.	L. A. Swanson.
Carson	Grant	2,500	20	72.5	+3.7	100	19	40	1.	42	2.00	+0.06	1.29	0	5	21	10	0	nw.	J. W. Evens.
Cavalier	Pembina	894	22	......	......	...	...	...	...	......	2.82	+0.09	1.00	0	6	23	3	5	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	......	......	...	...	...	...	......	0.72	−1.83	0.40	0	4	19	5	7	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	......	......	...	...	...	...	......	1.08	......	0.62	0	3	26	4	1	nw.	W. A. Clem.
Courtenay	Stutsman	1,523	3	......	......	...	...	...	...	......	2.35	......	0.63	0	7	14	10	7	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	68.4	+1.6	98	17†	43	11	43	1.99	−0.16	0.79	0	9	7	21	3	se.	John Jensen.
Devils Lake	Ramsey	1,478	35	68.5	+1.1	100	17	45	1	39	3.87	+1.30	1.01	0	11	14	10	7	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	70.0	+1.8	103	17†	37	10	49	1.02	−1.23	0.48	0	8	23	6	2	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	69.8	......	99	17	43	1	40	2.11	......	0.65	0	9	21	7	3	nw.	R. L. Williams.
Drake	McHenry	1.634	3	68.6	......	100	17	41	1	41	2.06	......	0.63	0	10	18	11	2	nw.	Peter Anton.
Dunn Center	Dunn	2,191	33	68.8	+0.8	102	18	40	1†	49	2.54	+0.36	0.98	0	7	21	8	2	se.	W. F. Moede.
Dunseith	Rolette	1,682	36	68.4	+2.5	97	17	46	1†	39	5.95	+3.51	3.00	0	10	16	11	4	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	68.5	+1.7	104	17	38	1	50	2.16	−0.11	0.54	0	9	15	11	5	se.	C. E. Strock.
Edgeley	LaMoure	1,568	31	70.3	+1.5	100	19	40	4	41	1.14	−1.60	0.72	0	4	10	19	2	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	70.6	−0.1	101	19	46	2	41	1.93	−1.22	0.83	0	9	13	13	5	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	20	70.9	......	102	17	39	1	45	1.93	−0.33	1.17	0	4	19	12	0	se.	H. S. Solenberger.
Epping	Williams	2,224	24	68.0	......	101	18	40	2†	41	1.85	−0.16	1.00	0	7	21	7	3	nw.	A. O. Wang.
Fairfield	Billings	......	3	......	......	...	...	...	...	......	2.45	......	0.63	0	7	21	6	4	w.	F. R. Hecker.
Fessenden	Wells	1,610	20	69.2	+1.2	103	17	42	1	43	1.61	−0.51	0.56	0	8	24	4	3	se.	T. D. Monsen.
Forman	Sargent	1,249	39	......	......	...	...	...	...	......	1.94	−1.01	0.74	0	4	28	0	3	sw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	70.8	−0.9	102	19	42	1	46	1.87	−0.55	1.27	0	4	21	6	4	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	68.0	......	102	18	41	1	41	3.76	+1.53	1.59	0	8	17	9	5	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	......	......	...	...	...	...	......	1.65	−0.35	0.67	0	6	27	4	0	nw.	Verne King.
Fullerton	Dickey	1,439	34	72.2	+3.2	103	19	47	1†	43	1.77	−1.42	1.10	0	4	26	5	0	s.	F. O. Alin.
Gackle	Logan	1,951	2	......	......	...	...	...	...	......	1.37	......	0.65	0	6	24	3	4	nw.	Geo. Hummel.
Garrison	McLean	1,901	55	71.4	+3.2	101	18	42	1	42	2.40	+0.20	1.62	0	6	23	5	3	nw.	W. F. Robinson.
Grafton	Walsh	827	40	70.6	+2.9	101	17†	41	2	44	2.02	−0.47	0.47	0	10	13	15	3	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	41	70.7	+3.2	101	17	44	2	39	1.51	−1.22	0.25	0	10	13	13	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	69.4	+1.9	103	18	40	1†	43	2.60	+0.50	0.63	0	7	23	3	5	nw.	W. A. Christianson.
Hankinson	Richland	1,068	3	72.4	......	106	19	45	4	41	1.78	......	0.80	0	8	26	3	2	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40	66.6^{c}	......	97^{c}	23	42^{c}	1	45^{c}	1.39	−1.04	0.28	0	9	......	......	......	nw.	James Meier.
Hansboro	Towner	1,597	24	64.5	−0.7	98	17†	36	1†	54	2.41	−0.03	0.82	0	10	21	5	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	25	73.0	+2.9	102	17	43	1†	45	1.01	−1.54	0.61	0	3	21	9	1	se.	C. H. Plath.
Hillsboro	Traill	901	26	72.8	+3.2	103	19†	43	2	39	2.66	+0.23	0.82	0	8	20	10	1	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	25	67.4	+1.4	97	17	40	15	44	1.64	−0.14	0.58	0	5	17	9	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	70.4	+1.9	101	18	45	2	46	1.58	−1.14	0.46	0	8	18	7	6	se.	S. Calvelage.
Langdon	Cavalier	1,615	36	65.4	+0.8	94	17	44	1	39	2.52	+0.05	0.68	0	8	17	13	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	70.0	+3.0	101	17	42	2	41	1.40	−1.83	0.50	0	6	18	9	4	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	71.7	+0.4	104	19	42	10	48	1.56	−0.50	0.93	0	7	16	13	2	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	28	71.6	+2.3	105	19	42	2	46	1.35	−1.95	0.69	0	6	11	16	4	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	69.5	......	101	17†	40	1†	41	1.57	−0.75	0.74	0	5	22	6	3	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	72.4	+2.2	106	19	40	3	40	1.40	−1.53	0.74	0	4	24	4	3	sw.	J. G. Carlson.
Maddock	Benson	1,604	17	68.2	+0.6	103	24	40	1†	46	3.56	+1.16	1.17	0	10	10	16	5	se.	A. T. Felland.
Mandan	Morton	1,750	18	71.3	+0.7	99	17	48	10†	42	1.90	−0.75	0.95	0	9	17	4	10	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	......	......	...	...	...	...	......	1.66	−0.48	0.49	0	8	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	23	71.1	+1.7	101	18	44	7	47	1.54	−0.30	0.65	0	5	17	11	3	nw.	S. P. Grane.
Mary	McKenzie	......	3	......	......	...	...	...	...	......	2.05	......	0.65	0	6	25	4	2	se.	Fred Hartman.
Max	McLean	2,093	3	69.9	......	108	17	37	1	46	2.47	......	1.04	0	7	......	......	......	......	A. W. Rice.
Mayville	Traill	975	36	70.8	−0.7	104	19	42	2	45	1.95	−0.84	0.70	0	8	26	0	5	s.	H. B. Addicott.
Minot	Ward	1,557	36	69.0	+1.1	101	18	41	1	44	3.63	+1.76	0.95	0	8	21	6	4	w.	Julia B. Rue.
Mohall	Renville	1,646	38	70.4	+4.1	104	18	42	3	45	4.40	+2.17	1.62	0	8	12	18	1	se.	E. H. Wolsey.
Mott	Hettinger	2,424	25	73.2	+2.9	102	17	51	11	36	1.59	−1.00	0.82	0	7	18	8	5	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	70.4	+1.8	102	19	40	1	42	1.00	−1.50	0.82	0	4	22	4	5	sw.	C. J. Hoof.
New England	Hettinger	2.400	38	74.1	+5.3	105	16†	49	5	43	2.42	+0.47	0.95	0	4	22	7	2	nw.	F. S. Sleight.
New Salem	Morton	2.163	28	70.4	+0.5	100	17	41	1	41	1.53	−0.50	0.90	0	7	19	10	2	se.	J. Christiansen.
Oakes	Dickey	1,318	3	72.6	......	107	19	44	2	44	2.79	......	0.78	0	11	11	18	2	sw.	Eugene Naylor.
Park River	Walsh	998	28	68.6	+0.7	102	17	40	2	45	2.01	−0.50	0.50	0	7	12	11	8	nw.	C. B. Wright.
Parshall (near)	Mountrail	......	17	68.4	......	104	18	37	1	49	2.30	+0.49	1.02	0	7	16	13	2	se.	C. E. Shubert.
Pembina	Pembina	789	58	67.8	+0.3	94	17†	45	2	38	1.36	−1.10	0.58	0	12	8	14	9	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	......	......	...	...	...	...	......	2.84	......	1.13	0	9	18	10	3	se.	T. M. Rykken.
Pettibone	Kidder	1,856	23	68.6^{b}	+0.6	102^{b}	17†	48^{b}	28†	43^{b}	1.50	−1.20	......	0	......	......	......	......	......	A. L. Carlson.
Portal	Burke	1,954	27	68.3	+2.1	104	17	40	10	46	2.61	+0.71	0.71	0	11	27	0	4	se.	R. G. Wegener.
Power‡‡	Richland	1,020	38	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	Frank B. Power.
Powers Lake	Burke	2,205	27	71.0	......	101	19	42	4	41	1.92	−0.30	0.85	0	5	19	8	4	e.	Geo. B. Gee.
Richardton	Stark	2,467	16	71.0	+0.9	105	17†	41	1	41	1.26	−0.78	0.78	0	5	20	10	1	nw.	John Muggli.
Rugby (near)	Pierce	1,562	3	......	......	...	...	...	...	......	1.93	......	0.71	0	7	17	10	4	e.	E. C. Erickson.
Ryder	Ward	2,108	3	......	......	...	...	...	...	......	1.99	......	1.40	0	5	......	......	......		S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	69.3^{e}	......	103^{f}	18	41^{e}	1	38^{f}	1.94	......	1.40	0	5	......	......	......	se.	Geo. Buerkle.
Sharon	Steele	1,516	8	69.4	......	99	19	46	2	39	1.77	......	0.60	0	6	19	7	5	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8	......	......	...	...	...	...	......	1.89	......	1.15	0	4	24	3	4	se.	J. H. Giffey.
Steele	Kidder	1,857	38	71.1	+1.7	104	19	43	1†	45	1.13	−1.77	0.66	0	7	15	13	3	se.	V. A. Laney.
Stowers‡‡	Adams	2,325	17	......	......	...	...	...	...	......	1.09	−0.64	0.63	0	5	27	3	1	......	Thos. D. Aikire.
Tagus	Mountrail	2,179	3	......	......	...	...	...	...	......	2.30	......	1.25	0	6	24	5	2	se.	J. C. Abbott.
Tioga	Williams	2,279	3	......	......	...	...	...	...	......	1.24	......	0.85	0	4	19	8	4	nw.	Anton Carlson.
Towner	McHenry	1,482	30	70.0	+2.0	102	17†	41	1	42	2.14	−0.12	0.64	0	7	19	8	4	se.	Karl Weber.
Trotters	Golden Valley	......	6	......	......	...	...	...	...	......	1.81	......	0.62	0	6	24	4	3	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	18	......	......	...	...	...	...	......	2.34	−0.56	0.92	0	6	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	26	70.8	+2.1	102	19	42	2	44	2.87	+0.08	1.10	0	6	24	6	1	w.	I. C. Robertson.
Velva	McHenry	1,511	5	70.5	......	103	18	38	3	44	1.96	......	0.54	0	8	13	14	4	se.	Oscar Anderson.
Verona	LaMoure	1,387	4	......	......	...	...	...	...	......	1.74	......	0.88	0	6	25	2	4	nw.	W. C. Taylor.
Wahpeton	Richland	962	40	74.5	+4.7	106	19†	40	2	40	1.83	−1.63	0.72	0	9	22	0	9	se.	C. G Luick.
Washburn	McLean	1,731	31	71.8	+2.3	101	17	44	1	38	2.24	+0.05	0.79	0	10	20	8	3	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	70.8	+4.0	106	18	43	1	46	1.56	−0.67	0.52	0	10	23	7	1	se.	C. M. Condit.
Williston	Williams	1,878	53	71.4	+2.5	103	18	47	1	39	1.75	−0.14	0.55	0	9	25	4	2	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	67.6	+1.9	102	18	42	29	45	3.50	+1.41	0.91	0	9	23	5	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	3	68.8	+0.2	101	19	43	1	47	1.16	−1.46	0.75	0	7	17	4	10	se.	Gottlieb Herr.
Zap	Mercer	1,838	17	......	......	...	...	...	...	......	1.41	−0.55	0.74	0	4	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	51	72.1	+4.0	104	19	46	2	35	1.36	−2.07	0.59	0	9	14	13	4	s.	U. S. Weather Bureau.
Averages	......	......	......	70.0	+1.6	108	17	36	1†	54	2.01	−0.41	3.00	0.0	7	19	8	4	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for July, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.14		.33	.03							.10								.56												1.16
Amenia	Red			.20	.09	.75	.15	.10						.26	.05	.02						.15											1.77
Arnegard (near)	Missouri		.02		.70	.16	.08												.20		.25				.02							.22	1.65
Ashley	Missouri			T.	.97	.22		.20					.01													.13							1.53
Beach	Lit. Missouri				.31	.30						.06	.01						T.		.71												1.39
Berthold Agency	Missouri		.06		1.17	.05	.35			.02											.81						.05					.06	2.57
Bismarck ***	Missouri		.07	T.	1.06	.04	T.			.01			.08					T.			.02				.10		T.						1.38
Bottineau	Mouse			.50	.06	.88	.04	.16		.07			.05						.01	.32	1.06					T.						T.	3.15
Bowman	Grand		T.		.28	.08							.01								.31												0.68
Cando	Devils Lake		.02	1.10	.24	.43	T	T.		.09		.32								.23	.06											1.34	3.83
Carrington‖‖	James		.25	.08	.35	.48	T.					T.																T.				.25	1.41
Carson	Heart				1.29		.35						.05					.21							.10								2.00
Cavalier	Red			.37		.22						.20						.68		.35					1.00								2.82
Cooperstown	Sheyenne			T.	T.	.40	.04	T.				T		.18								.10											0.72
Corinth	Missouri				.62													.29	.17														1.08
Courtenay	James			.48	.32	.63	.06						.20	T.							.25						T.					.41	2.35
Crosby	Mouse			.29	.06	.10		.79				.16	.01							.53	.02						.03						1.99
Devils Lake ***	Devils Lake		.31	.34	.47	T.	.16					.15			T.			.31		.07	.05				.93	.08						1.00	3.87
Dickinson‖‖	Heart			.06	.48	.18	.01				T.	T.	.03							.04	.21					.01							1.02
Dogden Butte	Mouse		.05	.18	.65	.30	.08			T.								.38		.09	.34						.04						2.11
Drake‖‖	Mouse			.37		.63	.13	.09			T		.09						.42	.07	.23					T.		.01				.02	2.06
Dunn Center	Knife				.19	.66	.51	.03	.06											.11	.98												2.54
Dunseith	Mouse		.05	.89	.46	.26	.04			T.		.01						T.		.07	.99				.18							3.00	5.95
Eckman	Mouse		.06	.28	.54	.26	.10					.05							.22	.43	.22												2.16
Edgeley	James			.17	.72								.18		.07																		1.14
Edmore	Devils Lake		.02	1.11	.35	T.	T.	.02	T.	T.		.81						.12		.09	.09				T.	T.		.25				.27	3.13
Ellendale***	James		.02	.02	.83	.01	.08					T.	.04		0.20						T.				.07	.66							1.93
Energy	Missouri		.09		1.17	T.												T.			.65					.02	T.						1.93
Epping	Missouri		.04		1.00	.35	.02												.22	.07	.15												1.86
Fairfield	Knife		.30		.56	.39	.11					.08							.38		.63												2.45
Fessenden‖‖	James			.28	.01	.56	.09												.10	.02						.43						.12	1.61
Forman	Sheyenne			.22	.74		T.						T.		.53						T.					.45							1.94
Fort Yates	Missouri		.11		1.27		.15		.34																T.								1.87
Foxholm (near)	Mouse		.20		1.59	.38	.10					.02								.19	1.19						.09						3.76
Fryburg	Heart			T.	.67	.15	.05	.12			T.	T.								.06	.60											T.	1.65
Fullerton	James				1.10	T.	T.	.05	T.				T.		.27										T.	.35	T.						1.77
Gackle	James			.27	.65	.22	T.						.09								T.				.04							.10	1.37
Garrison	Missouri		.10		1.62	.13	.14													.20	.21												2.40
Grafton	Red		T.	.33	.25	.02	T	.25				.35				.10	.15				T					.47		.02				.08	2.02
Grand Forks ***	Red		.14	.17	.25	.08						.14	.18		.02				T.		.23				.11							.19	1.51
Granville	Mouse		.41		.52	.20	.24					.09								.51	.63					T							2.60
Hankinson	Red		.80	.01	.45				.04					.22					.04	T.	.02			.20									1.78
Hannah	Pembina	.03		.28	T.	.20		.03	T.	T.			.13					.25	T.	.08	T.					.28						.11	1.39
Hansboro	Devils Lake		.03	.82	.27	.18		.02				.03								.04	.12				.55							.35	2.41
Hettinger	Grand		.22		.61	T.							.18												T.								1.01
Hillsboro	Red			.09	.82	T.	.06	.02					.56								.55					T.		.06				.50	2.66
Howard (near)	Missouri				.58	.22	.30					.10						T.				.44					T.					T.	1.64
Jamestown	James		.14	.02	.46	.04	.10						.37	.07												T.						.38	1.58
Kenmare	Mouse			.26	1.40			.29				.06						.25	.13	.15						T.							2.54
Langdon	Pembina			.51	.08	.35							.68					.26			.16					.43		.05					2.52
Larimore	Red			.43		.50							.10						.01			.13				.23							1.40
Linton	Missouri		.04	.03	.93	.02	.04	.16					T.													.34	T.					T.	1.56
Lisbon	Sheyenne			.29		.69		.05						.04	.14											.14							1.35
McClusky	Missouri		T.		.74	.37	T.	.12												T.	.13					.21							1.57
McLeod	Sheyenne			.42		.74							.07		.17																		1.40
Maddock	Sheyenne		T.	.59	.48			.24		T.		.07	.09					.11		.05	T.				.42	1.17						.34	3.56
Mandan‖‖	Missouri		.07	.95	.50	.06	T.					.19								.02					.08	.02	T.					.01	1.90
Manfred	James		T.	.26	.49	.35	.04					T.						.04		.03	.04				T	.41							1.66
Marmarth	Lit. Missouri		T.	.26	.65	T.							.42								.20				.01							T.	1.54
Mary	Lit. Missouri		.24		.65	.30				.05									.18		.63												2.05
Max‖‖	Missouri			.10	.67	1.04	.01													.06	.49					.10							2.47
Mayville	Red			.30		.70		.05					.20							.40	.05							.15			.10		1.95
Minot	Mouse			.55	.95	.70	.15	.38												.35	.50						.05						3.63
Mohall	Mouse		.60	.10	1.62	.96	.15													.32	.10						T.			.55			4.40
Mott	Cannon Ball				.82	.05	.12											.12		.06											.26	.16	1.59
Napoleon‖‖	Missouri			.05		.82		.09																		.04							1.00
New England	Cannon Ball			.95	.18															.35												.94	2.42
New Salem	Heart		.01		.90	.14	.01			T.								.23								.18	.06						1.53
Oakes	James			.15	.57	.08		.04		.01			.04		.31					.05	.03				.78	.73							2.79
Park River	Red			.50	.06	.42		.02				.49									.07							T			.45		2.01
Parshall (near)	Missouri			.03	.07	1.02	.05	.28												.09	.76										T.	T.	2.30
Pembina‖‖	Red	.04		T.	.05	.06	.02	.01	T.	.58			.24					.05			.11	.01				.18	T.	.01	T.				1.36
Petersburg	Red			.46	.20	.20				.02		T.	.01						.53		.08					.18						1.13	2.84
Pettibone	James						1.15														T.											.35	1.50
Portal‖‖	Mouse		.55	.05	.56	.13	.15				.10	.04						.04		.08						.17						.74	2.61
Power	Sheyenne																																
Powers Lake	Missouri		.51		.85												.03			.37							.16						1.92
Richardton	Heart				.78	.03	T.			.02											.41					.02							1.26
Rugby [near]	Mouse		.02	.52	.71	.02	T.					T.								.35	.17				T.		T.					.14	1.93
Ryder	Missouri		.10		1.40														T.	.42					.04	.03							1.99
Sanish‖‖	Missouri				1.40			.14												.05	.31						.04						1.94
Sharon	Red	T.	T.	.60	.36	.51		T.		T.			.02					T.			.03					T.						.25	1.77
Stanton	Missouri				1.15		.08														.62				T.		T.					.04	1.89
Steele	Missouri		.13	.15	.66	.10	T.	.04		.03			T.													T.	T.					.02	1.13
Stowers	Cannon Ball		.03		.63	T.	T.						.05	.15											.23								1.09
Tagus	Mouse				1.25	.16	.18												.16	.45							.10						2.30
Tioga	Missouri		.13		.85	.10															.16												1.24
Towner	Mouse		T.	.40	.64	.08	.11					T.	T.							.51	.32					T.	T.					.08	2.14
Trotters	Lit. Missouri				.50	.15				.09		.03							T.	.42												.62	1.81
Turtle Lake	Missouri				.92	.32						.02					.03		.20		.85												2.34
Valley City	Sheyenne			.36	.31	.45							.09								.56											1.10	2.87
Velva	Mouse		.06	.34	.54	.41	.16													.10	.33				T.		.02						1.96
Verona	James			.33		.88							.24		.18						.03					.08							1.74
Wahpeton	Red			.72	.14	.25		.15		.10					.22					.06	.01					.18							1.83
Washburn	Missouri			.11	.30	.79	.02	.11					.05						.05	.05	.57					.19							2.24
Westhope	Mouse		.03	.52	.40	.03	.16			.08		.04								.15	.11											.04	1.56
Williston ***	Missouri		.06	.02	.53	.06	.06					T.							.41	.16	.02						T.					.43	1.75
Willow City	Mouse		T.	.42	.57	.05	.07			.12		.01								.91	.49						T.					.86	3.50
Wishek‖‖	Missouri				.02	.75		.10		.12			.06	.06												.05							1.16
Zap	Knife				.74	.11													.05	.51													1.41
Moorhead, Minn ***	Red	T.		.14	.46	.16	.01		T.				.04		.36				.02		.13				T.	.04						T.	1.36

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum...	70	76	64	60	58	57	75	78	91	76	78	78	80	86	92	96	101	100	99	67	90	70	89	99	93	87	96	78	89	91	90	82.4
	Minimum...	49	40	47	52	52	50	51	52	56	49	48	51	55	64	56	56	61	62	68	70	55	53	50	51	66	58	58	51	47	50	57	54.4
Aruegard (near)	Maximum...	82	75	80	70	70	75	79	92	78	77	82	89	90	85	93	103	103	105	95	80	90	92	100	86	94	94	86	81	86	83	97	86.8
	Minimum...	43	62	50	60	52	47	47	50	55	41	58	55	52	62	54	55	58	65	67	51	54	52	56	58	69	60	59	50	50	54	67	55.3
Ashley	Maximum...	71	75	75	67	71	77	76	82	87	77	89	89	90	90	89	93	97	98	101	91	91	88	93	98	92	87	93	78	81	78	87	85.5
	Minimum...	43	44	52	51	49	50	49	48	62	46	52	67	54	62	52	58	67	61	72	67	51	51	55	58	61	53	57	49	45	47	66	54.8
Beach	Maximum...	78	72	76	69	68	75	73	89	81	77	84	86	87	75	92	100	101	104	94	78	85	88	95	85	90	89	84	80	80	81	96	84.3
	Minimum...	44	56	49	56	53	48	47	54	60	41	59	60	55	62	49	54	61	69	62	57	54	52	57	59	55	60	51	49	54	56	61	55.0
Berthold Agency	Maximum...	77	74	77	84	69	75	77	89	85	76	89	90	89	84	91	97	100	103	93	84	88	90	95	90	90	91	88	78	84	78	94	86.1
	Minimum...	40	52	49	54	57	45	48	53	59	42	59	55	54	66	48	51	66	61	65	63	66	59	52	66	57	58	52	46	45	53	65	55.0
Bismarck	Maximum...	77	74	77	65	71	75	77	86	82	76	96	87	86	89	92	95	98	98	99	83	89	91	94	95	91	90	87	78	81	78	88	85.3
	Minimum...	46	51	55	53	53	52	52	56	56	50	62	65	59	66	55	55	72	71	71	64	59	55	63	68	62	58	60	54	51	56	69	58.7
Bottineau	Maximum...	68	62	58	58	64	70	73	84	75	72	82	84	90	88	88	90	97	97	90	79	83	82	94	96	84	80	81	74	78	85	80	80.2
	Minimum...	40	46	49	52	50	48	45	49	58	42	55	52	51	60	50	51	55	60	66	65	56	56	62	56	58	51	53	46	50	55	60	53.1
Cando	Maximum...	68	70	60	61	61	69	74	82	82	84	83	85	87	88	87	89	91	94	93	91	84	85	90	90	89	92	80	79	79	83	83	81.8
	Minimum...	43	46	51	51	51	47	47	49	60	56	46	56	55	60	53	53	62	68	66	64	55	50	53	61	58	54	58	47	46	51	60	54.1
Carrington §§	Maximum...	69	59	59	66	72	73	83	82	75	90	84	88	90	92	91	100	98	98	84	88	85	93	100	89	85	87	81	82	84	78	93	83.8
	Minimum...	43	46	53	52	49	49	49	54	45	53	58	53	54	59	54	54	64	64	66	60	51	51	57	63	53	53	45	45	48	51	62	53.5
Crosby	Maximum...	77	70	72	62	64	73	73	85	70	76	74	84	90	81	86	92	98	93	90	82	85	90	98	94	86	87	89	78	84	84	94	82.6
	Minimum...	45	54	51	57	52	44	50	51	56	53	43	56	50	63	52	56	55	57	60	62	51	55	58	63	62	57	56	45	54	54	57	54.3
Devils Lake	Maximum...	68	67	61	63	63	72	74	83	79	73	90	84	89	89	91	86	100	96	90	82	85	80	94	99	84	79	81	73	78	85	70	80.9
	Minimum...	45	46	53	52	52	48	50	54	53	49	56	58	58	64	59	58	66	67	68	66	60	54	55	65	63	54	55	49	48	52	62	56.1
Dickinson §§	Maximum...	77	75	76	70	69	75	77	89	76	78	92	87	87	83	92	102	103	103	96	81	87	91	98	91	92	93	87	79	83	81	95	86.0
	Minimum...	39	48	49	57	53	47	47	47	59	37	59	62	55	63	46	53	58	65	65	61	54	48	55	61	59	61	50	48	50	55	59	53.9
Dunn Center	Maximum...	78	73	76	68	67	74	78	89	74	75	89	86	87	89	90	98	100	102	93	78	85	86	93	85	88	89	82	75	81	80	81	83.6
	Minimum...	40	51	54	55	54	47	48	48	60	40	59	58	53	64	49	51	51	60	65	60	54	52	59	68	56	59	53	47	47	53	60	54.0
Dunseith	Maximum...	79	69	58	60	62	70	72	85	83	74	85	84	88	88	86	88	97	96	93	89	82	83	95	94	83	82	87	77	78	85	84	81.8
	Minimum...	46	47	48	51	49	48	48	48	60	46	74	54	58	60	52	54	59	65	65	63	54	50	56	67	61	56	52	48	51	54	60	55.0
Edgeley	Maximum...	70	74	66	61	71	75	76	83	87	79	91	86	87	90	91	92	96	98	100	97	93	90	92	96	95	87	93	78	81	84	88	85.4
	Minimum...	45	42	55	40	50	51	53	53	63	50	50	67	56	62	53	57	64	62	67	70	68	50	53	57	56	57	56	47	44	48	65	55.2
Ellendale	Maximum...	68	75	68	59	71	75	75	85	86	75	93	82	88	89	91	92	97	100	101	88	91	86	92	97	91	82	91	76	79	82	85	84.2
	Minimum...	48	46	54	53	52	52	54	50	56	50	52	67	59	66	57	60	62	65	76	63	57	54	56	60	65	60	60	51	47	49	65	57.0
Fessenden §§	Maximum...	70	71	60	60	68	74	75	85	81	76	93	87	90	93	95	95	103	105	100	84	88	85	96	100	87	85	86	77	83	86	80	84.4
	Minimum...	42	43	51	53	53	48	49	50	58	45	54	61	55	60	53	53	61	60	69	67	58	51	53	61	60	55	55	48	45	47	56	54.1
Foxholm (near)	Maximum...	74	68	71	64	64	70	71	84	80	72	81	82	87	84	86	91	98	102	89	84	83	82	93	95	87	81	81	75	80	83	90	81.7
	Minimum...	41	47	50	52	51	48	49	52	60	45	55	56	53	57	54	55	65	61	64	62	57	54	58	67	58	53	53	47	45	50	60	54.2
Fullerton	Maximum...	71	75	68	79	71	75	79	89	88	79	95	83	89	91	93	94	100	101	103	88	91	87	96	98	92	88	90	91	82	85	87	87.0
	Minimum...	47	47	54	53	52	52	51	50	62	49	52	68	59	64	57	65	62	65	77	65	56	52	55	65	64	58	59	60	49	50	65	57.5
Garrison	Maximum...	78	71	77	68	68	76	77	89	84	75	95	87	89	86	95	95	100	101	95	82	87	93	95	95	91	93	90	85	82	79	93	86.2
	Minimum...	42	52	51	53	55	49	53	51	63	47	60	59	57	63	53	56	68	67	68	65	57	53	60	68	58	57	56	50	48	53	65	56.7
Grafton	Maximum...	69	68	61	69	68	74	78	85	85	84	86	87	92	89	92	92	101	101	99	94	89	87	94	97	92	84	84	78	82	89	86	85.0
	Minimum...	50	41	53	49	54	51	51	55	61	52	51	59	55	59	58	58	63	68	72	70	59	52	50	66	65	57	60	50	47	50	60	56.3
Grand Forks	Maximum...	68	67	60	70	67	75	78	85	83	77	87	85	90	87	93	89	101	100	100	89	90	83	93	95	93	78	87	76	81	87	78	83.6
	Minimum...	50	44	55	52	54	50	49	54	62	50	54	63	58	65	59	57	62	69	79	71	60	54	57	63	67	59	60	49	47	56	64	57.8
Granville	Maximum...	75	65	67	62	65	75	75	87	77	76	90	87	92	89	95	95	102	103	92	85	85	85	97	100	88	80	85	78	83	87	90	84.4
	Minimum...	40	40	53	51	53	51	50	52	51	48	58	57	52	59	52	59	61	69	63	67	59	52	57	62	60	55	55	45	41	48	61	54.3
Hansboro	Maximum...	70	65	55	60	58	60	73	82	77	72	76	84	90	88	88	88	98	98	94	92	84	80	94	95	80	80	80	78	80	85	74	79.9
	Minimum...	36	36	45	47	40	38	41	36	55	50	58	55	55	50	62	50	62	65	70	65	50	45	40	50	50	45	45	40	40	45	55	49.1
Hettinger	Maximum...	79	81	82	75	76	81	79	92	87	78	97	89	87	85	95	98	102	102	100	89	90	95	96	95	94	97	92	78	76	78	92	88.3
	Minimum...	43	54	53	52	52	48	46	61	56	43	65	64	63	62	56	59	67	67	67	77	50	50	60	62	57	64	54	54	57	60	66	57.7
Hillsboro	Maximum...	67	70	70	73	73	71	78	86	89	86	92	86	90	90	91	96	101	102	103	103	88	88	91	95	95	96	96	80	86	86	86	87.2
	Minimum...	50	43	49	50	56	51	52	60	61	56	62	63	60	59	58	66	68	69	73	70	58	55	55	60	60	58	57	54	57	56	64	58.4
Howard (near)	Maximum...	77	72	72	74	64	70	77	84	77	72	73	84	87	80	84	92	97	93	92	81	82	90	96	90	91	90	80	78	84	84	94	82.6
	Minimum...	44	52	48	48	49	44	46	51	53	42	56	62	50	54	40	54	58	60	65	60	50	50	58	58	58	58	55	42	50	52	50	52.2
Jamestown	Maximum...	73	63	66	69	74	76	85	87	76	91	83	90	91	93	92	99	99	101	85	91	85	94	99	91	86	91	78	83	85	83	87	85.4
	Minimum...	46	45	55	53	50	49	50	50	58	48	54	62	54	63	54	59	60	67	73	70	54	55	53	56	62	57	56	49	49	47	58	55.4
Langdon	Maximum...	65	60	60	66	60	70	76	80	80	72	70	76	85	84	85	83	91	93	89	82	82	80	90	93	80	79	70	71	78	83	70	77.8
	Minimum...	44	45	50	50	50	45	48	47	59	47	48	52	58	61	54	50	55	66	66	66	56	46	51	57	60	55	56	46	46	45	60	52.9
Larimore	Maximum...	67	68	62	67	66	75	77	83	81	77	87	86	92	88	92	92	101	99	99	89	90	85	93	98	93	82	87	77	82	89	75	83.8
	Minimum...	48	42	53	51	52	50	51	54	58	51	52	59	57	61	57	60	64	65	73	72	58	52	52	67	64	55	52	49	48	50	63	56.1
Linton	Maximum...	78	75	80	74	73	78	79	86	87	78	96	91	87	91	93	96	98	100	104	94	95	96	97	102	94	91	94	81	83	78	88	88.3
	Minimum...	43	50	54	53	48	45	47	49	59	42	58	65	53	64	48	51	62	66	73	69	47	49	63	65	62	54	53	48	48	53	66	55.1
Lisbon	Maximum...	69	76	63	61	72	75	77	87	88	80	95	84	89	90	91	92	99	101	105	88	92	86	92	99	93	86	92	78	82	88	86	85.7
	Minimum...	49	42	56	53	51	50	51	51	60	50	49	73	51	64	57	61	60	71	79	74	55	55	55	60	66	60	59	53	49	52	67	57.5
McClusky	Maximum...	75	71	68	63	68	74	74	83	79	77	93	86	91	89	93	94	101	101	94	89	86	87	94	97	92	93	89	77	82	81	87	84.8
	Minimum...	40	42	40	52	51	40	42	50	58	43	58	64	52	62	52	56	66	66	66	64	58	50	55	62	59	68	55	46	47	50	66	54.2
Maddock	Maximum...	70	69	69	66	65	72	72	82	79	74	90	91	89	89	93	92	102	99	94	90	87	85	96	103	86	82	83	78	81	86	82	83.7
	Minimum...	40	40	52	51	51	49	49	48	56	46	50	58	54	58	52	49	60	60	67	66	57	46	50	60	61	53	55	47	43	45	60	52.7
Marmarth	Maximum...	75	81	76	72	72	81	79	88	79	78	92	84	87	83	91	100	100	101	93	83	87	92	97	87	93	92	84	82	75	82	94	85.8
	Minimum...	46	61	50	55	55	49	44	58	58	48	65	64	60	61	50	53	60	63	65	61	52	50	53	59	53	62	60	50	61	61	61	56.4
Minot	Maximum...	77	65	72	65	67	75	75	88	75	75	92	86	90	88	92	93	100	101	91	81	86	87	98	95	87	84	82	77	81	82	90	83.8
	Minimum...	41	48	51	52	51	48	48	49	61	44	58	56	50	58	50	49	65	65	66	63	58	50	59	68	58	55	52	47	45	52	62	54.2
Mohall	Maximum...	73	70	68	70	61	65	71	85	71	70	85	85	95	85	92	95	102	104	94	86	85	84	105	96	100	92	83	76	85	86	84	84.0
	Minimum...	46	44	42	53	54	53	51	51	51	48	56	55	61	56	60	51	63	67	66	61	59	56	60	63	66	58	66	58	56	67	61	56.7
Mott	Maximum...	78	80	81	78	76	76	78	89	78	74	80	88	88	90	92	98	102	98	98	89	88	95	93	98	93	93	86	87	83	93	93	87.5
	Minimum...	53	56	60	54	53	52	54	60	60	52	51	63	65	55	56	62	66	67	70	65	56	66	60	62	62	58	52	60	57	60	58	58.9
Napoleon §§	Maximum...	73	74	75	61	70	75	75	84	85	78	91	86	89	90	93	95	100	101	102	86	93	93	96	100	92	92	92	79	85	81	87	86.2
	Minimum...	40	45	54	51	49	49	48	47	61	44	55	64	54	62	51	54	63	64	74	67	52	51	54	61	62	56	53	48	45	48	67	54.6
New Salem	Maximum...	76	68	63	69	69	77	71	85	83	75	95	85	81	89	91	93	100	98	99	88	91	71	93	93	87	87	87	78	79	79	87	84.1
	Minimum...	41	52	51	50	52	50	49	50	60	47	60	64	61	63	64	64	59	65	65	62	60	61	57	60	61	58	57	49	44	51	67	56.6
Oakes	Maximum...	69	79	78	64	74	79	79	87	89	80	95	92	92	92	93	96	100	103	107	98	94	87	95	101	93	86	92	85	81	85	87	88.1
	Minimum...	47	44	56	49	49	51	51	49	64	49	51	69	54	66	55	57	63	66	81	70	55	54	54	63	64	59	62	52	47	51	67	57.1
Pembina §§	Maximum...	66	65	62	71	65	68	76	80	80	72	72	84	89	87	89	84	94	91	86	86	85	77	90	94	86	77	81	73	79	88	80	80.0
	Minimum...	49	45	48	46	52	53	49	55	58	52	52	56	57	60	59	59	62	67	70	69	57	53	52	60	64	57	53	49	49	52	59	55.6
Sharon	Maximum...	70	69	61	64	66	74	76	80	84	75	89	85	88	88	90	91	98	97	99	88	90	84	92	97	94	82	93	79	80	86	72	83.3
	Minimum...	47	46	53	50	51	48	49	50	60	47	52	62	57	59	55	57	60	65	70	69	55	50	53	63	63	54	57	48	51	52	65	55.4
Steele	Maximum...	72	74	73	64	69	73	76	85	82	79	95	88	90	91	94	93	101	100	104	93	90	88	94	99	91	90	88	78	81	83	88	86.0
	Minimum...	43	49	55	54	52	47	46	51	48	43	59	63	59	65	65	60	56	68	70	68	54	54	58	63	62	58	55	48	49	53	68	56.2
Towner	Maximum...	73	72	62	58	66	74	75	86	78	76	90	93	93	90	95	93	102	102	97	92	87	85	98	101	94	87	84	81	81	88	85	85.1
	Minimum...	41	48	52	54	54	52	48	51	60	45	57	56	51	62	53	51	63	70	66	67	59	52	56	63	60	54	56	45	46	49	63	55.0
Valley City	Maximum...	62	73	77	66	69	74	76	84	88	82	93	83	91	90	92	94	98	99	102	99	90	86	93	99	93	86	91	85	85	88	87	86.3
	Minimum...	48	42	54	50	50	49	49	51	57	49	49	65	52	62	53	56	62	67	76	67	55	56	52	61	65	57	57	51	46	47	60	55.3
Wahpeton	Maximum...	77	79	77	64	75	79	80	87	89	89	88	92	93	95	96	96	101	104	106	106	95	94	93	103	96	95	97	94	87	89	89	90.5
	Minimum...	52	40	50	53	53	52	51	52	65	49	52	72	57	67	60	62	64	69	74	73	55	55	54	65	67	63	65	53	49	55	67	58.5
Westhope	Maximum...	71	71	62	64	65	77	78	89	90	78	81	90	96	95	91	97	105	106	98	96	88	89	100	100	95	84	83	79	87	92	92	86.7
	Minimum...	43	50	52	55	53	51	50	51	59	46	56	55	50	61	53	51	60	62	68	65	55	51	57	60	65	53	57	46	48	51	64	54.8
Williston	Maximum...	81	75	76	69	66	75	79	91	74	77	77	88	88	82	89	98	101	103	94	81	87	91	97	87	90	90	82	77	84	81	95	84.7
	Minimum...	47	58	53	55	53	50	50	58	54	48	61	57	55	65	57	59	63	66	63	63	58	57	66	64	65	61	58	56	60	60	64	58.2
Moorhead, Minn	Maximum...	68	73	64	67	70	74	78	85	89	77	87	80	91	92	92	91	99	102	104	87	91	82	91	98	95	82	90	75	81	86	85	84.7
	Minimum...	52	46	55	55	55	52	53	55	61	51	53	68	61	68	61	65	64	70	76	67	60	56	56	63	68	60	62	54	53	56	68	59.5

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 8-24-32—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXI BISMARCK, N. D., AUGUST, 1932 No. 8

GENERAL SUMMARY

Generally favorable weather for farm and other outdoor work prevailed, though too dry for late crops, pastures and ranges. Threshing made excellent progress but less than the usual marketing was done, farmers being advised generally to store grain for better prices. Droughty conditions prevailed at the close of the month in many sections, and less than the usual fall plowing and seeding of winter rye was accomplished. Livestock was generally in good condition.

TEMPERATURE

The mean temperature for the state was 68.3°, or 2.1° above the normal, and 1.3° higher than the mean for August, 1931. The highest mean reported was 72.9° at Wahpeton, Richland County; the lowest was 63.1° at Hansboro, Towner County. The highest temperature reported was 100° at Amenia on the 3d, at Fort Yates on the 23d, and at Napoleon on the 15th; the lowest was 28° at Hansboro, Towner County on the 18th. The greatest monthly range of temperature was 64° at Fort Yates, Sioux County; the least was 42° at Williston, Williams County. The greatest daily range in temperature was 56° at Linton, Emmons County on the 3d.

PRECIPITATION

The average precipitation for the state was 1.82 inches, or 0.22 inch below the normal, and 0.27 inch less than the average for August, 1931. The greatest monthly amount reported was 4.46 inches at Forman, Sargent County; the least was 0.35 inch at Steele, Kidder County. The greatest amount recorded in any 24 consecutive hours was 2.33 inches at Hannah, Cavalier County on the 25th. The average number of days with 0.01 inch or more of precipitation was 7.

AURORAS

Auroras were observed at Bismarck, Foxholm, Howard, Tagus, Velva and Williston on the 1st; at Bismarck and Foxholm on the 2d; at Foxholm, Grand Forks, Kenmare, Parshall, Pettibone and Sharon the 3d; at Eckman, Ellendale and Parshall on the 4th; at Dogden Butte on the 5th; at Foxholm and Howard on the 8th; at Howard on the 10th; at Foxholm n the 11th; at Crosby and Foxholm on the 12th; at Parshall n the 13th; at Howard on the 17th; at Tagus on the 19th; t Pembina on the 20th; at Eckman on the 23d; at Howard n the 25th; at Eckman, Foxholm and Pembina on the 27th; t Pembina on the 28th; at Devils Lake and Eckman on the 9th; and at Devils Lake on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	29.88	30.33	18	29.35	29	57	6,674	9.0	28	sw.	30
Devils Lake	29.90	30.35	18	29.39	29	41	5,816	7.9	26	nw.	1
Ellendale	29.92	30.33	18	29.35	29	56	8,408	11.3	45	nw.	1
Grand Forks	29.86	30.30	18	29.30	29	90	....	.....	30	nw.	1
Williston	29.87	30.25	18	29.32	29	48	6,166	8.2	32	w.	1
Moorhead, Minn	29.89	30.33	18	29.32	29	58	5,792	7.8	28	n.	23
Av'ges and extremes	29.89	30.35	18	29.30	29	.....	....	8.8	45	nw.	1

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	268.3	439.4	61	— 8	78	44	39	18	3†
Devils Lake	333.2	442.0	75	+10	83	44	49	25	3†
Ellendale	319.8	437.4	73	+ 8	83	48	....	20	3
Grand Forks	......	......	......	......	80	.....	50	.....	....
Williston	301.6	442.0	68	+ 1	75	43	45	17	2
Moorhead, Minn	331.2	439.4	75	+ 9	76	44	43	20	3
Averages and extremes	310.8	440.0	70	+ 4	79	45	45	17	2

† And other dates.

COMPARATIVE STATE DATA FOR AUGUST

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	67.3	+1.1	105	24	2.39	+0.35	8	15	10	6	se.
1893...	66.7	+0.5	109	29	1.31	−0.73	3	20	7	4	nw.
1894...	68.8	+2.6	102	30	1.14	−0.90	4	17	10	4	nw.
1895...	64.5	−1.7	104	24	1.57	−0.47	5	17	11	3	nw.
1896...	64.7	−1.5	107	21	1.39	−0.65	5	17	10	4	nw.
1897...	64.1	−2.1	106	29	1.18	−0.86	5	15	10	6	nw.
1898...	65.4	−0.8	104	24	1.69	−0.35	5	15	11	5	nw.
1899...	65.2	−1.0	97	32	2.83	+0.79	6	15	11	5	se.
1900...	70.4	+4.2	114	33	5.06	+3.02	10	14	11	6	se.
1901...	66.9	+0.7	100	32	1.77	−0.27	6	18	8	5	nw.
1902...	64.3	−1.9	96	26	2.30	+0.26	8	16	9	6	s.
1903...	63.7	−2.5	103	35	4.68	+2.64	10	13	7	11	se.
1904...	63.3	−2.9	102	31	1.67	−0.37	6	17	7	7	nw.
1905...	67.5	+1.3	107	34	2.62	+0.58	7	17	8	6	nw.
1906...	66.3	+0.1	105	31	1.90	−0.14	7	17	6	8	se.
1907...	64.5	−1.7	104	26	1.89	−0.15	6	18	9	4	nw.
1908...	63.2	−3.0	104	25	2.28	+0.24	7	17	8	6	nw.
1909...	69.8	+3.6	109	27	2.25	+0.21	6	18	9	4	se.
1910...	63.1	−3.1	109	24	1.41	−0.63	5	14	8	9	nw.
1911...	62.2	−4.0	98	23	3.55	+1.51	8	12	11	8	nw.
1912...	63.4	−2.8	118	32	2.95	+0.91	10	11	10	10	nw.
1913...	68.9	+2.7	106	30	2.62	+0.58	6	16	10	5	nw.
1914...	64.2	−2.0	101	26	2.18	+0.14	7	13	11	7	nw.
1915...	64.4	−1.8	100	19	1.18	−0.86	4	19	8	4	se.
1916...	66.0	−0.2	100	26	2.75	+0.71	8	16	10	5	nw.
1917...	65.2	−1.0	105	25	0.82	−1.22	4	17	10	4	nw.
1918...	66.5	+0.3	102	34	3.35	+1.31	8	15	11	5	nw.
1919...	67.9	+1.7	101	30	1.62	−0.42	5	18	10	3	nw.
1920...	68.8	+2.6	108	28	1.56	−0.48	5	22	6	3	se.
1921...	67.2	+1.0	108	31	1.99	−0.05	6	18	10	3	nw.
1922...	69.8	+3.6	115	33	1.36	−0.68	6	18	9	4	se.
1923...	63.0	−3.2	97	28	1.90	−0.14	8	14	12	5	nw.
1924...	63.8	−2.4	102	28	1.65	−0.39	6	17	9	5	nw.
1925...	67.9	+1.7	110	29	1.07	−0.97	5	20	8	3	nw.
1926...	65.6	−0.6	105	36	2.43	+0.39	7	14	8	9	nw.
1927...	63.4	−2.8	96	28	3.23	+1.19	8	18	8	5	nw.
1928...	64.8	−1.4	105	25	3.30	+1.26	8	17	9	5	nw.
1929...	68.5	+2.3	106	26	0.77	−1.27	4	20	9	2	nw.
1930...	70.4	+4.2	104	32	1.45	−0.59	6	15	9	7	se.
1931...	67.0	+0.8	105	30	2.09	+0.05	6	16	9	6	nw.
1932...	68.3	+2.1	100	28	1.82	−0.22	7	16	10	5	se.
Av....	66.2	....	118*	19*	2.04	....	6	16	9	6	nw.

*Extremes.

Climatological Data for August, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	6	......	......	...	...	...	...	......	1.75	....	0.57	0	8	......	......	......	......	H. A. Bury.
Amenia	Cass	954	36	69.8	+3.3	100	3	38	19†	54	1.00	−1.55	0.22	0	7	5	18	8	s.	I. Idso.
Arnegard (near)	McKenzie	......	19	68.6	+1.3	94	15†	43	7	49	1.77	+0.32	0.72	0	7	18	7	6	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	68.6	+2.1	96	15	38	19	45	2.90	+0.46	0.86	0	10	19	6	6	se.	H. D. Piper.
Beach	Golden Valley	2,759	26	68.6	+2.2	91	9†	43	8	47	1.80	+0.03	0.68	0	10	......	......	......	e.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	68.0	+0.3	95	23	41	8	52	1.05	−0.68	0.45	0	5	16	12	3	se.	C. L. Hall.
Bismarck	Burleigh	1,674	57	69.7	+2.4	96	23	43	18	43	0.61	−1.21	0.20	0	7	11	14	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	66.7	+2.6	90	15†	38	18	40	1.13	−1.06	0.59	0	5	10	20	1	nw.	N. D. School of Forestry.
Bowman	Bowman	2.961	18	69.0	+1.3	94	22	41	2	45	2.87	+1.51	1.25	0	13	22	7	2	se.	George Larsen.
Cando	Towner	1,488	31	67.2	+2.3	91	15†	39	18	41	1.23	−0.90	0.41	0	4	11	16	4	nw.	A. J. Swanson.
Carrington	Foster	1,579	34	67.8	+1.0	99	14	40	17†	46	1.22	−0.90	0.55	0	5	25	4	2	e.	L. A. Swanson.
Carson	Grant	2,500	20	68.4	+0.5	98	23	44	8†	46	0.62	−0.90	0.18	0	6	18	12	1	se.	J. W. Evens.
Cavalier	Pembina	894	22	......	......	...	...	...	...	......	2.97	+0.71	1.49	0	6	20	6	5	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	......	......	...	...	...	...	......	2.67	+0.41	1.20	0	5	21	8	2	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	......	......	...	...	...	...	......	1.68	....	0.45	0	10	20	8	3	sw.	W. A. Clem.
Courtenay	Stutsman	1,523	3	......	......	...	...	...	...	......	2.94	....	1.92	0	6	15	11	5	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	66.0	+1.4	90	9†	45	31	42	3.51	+1.59	1.16	0	13	9	13	9	nw.	John Jensen.
Devils Lake	Ramsey	1,478	35	67.6	+2.8	92	15	38	18	39	1.23	−1.25	0.86	0	10	15	10	6	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	67.6	+1.3	91	23	42	7	43	2.68	+0.89	1.02	0	13	17	7	7	se.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	68.4	......	92	3†	45	7†	45	2.02	....	0.55	0	9	17	11	3	se.	R. L. Williams.
Drake	McHenry	1,634	3	67.4	......	94	23	40	18	45	2.48	....	0.92	0	8	14	13	4	nw.	Peter Anton.
Dunn Center	Dunn	2,191	33	66.7	+0.5	90	23	44	15	45	2.10	+0.69	0.85	0	9	12	14	5	se.	W. F. Moede.
Dunseith	Rolette	1,682	36	66.7	+2.8	89	15†	40	18	39	2.26	−0.12	1.50	0	8	12	15	4	ne.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	67.3	+3.1	94	7	33	18	56	0.61	−1.46	0.28	0	7	9	17	5	se.	C. E. Strock.
Edgeley	LaMoure	1,568	31	68.4	+1.5	94	23	36	19	48	2.89	+0.63	1.96	0	7	9	21	1	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	69.0	+0.2	94	15	38	19	45	3.65	+0.57	1.61	0	11	13	11	7	se.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	20	69.0	......	97	23	42	18	44	1.78	−0.07	0.63	0	6	10	18	3	se.	H. S. Solenberger.
Epping	Williams	2,224	21	66.2	......	92	9	40	7	44	1.47	−0.23	0.57	0	7	14	12	5	nw.	A. O. Wang.
Fairfield	Billings	......	3	......	......	...	...	...	...	......	1.45	....	0.62	0	7	15	15	1	se.	F. R. Hecker.
Fessenden	Wells	1,610	20	68.1	+2.2	97	3†	38	18†	51	3.20	+1.03	2.03	0	8	20	7	4	se.	T. D. Monsen.
Forman	Sargent	1,249	39	......	......	...	...	...	...	......	4.46	+1.72	1.85	0	7	23	7	1	se.	Helge Dyste.
Fort Yates	Sioux	1,670	32	69.4	+0.1	100	23	36	4	56	1.47	−0.53	0.81	0	6	21	7	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	66.3	......	91	20	40	18	42	0.98	−0.76	0.60	0	8	11	9	11	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	......	......	...	...	...	...	......	1.16	−0.30	0.27	0	4	22	8	1	se.	Verne King.
Fullerton	Dickey	1,439	34	69.4	+2.3	95	15	38	19	42	1.50	−1.08	0.56	0	7	23	7	1	nw.	F. O. Alin.
Gackle	Logan	1,951	2	......	......	...	...	...	...	......	0.71	....	0.16	0	9	17	8	6	se.	Geo. Hummel.
Garrison	McLean	1,901	55	68.6	+2.5	95	3†	42	18	48	1.74	0.28	0.49	0	7	18	8	5	se.	W. F. Robinson.
Grafton	Walsh	827	40	69.8	+4.6	95	15	39	19	48	1.84	−0.63	0.66	0	7	12	13	6	s.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	41	69.7	+4.3	94	15	38	18	41	2.97	+0.49	1.99	0	7	15	10	6	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	67.4	+2.5	94	3†	34	18	49	1.28	−0.57	0.47	0	6	18	9	4	se.	W. A. Christianson.
Hankinson	Richland	1,068	3	71.4	......	94	4	42	18†	41	2.71	....	1.03	0	8	22	7	2	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40	67.2	......	93	16†	37	18	41	3.59	+1.77	2.33	0	7	8	18	5	nw.	James Muir.
Hansboro	Towner	1,597	24	63.1	+0.7	90	14	28	18	50	2.07	−0.13	1.02	0	6	24	4	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	25	70.0	+1.2	94	22†	45	8†	44	2.31	+1.01	0.85	0	10	22	8	1	se.	C. H. Plath.
Hillsboro	Traill	901	26	69.6	+2.1	95	15	41	19	41	1.71	−0.75	1.00	0	5	10	17	4	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	25	65.7	+0.8	90	8	42	5	44	2.35	+0.84	0.95	0	8	11	18	2	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	68.0	+1.6	96	14	38	19	51	1.51	−1.02	1.00	0	5	14	15	2	nw.	S. Calvenage.
Langdon	Cavalier	1,615	36	65.9	+3.4	94	18	40	18†	54	1.92	−0.55	1.05	0	5	23	6	2	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	68.1	+3.1	96	15	40	18†	51	3.41	+0.77	2.00	0	8	18	7	6	ne.	Mabel Walsh.
Linton	Emmons	1,711	15	70.0	+0.8	99	15†	39	6	56	0.99	−1.02	0.30	0	7	11	17	3	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	28	69.4	+2.4	95	23	39	19	43	2.86	+0.52	1.23	0	6	14	7	10	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	68.2	......	96	3	40	7	50	1.69	−0.06	0.57	0	6	23	6	2	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	69.0	+1.1	95	15	40	18	47	2.16	+0.01	0.72	0	6	19	8	4	sw.	J. G. Carlson.
Maddock	Benson	1,604	17	68.2	+2.5	96	23	36	18	47	0.75	−1.46	0.25	0	5	8	17	6	se.	A. T. Felland.
Mandan	Morton	1,750	18	69.3	+1.2	95	15†	41	18	43	0.70	−0.80	0.30	0	8	13	6	12	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	......	......	...	...	...	...	......	1.24	−1.11	0.30	0	8	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	23	69.0	+1.7	93	9†	40	7	48	2.52	+0.78	0.48	0	11	16	4	11	nw.	S. P. Grane.
Mary	McKenzie	......	3	......	......	...	...	...	...	......	1.78	....	0.41	0	9	18	9	4	se.	Fred Hartman.
Max	McLean	2,093	3	68.3	......	95	3†	41	18	50	1.71	....	0.56	0	9	......	......	......	se.	A. W. Rice.
Mayville	Traill	975	36	......	......	...	...	...	...	......	......	....	......	......	......	......	......	......	......	H. B. Addicott.
Minot	Ward	1,557	36	65.8	+0.8	92	3	29	18	49	1.34	−0.67	0.42	0	10	15	10	6	se.	Julia B. Rue.
Mohall	Renville	1,646	38	68.4	+4.5	93	13	45	31	40	1.29	−0.52	0.68	0	3	4	25	2	se.	E. H. Wolsey.
Mott	Hettinger	2,424	25	70.0	+2.9	94	1†	46	7†	38	2.37	+0.60	0.66	0	9	11	5	12	se.	O. H. Opland.
Napoleon	Logan	1,955	40	69.4	+3.0	100	15	39	18	48	0.51	−1.82	0.28	0	9	15	8	8	se.	C. J. Hoof.
New England	Hettinger	2,400	38	70.0	+3.1	94	21	42	31	36	1.58	−0.01	1.22	0	5	17	9	5	se.	F. S. Sleight.
New Salem	Morton	2,163	28	69.0	+1.8	93	15	44	31	40	0.92	−0.66	0.25	0	9	11	14	3	se.	J. Christiansen.
Oakes	Dickey	1,318	3	70.2	......	96	15	38	19	48	2.32	....	0.88	0	11	12	15	4	nw.	Eugene Naylor.
Park River	Walsh	998	28	67.2	+1.0	93	15	39	18	44	4.00	+1.72	1.05	0	7	15	9	7	nw.	C. B. Wright.
Parshall (near)	Mountrail	......	17	66.8	......	94	1	39	7	43	1.23	−0.60	0.30	0	7	10	13	8	nw.	C. E. Shubert.
Pembina	Pembina	789	58	67.2	+2.9	92	21	39	18	42	2.07	−0.19	0.58	0	9	5	17	9	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	......	......	...	...	...	...	......	2.69	....	1.58	0	8	21	8	2	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	23	70.2	+1.9	97	15	40	18	48	0.69	−1.74	0.38	0	7	19	9	3	se.	H. H. McCumber.
Portal	Burke	1,954	27	65.7	+1.5	93	13	42	31	43	1.09	−0.84	0.47	0	7	20	4	7	se.	R. G. Wegener.
Power‡‡	Richland	1,020	38	......	......	...	...	...	...	......	1.50	−0.87	0.50	0	6	24	6	1	s.	Frank B. Power.
Powers Lake	Burke	2,205	27	63.2	......	89	1	38	18	49	1.27	−0.22	0.77	0	4	18	10	3	se.	Geo. B. Gee.
Richardton	Stark	2,467	16	69.0	+0.9	95	23	42	31	43	1.16	−0.41	0.83	0	4	14	12	3	se.	John Muggli.
Rugby (near)	Pierce	1,562	3	......	......	...	...	...	...	......	0.83	....	0.42	0	8	11	15	5	se.	E. C. Erickson.
Ryder	Ward	2,108	3	......	......	...	...	...	...	......	1.79	....	0.42	0	6	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	68.2	......	95	3	41	7	50	0.95	....	0.41	0	9	9	8	14	se.	Geo. Buerkle.
Sharon	Steele	1,516	8	68.9	......	95	15	41	18	38	2.32	....	0.87	0	8	13	12	6	e.	Nels O. Gretsheim.
Stanton	Mercer	1,722	8	......	......	...	...	...	...	......	2.72	....	1.15	0	6	18	7	6	se.	J. H. Giffey.
Steele	Kidder	1,857	38	69.3	+2.6	98	23	39	18	48	0.35	−2.02	0.12	0	7	12	10	9	se.	V. A. Laney.
Stowers‡‡	Adams	2,325	17	......	......	...	...	...	...	......	1.94	+0.63	0.86	0	5	21	7	3	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	......	......	...	...	...	...	......	0.82	....	0.33	0	5	22	5	4	se.	J. C. Abbott.
Tioga	Williams	2,279	3	......	......	...	...	...	...	......	2.29	....	0.74	0	12	15	8	8	se.	Anton Carlson.
Towner	McHenry	1,482	30	68.3	+2.9	95	23	31	18	45	0.94	−0.95	0.26	0	7	15	13	3	nw.	Karl Weber.
Trotters	Golden Valley	......	6	......	......	...	...	...	...	......	1.45	....	0.39	0	7	11	13	7	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	18	......	......	...	...	...	...	......	1.27	−1.08	0.52	0	6	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	26	69.7	+2.9	97	15	37	19	47	0.87	−1.20	0.24	0	7	14	14	3	se.	I. C. Robertson.
Velva	McHenry	1,511	5	68.8	......	95	3	38	18	48	2.19	....	1.08	0	8	8	16	7	e.	Oscar Anderson.
Verona	LaMoure	1,387	4	......	......	...	...	...	...	......	2.06	....	1.18	0	4	27	1	3	nw.	W. C. Taylor.
Wahpeton	Richland	962	40	72.9	+5.0	96	4	43	19	42	2.90	+0.15	0.80	0	8	25	0	6	se.	C. G. Luck.
Washburn	McLean	1,731	31	69.7	+2.3	96	23	46	18	40	1.49	+0.15	0.43	0	8	17	6	8	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	69.2	+4.5	97	22	39	18	46	1.39	−0.65	0.71	0	8	15	13	3	ne.	C. M. Condit.
Williston	Williams	1,878	53	68.8	+2.7	90	19	18	31	40	1.24	−0.23	0.26	0	12	16	11	4	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	67.3	+3.7	92	16†	35	18	47	1.05	−0.95	0.49	0	6	21	9	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2,030	3	67.4	+1.6	95	15†	38	19	48	1.43	−0.68	0.69	0	11	16	2	13	se.	Gottlieb Herr.
Zap	Mercer	1,838	17	......	......	...	...	...	...	......	1.96	+0.14	0.61	0	6	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	51	70.7	+4.6	96	23	45	18	37	2.48	−0.41	1.05	0	9	13	12	6	s.	U. S. Weather Bureau.
Averages	....	......	......	68.3	+2.1	100	3†	28	18	56	1.82	−0.22	2.33	0.0	7	16	10	5	se.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for August, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	T.										.04	.06		.20		.31						.04	.08					.57		.45		1.75
Amenia	Red	.03	.15																						.17		.22		.15	.10	.18		1.09
Arnegard (near)	Missouri	T.			T.	T.					T.	T.		T.	.01		.13				T.		.09	T.	T.	.09			.20	.72	.20		1.77
Ashley	Missouri	.09	.85				.02					.13					.04					.56	.25		.20	.10			[illegible]				2.90
Beach	Lit. Missouri												.11		.65		.10				.15		.03	.05				.15	.25	.08	.23		1.80
Berthold Agency	Missouri											.12			.05		.31												.15		.12		1.65
Bismarck ***	Missouri	.16				T.	.01				T.	.08			T.		T.						.01		T.	.06		T.	.20	.09	T.		0.61
Bottineau	Mouse	.59	T.													T.	T.								.07		T.		.01	.30	.16		1.13
Bowman	Grand	.08				T.	.01					.07	.25		T.		.01				.24		.21	.09	.20	.03		.25	.15		1.25		2.87
Cando	Devils Lake						T.										T.							.18	.41	.23			.11	T.			1.23
Carrington‖‖	James	T.					.05					.10					.27							.55					.25	T.			1.22
Carson	Heart	.18													.04		.10					.02			.18			.10					0.62
Cavalier	Red		.06										T.												.29	1.49			.42	.70	.01		2.97
Cooperstown	Sheyenne	.54		.41													1.20								.21	T.				.31		T.	2.67
Corinth	Missouri	.25										.45					.08					.22	.05	.17		.02			.02	.22	.20		1.68
Courtenay	James	.53										.10					.15								1.92	.12			.12				2.54
Crosby	Mouse	1.16	.12									.06	.39	.07	.16								.20		.22	.06			.37	.13	.44	.13	3.51
Devils Lake ***	Devils Lake	.01	.01		T.		.01		T.			T.		.01			.12						T.	.03	.85	T.			.11	.06	.01		1.23
Dickinson‖‖	Heart	1.02	.07				T.					.01	.01	.01		.73	.26	.20					.04	.01	T.		T.		.16	T.	.19	.03	2.68
Dogden Butte	Mouse		.06				T.					.39	.03	.03			.11									.10	T.		.23	.55	.22		2.62
Drake‖‖	Mouse		.08					T.				.23			.02		.51								.92	T.			.28	.01	.40		2.18
Dunn Center	Knife	.85														.10	.36						.06	.14		.08			.32		.17	.02	2.10
Dunseith	Mouse	1.50	.02													.03									.15	.18			.23	.10	.05		2.26
Eckman	Mouse	.01										.15					.02								.02	.01			.28		.12		0.61
Edgeley	James	1.96	.34				.06																.02			.05			.44	.02			2.89
Edmore	Devils Lake	.27	.01				T.							T.										.02	.18	.03			.16	.29	T.		0.96
Ellendale***	James	.60	.01			T.	.01					.01			T.		.02					.65	1.61		.03	.07		.03	.61		T.		3.65
Energy	Missouri	.03										.63					.22						T.			.16			.60		.20		1.78
Epping	Missouri	.13									T.				.50								.05	.05		.05			.57		.12		1.47
Fairfield	Knife	.04													.25		.62											.05	.05	.04	.40		1.45
Fessenden‖‖	James		.05					.18					.69				.42	.11							2.03		.04		.28				3.20
Forman	Sheyenne	.80	.60				T.										T.					.18	1.85		.20	.19			.64	T.			4.46
Fort Yates	Missouri	.15										T.				.16						.81	.20			.03		T.	.12				1.47
Foxholm (near)	Mouse	T.					T.					.16	T.	.01		.60	.01				T.			T.	.06	.03			.06		.05		0.98
Fryburg	Heart	T.								T.	T.				.37	.21					T.				T.	T.		T.	.36	T.	.22	T.	1.16
Fullerton	James	.37					.03					T.			T.		.05					.22	.06		.21	T.		T.	.56	T.	T.		1.50
Gackle	James		.05			.01	.02					T.				.09						.10	T.		.15	.16			.09		.04		0.71
Garrison	Missouri	.21										.48			.03		.13									.02			.38		.49		1.74
Grafton	Red	.10	.37																						.28	.22			.11	.66	.10		1.84
Grand Forks ***	Red	.15	.14			T.	T.																	1.99		.34			.24	.08	.03		2.97
Granville	Mouse	T.					T.					.22		T.		.02								T.	.47				.22	.05	.30		1.28
Hankinson	Red	1.03															.20					.07	.28	.36		.03		.42	.32				2.71
Hannah	Pembina	.45	.02					T.							T.	T.								T.	.17	2.53	.25			.18	.19		3.59
Hansboro	Devils Lake	1.02														.05									.60	.10			.10	.20			2.07
Hettinger	Grand	.85					.02						.34		.40						T.	.23	.07		.17			.12	T.	.06	.05		2.31
Hillsboro	Red		.18														.26							1.00					.25	.05			1.74
Howard (near)	Missouri				T.	T.				T.	T.		.95	.06	T.						T.		.60	T.	.38	.02			.07	.10	.17		2.35
Jamestown	James	.05										.11													1.00	.15			.20				1.51
Kenmare	Mouse	.06	T.				T.				T.	.19	.06	.06	.01	.07								.02	.03	T.		.04	.28	.35			1.27
Langdon	Pembina	1.05	.10																							.55	.10			.12			1.92
Larimore	Red	.23	.33															.10							2.00		.19			.21	.33	.02	3.41
Linton	Missouri	T.	.02				T.					T.					T.					.26	.30		.06	.18		.06	.11	T.			0.99
Lisbon	Sheyenne		1.23																			.73		.22	.26		.11		.31				2.86
McClusky	Missouri	.15					.02					.38					.57												.47	.10			1.69
McLeod	Sheyenne		.50				T.							T.			T.					.40		.72	.08	T.			.44	.02			2.16
Maddock	Sheyenne		.08									T.			T.		T.								.11	.25			.25	.06			0.75
Mandan‖‖	Missouri	.07				.02					.03	.06				T.						T.			.15	T.		.30	.05	.02			0.70
Manfred	James	.14				.01						.06					.15								.20	.30			.22	.16	T.		1.24
Marmarth	Lit. Missouri	.11									T.	T.	.48		.24		.43						.15	.05	.10		.01	.08	.42		.45		2.52
Mary	Lit. Missouri	.41					T.				T.		T.		.18		.27				T.	.15	.10			.10		.06		.39	.12		1.78
Max‖‖	Missouri												.56			.02	.10								.05		.01		.27	.02	.52	.16	1.71
Mayville	Red																																
Minot	Mouse												.10	.01		.04	.15						.04	.42	.02				.10	.06	.10		1.34
Mohall	Mouse	.55					T.					.68		.06																			1.29
Mott	Cannon Ball	.22										.66			.11		.46				.09	.05	.08		.15				T.	.55			2.37
Napoleon‖‖	Missouri					.01	.02					T.						T.				.07		T.	.01	.04	.28		.06	.01	.01		0.51
New England	Cannon Ball												.14		.02		.15					.05								1.22			1.58
New Salem	Heart	.11	.04			T.						.04	.07		T.		.25						.04			T.		T.	.15	.01	.18		0.92
Oakes	James	.03	.88			T.	.02										.01					.44	.11	.02	.02	.04	.02		.73				2.32
Park River	Red	.08	.53																					.87	.77				.65	1.05	.05		4.00
Parshall (near)	Missouri	T.											.30			.01	.11							.28	.03				.28	T.	.22		1.23
Pembina‖‖	Red	.14	.18				.01																		.07	.58	.14			.48	.45	.02	2.07
Petersburg	Red	.01	.33														.15							1.58	.36	.06			.05	.15			2.69
Pettibone	James		.05				.04					.38					.04							.08		T.			.09	.01	T.		0.69
Portal‖‖	Mouse											.06		.07										.05	.06				.35	.47	.03		1.09
Power	Sheyenne	.40																			.15	.15	.20		.10				.50				1.50
Powers Lake	Missouri															.02										.06					.42	.77	1.27
Richardton	Heart											.03	T.				.22						.08								.83		1.16
Rugby (near)	Mouse	.03					.02					T.		.02										.42		.07			.18	.04	.05		0.83
Ryder	Missouri	T.									T.	.42			.28	.29							.07	T.	T.			.31		.42	T.		1.79
Sanish‖‖	Missouri	.01												.01		.03	.11						.05		.01				.41	.09	.20		0.95
Sharon	Red	.87	.28									T.					.13							T.	.56	.14			.20	.11	.03		2.32
Stanton	Missouri											1.15					.35							T.		.05			.53	.06	.58		2.72
Steele	Missouri	.05		T.	.08	.05						.01					T.						T.			.12			.03	.01			0.35
Stowers	Cannon Ball	.86					.05				T.	T.	.02			.85							T.		T.	.16		T.					1.94
Tagus	Mouse											.10				.12								.12					.15	.33			0.82
Tioga	Missouri	.16										.17	.04	.04	.09	.25	.05						.10	.05						.46	.74	.14	2.29
Towner	Mouse	T.										.09		T.										.03	.26	.22			.22	.03	.09		0.94
Trotters	Lit. Missouri												.11		T.		.15						.39	.06					.20	.30	.24		1.45
Turtle Lake	Missouri											.52					.21		.12										.30	.04	.08		1.27
Valley City	Sheyenne		.20				T.					T.					.10					.01			.20	.05	.07		.24				0.87
Velva	Mouse	T.	T.				T.					.22		T.	T.	.05	.34							T.	1.08	.02			.21	.06	.21		2.19
Verona	James		1.08																				.22		.31				.45				2.06
Wahpeton	Red		.80																			.38	.05	.30	.73	.04			.48	.12			2.90
Washburn	Missouri		.05				.03						.43				.36									.04			.30	.06	.22		1.49
Westhope	Mouse	.71										.10				T.								.03	.03	.05			.43	.01	.03		1.39
Williston ***	Missouri										.10	.01	.11	.13	.10	.05							.11	.05	.18				.03	.26	.11		1.24
Willow City	Mouse	T.												T.		.18									.49	.02			.19	.06	.11		1.05
Wishek‖‖	Missouri											.02					.01					.69		.14	.09	.01	.02		.39	.01	.01	.04	1.43
Zap	Knife	.10										.28					.61								.12				.44		.41		1.96
Moorhead, Minn. ***	Red	.12	.38									.01			T.		T.				.02		.69	.01	1.05				.18	.02			2.48

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	87	89	100	91	83	82	79	86	89	88	86	88	86	88	96	89	76	74	85	92	85	91	99	90	80	80	85	69	90	90	75	86.1
	Minimum	59	55	49	52	56	46	49	46	50	50	56	60	56	58	62	63	59	42	38	38	52	64	62	64	56	53	47	49	57	60	47	53.4
Arnegard (near)	Maximum	81	84	92	86	71	79	84	93	89	83	77	80	88	83	94	88	82	86	93	90	94	90	85	75	82	85	84	74	84	66	68	83.5
	Minimum	53	47	47	57	50	47	43	44	53	58	60	52	65	58	55	59	60	47	55	54	57	60	60	60	56	47	50	57	61	47	46	53.7
Ashley	Maximum	89	85	93	88	80	77	79	89	89	88	77	79	76	85	96	92	84	78	82	93	86	84	94	87	75	77	77	67	89	88	72	83.7
	Minimum	62	51	50	58	52	49	45	51	49	51	56	56	56	63	58	64	57	40	38	48	64	59	57	61	52	49	48	56	55	57	45	53.5
Beach	Maximum	82	80	90	82	76	75	83	90	91	81	88	81	91	89	89	84	83	85	90	80	90	85	90	75	75	81	77	82	78	65	66	82.4
	Minimum	53	47	50	54	46	50	44	43	57	67	59	62	64	59	54	63	56	52	57	59	56	61	62	53	58	44	59	58	57	48	44	54.7
Berthold Agency	Maximum	94	92	94	87	82	78	82	88	90	83	77	79	81	86	91	88	85	80	88	87	91	93	95	79	81	82	83	70	77	65	70	83.8
	Minimum	57	45	42	51	49	46	43	41	53	57	49	51	66	57	52	58	55	45	49	51	51	64	60	57	58	45	53	57	61	50	49	52.3
Bismarck	Maximum	90	85	95	84	73	77	80	89	88	82	71	79	78	94	95	85	78	79	86	92	88	88	96	83	75	81	79	66	82	68	71	82.5
	Minimum	62	52	52	56	56	53	49	47	58	60	62	58	65	66	60	65	58	43	51	57	64	63	64	62	58	50	55	58	58	52	49	56.9
Bottineau	Maximum	84	80	81	77	75	76	78	83	82	81	72	83	85	89	90	88	75	72	84	90	85	88	86	79	78	78	82	60	76	62	68	79.6
	Minimum	59	45	46	52	48	48	40	52	55	56	58	58	60	61	58	60	55	38	44	52	58	62	63	57	55	57	56	57	55	58	45	53.8
Cando	Maximum	87	86	82	82	76	75	78	80	83	84	80	83	83	86	91	91	86	73	81	88	86	87	87	87	77	77	80	82	77	74	69	81.9
	Minimum	55	50	57	52	49	50	51	43	48	49	54	52	58	51	60	60	54	39	42	47	45	60	61	58	55	53	52	49	62	63	45	52.4
Carrington §§	Maximum	90	96	87	83	84	81	91	90	82	70	81	82	93	99	88	79	76	83	90	85	88	92	84	77	84	81	62	84	75	74	83	83.7
	Minimum	50	50	49	52	51	44	46	49	44	51	56	56	60	63	61	53	40	40	48	49	61	61	61	56	50	49	54	55	61	46	46	52.0
Crosby	Maximum	83	80	82	79	73	76	80	85	90	83	65	80	83	87	83	85	75	81	90	85	84	84	73	71	77	80	83	64	72	55	65	78.5
	Minimum	56	54	52	56	49	49	46	48	48	65	58	56	57	55	54	54	50	52	52	55	56	61	56	55	55	47	51	53	58	51	45	53.4
Devils Lake	Maximum	88	83	89	80	75	74	76	81	84	81	76	84	84	88	92	87	73	73	80	89	87	87	92	82	75	77	82	64	77	72	69	80.7
	Minimum	59	53	55	58	51	53	46	49	49	52	56	55	61	65	65	63	50	38	42	50	59	61	63	59	55	51	52	58	61	51	49	54.5
Dickinson §§	Maximum	85	82	90	82	74	74	81	87	88	84	76	80	85	90	90	83	76	80	88	83	90	90	91	78	78	80	77	76	85	61	68	81.7
	Minimum	59	47	47	52	51	48	42	47	55	56	58	57	58	58	56	59	54	48	50	54	56	63	63	59	56	45	49	56	59	55	44	53.6
Dunn Center	Maximum	81	80	89	81	67	73	80	84	86	81	70	78	82	87	89	84	75	79	85	83	89	87	90	76	76	77	80	71	77	61	68	79.5
	Minimum	58	45	57	55	50	45	45	47	55	57	60	53	60	58	44	60	54	45	49	61	52	65	62	60	59	45	51	56	59	57	48	53.9
Dunseith	Maximum	82	78	79	77	74	73	75	79	82	81	72	79	81	87	89	85	81	73	83	88	86	89	87	85	75	79	81	71	76	75	65	79.6
	Minimum	58	48	51	57	51	49	46	51	54	56	56	55	60	60	60	65	53	40	44	56	50	60	62	56	56	52	50	55	55	56	46	53.8
Edgeley	Maximum	90	84	92	86	78	77	76	85	85	80	75	80	76	89	93	89	82	72	84	90	88	83	94	93	74	79	80	69	90	83	72	82.8
	Minimum	60	54	52	57	53	52	52	51	45	49	58	56	54	54	63	67	57	38	36	50	61	60	59	60	53	50	50	54	62	61	48	54.1
Ellendale	Maximum	84	85	91	89	80	77	76	86	85	84	78	81	79	85	94	92	78	74	83	90	81	85	93	82	76	78	79	68	91	81	71	82.5
	Minimum	58	54	51	59	54	53	49	51	50	52	60	58	54	66	64	70	51	40	38	53	66	62	61	63	57	55	52	56	62	55	50	55.6
Fessenden §§	Maximum	92	87	97	84	80	80	80	86	89	85	70	85	86	95	96	88	75	76	85	93	90	90	97	82	74	79	84	80	81	73	70	84.2
	Minimum	64	48	46	53	49	50	43	44	45	47	56	50	59	62	61	61	54	38	38	46	49	61	60	56	56	51	49	52	56	61	47	52.0
Foxholm (near)	Maximum	85	82	90	80	79	78	79	84	88	82	73	81	80	85	85	85	77	75	84	91	89	88	85	75	79	78	82	75	70	68	67	80.6
	Minimum	56	41	48	59	47	52	44	44	51	51	58	49	64	60	57	58	51	40	46	50	51	61	58	52	54	49	48	54	58	50	47	52.0
Fullerton	Maximum	88	86	94	89	81	79	77	87	88	85	82	80	80	87	95	92	78	75	83	91	81	84	94	85	78	78	82	72	89	81	72	83.6
	Minimum	65	54	52	57	53	50	46	48	50	51	63	59	47	65	63	68	60	39	38	51	67	60	70	63	53	52	50	57	62	60	40	55.3
Garrison	Maximum	89	86	95	84	76	77	82	89	91	82	75	77	76	87	94	89	76	78	87	90	90	93	95	77	81	82	82	71	75	68	70	82.7
	Minimum	60	48	47	58	56	49	46	49	55	59	58	50	65	62	57	62	58	42	48	55	61	63	64	50	57	50	51	54	61	52	44	54.5
Grafton	Maximum	85	84	90	86	80	79	83	86	84	85	82	86	86	85	95	94	88	76	84	94	92	92	91	90	83	80	84	78	72	78	71	84.6
	Minimum	63	58	54	56	57	50	46	46	45	46	53	50	61	61	62	63	58	40	39	46	61	63	65	64	61	54	50	58	59	61	51	54.9
Grand Forks	Maximum	84	85	92	87	81	76	78	82	84	84	82	88	85	86	94	89	75	75	83	91	88	90	92	83	70	79	82	64	81	78	71	82.5
	Minimum	64	58	54	57	56	50	48	47	51	51	55	59	61	70	67	67	57	38	42	51	64	65	67	64	60	55	54	59	61	60	51	56.9
Granville	Maximum	90	86	94	83	78	80	81	87	90	85	70	78	87	85	92	89	77	74	87	92	84	88	94	79	80	82	85	65	76	69	72	82.5
	Minimum	64	46	46	54	50	54	41	44	41	51	59	53	59	61	55	61	50	34	44	48	60	58	62	59	55	49	50	57	60	50	48	52.4
Hansboro	Maximum	83	80	80	76	75	74	78	80	84	80	80	83	84	90	90	78	75	73	84	90	90	90	90	78	78	78	82	72	67	76	65	80.1
	Minimum	46	40	38	50	36	36	35	32	34	44	55	53	55	60	60	50	45	28	35	40	55	60	62	45	45	45	50	50	55	50	40	46.1
Hettinger	Maximum	87	82	92	84	78	73	81	89	90	86	79	77	85	93	85	84	82	79	88	90	90	94	94	88	73	80	72	78	86	79	69	83.5
	Minimum	60	58	50	51	53	50	54	45	58	67	59	62	63	62	55	63	55	52	53	59	64	62	65	60	53	47	58	58	63	52	45	56.6
Hillsboro	Maximum	80	84	92	90	80	76	80	81	82	81	80	84	84	84	95	94	75	73	81	88	77	88	93	94	81	77	85	72	87	86	76	83.2
	Minimum	63	55	55	54	52	52	50	48	49	49	56	63	60	63	63	66	57	42	41	47	61	64	63	63	59	55	50	65	58	63	49	56.0
Howard (near)	Maximum	86	87	84	76	74	81	84	90	81	71	78	81	83	81	85	84	82	80	87	84	87	81	76	72	75	79	81	79	76	72	68	80.2
	Minimum	50	46	46	46	42	43	46	46	60	56	54	56	55	55	45	55	55	45	53	53	55	53	53	53	55	50	50	55	53	53	49	51.2
Jamestown	Maximum	87	94	85	78	76	79	86	87	89	73	84	82	86	96	88	75	73	84	89	82	82	95	76	72	77	81	64	88	77	72	79	81.8
	Minimum	63	53	47	53	52	57	48	46	51	52	53	58	59	63	62	62	57	39	38	44	55	61	62	62	56	54	50	82	56	63	48	54.1
Langdon	Maximum	82	80	81	72	75	72	70	78	80	79	70	77	78	91	82	77	80	94	87	91	87	90	70	62	72	85	63	54	75	78	70	78.4
	Minimum	61	50	50	56	52	46	42	42	45	52	50	52	58	61	64	60	51	40	40	58	60	62	59	60	59	50	52	58	56	60	48	53.4
Larimore	Maximum	82	81	91	80	79	77	77	83	85	83	83	88	86	86	96	88	76	76	83	91	88	87	95	80	68	80	79	63	76	80	70	81.8
	Minimum	63	51	55	56	55	50	48	49	47	48	51	53	59	64	65	65	56	40	40	40	55	59	66	62	58	54	52	59	58	59	49	54.4
Linton	Maximum	96	89	96	93	82	81	84	93	92	87	80	80	86	92	99	94	84	82	90	91	88	95	99	86	82	84	77	77	91	79	74	87.3
	Minimum	65	45	40	45	47	39	43	40	53	60	57	59	60	62	56	61	55	42	50	60	65	59	63	61	49	45	44	57	58	50	43	52.7
Lisbon	Maximum	88	86	89	88	79	78	76	84	86	85	76	83	79	87	93	89	75	72	82	89	75	86	95	85	75	77	80	69	90	87	86	82.9
	Minimum	69	56	50	57	53	52	48	53	51	52	58	63	57	59	65	71	60	44	39	48	52	62	64	64	58	55	48	57	59	60	48	55.9
McClusky	Maximum	90	89	96	84	78	77	80	86	90	84	68	78	82	94	94	91	81	76	86	90	89	89	92	80	76	81	83	84	89	74	69	83.9
	Minimum	60	45	46	53	50	48	40	41	54	56	58	53	62	62	56	59	55	46	45	48	61	58	59	57	55	46	49	50	58	55	46	52.6
Maddock	Maximum	89	89	92	82	77	79	79	85	86	83	75	87	86	92	94	93	87	75	84	92	89	89	96	93	79	79	87	76	79	77	69	84.5
	Minimum	64	49	49	54	47	50	40	44	46	49	55	50	60	59	58	62	53	36	37	45	60	60	56	59	55	48	46	54	56	59	45	51.8
Marmarth	Maximum	84	87	92	88	84	75	81	89	93	85	77	78	88	93	88	84	77	81	88	89	91	90	93	85	78	80	81	78	83	66	66	83.6
	Minimum	59	44	45	50	49	51	40	41	63	63	56	62	64	60	57	56	47	50	56	60	62	64	65	57	49	53	55	56	60	47	44	54.4
Minot	Maximum	81	82	92	81	76	76	79	86	87	81	64	80	78	82	89	86	74	75	85	88	88	91	86	77	78	80	82	62	71	64	67	79.6
	Minimum	59	45	43	54	49	53	40	43	52	53	58	52	58	60	54	60	52	39	45	45	53	61	60	55	56	47	52	55	55	54	47	51.9
Mohall	Maximum	80	85	86	80	80	78	76	75	78	77	80	83	93	79	78	81	76	85	90	89	88	91	84	80	90	75	68	72	70	73	75	80.5
	Minimum	66	60	61	58	60	50	48	56	58	56	58	63	58	60	58	59	48	53	54	59	65	68	53	58	50	56	48	52	62	46	45	56.3
Mott	Maximum	94	88	84	93	86	75	81	88	89	85	77	78	82	94	93	84	77	81	88	89	91	90	93	85	78	80	81	78	83	66	70	83.9
	Minimum	60	51	51	55	56	52	46	56	59	61	56	62	63	61	66	56	47	50	56	60	62	64	65	58	49	53	55	56	60	47	46	56.1
Napoleon §§	Maximum	97	88	96	87	79	79	80	90	94	87	81	82	80	93	100	91	79	82	91	95	86	88	98	85	75	80	81	67	92	77	73	85.6
	Minimum	67	48	48	52	50	47	43	45	49	50	57	56	61	64	56	65	53	39	43	56	66	60	58	60	51	46	49	54	55	58	42	53.2
New Salem	Maximum	88	84	92	89	79	75	78	87	89	82	75	76	79	89	93	90	81	89	85	85	88	89	92	81	79	81	82	62	78	74	68	82.5
	Minimum	60	50	52	50	57	52	58	52	59	54	59	53	64	62	58	60	55	54	48	49	60	58	64	60	57	50	51	57	59	57	44	55.6
Oakes	Maximum	87	85	93	90	81	79	77	87	88	85	78	83	77	88	96	94	85	76	86	93	84	87	95	89	78	80	82	74	92	87	73	84.8
	Minimum	65	55	51	56	52	50	47	48	50	51	61	59	56	65	65	70	59	41	38	51	66	62	64	64	54	52	47	56	62	59	48	55.6
Pembina §§	Maximum	84	82	84	80	74	72	75	78	80	80	76	82	85	84	91	88	70	74	81	90	92	88	90	86	74	77	82	66	68	76	69	79.9
	Minimum	62	58	56	58	55	50	50	49	49	50	50	55	58	64	63	60	55	39	43	48	53	61	62	59	58	54	52	54	58	59	51	54.6
Sharon	Maximum	85	83	90	83	78	79	79	83	84	82	80	84	82	84	95	88	77	73	81	90	84	85	92	80	71	79	82	72	85	79	70	82.2
	Minimum	62	55	53	63	49	48	47	53	54	56	54	57	55	66	62	63	55	41	49	52	62	59	62	61	61	53	52	56	60	57	47	55.6
Steele	Maximum	92	88	95	87	80	78	79	87	91	85	79	84	82	93	96	94	76	75	87	92	85	86	98	83	78	79	83	73	88	77	70	81.5
	Minimum	65	45	47	52	55	48	44	47	52	53	62	55	63	65	64	68	56	39	47	51	62	58	60	63	53	46	50	56	55	55	43	51.1
Towner	Maximum	91	86	90	83	78	80	81	85	89	85	78	85	87	86	92	89	77	74	87	92	93	90	95	90	77	79	85	80	78	79	70	84.2
	Minimum	60	45	46	54	50	54	41	40	48	51	60	54	63	62	55	61	50	34	44	48	61	61	62	58	54	49	52	57	59	55	48	52.4
Valley City	Maximum	88	85	92	92	84	78	78	86	87	86	78	83	82	88	97	96	86	75	83	92	88	84	95	96	78	76	83	78	90	89	75	[illegible]
	Minimum	64	54	48	52	50	49	45	45	49	49	60	57	56	65	63	65	57	42	37	45	65	61	60	62	55	52	45	55	61	61	46	[illegible]
Wahpeton	Maximum	86	84	94	96	88	85	82	89	90	89	81	85	83	83	95	92	91	76	85	89	89	93	95	93	84	82	84	80	89	92	84	87.4
	Minimum	66	59	56	58	55	49	48	50	58	50	64	65	57	67	67	70	62	45	43	53	66	65	62	64	61	56	54	57	64	64	54	[illegible]
Westhope	Maximum	88	83	82	81	79	80	83	86	90	86	75	86	89	94	94	92	85	81	91	95	93	97	89	85	80	85	90	80	74	77	68	[illegible]
	Minimum	60	49	50	53	47	49	42	50	49	55	60	53	65	59	57	59	52	39	45	50	60	62	60	56	55	49	51	56	59	57	48	[illegible]
Williston	Maximum	80	83	89	82	73	76	82	88	88	79	72	82	84	86	88	86	77	82	90	85	90	87	80	73	77	81	82	68	82	60	68	[illegible]
	Minimum	56	51	51	60	55	50	46	48	63	64	62	57	67	58	59	60	58	54	59	63	66	63	62	57	57	50	55	59	60	49	48	[illegible]
Moorhead, Minn	Maximum	81	85	92	90	79	77	76	83	85	84	82	83	83	84	94	87	74	72	82	89	77	90	96	84	74	76	82	66	89	90	73	[illegible]
	Minimum	66	59	55	61	56	51	53	52	57	57	61	63	60	67	64	72	56	45	47	53	68	67	64	64	60	56	56	58	65	59	53	[illegible]

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days,

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXXI BISMARCK, N. D., SEPTEMBER, 1932 No. 9

GENERAL SUMMARY

While the weather throughout the state was favorable for farm and other outdoor work, the deficiency in precipitation not only retarded plant development, but greatly interfered with fall plowing and the seeding of winter rye. At the close of the month flax harvesting and threshing of small grains were practically completed. Corn matured early and no frost damage was reported. Corn shocking and silo filling were mostly completed by the end of the second decade and during the third decade corn picking made good progress.

TEMPERATURE

The mean temperature for the state was 56.8°, or 0.4° above the normal, and 4.6° lower than the mean for September, 1931. The highest mean reported was 61.4° at Wahpeton, Richland County; the lowest was 53.3° at Bottineau, Bottineau County. The highest temperature reported was 102° at Max, McLean County on the 8th; the lowest was 22° at Bottineau, Bottineau County on the 27th, and at Eckman, Bottineau County on the 22d and 28th. The greatest monthly range of temperature was 75° at Max, McLean County; the least was 51° at Moorhead, Clay County, Minn. The greatest daily range in temperature was 57° at Powers Lake, Burke County on the 10th.

PRECIPITATION

The average precipitation for the state was 0.64 inch, or 1.01 inches below the normal, and 1.50 inches less than the average for September, 1931. The greatest monthly amount reported was 2.26 inches at Amenia, Cass County; the least was a trace at Berthold Agency, McLean County, and Fryburg, Billings County. The greatest amount recorded in any 24 consecutive hours was 1.57 inches at Cando, Towner County on the 26th. The average number of days with 0.01 inch or more of precipitation was 3.

AURORAS

Auroras were observed at Pembina and Towner on the 4th; at Carson, Devils Lake, Eckman, Foxholm, Pembina, Petersburg, Tagus, Trotters and Moorhead on the 5th; at Dogden Butte, Dunn Center, Ellendale, McLeod, Petersburg, Pettibone, Tagus, Towner and Moorhead on the 6th; at Arnegard, Devils Lake, Eckman, Edmore, Epping, Foxholm, Grand Forks, Pembina, Petersburg, Pettibone, Rugby, Tagus and Trotters on the 7th; at Eckman, Grand Forks, Hansboro, Pembina, Pettibone and Towner on the 8th; at Foxholm and Pettibone on the 9th; at Pettibone on the 10th; at Bismarck and Howard on the 11th; at Pembina on the 13th; at Edmore on the 17th and 18th; at Eckman and Foxholm on the 19th; at Foxholm on the 20th; at Devils Lake and Foxholm on the 21st; at Foxholm and Williston on the 22d; at Devils Lake, Eckman, Ellendale, Fessenden, Foxholm, Gackle, Howard and Oakes on the 23d; at Bottineau, Eckman, Ellendale, Pettibone and Moorhead on the 24th; at Arnegard, Edmore, Rugby and Willow City on the 26th; at Arnegard and Foxholm on the 27th; at Foxholm and Pembina on the 29th; and at Williston on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of anemometer	Total movement, miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.02	30.50	22	29.37	18	57	5,884	8.2	28	nw.	14
Devils Lake	30.01	30.45	22	29.36	18	44	6,211	8.6	29	nw.	14
Ellendale	30.07	30.50	22	29.33	18	56	8,419	11.7	31	nw.	26
Grand Forks	29.99	30.44	23	29.41	18	90	....	.....	36	se.	24
Williston	30.00	30.48	22	29.56	19	48	5,279	7.3	32	w.	15
Moorhead, Minn	30.03	30.48	23	29.34	18	58	5,720	7.9	24	se.	18
Av'ges and extremes	30.02	30.50	22	29.33	18	.....	....	8.7	36	se.	24

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p. c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	259.9	377.6	69	+ 7	75	35	35	21	30
Devils Lake	272.4	377.2	72	+ 4	74	40	45	21	7
Ellendale	286.9	376.0	76	+14	81	42	....	21	16
Grand Forks	....	....	.....	......	79	.....	55	.....	....
Williston	284.5	377.2	75	+13	75	37	35	19	17
Moorhead, Minn	255.1	377.6	68	+ 4	75	47	46	23	1
Averages and extremes	271.8	376.7	72	+ 8	76	40	43	19	17

† And other dates.

COMPARATIVE STATE DATA FOR SEPTEMBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892...	59.2	+2.8	101	24	0.84	−0.81	4	16	7	7	nw.
1893...	57.1	+0.7	102	8	0.81	−0.84	4	18	7	5	nw.
1894...	58.2	+1.8	104	18	1.38	−0.27	5	15	7	8	w.
1895...	56.6	+0.2	100	12	0.77	−0.88	4	12	12	6	nw.
1896...	53.0	−3.4	98	11	1.83	+0.18	6	12	8	10	nw.
1897...	64.1	+7.7	109	18	0.28	−1.37	2	20	7	3	se.
1898...	56.8	+0.4	98	10	1.25	−0.40	4	14	9	7	nw.
1899...	55.0	−1.4	101	11	0.58	−1.07	3	17	9	4	nw.
1900..	54.6	−1.8	98	17	4.95	+3.30	8	12	7	11	nw.
1901...	53.6	−2.8	100	12	2.01	+0.36	7	10	8	12	nw.
1902...	53.6	−2.8	95	15	0.73	−0.92	4	16	8	6	nw.
1903...	51.6	−4.8	90	18	2.99	+1.34	7	12	6	12	nw.
1904...	54.7	−1.7	96	18	1.65	0.00	5	14	7	9	nw.
1905...	59.8	+3.4	104	23	1.63	−0.02	5	16	8	6	se.
1906...	62.8	+6.4	109	20	1.20	−0.45	4	19	6	5	sw.
1907...	52.1	−4.3	96	9	1.39	−0.26	6	14	8	8	nw.
1908...	60.7	+4.3	104	16	1.11	−0.54	4	17	7	6	nw.
1909...	59.0	+2.6	93	24	0.86	−0.79	4	16	8	6	se.
1910...	55.3	−1.1	99	18	1.96	+0.31	4	14	7	9	nw.
1911...	54.9	−1.5	95	21	2.49	+0.84	8	12	8	10	nw.
1912...	51.5	−4.9	124	18	2.68	+1.03	10	11	6	13	nw.
1913...	57.2	+0.8	108	8	1.75	+0.10	6	16	8	6	nw.
1914...	59.3	+2.9	98	25	1.06	−0.59	5	16	8	6	se.
1915...	54.6	−1.8	104	23	2.39	+0.74	9	10	8	12	nw.
1916...	55.1	−1.3	99	15	1.62	−0.03	6	14	9	7	nw.
1917...	56.4	0.0	97	16	1.08	−0.57	5	12	9	9	se.
1918...	51.9	−4.5	93	11	0.39	−1.26	3	15	9	6	nw.
1919...	58.6	+2.2	100	20	0.92	−0.73	5	12	10	8	nw.
1920...	59.0	+2.6	99	19	2.26	+0.61	8	15	9	6	se.
1921...	57.0	+0.6	101	25	3.30	+1.65	12	12	10	8	nw.
1922...	59.8	+3.4	104	23	2.16	+0.51	6	16	8	6	nw.
1923...	60.1	+3.7	99	15	2.39	+0.74	6	14	8	8	nw.
1924...	55.0	−1.4	98	20	2.31	+0.66	7	15	7	8	nw.
1925...	58.1	+1.7	103	20	2.74	+1.09	8	12	8	10	nw.
1926..	52.3	−4.1	95	9	2.42	+0.77	9	11	9	10	nw.
1927...	56.8	+0.4	101	10	0.93	−0.72	3	16	9	5	nw.
1928...	53.9	−2.5	95	12	0.93	−0.72	5	17	7	6	nw.
1929...	52.7	−3.7	105	12	1.65	0.00	5	11	9	10	nw.
1930...	56.2	−0.2	98	10	1.02	−0.63	4	16	9	5	nw.
1931...	61.4	+5.0	107	27	2.14	+0.49	6	18	7	5	nw.
1932...	56.8	+0.4	102	22	0.64	−1.01	3	18	8	4	nw.
Av....	56.4	....	124	8	1.65	....	6	14	8	8	nw.

*Extremes.

Climatological Data for September, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	6	...	...	...	...	...	...	...	0.18	...	0.14	0	2	...	...	...	...	H. A. Bury.
Amenia	Cass	954	36	57.4	+0.1	90	8	32	22†	49	2.26	+0.15	1.15	0	7	8	19	3	s.	I. Idso.
Arnegard (near)	McKenzie	...	19	57.0	+0.7	94	8	30	22†	49	0.27	−1.16	0.20	0	2	26	1	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	57.5	+0.2	90	8	29	22†	46	0.90	−0.55	0.40	0	3	19	10	1	nw.	H. D. Piper.
Beach	Golden Valley	2,759	26	56.4	0.0	93	8	27	22	48	0.21	−1.11	0.09	0	4	...	...	...	nw.	J. C. Russell.
Berthold Agency††	McLean	2,082	39	57.2	+0.3	96	8	25	22	55	T.	−1.46	T.	0	0	27	0	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	58.4	+0.3	94	8	30	22	46	0.33	−0.90	0.15	0	5	16	9	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	53.3	−1.6	91	8	22	27	54	0.38	−1.24	0.25	0	3	14	16	0	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	56.2	−0.6	91	8	25	22	45	0.34	−0.86	0.30	0	3	23	6	1	nw.	George Larsen.
Cando	Towner	1,488	31	56.0	−0.2	90	8†	29	17	45	1.73	+0.11	1.57	0	2	14	8	8	nw.	A. J. Swanson.
Carrington	Foster	1,579	34	57.0	+0.4	90	7	26	21	52	0.50	−1.04	0.35	0	2	20	6	4	w.	L. A. Swanson.
Carson	Grant	2,500	20	59.2	+2.8	95	8	30	28	49	0.67	−1.07	0.55	0	3	25	5	0	nw.	J. W. Evens.
Cavalier	Pembina	894	22	...	...	...	...	...	...	...	1.12	−0.82	0.42	0	4	23	6	1	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	...	...	...	...	...	...	...	0.66	−1.13	0.62	0	2	25	2	3	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	...	...	...	...	...	...	...	0.22	...	0.10	0	4	23	5	2	sw.	W. A. Clem.
Courtenay	Stutsman	1,523	3	...	...	...	...	...	...	...	0.90	...	0.40	0	5	20	4	6	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	55.3	+1.2	91	8	24	27	46	0.10	−1.30	0.10	0	1	16	12	2	nw.	John Jensen.
Devils Lake	Ramsey	1,478	35	56.3	+0.1	89	8	31	17	39	0.68	−0.95	0.47	0	4	13	8	9	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	54.6	−1.4	95	8	23	22	54	0.21	−0.98	0.11	0	3	21	5	4	nw.	Leroy Moomaw.
Dogden Butte††	McLean	1,880	6	57.4	...	90	8	32	29	42	0.65	...	0.39	0	2	20	7	3	nw.	R. L. Williams.
Drake	McHenry	1,634	3	56.4	...	93	8	33	28	46	0.76	...	0.39	0	3	14	12	4	w.	Peter Anton.
Dunn Center	Dunn	2,191	33	54.0	−2.2	93	8	26	22†	54	0.14	−1.19	0.14	0	1	20	6	4	se.	W. F. Moede.
Dunseith	Rolette	1,682	36	56.2	+1.8	89	8†	31	27	43	0.54	−1.17	0.41	0	4	16	10	4	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	55.2	0.0	94	8	22	22†	52	0.20	−1.20	0.08	0	4	15	13	2	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	31	56.4	−1.2	90	7	30	27†	51	0.39	−1.43	0.32	0	2	12	17	1	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	57.3	−1.1	90	8	32	27	44	0.70	−1.32	0.45	0	4	13	10	7	nw.	U. S. Weather Bureau
Energy ††	McLean	1,750	20	56.0	...	94	8	26	22	54	0.15	−1.32	0.10	0	2	21	9	0	nw.	H. S. Solenberger.
Epping	Williams	2,224	24	57.1^{d}	...	92^{d}	7†	28^{d}	20	45^{d}	0.24	−1.37	0.20	0	2	21	6	0	nw.	A. O. Wang.
Fairfield	Billings	...	3	...	...	...	...	...	...	...	0.14	...	0.14	0	1	23	4	3	nw.	F. R. Hecker.
Fessenden	Wells	1,610	20	56.0	+0.3	93	8	30	22†	50	0.89	0.90	0.85	0	2	18	11	1	sw.	T. D. Monsen.
Forman	Sargent	1,249	39	...	...	...	...	...	...	...	1.02	0.92	0.73	0	3	24	4	2	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	58.8	−1.0	95	8	25	27	51	0.82	−0.33	0.62	0	2	19	9	2	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	56.0	...	90	8	30	23	44	0.26	−1.24	0.25	0	2	16	9	5	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	...	...	...	...	...	...	...	T.	−1.69	T.	0	0	25	5	0	s.	Verne King.
Fullerton	Dickey	1,439	34	58.2	+1.0	90	8	32	20†	45	0.84	−1.32	0.58	0	3	22	6	2	nw.	F. O. Alin.
Gackle	Logan	1,951	2	...	...	...	...	...	...	...	1.00	...	0.44	0	5	21	5	4	nw.	Geo. Hummel.
Garrison	McLean	1,901	55	56.5	+1.6	96	9	21	21	52	0.38	−1.06	0.22	0	3	17	13	0	nw.	W. F. Robinson.
Grafton	Walsh	827	40	58.4	+2.1	89	8	32	17	45	1.54	−0.52	0.60	0	4	14	12	4	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	41	58.0	+1.6	87	8	33	27	38	1.08	−0.77	0.51	0	3	12	11	7	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	56.8	+2.0	95	8	29	27	50	0.25	−1.24	0.22	0	2	23	7	0	nw.	W. A. Christianson.
Hankinson	Richland	1,068	3	59.1	...	86	8	32	21†	40	1.14	...	0.49	0	6	22	3	5	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40	54.4	...	89	9	30	17†	41	0.47	−1.74	0.85	0	3	10	19	1	sw.	James Muir.
Hansboro	Towner	1,597	24	55.4	+1.9	90	8	28	20†	47	0.37	1.63	0.32	0	2	24	3	3	nw.	C. I. Blackerby.
Hettinger	Adams	2,675	25	57.2	−0.4	92	8	24	22	48	0.60	−0.90	0.47	0	3	24	6	0	nw.	C. H. Plath.
Hillsboro	Traill	901	26	57.8	−0.8	86	8†	33	27	41	1.47	−0.75	0.71	0	3	16	12	2	nw.	G. Hovland.
Howard †† (near)	Williams	2,275	25	56.6	+2.3	92	8	29	22†	43	0.10	−1.44	0.10	0	1	15	14	1	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	55.9	−0.6	90	7	28	23†	54	0.72	−1.01	0.46	0	3	14	8	8	sw.	S. Calvelage.
Langdon	Cavalier	1,615	36	55.6	+3.3	95	8	30	17†	47	0.10	−2.19	0.10	0	1	21	4	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	56.6	+1.3	89	8	32	27	45	1.82	−0.26	1.25	0	3	16	5	9	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	57.2	−1.3	95	8	23	27	52	0.95	−0.83	0.56	0	4	14	15	1	se.	Rev. E. J. Oberding.
Lisbon	Ransom	1,091	28	56.7	−0.8	90	8	29	23	44	1.38	−0.79	0.57	0	5	16	10	4	...	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	56.9	...	92	8	29	22	43	1.22	−0.09	0.82	0	3	21	8	1	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	58.2	0.8	91	8	29	30	47	2.24	−0.12	1.26	0	6	15	8	7	sw.	J. G. Carlson.
Maddock	Benson	1,604	17	56.2	+0.5	93	8	27	17	49	1.69	−0.34	1.01	0	3	14	10	6	nw.	A. T. Felland.
Mandan	Morton	1,750	18	58.2	+0.8	94	8	28	29	48	0.24	−1.22	0.16	0	3	17	3	10	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	...	...	...	...	...	...	...	1.00	−0.57	0.48	0	3	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	23	...	...	...	...	...	...	...	0.12	−1.23	0.12	0	1	15	8	7	...	S. P. Grane.
Mary	McKenzie	...	3	...	...	...	...	...	...	...	0.51	...	0.20	0	4	23	3	4	sw.	Fred Hartman.
Max	McLean	2,093	3	56.4	...	102	8	27	22	54	0.27	...	0.22	0	2	15	8	7	...	A. W. Rice.
Mayville	Traill	975	36	59.0	+1.6	90	8†	30	23	47	0.91	−1.29	0.40	0	3	17	7	6	nw.	H. B. Addicott.
Minot	Ward	1,557	36	54.9	−1.0	91	8	29	22	49	0.40	−1.21	0.35	0	2	15	11	4	w.	Julia B. Rue.
Mohall	Renville	1,646	38	56.1	+1.8	...	...	...	...	...	T.	−1.55	...	...	...	...	...	...	...	E. H. Wolsey.
Mott	Hettinger	2,424	25	57.3	+0.7	93	8	26	21	46	0.68	−0.80	0.62	0	2	17	5	8	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	58.0	+1.3	92	8	30	20†	47	1.01	−0.43	0.38	0	5	23	5	2	w.	C. J. Hoof.
New England	Hettinger	2,400	38	56.1	−0.3	96	8	24	21	49	0.27	−1.01	0.22	0	2	13	15	2	nw.	F. S. Sleight.
New Salem	Morton	2,163	28	59.0	+1.5	95	8	34	27	43	0.05	−1.32	0.05	0	1	21	8	1	nw.	J. Christiansen.
Oakes	Dickey	1,318	3	58.6	...	92	8	25	29	49	0.68	...	0.20	0	7	12	17	1	nw.	Eugene Naylor.
Park River	Walsh	998	28	56.0	−0.6	87	8	30	17	40	1.12	−0.87	0.41	0	5	13	5	12	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	17	54.8	...	93	8	23	22	51	0.38	−1.18	0.35	0	2	16	13	1	nw.	C. E. Shubert.
Pembina	Pembina	789	58	55.6	+1.5	88	8	32	17	46	1.10	−0.90	0.61	0	7	9	13	8	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	...	...	...	...	...	...	...	0.61	...	0.25	0	4	16	12	2	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	23	58.2	+3.0	92	8	27	27	45	0.34	−1.22	0.17	0	3	24	3	3	nw.	H. H. McCumber.
Portal	Burke	1,954	27	55.2	+0.8	93	7	23	19†	52	0.03	−1.44	0.03	0	1	23	2	5	w.	R. G. Wegener.
Power††	Richland	1,020	38	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Frank B. Power.
Powers Lake	Burke	2,205	27	54.0	...	91	10	29	23	57	0.66	−0.61	0.47	0	2	22	7	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	16	57.7	+0.9	94	3	29	27	47	0.06	−1.29	0.06	0	1	15	12	3	nw.	John Muggli.
Rugby (near)	Pierce	1,562	3	...	...	...	...	...	...	...	0.51	...	0.34	0	3	14	10	6	nw.	E. C. Erickson.
Ryder	Ward	2,108	3	...	...	...	...	...	...	...	0.29	...	0.29	0	1	...	...	...	...	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	55.8	...	94	8	24	29	50	0.08	...	0.06	0	2	14	3	13	nw.	Geo. Buerkle.
Sharon	Steele	1,516	8	57.0	...	87	8	28	27	40	0.95	...	0.54	0	4	15	10	5	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8	...	...	...	...	...	...	...	0.15	...	0.15	0	1	18	9	3	nw.	J. H. Giffey.
Steele	Kidder	1,857	38	56.9	0.0	91	8	27	22	44	0.33	−1.12	0.24	0	4	17	9	4	nw.	V. A. Laney.
Stowers††	Adams	2,325	17	...	...	...	...	...	...	...	0.99	−0.30	0.93	0	2	23	7	0	...	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	...	...	...	...	...	†	...	0.50	...	0.39	0	2	22	7	1	nw.	J. C. Abbott.
Tioga	Williams	2,279	3	...	...	...	...	...	...	...	0.10	...	0.10	0	1	21	7	2	nw.	Anton Carlson.
Towner	McHenry	1,482	30	57.2	+1.0	95	8	27	17	48	0.54	−1.23	0.50	0	3	19	7	4	nw.	Karl Weber.
Trotters	Golden Valley	...	6	...	...	...	...	...	...	...	0.08	...	0.08	0	1	15	11	4	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. T. Kusler.
Valley City	Barnes	1,245	26	57.4	−0.8	91	8	27	29	47	0.68	−1.27	0.20	0	7	16	10	4	w.	I. C. Robertson.
Velva	McHenry	1,511	5	57.3	...	92	8	32	23†	45	0.42	...	0.38	0	2	14	11	5	w.	Oscar Anderson.
Verona	LaMoure	1,387	4	...	...	...	...	...	...	...	0.61	...	0.38	0	2	22	1	7	nw.	W. C. Taylor.
Wahpeton	Richland	962	40	61.4	+2.2	90	8	32	27	43	1.55	−0.71	0.52	0	7	19	0	11	nw.	C. G. Luick.
Washburn	McLean	1,731	31	58.2	−0.3	91	8	30	22	43	0.40	−0.77	0.30	0	2	21	2	7	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	57.6	+2.7	96	8	27	17	49	0.33	−1.02	0.16	0	3	24	6	0	se.	C. M. Condit.
Williston	Williams	1,878	53	57.3	+0.7	93	8	32	29	43	0.33	−0.76	0.19	0	4	20	6	4	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	55.4	+1.2	93	8	23	17†	51	0.25	−1.47	0.23	0	2	22	8	0	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	3	55.6	0.0	90	8	29	20†	49	1.77	+0.42	0.61	0	6	23	2	5	se.	Gottlieb Herr.
Zap	Mercer	1,838	17	...	...	...	...	...	...	...	0.10	−1.13	0.10	0	1	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	51	58.8	+0.6	87	8	36	17	40	1.93	−0.29	0.99	0	7	15	5	10	s.	U. S. Weather Bureau.
Averages	...	...	...	56.8	+0.4	102	8	22	22†	57	0.64	−1.01	1.57	0.0	3	18	8	4	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for September, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		T.	.14																							.04						0.18
Amenia	Red			.03	.03						1.15	.20										.35					.43	.07					2.26
Arnegard (near)	Missouri									.07																T.	.20						[illegible]
Ashley	Missouri			.40								.34										T.				.16							[illegible]
Beach	Lit. Missouri			.09						.05															T.	.04	.03						0.21
Berthold Agency	Missouri																								T.								T.
Bismarck ***	Missouri	T.		.15						.02		T.								T.					.01	.05	.10						[illegible]
Bottineau	Mouse										T.								.25								.08	.05					[illegible]
Bowman	Grand			.30							.03	.01																					[illegible]
Cando	Devils Lake									.16	T.																1.57						[illegible]
Carrington‖	James									T.		T.													.35	.15							0.50
Carson	Heart			.55																						.05	.07						0.67
Cavalier	Red										.15								.15							.12	[illegible]						1.12
Cooperstown	Sheyenne												T.														.62	.04					0.66
Corinth	Missouri					.02							.05									.10					.05						0.22
Courtenay	James			.02						.12	.10															.40	.26						0.90
Crosby	Mouse																			T.							.10						0.10
Devils Lake ***	Devils Lake									.05									.01	T.				T.		.36	.32						[illegible]
Dickinson‖	Heart			.09						.01	T.										T.						.11						0.21
Dogden Butte	Mouse									T.																.39	.26						[illegible]
Drake‖	Mouse																									.39	.35	.02					0.76
Dunn Center	Knife																										.14						0.14
Dunseith	Mouse									.04									.05							.04	.41						0.54
Eckman	Mouse									.03									.08			.01					.08						0.20
Edgeley	James			.32						.07																							0.39
Edmore	Devils Lake									.04	T.				T.				.50							.42	.21						1.17
Ellendale ***	James			.16						T.	T.	.09								T.	T.					.44	.01						0.70
Energy	Missouri																									.05	.10						0.15
Epping	Missouri									.04																	.20						0.24
Fairfield	Knife																									.14							0.14
Fessenden‖	James									.04																	.85						0.89
Forman	Sheyenne			.06								.73							T.	T.						T.	.23						1.02
Fort Yates	Missouri			.62																	.20					T.							0.82
Foxholm (near)	Mouse		T.							.01									T.							T.	.25						0.26
Fryburg	Heart	T.	T.					T.	T.	T.												T.											T.
Fullerton	James									T.	.18		T.							T.						.58	.08						0.84
Gackle	James			.44						.04	T.											.12				.35	.05						1.00
Garrison	Missouri									.02																.22	.14						0.38
Grafton	Red									T.	.32								.42							.60	.20						1.54
Grand Forks ***	Red										.51															.39	.18						1.08
Granville	Mouse									T.															T.	.03	.22						0.25
Hankinson	Red			.23						.12	.07	.06						.17								.49							1.14
Hannah	Pembina					T.				T.	.02					T.			T.		T.					.10	.35						0.47
Hansboro	Devils Lake									.05																	.32						0.37
Hettinger	Grand			.47																		.07					.06						0.60
Hillsboro	Red			T.							.60															.16	.71						1.47
Howard (near)	Missouri	T.	T.	T.						T.			T.						T.		T.					T.	.10				T.		0.10
Jamestown	James			.15							T.	T.													.11	.46	T.						0.72
Kenmare	Mouse								.09												T.					.15							0.24
Langdon	Pembina																		.10														0.10
Larimore	Red									.02	.55																1.25						1.82
Linton	Missouri			.56						T.	.02											.25				.12	T.						0.95
Lisbon	Sheyenne			.04	.18							.57										.03					.56						1.38
McClusky	Missouri									.08																.82	.32						1.22
McLeod	Sheyenne										1.26	.04	.16					.12		.08							.58						2.24
Maddock	Sheyenne									.05	T.															1.01	.63						1.69
Mandan‖	Missouri		.16						.01																T.	.07	T.						0.24
Manfred	James									.05																.48	.47						1.00
Marmarth	Lit. Missouri			.12						T.	T.					T.													T.				0.12
Mary	Lit. Missouri									.08	.07						T.									.06	.30						0.51
Max‖	Missouri																									.05	.22						0.27
Mayville	Red									.40																.35	.16						0.91
Minot	Mouse																										.35	.05					0.40
Mohall	Mouse																																.....
Mott	Cannon Ball			.62																						.06							0.68
Napoleon‖	Missouri			.31						.01		.38										.03					.28						1.01
New England	Cannon Ball		.22																							.05							0.27
New Salem	Heart			T.																						T.	.05						0.05
Oakes	James			.20							.02	.13	.01							.01						.20	.11						0.68
Park River	Red										.30	.01							.22							.41	.18						1.12
Parshall (near)	Missouri									.03																	.35						0.38
Pembina‖	Red					T.					.10			.16			T.			.07	T.					.04	.61	.06	.06				1.10
Petersburg	Red									.20	T.								.02							.25	.14						0.61
Pettibone	James									.03	T.	T.														.14	.17						0.34
Portal‖	Mouse								.03																								0.03
Power	Sheyenne																																.....
Powers Lake	Missouri									.19																	.47						0.66
Richardton	Heart			.06																													0.06
Rugby [near]	Mouse									.05																.12	.34						0.51
Ryder	Missouri																							T.		.29							0.29
Sanish‖	Missouri									.06									.02														0.08
Sharon	Red		T.							.18	.07		T.													.54	.16						0.95
Stanton	Missouri																										.15						0.15
Steele	Missouri										.02	.01														.24	.06						0.33
Stowers	Cannon Ball			.93																	.06					T.							0.99
Tagus	Mouse									.11																	.39						0.50
Tioga	Missouri																											.10					0.10
Towner	Mouse									.02			.02												T.	T.	.50						0.54
Trotters	Lit. Missouri																										.08						0.08
Turtle Lake	Missouri																																.....
Valley City	Sheyenne			.12						T.	.05	.07							.20			.03				.15	.06						0.68
Velva	Mouse									T.									T.						T.	.04	.38						0.42
Verona	James				.23																					.38							0.61
Wahpeton	Red			.20							.26	.04							.37	.04						.12	.52						1.55
Washburn	Missouri																									.30	.10						0.40
Westhope	Mouse																		.16		.03						.14						0.33
Williston ***	Missouri		T.							.13	.01								T.							.02	.17						0.33
Willow City	Mouse												T.						.02							T.	.23						0.25
Wishek‖	Missouri			.61						.01		.35	.04									.36					.40						1.77
Zap	Knife																										.10						0.10
Moorhead, Minn. ***	Red			.12	T.					.57	T.	T.	.01				T.		T.	T.	.02	.20				.69	.32						1.93

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum...	82	76	77	76	74	84	88	90	78	74	73	72	71	87	69	70	76	72	65	68	65	70	73	78	65	58	68	60	74	84	..	73.9
	Minimum...	45	46	48	47	42	37	39	44	53	55	53	52	42	43	42	35	34	38	35	35	37	32	35	36	42	50	32	33	34	35	..	41.0
Arnegard (near)	Maximum...	74	69	72	73	81	85	90	94	63	76	80	70	80	77	67	71	82	67	53	67	66	72	78	80	68	58	71	67	79	84	..	73.8
	Minimum...	40	40	40	45	48	45	54	54	47	38	40	48	36	47	35	41	35	46	39	33	34	30	42	38	43	35	35	31	30	40	..	40.3
Ashley	Maximum...	78	77	70	78	76	79	84	90	82	76	70	78	71	82	72	74	74	76	67	67	64	70	68	75	65	58	68	65	73	84	..	73.7
	Minimum...	46	46	49	43	41	39	43	50	52	42	46	42	35	40	44	35	37	50	45	30	47	29	38	45	52	41	29	34	30	38	..	41.3
Beach	Maximum...	75	70	68	73	78	83	87	93	72	70	75	65	75	77	61	68	81	69	56	60	59	70	73	73	66	55	66	61	76	82	..	71.2
	Minimum...	40	49	58	45	46	47	50	54	49	44	40	44	33	50	42	33	33	52	38	33	34	27	44	46	40	35	31	37	34	37	..	41.5
Berthold Agency	Maximum...	76	73	73	72	80	84	89	86	82	77	88	85	78	80	68	72	72	78	52	65	62	70	78	70	77	60	70	65	71	85	..	75.0
	Minimum...	38	50	41	42	40	38	53	52	50	41	40	35	30	42	46	30	42	38	42	32	41	25	44	45	52	38	28	34	27	30	..	39.5
Bismarck	Maximum...	78	73	71	73	78	82	86	94	74	77	73	74	75	80	66	71	77	70	53	62	62	69	72	76	77	57	68	62	75	84	..	73.0
	Minimum...	51	52	51	46	46	45	56	50	50	41	49	46	37	50	42	37	38	53	41	37	41	30	44	49	52	38	33	37	30	38	..	43.7
Bottineau	Maximum...	75	68	69	64	70	80	84	91	68	77	74	70	72	75	62	64	69	64	52	58	59	66	76	72	75	54	67	62	75	82	..	69.8
	Minimum...	38	40	35	34	32	39	46	58	57	40	44	48	30	31	40	35	29	28	40	30	32	26	30	42	54	43	22	25	28	28	..	36.8
Cando	Maximum...	76	75	70	71	70	80	84	90	90	73	71	72	71	72	67	65	70	70	68	65	60	68	72	77	73	72	69	64	71	80	..	72.5
	Minimum...	42	49	44	38	34	37	47	45	52	44	43	45	31	47	45	34	29	34	41	38	32	30	34	43	43	45	31	33	33	39	..	39.5
Carrington §§	Maximum...	79	77	70	79	82	82	90	64	73	72	84	78	88	70	73	80	80	68	64	66	73	73	78	61	56	69	65	78	87	72	..	74.5
	Minimum...	50	51	44	41	44	44	47	47	41	41	46	36	36	45	39	40	40	41	28	32	26	31	30	40	46	32	34	34	38	40	..	39.5
Crosby	Maximum...	71	65	69	66	75	84	88	91	65	77	79	67	77	71	63	68	74	63	52	66	62	69	75	83	64	65	70	66	75	81	..	71.4
	Minimum...	41	44	40	41	42	47	50	52	51	41	41	47	39	40	42	40	33	33	41	35	38	30	33	43	42	34	24	26	30	36	..	39.2
Devils Lake	Maximum...	76	71	69	66	69	79	83	89	72	71	74	78	71	79	62	64	69	71	53	61	58	65	71	77	65	52	62	58	72	80	..	69.6
	Minimum...	48	52	48	42	39	40	51	49	53	44	52	48	37	50	43	39	31	48	43	36	42	35	37	48	51	38	31	34	37	42	..	43.0
Dickinson §§	Maximum...	76	72	70	74	81	83	89	95	63	74	74	71	78	78	61	70	80	67	52	60	60	70	78	73	73	55	68	65	76	84	..	72.3
	Minimum...	41	43	46	42	41	43	47	50	46	36	36	41	ᵃ30	31	42	28	33	36	39	32	34	23	25	41	43	39	28	33	29	30	..	36.9
Dunn Center	Maximum...	75	69	70	70	77	80	85	93	64	74	68	77	74	76	64	63	72	67	52	63	59	67	76	71	61	55	67	62	75	82	..	70.8
	Minimum...	40	47	42	44	42	39	50	50	49	36	37	31	37	37	44	32	32	36	39	32	39	26	30	41	45	39	32	32	26	28	..	37.8
Dunseith	Maximum...	74	72	67	65	68	81	85	89	89	77	76	69	72	71	62	63	69	68	59	57	57	65	72	73	77	66	66	65	72	81	..	70.9
	Minimum...	38	48	41	40	38	33	53	52	51	46	53	48	39	44	43	38	38	45	41	32	37	35	40	39	49	40	31	32	33	40	..	41.4
Edgeley	Maximum...	78	77	72	79	75	79	90	76	77	70	69	79	73	82	71	68	75	80	68	64	65	69	65	73	74	68	70	62	72	85	..	73.5
	Minimum...	45	44	45	47	44	37	45	42	41	40	45	45	37	45	38	35	37	41	40	31	41	31	38	40	31	44	30	34	30	34	..	39.2
Ellendale	Maximum...	76	76	70	77	75	76	82	90	69	69	69	78	71	87	65	72	73	78	60	69	64	69	69	73	61	58	68	60	72	85	..	72.0
	Minimum...	44	45	49	46	44	41	47	53	48	41	52	52	42	43	44	39	42	49	38	33	39	33	34	43	54	39	32	38	33	42	..	42.6
Fessenden §§	Maximum...	78	74	71	67	74	83	85	93	70	75	73	78	75	81	65	70	75	75	68	68	60	69	74	78	67	55	61	60	75	83	..	72.8
	Minimum...	47	49	48	41	40	38	39	43	46	39	43	43	34	36	45	35	36	44	41	35	36	30	30	33	45	45	31	34	31	36	..	39.1
Foxholm (near)	Maximum...	74	68	70	68	74	81	85	90	81	77	73	69	74	75	63	66	71	64	54	60	60	60	74	73	71	56	68	62	73	81	..	70.5
	Minimum...	45	45	42	41	40	38	53	47	49	39	45	49	35	51	44	40	34	44	40	33	35	32	30	48	53	39	36	31	37	49	..	41.5
Fullerton	Maximum...	78	77	70	78	75	77	81	90	71	68	72	79	72	88	67	74	76	78	65	67	64	68	70	74	63	59	67	71	70	81	..	73.0
	Minimum...	55	46	47	47	45	41	45	58	47	43	50	52	38	43	50	37	39	58	45	32	39	34	33	41	54	42	32	37	32	41	..	43.4
Garrison	Maximum...	76	72	73	72	79	83	71	84	96	74	82	73	80	78	69	70	79	69	60	66	62	70	75	75	76	62	69	65	72	83	..	73.8
	Minimum...	43	49	46	44	40	43	30	45	44	36	43	34	48	36	29	32	39	52	41	32	24	29	39	44	53	38	34	33	40	36	..	39.2
Grafton	Maximum...	79	76	72	69	68	74	86	89	88	79	78	79	72	83	68	65	70	66	78	61	60	66	73	75	71	58	63	60	73	83	..	72.7
	Minimum...	47	53	41	42	41	40	41	46	64	56	52	50	43	47	51	40	32	45	43	37	45	35	36	42	52	48	33	39	38	39	..	44.0
Grand Forks	Maximum...	79	75	73	66	67	74	82	87	83	71	74	73	71	86	66	64	69	69	63	60	60	65	72	74	67	57	63	58	72	80	..	70.7
	Minimum...	50	53	50	44	40	38	47	51	63	57	54	52	43	48	48	38	34	46	46	36	52	35	38	44	56	48	33	38	36	43	..	45.4
Granville	Maximum...	77	73	77	67	74	74	87	95	75	80	74	74	75	78	65	67	74	66	54	65	63	70	75	74	80	70	65	74	77	85	..	73.5
	Minimum...	45	48	42	40	37	39	49	45	45	36	42	48	33	48	38	39	30	48	42	33	36	30	31	45	50	47	29	34	35	41	..	40.1
Hansboro	Maximum...	76	68	68	65	70	78	85	90	78	78	76	76	70	70	66	62	65	65	60	66	65	65	65	65	63	60	66	64	73	82	..	70.0
	Minimum...	40	40	45	44	48	50	53	43	54	43	56	44	34	48	48	37	30	33	41	28	33	40	45	40	35	30	28	32	35	45	..	40.7
Hettinger	Maximum...	79	75	68	77	82	80	88	92	79	70	71	70	77	83	72	72	80	70	55	58	60	68	75	75	78	58	69	65	78	84	..	73.6
	Minimum...	41	47	47	44	45	44	54	50	47	41	49	41	29	45	45	30	35	45	36	36	40	24	45	45	55	38	25	36	32	36	..	40.9
Hillsboro	Maximum...	80	76	76	72	71	74	80	86	86	75	74	72	74	70	71	62	68	70	72	60	59	62	69	69	69	69	60	64	70	81	..	71.4
	Minimum...	43	51	50	41	39	37	44	50	63	67	53	60	45	38	48	38	35	34	47	38	51	35	35	40	43	50	33	39	35	40	..	44.1
Howard (near)	Maximum...	70	66	70	67	76	84	87	92	79	79	76	66	72	71	69	70	75	70	68	62	61	67	74	81	62	70	71	63	75	80	..	72.4
	Minimum...	44	40	50	44	44	45	46	49	44	38	47	47	40	41	42	35	42	40	42	42	35	29	42	46	42	32	38	29	32	40	..	40.9
Jamestown	Maximum...	75	71	71	74	79	83	90	67	62	72	77	73	87	66	71	78	77	62	75	63	69	62	75	61	53	66	58	75	82	82	..	72.0
	Minimum...	47	51	51	43	47	38	41	48	53	42	43	42	38	38	37	36	36	38	46	34	35	31	28	31	46	49	30	34	28	32	..	39.8
Langdon	Maximum...	78	74	70	80	68	84	91	95	82	80	81	84	73	81	64	62	73	63	55	52	60	70	75	78	67	55	65	61	72	83	..	72.5
	Minimum...	44	45	43	45	35	38	44	51	52	49	50	48	34	34	34	32	30	30	40	30	33	30	30	40	48	45	30	30	32	38	..	38.8
Larimore	Maximum...	79	74	71	66	70	79	83	89	77	70	70	81	72	80	64	64	73	71	56	60	60	67	71	75	55	54	65	60	73	85	..	70.5
	Minimum...	42	50	48	43	40	37	45	50	56	54	51	52	42	47	47	40	34	39	42	36	39	40	38	40	44	42	32	36	35	40	..	42.7
Linton	Maximum...	81	78	71	79	79	84	85	95	84	80	74	80	77	83	70	65	78	76	65	68	64	70	70	75	67	63	70	65	76	81	..	75.1
	Minimum...	38	42	44	43	35	45	54	55	51	38	50	40	28	46	38	25	27	55	40	29	45	24	41	46	52	41	23	29	34	35	..	39.4
Lisbon	Maximum...	78	74	71	75	72	74	80	90	74	65	71	74	69	87	67	71	70	79	62	63	65	68	71	74	62	57	68	59	71	84	..	71.5
	Minimum...	44	51	49	47	44	37	40	48	54	47	48	53	41	43	46	35	38	48	46	33	42	31	29	34	37	52	31	39	30	41	..	41.9
McClusky	Maximum...	75	72	71	69	76	87	84	92	79	76	72	71	74	80	65	70	75	70	61	60	61	69	73	75	75	69	69	61	74	78	..	72.8
	Minimum...	43	51	49	40	39	46	43	49	50	36	44	40	32	47	43	40	35	53	39	40	38	29	38	46	50	40	32	32	32	35	..	41.0
Maddock	Maximum...	77	74	70	68	74	81	85	93	90	74	73	77	74	80	65	67	72	72	63	64	61	67	74	80	75	68	63	61	73	80	..	73.2
	Minimum...	46	47	46	46	35	35	45	44	52	38	45	39	32	46	47	37	27	45	40	29	37	32	29	39	49	44	30	33	30	34	..	39.3
Marmarth	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Minot	Maximum...	74	69	69	66	74	82	85	91	73	79	70	70	74	75	62	65	71	64	60	65	60	64	73	71	74	54	67	61	75	80	..	70.6
	Minimum...	46	43	41	38	35	43	54	42	51	35	39	49	30	39	45	35	31	39	41	32	37	29	33	41	52	39	33	31	37	36	..	39.2
Mohall	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Mott	Maximum...	76	73	75	76	80	83	88	93	80	76	77	73	78	81	64	72	78	80	62	61	62	70	77	75	76	63	77	66	77	85	..	75.1
	Minimum...	46	50	52	51	42	48	51	52	43	40	42	32	36	45	32	34	32	35	35	37	26	28	44	40	40	30	30	36	36	39	..	39.5
Napoleon §§	Maximum...	81	78	72	78	77	85	88	92	78	78	79	78	75	86	67	74	77	78	57	68	64	70	71	77	61	58	68	61	75	82	..	74.4
	Minimum...	47	45	49	43	40	38	49	48	52	39	46	41	34	49	44	34	39	54	43	30	45	30	36	45	54	46	31	32	30	39	..	41.7
New Salem	Maximum...	75	73	71	73	79	80	87	93	85	72	75	80	73	83	65	70	75	74	65	62	69	68	75	73	77	63	65	63	73	82	..	73.9
	Minimum...	47	56	48	47	44	42	54	50	52	40	47	46	37	53	45	36	45	49	38	36	37	35	39	49	55	40	34	35	40	43	..	44.0
Oakes	Maximum...	81	78	72	80	77	80	83	92	81	70	73	77	75	91	74	76	75	82	69	67	70	72	71	74	65	58	70	61	73	84	..	75.0
	Minimum...	43	44	48	42	43	39	41	54	61	44	52	50	39	42	45	35	38	49	48	31	48	28	31	42	54	49	30	35	25	39	..	42.3
Pembina §§	Maximum...	78	72	70	62	64	72	86	88	82	76	80	77	70	76	63	68	66	60	57	60	56	63	70	74	56	56	60	57	71	82	..	69.1
	Minimum...	43	48	48	45	41	37	40	48	54	57	56	52	42	44	48	38	32	35	42	35	37	37	34	39	46	47	34	34	34	37	..	42.1
Sharon	Maximum...	78	76	73	69	73	79	82	87	77	68	72	81	72	85	67	68	72	74	63	60	63	69	71	74	62	57	65	61	72	82	..	71.7
	Minimum...	45	47	50	45	37	40	48	49	56	52	50	49	38	50	45	32	33	39	39	34	44	33	42	40	51	40	28	35	32	42	..	42.2
Steele	Maximum...	78	70	70	75	77	80	85	91	87	78	72	78	73	85	66	72	75	74	55	65	62	66	70	76	66	55	66	58	72	81	..	72.6
	Minimum...	45	50	50	43	39	41	52	47	53	40	45	40	32	45	43	32	39	52	41	29	44	27	40	50	53	40	28	30	28	38	..	41.2
Towner	Maximum...	77	77	71	70	73	83	87	95	90	79	74	73	75	78	68	68	72	71	64	65	62	68	75	74	76	61	69	68	77	83	..	74.1
	Minimum...	45	48	43	42	35	37	47	47	52	36	48	48	29	47	43	36	27	51	42	31	37	30	34	45	52	43	31	31	30	39	..	40.2
Valley City	Maximum...	79	78	75	72	73	78	83	91	89	67	71	77	75	86	81	70	74	74	63	63	63	68	71	74	70	63	66	62	74	83	..	73.8
	Minimum...	44	46	44	45	41	34	40	48	56	44	47	50	37	45	47	34	33	46	40	32	46	28	28	44	52	46	29	37	27	36	..	40.9
Wahpeton	Maximum...	83	85	77	74	76	76	82	90	89	75	71	71	73	89	89	72	75	80	81	64	72	73	74	72	71	62	68	65	72	85	..	76.2
	Minimum...	48	52	48	49	43	38	44	67	60	67	58	57	46	46	50	38	33	43	48	38	48	33	37	45	53	52	32	40	38	45	..	46.5
Westhope	Maximum...	77	72	72	70	76	87	91	96	92	81	79	75	80	77	67	70	76	70	63	67	64	72	77	74	76	62	72	67	76	87	..	75.5
	Minimum...	43	45	39	37	37	40	46	50	53	40	45	46	33	43	44	40	27	46	43	32	35	29	39	43	52	41	32	29	28	38	..	39.8
Williston	Maximum...	73	67	71	70	78	85	87	93	59	73	76	68	78	75	64	69	78	67	50	66	60	69	77	81	62	56	71	65	75	81	..	71.4
	Minimum...	46	47	43	49	47	48	58	55	48	41	45	45	38	51	45	39	37	45	39	39	40	33	45	46	44	36	41	32	32	41	..	43.2
Moorhead, Minn	Maximum...	80	75	71	73	70	75	80	87	79	69	70	70	69	86	66	67	72	75	63	62	65	67	71	72	63	57	66	57	70	80	..	70.9
	Minimum...	49	51	52	50	44	41	45	57	60	59	57	57	48	46	47	40	36	52	50	42	45	36	39	45	53	43	36	40	36	43	..	46.6

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 10-29-32—1050]

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UNNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXXI BISMARCK, N. D., OCTOBER, 1932 No. 10

GENERAL SUMMARY

The month opened with temperature considerably above the normal, and with but little precipitation during the first decade. Due to dry soil late fall plowing and seeding of winter rye were generally abandoned, and considerable difficulty was experienced in potato digging. A general storm covered the greater portion of the state from the 17th to the 20th, inclusive, with high winds, light to heavy snow and subnormal temperature. Great damage to telephone, telegraph and power lines was occasioned by one of the most severe sleet storms in recent years. Corn husking made good progress during the first part of the month, but was greatly delayed during the latter part due to snow covered fields.

TEMPERATURE

The mean temperature for the state was 38.3°, or 5.2° below the normal, and 9.4° lower than the mean for October, 1931. The highest mean reported was 44.4° at Wahpeton, Richland County; the lowest was 32.0° at Portal, Burke County. The highest temperature reported was 90° at New England, Hettinger County on the 1st; the lowest was -3° at Westhope, Bottineau County on the 29th. The greatest monthly range of temperature was 86° at Westhope, Bottineau County; the least was 56° at Hillsboro, Traill County. The greatest daily range in temperature was 56° at Willow City, Bottineau County on the 5th.

PRECIPITATION

The average precipitation for the state was 2.31 inches, or 1.27 inches above the normal, and 0.92 inch more than the average for October, 1931. The greatest monthly amount reported was 4.11 inches at Larimore, Grand Forks County; the least was 0.66 inch at Tagus, Mountrail County. The greatest amount recorded in any 24 consecutive hours was 2.35 inches at Grafton, Walsh County on the 19th. The average number of days with 0.01 inch or more of precipitation was 8. The average snowfall was 9.1 inches.

AURORAS

Auroras were observed at Bismarck and Rugby on the 2d; at Bismarck and Foxholm on the 3d; at Crosby and Eckman on the 4th; at Eckman on the 5th; at Bismarck and Crosby on the 15th; at Arnegard, Bismarck, Bottineau, Carson, Crosby, Devils Lake, Eckman, Edmore, Ellendale, Fessenden, Foxholm, Grand Forks, Hettinger, Howard, Larimore, New England, Oakes, Pembina, Petersburg, Pettibone, Rugby, Sharon, Stanton, Towner, Trotters, Velva, Washburn, Williston, Willow City and Moorhead, Minn., on the 20th; at Ashley, Ellendale, Napoleon, New England, Pembina, Trotters and Moorhead, Minn. on the 21st; at Crosby, Fessenden, Foxholm, Petersburg, Stanton and Trotters on the 22d; at Eckman on the 24th and 29th; and at Fullerton, Oakes and Pembina on the 31st.

ERRATA

June, 1932, Page 21: Under heading TEMPERATURE, second line, change 1.4° higher to 1.4° lower than the mean. Page 22: Velva mean temperature, 68.5°.
September, 1932, Page 34: Hankinson mean temperature, 59.6°.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
								Velocity, in miles per hour			
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Average	Highest*	Direction	Date
Bismarck	30.00	30.47	4	29.60	19	57	7,210	9.7	31	nw.	28
Devils Lake	29.99	30.44	9	29.44	2	41	7,647	10.3	29	nw.	24
Ellendale	29.98	30.39	9	29.48	2	56	9,715	13.1	44	nw.	28
Grand Forks	29.94	30.37	9	29.39	2	90	....	.....	36	nw.	29
Williston	30.03	30.46	4	29.57	11	48	6,465	8.7	26	n.	19
Moorhead, Minn	29.97	30.42	9	29.37	2	58	6,668	9.0	24	n.	28
Av'ges and extremes	29.98	30.47	4	29.37	2	.....	....	10.2	44	nw.	28

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
					Average per cent				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't	7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	147.5	336.9	44	−15	82	58	66	31	5
Devils Lake	144.2	335.6	43	−10	88	68	75	22	1
Ellendale	158.8	338.3	47	−15	86	59	....	29	2
Grand Forks	......	......	......	.....	84	....	71	....	....
Williston	142.6	335.6	42	−12	84	67	67	27	1†
Moorhead, Minn	127.7	336.9	35	−25	82	62	68	28	1
Averages and extremes	144.2	336.7	42	−15	84	63	69	22	1

† And other dates.

COMPARATIVE STATE DATA FOR OCTOBER

Year	Temperature				Precipitation			Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1892	47.2	+3.7	95	7	0.58	−0.46	3	15	8	8	nw.
1893	40.6	−2.9	79	0	1.05	+0.01	5	11	11	9	nw.
1894	43.0	−0.5	77	16	1.66	+0.62	6	14	8	9	nw.
1895	40.5	−3.0	85	−12	0.25	−0.79	2	16	8	7	nw.
1896	40.2	−3.3	88	5	0.78	−0.26	3	14	8	9	nw.
1897	45.9	+2.4	93	6	0.77	−0.27	4	13	9	9	nw.
1898	38.8	−4.7	84	8	2.23	+1.19	6	8	8	15	nw.
1899	42.1	−1.4	86	7	1.18	+0.14	5	11	8	12	nw.
1900	48.2	+4.7	87	14	1.54	+0.50	6	15	4	12	nw.
1901	47.5	+4.0	88	11	1.61	+0.57	5	17	7	7	nw.
1902	43.7	+0.2	87	10	1.28	+0.24	4	16	6	9	nw.
1903	47.0	+3.5	81	11	0.94	−0.10	3	19	5	7	nw.
1904	46.6	+3.1	87	10	1.03	−0.01	5	12	7	12	nw.
1905	40.3	−3.2	93	0	0.44	−0.60	5	8	12	11	nw.
1906	45.0	+1.5	89	0	0.57	−0.47	4	14	9	8	nw.
1907	44.4	+0.9	88	4	0.70	−0.34	3	21	5	5	nw.
1908	43.0	−0.5	86	8	1.58	+0.54	6	11	7	13	nw.
1909	43.1	−0.4	97	0	0.64	−0.40	3	14	8	9	nw.
1910	48.2	+4.7	95	0	0.54	−0.50	3	16	8	7	nw.
1911	42.5	−1.0	86	−10	1.32	+0.28	6	11	8	12	nw.
1912	44.4	+0.9	90	0	0.94	−0.10	4	16	6	9	nw.
1913	39.3	−4.2	90	− 2	1.63	+0.59	4	12	9	10	nw.
1914	50.0	+6.5	97	0	0.98	−0.06	4	16	8	7	nw.
1915	46.6	+3.1	87	10	1.04	0.00	4	17	8	6	nw.
1916	40.0	−3.5	85	− 2	0.69	−0.35	4	12	8	11	nw.
1917	34.7	−8.8	82	− 4	0.77	−0.27	5	8	11	12	nw.
1918	46.2	+2.7	90	4	0.54	−0.50	4	14	8	9	nw.
1919	33.5	−10.0	84	−18	1.08	+0.04	6	11	9	11	nw.
1920	49.3	+5.8	95	6	0.46	−0.58	3	16	8	7	nw.
1921	47.3	+3.8	88	16	0.73	−0.31	4	16	8	7	nw.
1922	45.7	+2.2	98	8	0.57	−0.47	3	15	7	9	nw.
1923	44.0	+0.5	84	− 8	0.88	−0.16	4	14	7	10	nw.
1924	50.3	+6.8	86	19	2.43	+1.39	7	17	5	9	se.
1925	33.3	−10.2	66	−16	0.78	−0.26	6	8	9	14	nw.
1926	42.6	−0.9	85	4	1.49	+0.45	6	10	10	11	nw.
1927	47.0	+3.5	88	12	1.39	+0.35	5	14	8	9	nw.
1928	43.5	0.0	85	3	0.41	−0.63	2	15	8	8	nw.
1929	46.8	+3.3	88	10	1.85	+0.81	6	17	5	9	nw.
1930	40.8	−2.7	86	0	1.81	+0.77	7	10	9	12	nw.
1931	47.7	+4.2	90	10	1.39	+0.35	6	15	6	10	nw.
1932	38.3	−5.2	90	− 3	2.31	+1.27	8	9	7	15	nw.
Av.	43.5	....	98	−18	1.04	....	4	14	8	9	nw.

*Extremes.

Climatological Data for October, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr. Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Precipitation, in inches Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	Number of days With .01 or more precipitation	Clear	Pt. cloudy	Cloudy	Prevailing direction of wind	Observers
Alpha	Golden Valley	......	6	......	......	...	...	...	...	......	1.90	......	0.67	......	8	......	......	......	......	H. A. Bury.
Amenia	Cass	954	36	41.4	−3.2	78	1	14	30	46	2.24	+0.88	1.25	3.0	12	1	16	14	nw.	I. Idso.
Arnegard (near)	McKenzie	......	19	39.2	−3.7	84	1	7	29	45	2.39	+1.44	0.60	12.5	9	12	5	14	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	40.8	−2.0	83	1	10	31	44	1.25	+0.06	0.72	6.0	8	12	7	12	nw.	H. D. Piper.
Beach	Golden Valley	2,759	26	39.0	−4.6	80	1	12	29	43	2.66	+1.68	0.79	......	9	12	3	16	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	36.6	−8.0	84	1	8	20†	50	2.32	+1.46	1.30	10.0	5	6	3	22	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	40.2	−4.7	83	1	20	20	42	2.05	+1.11	1.52	3.6	8	8	7	16	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	35.0	−6.0	82	1	8	9†	54	3.51	+2.48	1.33	12.0	11	7	15	9	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	40.5	−3.5	79	1	10	10	47	3.49	+2.51	1.80	15.0	7	......	......	......	......	George Larsen.
Cando	Towner	1,488	31	38.8	−4.9	81	1	8	29	42	3.15	−2.29	1.74	10.0	4	8	5	18	nw.	A. J. Swanson.
Carrington	Foster	1,579	34	37.8ᵃ	−6.0	79ᵃ	14	14	29	43	2.50	+1.53	1.65	6.0	6	17	4	10	nw.	L. A. Swanson.
Carson	Grant	2,500	20	40.0	−3.3	85	1	14	8	45	1.55	+0.55	0.62	5.2	5	11	6	14	nw.	J. W. Evens.
Cavalier	Pembina	894	22	......	......	...	...	...	...	......	3.77	+2.68	1.55	13.0	9	11	5	15	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	......	......	...	...	...	...	......	2.89	+1.83	2.20	5.0	3	11	8	12	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	......	......	...	...	...	...	......	1.41	+0.53	0.30	9.0	8	13	8	10	nw.	W. A. Clem.
Courtenay	Stutsman	1,523	3	......	......	...	...	...	...	......	2.71	......	1.18	......	8	14	2	15	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	35.1	−6.7	81	1	1	29	45	2.15	+1.27	0.50	14.5	11	5	12	14	nw.	John Jensen.
Devils Lake	Ramsey	1,478	35	36.7	−5.7	74	1	17	9	40	2.88	+1.63	1.86	3.7	12	4	8	19	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	36.7	−6.9	81	1	15	20†	50	2.12	+1.25	0.68	16.5	16	8	10	13	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	36.8	......	80	1	7	29	45	3.76	......	1.81	16.8	11	9	9	13	nw.	R. L. Williams.
Drake	McHenry	1,634	3	......	......	...	...	...	...	......	3.76	......	2.05	10.0	8	......	......	......	......	Peter Anton.
Dunn Center	Dunn	2,191	33	37.4	−7.0	80	1	8	29	46	2.52	+1.77	1.02	15.0	9	6	7	18	w.	W. F. Moede.
Dunseith	Rolette	1,682	36	35.8	−5.6	79	1	10	29	47	1.98	+1.07	0.51	12.1	9	7	9	15	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	34.4	−7.4	83	1	1	9	55	2.36	+1.43	0.60	18.2	11	4	11	16	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	31	40.6	−4.7	78	1	18	31	39	2.04	+1.01	1.27	2.5	6	7	13	11	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	41.4	−4.2	80	2	15	31	44	0.78	−0.39	0.43	4.1	7	7	10	14	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	20	38.0	......	85	1	13	29	53	2.36	+1.51	1.30	6.0	7	7	15	9	n.	H. S. Solenberger.
Epping	Williams	2,224	24	37.2	......	89	1	10	19	44	2.27	+1.42	0.80	6.5	8	10	9	12	nw.	A. O. Wang.
Fairfield	Billings	......	3	......	......	...	...	...	...	......	1.96	......	0.55	9.0	7	10	8	13	nw.	F. R. Hecker.
Fessenden	Wells	1,610	20	37.2	−5.8	80	1	17	30	46	2.47	+1.56	1.15	10.0	8	10	8	13	nw.	T. D. Monsen.
Forman	Sargent	1,249	39	......	......	...	...	...	...	......	1.45	+0 05	1.02	1.0	7	10	13	8	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	40.8	−5.6	86	1	19	25†	49	1.91	+1.00	1.60	5.0	2	8	11	12	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	34.8	......	80	1	4	29	46	3.04	+1.94	1.30	16.2	11	6	8	17	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	......	......	...	...	...	...	......	1.95	+0.76	0.90	16.0	6	8	13	10	nw.	Verne King.
Fullerton	Dickey	1,439	34	41.6	−3.2	78	2	17	31	37	1.45	+0.03	0.53	1.3	7	11	8	12	nw.	F. O. Alin.
Gackle	Logan	1,951	2	......	......	...	...	...	...	......	1.56	......	0.65	21.0	7	9	6	16	nw.	Geo. Hummel.
Garrison	McLean	1,901	55	37.6	−5.1	82	1	10	29	50	2.40	+1.50	0.80	7.0	11	8	8	15	nw.	W. F. Robinson.
Grafton	Walsh	827	40	39.2	−2.9	79	1	11	30	48	3.57	+2.56	2.35	7.2	8	11	4	16	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	41	40.4	−3.2	73	2	17	9	37	2.74	+1.47	1.46	5.8	8	4	11	16	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	36.4	−6.9	83	1	− 1	29	48	2.90	+1.95	1.84	16.5	7	11	7	13	nw.	W. A. Christianson.
Hankinson	Richland	1,068	3	42.6	......	76	1	17	31	38	0.85	......	0.40	2.0	4	17	4	10	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40	34.8	......	81	1	10	9	36	2.81	+1.74	1.79	8.0	7	7	8	16	nw.	James Muir.
Hansboro	Towner	1,597	24	35.4	−5.3	82	1	8	30	38	3.28	+2.11	1.52	23.0	8	13	6	12	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	25	39.4	−6.2	81	1	16	10	47	1.37	+0.56	0.74	10.4	8	12	8	11	nw.	C. H. Plath.
Hillsboro	Traill	901	26	40.4	−4.8	76	1	20	13†	47	2.78	+1.58	1.66	3.0	6	8	9	14	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	25	36.0	−5.6	78	1†	5	29	38	0.80	−0.10	0.50	5.0	5	10	10	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	39.9	−4.6	82	1	20	31	44	1.98	+0.86	1.29	5.2	8	9	7	15	nw.	S. Calvelage.
Langdon	Cavalier	1,615	36	34.7	−6.2	84	1	10	9†	44	2.50	+1.47	1.50	10.0	4	7	14	10	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	39.0	−4.9	76	1	12	30	38	4.11	+2.74	1.90	7.0	6	8	7	16	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	39.9	−4.8	85	1	10	31	52	1.38	+0.34	0.73	1.0	9	10	8	13	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	28	41.3	−2.5	77	2	19	10	44	1.84	+0.69	1.26	1.0	8	7	6	18	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	38.3	......	80	1	11	29	40	3.54	+2.55	......	6.5	5	13	8	10	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	41.8	−4.4	84	1	16	11	45	1.06	−0.34	0.44	1.0	4	7	11	13	nw.	J. G. Carlson.
Maddock	Benson	1,604	17	38.0	−4.9	76	1	14	29	45	2.56	+1.63	1.57	10.0	8	4	11	16	nw.	A. T. Felland.
Mandan	Morton	1,750	18	39.4	−4.6	82	1	17	20	44	2.12	+1.28	1.44	3.5	9	7	4	20	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	......	......	...	...	...	...	......	3.05	+2.08	2.05	4.0	9	......	......	......	......	P B. Anderson.
Marmarth	Slope	2,714	23	......	......	...	...	...	...	......	2.15	+1.31	0.60	20.0	9	8	7	16	......	S. P. Grane.
Mary	McKenzie	......	3	......	......	...	...	...	...	......	1.82	......	0.60	12.5	8	9	5	17	nw.	Fred Hartman.
Max	McLean	2,093	3	36.0	......	84	2	9	28	50	2.40	......	1.60	23.2	7	11	3	17	......	A. W. Rice.
Mayville	Traill	975	36	41.2	−4.7	83	1	15	29	43	2.19	+0.99	1.35	3.0	10	8	7	16	n.	H. B. Addicott.
Minot	Ward	1,557	36	37.0	−6.3	82	2	0	29	50	2.24	+1.26	0.72	24.2	9	12	3	16	w.	Julia B. Rue.
Mohall	Renville	1,646	38	35.0	−6.7	83	1	− 1	28	53	2.86	+1.82	1.30	12.0	6	9	13	9	......	E. H. Wolsey.
Mott	Hettinger	2,424	25	40.2	−3.1	80	1	21	21	40	2.00	+0.93	1.46	15.5	4	10	7	14	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	39.6	−4.1	85	1	13	31	44	2.20	+1.17	0.75	3.5	11	14	4	13	sw.	C. J. Hoof.
New England	Hettinger	2,400	38	38.6	−4.8	90	1	12	19	46	2.53	+1.83	1.20	13.0	6	11	10	10	nw.	F. S. Sleight.
New Salem	Morton	2,163	28	39.2	−5.6	89	2	13	29	39	2.40	+1.44	1.60	14.0	10	7	10	14	nw.	J Christiansen.
Oakes	Dickey	1,318	3	42.2	......	80	1†	19	10†	46	1.38	......	0.66	5.1	9	9	8	14	nw.	Eugene Naylor.
Park River	Walsh	998	28	37.3	−6.5	76	1	11	30	35	3.82	+2.68	2.10	13.0	8	8	5	18	nw.	C B. Wright.
Parshall (near)	Mountrail	......	17	36.1	......	80	1	0	29	49	2.47	+1.78	0.80	7.0	10	6	11	14	nw.	C. E. Shubert.
Pembina	Pembina	789	58	36.4	−5.0	70	1†	12	10	39	2.23	+0.80	0.79	6.3	9	3	11	17	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	......	......	...	...	...	...	......	2.73	......	1.44	6.7	6	11	7	13	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	23	38.1	−3.7	79	1	17	10	40	2.26	+1.28	1.46	2.0	6	10	2	19	nw.	H. H. McCumber.
Portal	Burke	1,954	27	32.0	−9.4	78	4	1	28	47	0.89	+0.14	0.30	12.0	4	7	6	18	w.	R. G. Wegener.
Power‡‡	Richland	1,020	38	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	Frank B. Power.
Powers Lake	Burke	2,205	27	38.2	......	68	6	11	9	34	3.51	+2.08	1.23	19.9	8	17	7	7	w.	Geo. B. Gee.
Richardton	Stark	2,467	16	37.6	−5.8	84	1	12	20	46	2.00	+1.26	1.10	11.5	5	9	9	13	nw.	John Muggli.
Rugby (near)	Pierce	1,562	3	......	......	...	...	...	...	......	2.75	......	1.33	8.3	11	7	9	15	sw.	E. C. Erickson.
Ryder	Ward	2,108	3	......	......	...	...	...	...	......	1.88	......	......	5.0	7	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	36.6	......	84	1	3	29	44	1.56	......	0.65	8.0	9	7	3	21	nw.	Geo. Buerkle.
Sharon	Steele	1,516	8	37.6	......	77	1	15	10†	39	3.19	......	1.73	5.9	7	6	6	19	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8	......	......	...	...	...	...	......	2.01	......	1.38	8.0	4	13	5	13	nw.	J. H. Giffey.
Steele	Kidder	1,857	38	39.0	−4.8	89	1	20	10†	50	2.27	+1.20	1.25	10.0	9	5	8	18	ne.	V. A. Laney.
Stowers‡‡	Adams	2,325	17	......	......	...	...	...	...	......	1.46	+0.35	0.60	8.0	5	14	6	11	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	......	......	...	...	...	...	......	0.66	......	0.20	5.0	7	9	5	17	sw.	J. C. Abbott.
Tioga	Williams	2,279	3	......	......	...	...	...	...	......	1.68	......	0 56	7.0	6	6	4	21	nw.	Anton Carlson.
Towner	McHenry	1,482	30	35.4	−8.0	79	1	0	29	50	3.88	+2.89	1.87	15.0	10	12	3	16	nw.	Karl Weber.
Trotters	Golden Valley	......	6	......	......	...	...	...	...	......	2.17	......	0.60	9.5	7	8	3	20	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	18	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	E. T. Kusler.
Valley City	Barnes	1,245	26	41.2	−3.4	80	1	15	10	44	2.20	+1.22	1.23	8.0	7	13	5	13	w.	I. C. Robertson.
Velva	McHenry	1,511	5	37.6	......	81	1	6	29	47	3.95	......	2.25	18.0	10	7	7	17	w.	Oscar Anderson.
Verona	LaMoure	1,387	4	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	W. C. Taylor.
Wahpeton	Richland	962	40	44.4	−2.2	80	1	20	10	38	0.88	−0.59	0.30	0.2	8	14	0	17	nw.	C. G Luick.
Washburn	McLean	1,731	31	38.1	−6.4	82	1	18	29	44	3.31	+2.45	1.57	10.0	7	11	2	18	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	35.6	−6.5	83	1	− 3	29	53	2.19	+1.36	0.73	8.0	10	12	10	9	nw.	C. M. Condit.
Williston	Williams	1,878	53	38.6	−4.8	80	1	15	29	45	2.11	+1.25	0.67	10.4	13	8	7	16	nw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	35.0	−6.4	78	1	2	29	56	2.75	+1.91	0.84	6.6	8	14	7	10	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	3	38.4	−5.5	81	2	13	31	45	1.04	+0.07	0.55	2.0	5	7	0	24	nw.	Gottlieb Herr.
Zap	Mercer	1,838	17	......	......	...	...	...	...	......	1.51	+0.44	0.60	14.0	6	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	51	41.2	−3.3	75	2	20	31	33	1.37	−0.32	0.41	3.2	9	6	7	18	n.	U. S. Weather Bureau.
Averages	......	......	......	38.3	−5.2	90	1	− 3	29	56	2.31	+1.27	2.35	9.1	8	9	7	15	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for October, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		T.	.13				.67	.08	.10								.15	.15					.57			.05	T					1.90
Amenia	Red							.02								.17			.02	1.25	.05				.03		.65	.02	.15	.30	.03	.15	2.21
Arnegard (near)	Missouri			.19			.07	.11			T.	.14							.40	.50				.60	.35			.03					2.39
Ashley	Missouri			.07				T.	.08				.03						.14	.72				T	T				.08		.12	.01	1.25
Beach	Lit. Missouri			.22				.79		.10								.09	.60	.50				.23			.05		.08				2.66
Berthold Agency	Missouri			.52							T		.15						T	1.30				.05		T	.30	T					2.32
Bismarck ***	Missouri			.09	T		.02	.21		T.		T.	.02				T	T	.58	1.04				T	T		T	.01	.05		T		2.65
Bottineau	Mouse		T.	.04			T.						.02	.03			.03	.02	.41	1.33	.17				.43		.12		.88	T			3.51
Bowman	Grand			.11	.15			.91	.08	.29									.15	1.80													3.49
Cando	Devils Lake			T.										T.	.05			T.			1.74				T		.02	T.	1.34				3.15
Carrington‖‖	James							.05					.10					T	.30	1.65				T	T		T	.10	.24		T	.06	2.50
Carson	Heart			.21				.62	.20											.50									.02				1.55
Cavalier	Red													.05	.04		.55	.05	.60	1.55				.10			.13		.70				3.77
Cooperstown	Sheyenne				T.			T.				T.							T	2.20	.15			T	T	T	T	T	.54	T	T	T	2.89
Corinth	Missouri			.30													.20		.20					.20	.20		.01	.20	.10				1.41
Courtenay	James								.05				.12	.02					.50	1.18					T		.12		.62	.10			2.71
Crosby	Mouse			.32			.02						T	.15					.15	.25	.50			.21	.25	.05		.15	.10				2.15
Devils Lake ***	Devils Lake	T.	.02	.01			T.						T.	.08			T	T.	.60	1.55	.01			.02	.14		.05	.10	.29	T	.01	T	2.88
Dickinson‖‖	Heart			.06	.06			.33	.14	T.	.04		.03	T.			.01	.01	.14	.08	.37				.13		.01	.01	.07	.63		T	2.12
Dogden Butte	Mouse			.11				.04					.20	.10					.30	1.81	.10			.05	.53		.04	T	.18			T	3.76
Drake‖‖	Mouse			.10			.02						.05							2.05	.92				.28				.28	.06			3.76
Dunn Center	Knife			.24				.30					.07						.38	1.02				.18	.09			.03	.21				2.52
Dunseith	Mouse		.04	.05			T							.03			.25		.51	.38					.17		.10		.45				1.98
Eckman	Mouse			.09				.02					.02	.14			.12	T.	.43	.60	.23			T.	.48		.02		.21				2.36
Edgeley	James			.06				.06					.14						.26	1.27									T.			.25	2.04
Edmore	Devils Lake		T.	T	T.									.08	.03		T.	T.	.61	2.04	.01			T	.03		.03	T.	.99		.01	T	3.83
Ellendale***	James			T.				.06	.01	T.			.03		T.			T.	.23	.20				T.	T.		T.	T.	.03		.22	T.	0.78
Energy	Missouri			.10				.10											.25	1.30				T.	.36		T.	.10	.15				2.36
Epping	Missouri		T.	.33	.07		.20							.10			.22	T.	*	.55						.80							2.27
Fairfield	Knife			.55				.31					.04						.10	.50				.24				.22					1.96
Fessenden‖‖	James			.05									.10						.16	1.15	.26				.26				.45	.10			2.47
Forman	Sheyenne			T					.09				.03						.05	1.02				.66	T.		T.		.08		.12	T.	1.45
Fort Yates	Missouri			T.				.31											1.60										T.		T		1.91
Foxholm (near)	Mouse			.05			T.						.15	.16			.16		.56	1.30				.16	.13		.02	.13	.22				3.04
Fryburg	Heart							.55					T					.05	.30	.90		T.			T.		.10		.05			T.	1.95
Fullerton	James		.04	T.				T.	T.				.03		T.				.36	.53				.06			T.		.03	T.	.40	T.	1.45
Gackle	James							.20	.05			.20							.20	.65									.15		.11		1.56
Garrison	Missouri			.07				.05						.02					.10	.40	.80			.19	.29		.08	.10	.30				2.40
Grafton	Red													.03	.15			T.		2.35	.05			.01	.13		.25		.66	T.	T.		3.57
Grand Forks ***	Red													.08		T.			.30	1.46				.09	T.		.05	.07	.66		.03		2.74
Granville	Mouse		T.	.09			.03						.10				T.			1.84				.39			.05		.40				2.90
Hankinson	Red											T.							.40					.10					.20		.15		0.85
Hannah	Pembina				T.										.02			.30	T.	1.79	.28				.02		T.	T.	.25	.15			2.81
Hansboro	Devils Lake													.08			.45		.40	1.52	.10				.15		.03		.55				3.28
Hettinger	Grand			.09	.06			.32	.06	.06									.03	.74				T			.01	T.					1.37
Hillsboro	Red																		.12	1.66				T.			.42	.02		.45	.11		2.78
Howard (near)	Missouri		T.	.02			T.	T.			T.		.01	.02					.50					.25									0.80
Jamestown	James			.01				.06				.02							.07	1.29								.05		.30	.15		1.98
Kenmare	Mouse		T.	T.								.08			.13	.01	.16	T.	1.06	.15				.33		.03	T.	.35	.05				2.35
Langdon	Pembina																		1.50	.40								*	.60				2.35
Larimore	Red													.09					.91	1.90				.10			.11		1.00	T.	T.		2.50
Linton	Missouri			.05				.19	.14				.02						.11	.73					.02		T.		.11		.01		4.11
Lisbon	Sheyenne								.12						.10				.08	1.26				.05					.13		.05	.05	1.38
McClusky	Missouri												.35							2.84								.15	.20				1.84
McLeod	Sheyenne			T									T		.44					.40				T.		T.	T.			.12		.10	3.54
Maddock	Sheyenne		T.	.06				T.					T.	.09					.25	1.57	.04				.17		.12		.26	T.			1.06
Mandan‖‖	Missouri		.09	T		.18	.05			T.		.02			T.				1.44	.13				.07	T.	T.		.12	.02		T.		2.56
Manfred	James			T.				.07					.10	.02					.25	2.05	.05			.02	.19		T.		.30				2.12
Marmarth	Lit. Missouri				.18			.60		.40								.09	.20	.60				.05	.02		.01						3.05
Mary	Lit. Missouri			.60			T.	.23					.30					T.	.02	.10				.35	.04			.18	T.				2.15
Max‖‖	Missouri			.06	.02								.02						T.	.40	1.60					T.		.10	.20				1.82
Mayville	Red														.02				.16	1.35				.06			.11	.02	.37	.04	.03	.03	2.40
Minot	Mouse												.12	.02					.30	.72	.08			.13	.25		.07		.55				2.19
Mohall	Mouse													.30				.20	1.30					.42		.10			.54				2.24
Mott	Cannon Ball			T.				.42		.08									.04	1.46													2.86
Napoleon‖‖	Missouri				.12			.10	.25				.05						.35	.75	.10			.10					.03	.20		.15	2.00
New England	Cannon Ball			.22				.82										.10		1.20				T.				.16	.03				2.20
New Salem	Heart			.03				.22		T.	T.		.05						.18	1.60	.20			.04	T.		.01	.03	.04				2.53
Oakes	James							T	.06	T.			.15		T.				.12	.66				.04	T		.01		.12	T.	.18	.04	2.40
Park River	Red													.09					.42	2.10	.04			T.	.05		.28	T.	.11	.73			1.38
Parshall (near)	Missouri			.15				.04						.05					.58	.80				.20	.20	.12		.15	.18				3.82
Pembina‖‖	Red														.10	T.		.27	.08	.79	.77				.06	.01	T.	T.	.07	.08		T.	2.47
Petersburg	Red			T.			T							.10					.48	1.41				.01			.03		.67		T.		2.23
Pettibone	James			T.			.12						.18						.20	1.46	T.			T.			.05	T.	T.	.25			2.73
Portal‖‖	Mouse													.19					.25					.30				.15					2.26
Power	Sheyenne																																0.89
Powers Lake	Missouri				.17												.15	.46	.41					1.23	.40	.17		.52					.....
Richardton	Heart			.36	.03			.46		T.										1.10									.05				3.51
Rugby [near]	Mouse		.01	.12			T.						.03	.07		T.	.03		.58	1.33	.05				.23		.05		.25				2.00
Ryder	Missouri		.08	.03																1.12				.45			T.	T.	.20		T.		2.75
Sanish‖‖	Missouri			.20	.08			.04					.03							T.					.65		.12	.20	.17	.07			1.88
Sharon	Red		T.	T.									T.	.09				T	.69	1.73	T.			T.	.01		.04	T.	.62	T.	.01	T.	1.56
Stanton	Missouri				.05								T.								1.38			.34					.24				3.19
Steele	Missouri			.02				.35	.05				.05						.15	1.25				T.	.10		.05		.25				2.01
Stowers	Cannon Ball				.35				.33	.15	.03								T.		.60	T.						T.		T.			2.27
Tagus	Mouse			.06									.09					.06	.06	.10					.20				.09				1.46
Tioga	Missouri			.35										.05			.15		.56					.32	.25								0.66
Towner	Mouse			.08				.02					.01	.03			.01		.75	1.87	.11				.49		T.	T.	.51	T.			1.68
Trotters	Lit. Missouri			.18				.29										T.	.60	.35				.45				.08		.22			3.88
Turtle Lake	Missouri																																2.17
Valley City	Sheyenne							.14					.15			T.			.20	1.23				.05			T.		.27		.16	T.	.....
Velva	Mouse			.03				.03					.17	.02					.50	2.25	.02			.10	.46		T.	T.	.37				2.20
Verona	James																																3.95
Wahpeton	Red															.20				.30				.05	.01				.20	.05	.02	.05	.....
Washburn	Missouri			.07				.18												1.57	1.05				.24		T.		.15	.05			0.88
Westhope	Mouse			.06			.01						.04	.06			T.		.42	.34					.73	.10	.03		.40				3.31
Williston ***	Missouri		.12	.08			.02					.11		.01			.33	.03	.54	.13				.51	.03		T.	.09	.11				2.19
Willow City	Mouse			.07			T.						T.	.08			.03			1.68					.28		.01		.06				2.11
Wishek‖‖	Missouri							.10	.09											.55	.10										.20		2.75
Zap	Knife			.25				.20												.60									.46				1.04
Moorhead, Minn ***	Red		T	T			T.	.13					T.	T.	T.	.10	T.	T.	T.	.41				.02	T		.29	.13	.18		.10	.01	1.51
																																	1.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	78	62	63	60	68	65	53	52	45	50	48	45	49	74	54	50	53	54	54	55	57	55	61	51	52	50	50	40	36	38	35	53.5
	Minimum	44	39	34	35	25	37	35	28	25	18	20	18	24	28	30	34	32	39	35	30	32	31	33	35	24	24	30	31	19	14	21	29.2
Arnegard (near)	Maximum	84	65	57	50	76	59	42	40	39	65	57	62	78	62	68	57	31	29	31	39	50	52	42	36	45	42	34	34	29	32	51	49.7
	Minimum	43	37	39	35	31	34	32	19	19	33	34	34	39	38	42	32	23	20	22	18	29	25	28	29	23	31	24	24	7	17	30	28.7
Ashley	Maximum	83	78	64	47	60	67	54	39	38	43	47	56	66	76	70	71	48	38	44	47	58	56	50	42	51	45	46	40	35	29	38	52.5
	Minimum	40	50	39	28	24	38	34	26	27	17	32	28	27	32	36	35	29	27	30	22	28	28	31	30	23	28	32	28	23	20	10	29.1
Beach	Maximum	80	70	58	47	75	63	41	34	31	36	46	60	68	75	66	55	40	28	31	37	50	48	41	38	47	41	42	46	30	33	41	48.3
	Minimum	37	49	38	35	33	36	31	13	24	18	31	42	42	42	43	39	27	22	21	18	28	28	30	30	26	32	26	24	12	20	20	29.6
Berthold Agency	Maximum	84	74	60	50	74	58	43	42	38	45	50	52	57	80	64	42	32	30	30	40	48	42	35	45	44	36	35	28	28	30	38	46.9
	Minimum	37	43	40	38	30	38	19	18	20	28	34	32	28	30	42	30	28	24	24	8	22	30	23	15	32	26	25	8	9	22	15	26.4
Bismarck	Maximum	83	74	54	48	71	63	39	40	37	44	48	56	67	77	64	56	37	33	34	40	47	58	48	37	48	40	41	36	30	32	42	49.2
	Minimum	41	50	38	33	29	38	34	25	27	27	36	32	32	38	44	34	27	26	28	20	27	29	35	30	25	32	30	26	23	25	23	31.1
Bottineau	Maximum	82	76	76	66	72	73	64	43	38	46	43	41	46	71	73	46	30	29	27	33	45	47	45	36	34	35	34	35	29	28	32	47.6
	Minimum	28	30	38	25	22	39	27	12	8	11	9	27	20	31	32	28	23	26	22	15	18	25	31	24	8	25	28	26	10	12	15	22.4
Cando	Maximum	81	80	73	68	65	45	51	42	45	46	44	44	48	71	70	68	53	45	39	34	50	52	54	55	41	39	38	36	30	34	38	51.3
	Minimum	44	41	38	36	25	41	35	17	21	15	18	21	27	29	44	41	25	22	25	17	24	24	27	17	22	19	30	28	8	17	19	26.4
Carrington §§	Maximum	72	76	50	54	66	65	46	52	51	46	49	44	46	77	60	53	32	35	36	49	57	60	53	32	50	38	38	33	28	31	..	[a]49.3
	Minimum	40	39	27	28	31	34	22	22	22	22	26	27	31	34	20	27	27	30	21	21	29	20	30	22	22	31	30	21	14	21	..	[a]26.4
Crosby	Maximum	81	64	47	51	79	55	41	42	38	40	44	38	54	70	59	42	32	27	30	40	45	53	41	32	42	42	34	32	23	32	31	44.5
	Minimum	40	46	39	37	34	36	24	17	14	25	22	25	32	36	31	27	25	20	20	9	22	30	33	25	20	30	22	22	1	18	16	25.7
Devils Lake	Maximum	74	68	46	48	64	55	45	40	39	44	41	43	44	72	55	36	30	32	32	40	54	59	50	35	44	36	36	32	24	31	35	44.6
	Minimum	43	46	38	30	30	39	36	20	17	23	25	29	28	32	36	29	27	27	29	20	28	30	35	28	21	32	32	24	19	20	20	28.8
Dickinson §§	Maximum	81	75	45	46	75	59	33	34	33	43	50	60	71	77	66	49	29	28	28	35	42	43	40	38	43	35	39	33	28	34	40	46.2
	Minimum	31	40	42	36	27	32	32	21	23	23	25	34	33	34	39	42	26	22	22	15	17	23	26	30	21	24	24	29	18	17	15	27.2
Dunn Center	Maximum	80	76	58	48	75	60	39	40	37	45	50	38	62	77	66	52	34	30	29	39	47	43	42	35	42	41	35	36	27	33	39	46.9
	Minimum	36	52	40	36	29	39	32	20	21	24	34	32	31	33	47	33	26	23	24	15	25	18	29	30	20	32	23	24	8	15	14	27.9
Dunseith	Maximum	79	74	55	49	70	63	44	40	36	45	38	41	47	73	61	46	28	30	34	32	57	52	52	34	35	36	35	33	28	28	32	45.4
	Minimum	49	49	37	29	23	40	32	17	15	13	23	26	28	33	42	26	22	22	25	17	23	24	32	26	17	27	28	26	10	12	18	26.2
Edgeley	Maximum	78	77	72	48	62	63	55	40	39	45	49	50	60	62	68	58	45	47	43	42	59	59	45	46	51	42	42	35	31	29	39	51.0
	Minimum	45	44	45	29	26	43	34	28	25	20	33	29	29	34	29	32	30	30	31	24	31	29	28	32	24	31	31	31	20	22	18	30.2
Ellendale	Maximum	79	80	55	45	61	67	42	41	38	44	48	51	65	73	69	76	39	53	54	50	60	60	50	41	53	43	41	38	31	30	35	52.0
	Minimum	46	50	35	33	28	36	35	31	29	18	35	30	27	32	33	32	31	32	32	28	27	29	38	30	26	34	34	29	22	22	15	30.9
Fessenden §§	Maximum	80	72	46	50	66	57	43	43	40	45	44	48	45	76	54	43	33	32	34	38	48	59	48	30	49	38	48	32	30	31	37	46.4
	Minimum	41	46	39	28	27	32	34	20	21	21	30	28	29	30	32	31	27	26	24	20	26	27	30	27	22	28	32	32	21	17	20	28.0
Foxholm (near)	Maximum	80	66	59	48	74	63	43	40	37	44	43	46	47	75	64	43	29	28	29	37	42	40	45	34	38	37	36	32	25	29	29	44.6
	Minimum	38	51	37	31	31	36	27	15	11	21	20	28	32	29	38	25	22	20	21	12	29	23	32	23	19	30	25	21	4	10	17	25.1
Fullerton	Maximum	76	78	59	60	58	65	42	41	40	44	47	48	62	72	69	63	49	49	53	50	57	60	52	42	51	42	41	38	31	31	36	51.8
	Minimum	44	44	36	37	27	36	35	31	27	20	33	30	30	35	43	31	31	32	34	27	27	31	40	35	22	32	32	30	21	22	17	31.4
Garrison	Maximum	82	71	60	48	74	60	45	41	37	44	48	54	54	78	63	43	33	31	29	38	43	50	42	35	43	38	36	33	30	34	38	46.9
	Minimum	41	49	40	34	28	43	34	16	17	22	32	31	29	28	41	32	27	24	25	18	25	22	31	26	20	32	28	27	10	23	23	28.3
Grafton	Maximum	79	72	68	50	64	60	50	46	42	42	45	43	52	66	62	44	36	36	37	45	61	60	54	47	45	41	39	39	33	31	31	49.0
	Minimum	31	49	39	35	22	44	36	24	15	12	27	25	23	34	42	32	29	31	33	30	29	29	31	32	31	31	32	32	19	11	23	29.5
Grand Forks	Maximum	72	73	63	51	62	57	47	43	43	47	47	40	47	66	66	45	42	43	53	46	60	60	50	48	45	38	38	37	33	32	31	49.2
	Minimum	45	51	39	37	25	45	38	26	17	18	27	25	25	35	42	32	31	34	36	31	30	29	36	33	29	29	33	32	19	25	19	31.5
Granville	Maximum	83	70	70	51	76	57	45	43	45	47	46	47	50	76	60	46	35	30	35	37	47	42	43	35	40	37	35	35	29	33	35	47.1
	Minimum	38	48	38	31	30	48	32	15	10	18	25	30	27	28	38	28	28	19	23	14	20	19	33	27	14	33	27	26	— 1	16	12	25.6
Hansboro	Maximum	82	68	58	50	65	55	52	40	40	45	46	46	50	66	65	40	32	30	30	33	45	44	40	36	45	39	37	33	30	34	34	45.5
	Minimum	44	50	38	27	27	35	34	17	9	12	22	26	24	30	40	27	24	24	28	17	25	25	32	26	20	30	30	14	9	8	12	25.4
Hettinger	Maximum	81	75	61	45	73	65	51	32	29	41	52	63	72	74	67	62	42	30	28	39	42	47	42	37	43	39	45	43	30	36	41	49.3
	Minimum	40	45	40	35	26	36	31	27	26	16	34	40	40	36	42	41	27	23	23	18	22	24	24	32	26	32	22	26	22	23	19	29.6
Hillsboro	Maximum	76	69	63	46	56	61	57	45	39	43	43	38	50	71	68	48	48	51	51	45	56	56	54	37	43	40	38	38	32	34	32	49.3
	Minimum	49	53	39	37	27	45	39	28	24	20	32	28	20	24	39	31	35	37	33	32	29	28	33	31	26	30	33	32	20	27	20	31.6
Howard (near)	Maximum	78	60	57	60	78	63	42	41	30	40	45	54	57	73	53	49	49	30	35	38	58	55	42	35	46	41	33	31	26	29	37	47.3
	Minimum	42	40	39	35	35	35	25	11	12	21	20	21	33	35	27	25	23	20	20	15	30	32	30	28	19	25	23	14	5	15	15	24.8
Jamestown	Maximum	82	74	47	46	63	62	42	41	42	45	43	45	56	74	63	52	38	42	42	50	55	57	53	43	53	40	42	35	30	30	39	49.3
	Minimum	40	45	41	29	22	44	33	25	25	22	33	29	26	30	43	36	30	32	32	25	29	28	35	29	23	32	32	29	21	24	20	30.5
Langdon	Maximum	84	70	43	51	66	51	45	45	40	45	45	42	42	52	70	48	34	34	35	36	36	45	60	48	40	38	30	38	30	30	34	45.4
	Minimum	40	43	37	30	24	30	31	18	10	12	11	22	20	22	30	28	23	24	25	20	20	24	32	20	25	29	20	30	13	10	20	24.0
Larimore	Maximum	76	69	63	49	62	57	47	44	45	44	44	41	46	70	62	47	35	34	36	45	61	58	48	47	46	38	38	35	30	30	36	47.8
	Minimum	48	50	38	36	25	44	37	24	18	19	28	27	27	32	47	28	29	28	32	28	31	29	33	32	26	30	32	30	20	12	19	30.3
Linton	Maximum	85	79	65	49	66	68	52	40	37	46	49	60	62	70	74	65	43	33	35	42	54	57	50	44	51	42	44	41	34	30	40	51.8
	Minimum	33	37	44	32	17	28	32	25	28	25	29	32	21	29	40	35	28	25	27	19	24	25	34	26	22	30	30	29	25	24	10	28.0
Lisbon	Maximum	76	77	49	48	61	63	54	42	41	46	47	44	60	73	69	58	39	51	54	50	59	60	50	38	51	45	40	40	33	32	37	51.2
	Minimum	40	41	42	37	25	39	37	31	28	19	31	30	26	29	43	35	31	34	35	29	29	28	38	33	23	31	28	32	22	25	23	31.4
McClusky	Maximum	80	73	61	60	59	58	46	49	49	43	44	51	50	75	62	45	40	32	32	36	41	56	44	35	42	36	40	33	29	31	37	47.4
	Minimum	40	48	36	34	38	38	35	27	18	21	30	29	32	35	44	32	28	24	26	19	25	31	33	25	18	31	28	25	11	20	23	29.2
Maddock	Maximum	76	75	65	62	64	64	49	42	40	45	45	43	45	74	71	49	32	31	37	36	42	56	54	42	42	36	39	37	29	30	36	48.0
	Minimum	43	50	38	27	28	43	39	18	16	19	24	26	26	29	43	29	25	25	29	16	32	27	31	26	18	31	30	27	14	15	20	27.9
Marmarth	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Minot	Maximum	80	82	68	50	76	70	44	44	42	46	45	48	51	78	70	48	31	31	29	40	45	47	45	39	41	41	37	34	28	34	36	48.5
	Minimum	36	45	39	30	26	39	30	13	11	17	22	29	32	29	42	28	24	22	25	13	27	19	32	24	15	32	26	23	0	19	19	25.4
Mohall	Maximum	83	76	63	52	78	70	48	43	41	46	46	44	45	73	67	47	31	28	32	37	46	41	41	32	39	36	35	30	29	29	33	46.6
	Minimum	45	42	40	31	25	39	23	18	8	16	20	28	30	25	26	28	23	24	13	28	24	28	26	12	24	24	28	— 1	5	17	11	23.5
Mott	Maximum	80	76	66	50	70	64	39	38	41	46	49	60	68	77	62	58	55	30	32	35	36	40	50	37	47	40	43	36	36	33	43	49.6
	Minimum	40	47	33	32	42	28	27	28	25	33	35	33	38	46	30	27	25	22	24	23	21	32	33	29	34	34	34	26	25	24	28	30.9
Napoleon §§	Maximum	85	79	47	49	65	65	38	40	39	45	47	47	67	79	68	57	33	36	39	48	55	58	50	34	51	39	45	35	35	30	40	49.8
	Minimum	41	51	43	29	25	35	33	23	25	22	32	29	28	35	41	38	29	26	29	21	28	26	31	30	20	31	29	29	23	21	13	29.5
New Salem	Maximum	82	89	51	45	70	65	50	35	35	41	49	51	65	78	66	59	40	37	38	38	42	46	41	35	41	37	35	41	26	31	36	48.2
	Minimum	53	53	46	35	32	35	32	22	25	29	31	31	35	39	35	40	27	27	29	16	29	22	31	26	22	29	28	22	13	22	19	30.2
Oakes	Maximum	80	80	64	47	62	61	54	41	40	46	49	51	64	75	72	68	50	51	53	54	62	61	51	41	54	43	40	40	33	32	40	53.5
	Minimum	41	46	43	30	22	38	36	31	27	19	34	30	26	29	44	31	33	32	33	28	26	29	38	34	21	31	34	32	21	22	19	31.0
Pembina §§	Maximum	70	70	50	47	62	52	47	40	38	50	40	39	49	61	56	37	32	33	36	43	58	60	47	38	43	38	36	32	26	31	31	44.9
	Minimum	41	46	39	33	23	28	34	23	15	12	15	22	24	27	37	31	28	27	31	29	27	28	28	36	31	31	31	32	20	17	20	27.9
Sharon	Maximum	77	65	52	50	62	59	45	43	44	44	43	42	45	70	62	42	33	33	36	45	58	58	46	41	47	37	36	32	29	28	32	46.3
	Minimum	48	50	36	34	23	40	35	21	20	15	28	28	27	31	41	28	27	29	31	25	29	32	34	29	23	28	31	29	15	18	15	29.0
Steele	Maximum	89	75	60	48	62	61	48	39	40	43	45	48	64	75	63	53	35	31	32	42	50	56	50	37	48	40	42	34	31	30	37	48.6
	Minimum	39	47	40	28	24	35	32	23	27	20	29	31	32	33	40	32	27	27	26	20	27	28	32	29	21	32	28	28	23	23	24	29.3
Towner	Maximum	79	70	60	54	73	58	58	44	40	46	44	46	46	78	57	44	31	30	31	34	40	41	39	34	35	36	36	34	29	32	34	45.6
	Minimum	39	44	40	28	27	38	33	14	11	17	24	29	29	28	29	29	27	25	27	13	19	21	34	27	13	29	29	29	0	12	20	25.3
Valley City	Maximum	80	78	74	48	61	61	58	58	49	45	44	43	51	73	69	62	60	39	41	47	51	57	54	51	50	47	39	37	33	30	36	52.5
	Minimum	36	43	40	36	36	39	34	26	27	15	32	27	26	29	41	30	30	30	32	26	30	36	34	30	23	27	31	31	18	18	17	30.0
Wahpeton	Maximum	80	78	74	50	60	68	62	45	47	49	48	45	60	73	72	69	70	53	55	51	60	62	56	50	51	50	44	44	36	32	34	55.7
	Minimum	43	45	42	33	26	41	40	33	27	20	31	29	24	30	48	32	32	43	35	33	30	28	45	35	25	28	31	33	24	26	27	33.0
Westhope	Maximum	83	76	63	52	78	70	48	43	41	46	46	44	45	73	67	47	31	28	30	38	44	43	42	39	29	39	38	35	29	30	31	46.7
	Minimum	44	49	40	31	25	39	23	12	6	15	17	28	24	32	42	27	22	23	26	9	17	23	34	26	10	33	30	26	— 3	11	16	24.4
Williston	Maximum	80	67	50	50	79	51	44	39	39	44	48	54	61	75	61	49	29	27	35	41	55	54	42	39	47	37	35	34	29	31	41	47.3
	Minimum	40	47	41	38	34	36	30	20	22	27	31	36	35	38	44	27	26	23	25	19	32	30	33	31	26	29	27	20	15	24	20	29.9
Moorhead, Minn	Maximum	73	75	50	48	59	61	44	42	40	46	43	40	49	69	68	53	50	52	55	46	56	62	49	42	48	41	39	39	32	31	32	49.5
	Minimum	49	49	39	35	28	44	37	30	28	22	32	30	26	38	35	31	40	40	36	32	30	32	40	33	27	30	32	32	23	24	20	33.0

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 11-29-32—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

VOL. XXXXI BISMARCK, N. D., NOVEMBER, 1932 No. 11

GENERAL SUMMARY

Rather disagreeable weather prevailed throughout the state during the first two decades, the temperature averaging below the normal, with occasional high winds and snow. As a result of these adverse conditions, there was much yard feeding of livestock required, and auto travel was greatly impeded. The last decade was generally fair with mild temperature, which caused a rapid diminution in snow covering, and allowed livestock to range on pastures and harvested fields.

TEMPERATURE

The mean temperature for the state was 25.2°, or 2.2° below the normal, and 5.1° lower than the mean for November, 1931. The highest mean reported was 32.0° at New England, Hettinger County; the lowest was 17.4° at Hannah, Cavalier County, and Pembina, Pembina County. The highest temperature reported was 70° at McLeod, Ransom County on the 7th; the lowest was -17° at Richardton, Stark County on the 15th. The greatest monthly range of temperature was 84° at McLeod, Ransom County; the least was 52° at Langdon, Cavalier County. The greatest daily range in temperature was 51° at Napoleon, Logan County on the 19th.

PRECIPITATION

The average precipitation for the state was 0.49 inch, or 0.12 inch below the normal, and 0.06 inch less than the average for November, 1931. The greatest monthly amount reported was 2.69 inches at Hansboro, Towner County; the least was a trace at Fort Yates, Sioux County, and Stowers, Adams County. The greatest amount recorded in any 24 consecutive hours was 2.60 inches at Hansboro, Towner County on the 10th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 4.6 inches.

AURORAS

Auroras were observed at Bottineau, Eckman, Oakes and Williston on the first; at Pembina on the 2d; at Devils Lake, Eckman, Edmore, Foxholm and Rugby on the 3d; at Devils Lake, Eckman, Foxholm, Pembina and Pettibone on the 4th; at Howard on the 9th; at Epping on the 12th; at Eckman on the 16th; at Devils Lake and Moorhead, Minn. on the 18th; at Foxholm and Howard on the 19th; at Howard on the 22d; at Eckman and Grand Forks on the 26th; at Eckman, Foxholm, Hettinger and Pembina on the 28th; and at Foxholm on the 29th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.08	30.74	15	29.43	19	57	7,233	10.0	24	se.	3
Devils Lake	30.06	30.71	15	29.26	19	44	7,864	10.9	35	nw.	20
Ellendale	30.08	30.72	15	29.47	20	56	10,869	15.1	38	nw.	10†
Grand Forks	30.04	30.67	25	29.51	19	90	....	.....	38	nw.	11
Williston	30.07	30.70	15	29.39	19	48	5,708	7.9	31	nw.	19
Moorhead, Minn	30.08	30.75	26	29.38	19	58	7,956	11.0	27	s.	3
Av'ges and extremes	30.07	30.75	26	29.26	19	.....	....	11.0	38	nw.	10†

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	122.3	281.1	44	− 7	80	59	68	28	24
Devils Lake	112.3	278.2	40	−10	89	77	87	54	29
Ellendale	173.2	284.1	61	+10	81	58	....	22	24
Grand Forks	......	......	.....	.....	86	.....	84	.....	....
Williston	126.1	278.2	45	− 2	82	71	76	43	4
Moorhead, Minn	125.7	281.1	45	− 3	86	75	83	54	4
Averages and extremes	131.9	280.5	47	− 3	84	68	80	22	24

† And other dates.

COMPARATIVE STATE DATA FOR NOVEMBER

Year	Temperature				Precipitation				Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	Snow fall	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891	20.5	−6.9	71	−35	0.86	+0.25	......	4	12	8	10	nw.
1892	22.3	−5.1	75	−26	0.79	+0.18	......	4	8	9	13	nw.
1893	22.4	−5.0	74	−27	0.57	−0.04	......	3	9	10	11	nw.
1894	23.1	−4.3	71	−25	0.47	−0.14	2.6	4	10	8	12	nw.
1895	20.6	−6.8	76	−25	1.06	+0.45	8.2	5	8	9	13	nw.
1896	8.1	−19.3	62	−32	2.23	+1.62	21.7	9	8	7	15	nw.
1897	20.0	−7.4	86	−28	0.32	−0.29	2.8	3	12	9	9	nw.
1898	23.0	−4.4	69	−30	0.34	−0.27	3.1	3	13	8	9	s.
1899	36.0	+8.6	68	2	0.31	−0.30	1.0	2	15	4	11	nw.
1900	20.4	−7.0	64	−29	0.32	−0.29	5.2	5	14	7	9	nw.
1901	26.8	−0.6	70	− 7	0.19	−0.42	1.6	1	15	8	7	nw.
1902	29.6	+2.2	69	−12	0.24	−0.37	1.9	3	11	6	13	nw.
1903	25.3	−2.1	78	−20	0.26	−0.35	2.5	2	13	4	13	nw.
1904	35.7	+8.3	80	−10	0.09	−0.52	0.7	1	18	5	7	nw.
1905	31.6	+4.2	88	−38	1.54	+0.93	11.0	9	7	13	10	nw.
1906	23.8	−3.6	68	−16	1.62	+1.01	10.2	7	10	7	13	nw.
1907	30.2	+2.8	85	−15	0.09	−0.52	0.7	1	16	8	6	nw.
1908	31.1	+3.7	75	−15	0.97	+0.36	8.2	4	12	8	10	nw.
1909	29.4	+2.0	88	−23	0.43	−0.18	4.6	3	11	9	10	nw.
1910	23.9	−3.5	68	−23	0.37	−0.24	3.2	2	8	10	12	nw.
1911	16.7	−10.7	58	−33	0.65	+0.04	7.1	6	12	8	10	nw.
1912	31.8	+4.4	70	1	0.06	−0.55	0.5	1	14	9	7	nw.
1913	34.1	+6.7	77	− 2	0.22	−0.39	1.6	2	15	8	7	nw.
1914	30.7	+3.3	83	−30	0.35	−0.26	2.6	2	13	10	7	nw.
1915	28.1	+0.7	71	−10	0.91	+0.30	3.7	4	10	10	10	nw.
1916	28.8	+1.4	75	−18	0.24	−0.37	1.7	2	16	8	6	nw.
1917	36.8	+9.4	77	− 7	0.14	−0.47	1.4	1	16	6	8	nw.
1918	28.9	+1.5	71	−18	1.04	+0.43	5.3	4	13	6	11	nw.
1919	15.6	−11.8	57	−36	1.16	+0.55	11.8	5	11	8	11	nw.
1920	28.0	+0.6	65	−14	0.37	−0.24	2.1	3	10	9	11	nw.
1921	21.0	−6.4	69	−30	0.68	+0.07	6.3	5	7	8	15	nw.
1922	31.8	+4.4	65	− 8	2.33	+1.72	6.3	6	7	7	16	nw.
1923	36.5	+9.1	72	− 5	0.50	−0.11	0.6	3	13	8	9	nw.
1924	27.6	+0.2	69	−15	0.18	−0.43	1.9	2	11	9	10	nw.
1925	28.8	+1.4	69	−17	0.25	−0.36	1.3	2	14	8	8	nw.
1926	21.5	−5.9	68	−23	0.65	+0.04	6.2	5	6	7	17	nw.
1927	20.7	−6.7	59	−24	0.70	+0.09	7.1	6	7	8	15	nw.
1928	31.0	+3.6	70	−11	0.48	−0.13	0.2	1	15	8	7	nw.
1929	24.8	−2.6	70	−21	0.53	−0.08	5.2	5	9	8	13	nw.
1930	29.4	+2.0	72	−21	0.87	+0.26	6.2	5	13	7	10	nw.
1931	30.3	+2.9	78	−10	0.55	−0.06	5.0	3	13	7	10	nw.
1932	25.2	−2.2	70	−17	0.49	−0.12	4.6	4	10	10	10	nw.
Av.	27.4	....	88	−38	0.61	....	4.6	4	12	8	10	nw.

*Extremes.

Climatological Data for November, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	6	...	...	...	...	...	...	...	0.21	...	...	...	2	...	...	...	...	H. A. Bury.
Amenia	Cass	954	36	21.5	−6.5	48	30	−16	21	38	0.21	−0.44	0.15	...	3	0	19	11	nw.	I. Idso.
Arnegard (near)	McKenzie	...	19	26.0	−2.3	50	5†	−15	15	35	0.65	+0.25	0.30	6.5	3	19	4	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	28.9	+0.9	63	6†	−8	15	40	0.33	−0.30	0.21	7.2	4	10	6	14	nw.	H. D. Piper.
Beach	Golden Valley	2,759	26	28.4	−2.6	54	27	−15	15	31	0.80	+0.23	0.36	8.0	6	...	...	...	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	26.4	−2.1	60	28†	−10	15	50	0.20	−0.24	0.20	3.0	1	15	8	7	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	28.8	+0.3	58	21	−5	15	43	0.16	−0.41	0.07	1.6	5	8	12	10	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	20.7	−2.9	48	3	−13	15†	34	0.22	−0.32	0.09	2.2	5	4	21	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	30.0	−0.6	60	27	−11	15	38	0.31	−0.07	0.26	1.0	3	...	...	...	nw.	George Larsen.
Cando	Towner	1,488	31	21.6	−4.9	44	7	−12	19	33	0.76	+0.23	0.29	7.0	5	10	7	13	nw.	A. J. Swanson.
Carrington	Foster	1,579	34	24.4	−3.4	56	5	−8	14†	49	0.62	+0.07	0.27	4.0	3	17	7	6	nw.	L. A. Swanson.
Carson	Grant	2,500	20	30.0	0.0	60	27	−13	15	40	0.30	−0.31	0.12	1.8	3	13	10	7	nw.	J. W. Evens.
Cavalier	Pembina	894	22	...	...	...	...	...	...	...	1.69	+0.86	0.40	16.8	9	16	4	10	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	...	...	...	...	...	...	...	0.53	−0.17	0.28	5.3	3	6	12	12	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	...	...	...	...	...	...	...	0.45	...	0.20	4.5	3	15	11	4	nw.	W. A. Clem.
Courtenay	Stutsman	1,523	3	...	...	...	...	...	...	...	0.60	...	0.50	6.0	2	14	8	8	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	22.2	−4.5	49	28	10	15	37	0.30	−0.35	0.20	3.0	2	11	14	5	sw.	John Jensen.
Devils Lake	Ramsey	1,478	35	23.6	−0.9	51	29	−10	19	50	0.77	+0.05	0.28	4.5	8	4	10	16	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	26.0	−2.3	56	27	−16	15	33	0.45	−0.07	0.22	2.3	8	8	15	7	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	21.8	...	50	30	−6	15†	36	0.37	...	0.12	4.5	5	6	8	16	nw.	R. L. Williams.
Drake	McHenry	1,634	3	24.9	...	50	30	−6	15†	36	0.34	...	0.15	2.5	3	7	7	16	nw.	Peter Anton.
Dunn Center	Dunn	2,191	33	26.5	−1.4	50	6†	−14	15	36	0.88	+0.31	0.50	11.4	4	8	6	16	nw.	W. F. Moede.
Dunseith	Rolette	1,682	36	20.0	−4.4	48	29	−11	19	28	1.41	+0.90	0.50	13.5	4	3	14	13	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	20.8	−5.0	45	6	−14	15	37	0.23	−0.35	0.10	3.0	3	9	10	11	nw.	C. E. Streck.
Edgeley	LaMoure	1,568	31	28.0	−1.8	63	6	−6	15†	36	0.13	−0.34	0.10	1.2	2	3	15	12	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	28.0	+1.9	62	21	−7	19	42	0.15	−0.59	0.06	1.9	4	6	8	16	nw.	U. S. Weather Bureau
Energy‡‡	McLean	1,750	20	27.4	...	54	6	13	15	49	0.32	−0.05	0.10	2.5	4	7	20	3	nw.	H. S. Solenberger.
Epping	Williams	2,224	24	25.7	...	50	4	−14	15	50	0.60	+0.14	0.30	8.0	3	23	4	3	nw.	A. O. Wang.
Fairfield	Billings	...	3	...	...	...	...	...	...	...	0.50	...	0.20	5.0	3	13	10	7	sw.	F. R. Hecker.
Fessenden	Wells	1,610	20	24.5	−2.6	55	6	9	15	49	0.78	+0.02	0.25	7.8	4	12	11	7	nw.	T. D. Monsen.
Forman	Sargent	1,249	39	...	...	...	...	...	...	...	0.42	0.22	0.22	6.0	2	13	8	9	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	31.3	+1.5	65	24	7	15	37	T.	−0.55	T.	T.	0	16	8	6	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	23.4	...	50	28	−9	15	43	0.25	−0.42	0.12	2.0	4	4	13	13	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	...	...	...	...	...	...	...	0.97	+0.33	0.45	4.5	7	10	10	10	nw.	Verne King.
Fullerton	Dickey	1,439	34	27.8	−1.4	60	6	−6	15†	41	0.38	−0.47	0.38	3.8	1	11	13	6	nw.	F. O. Alin.
Gackle	Logan	1,951	2	...	...	...	...	...	...	...	0.38	...	0.30	3.7	3	15	3	12	nw.	Geo. Hummel.
Garrison	McLean	1,901	55	25.9	−0.4	53	28	−8	15	40	0.06	−0.49	0.03	...	2	13	12	5	nw.	W. F. Robinson.
Grafton	Walsh	827	40	21.2	−3.5	41	4†	−13	19	32	0.96	+0.22	0.57	11.2	4	10	8	12	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	41	23.2	−2.8	50	3	13	19	42	0.88	+0.07	0.21	6.5	9	2	12	16	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	24.2	−2.5	49	29	−7	15	45	0.29	−0.32	0.12	1.0	3	12	7	11	nw.	W. A. Christianson.
Hankinson	Richland	1,068	3	27.0	...	67	5	13	18	43	0.91	...	0.75	8.0	4	9	8	13	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40	17.4	...	43	5	−15	9	40	0.73	−0.05	0.32	4.1	6	2	16	12	sw.	James Muir.
Hansboro	Towner	1,597	24	19.0	−4.5	42	27	13	19	33	2.69	+2.10	2.00	16.5	4	16	9	5	nw.	C. F. Blackorby.
Hettinger	Adams	2,675	25	31.4	−0.2	62	28	−7	15	38	0.04	−0.40	0.02	T.	3	15	9	6	nw.	C. H. Plath.
Hillsboro	Traill	901	26	22.2	−5.6	46	3†	13	19	27	0.50	−0.41	0.40	5.0	3	6	13	11	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	25	22.0	−4.3	46	4	−11	13†	32	0.35	−0.26	0.20	3.5	3	8	16	6	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	40	26.7	−0.6	62	29	10	15	34	0.69	−0.03	0.50	6.7	4	8	16	6	...	S. Calvelage.
Langdon	Cavalier	1,615	36	18.9	−5.1	42	5	−10	15†	30	0.70	−0.13	0.40	7.0	2	8	22	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	22.4	−3.4	47	29	−10	19	32	0.97	+0.10	0.30	6.2	7	8	7	15	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	28.0	−1.0	62	6†	−10	15	42	0.05	−0.61	0.05	1.0	1	9	16	5	se.	Rev. E. J Oiberding.
Lisbon	Ransom	1,091	28	26.7	−2.2	65	6	−7	15	37	0.52	−0.21	0.40	5.2	4	7	2	21	...	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	25.1	...	56	6	−11	15	40	0.80	+0.09	0.30	8.0	5	16	10	4	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	27.5	−2.8	70	7	−11	19	42	0.67	−0.06	0.59	6.7	3	17	6	7	nw.	J. G. Carlson.
Maddock	Benson	1,604	17	23.8	−2.8	50	6	−12	19	37	0.42	−0.12	0.27	4.2	2	4	14	12	nw.	A. T. Felland.
Mandan	Morton	1,750	18	27.1	−2.1	57	24	−7	15	45	0.19	−0.33	0.10	1.3	4	4	1	25	nw.	No. Gt. Plains Field Sta
Manfred	Wells	1,605	29	...	...	...	...	...	...	...	0.67	−0.05	0.24	4.8	5	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	23	31.0	−0.4	59	4	−11	15	37	0.46	+0.05	0.14	3.3	6	10	7	13	...	S. P. Grane.
Mary	McKenzie	...	3	...	...	...	...	...	...	...	0.60	...	0.33	3.0	3	13	5	12	nw.	Fred Hartman.
Max	McLean	2,093	3	24.6	...	64	22	−10	14†	47	0.25	...	0.10	2.5	3	...	...	...	...	A. W. Rice.
Mayville	Traill	975	36	24.0	−4.2	51	4	−13	19	39	0.29	−0.50	0.10	2.9	5	5	11	14	s.	H. B. Addicott.
Minot	Ward	1,557	36	25.3	−2.2	50	28	−12	15	41	0.05	−0.62	0.05	0.6	1	10	6	14	w.	Julia B. Rue.
Mohall	Renville	1,646	38	23.4	−1.4	53	29	−8	18	35	0.37	−0.23	0.22	4.0	2	10	7	13	nw.	G. V. Davidson.
Mott	Hettinger	2,424	25	29.4	+0.2	58	6	−2	14	30	0.05	−0.49	0.04	0.5	2	14	7	9	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	27.4	+0.7	61	6†	−13	15	51	0.49	−0.16	0.20	4.5	4	17	3	10	s.	C. J. Hoff.
New England	Hettinger	2,400	38	32.0	+2.9	60	30	15	14	37	0.43	−0.08	0.11	3.5	4	13	8	9	se.	F. S. Sleight.
New Salem	Morton	2,163	28	28.4	−1.4	60	28	−10	15†	40	0.07	−0.42	0.02	0.5	4	12	11	7	sw.	J. Christiansen.
Oakes	Dickey	1,318	3	28.1	...	62	6	−11	19	35	0.28	...	0.23	3.3	3	10	13	7	se.	Eugene Naylor.
Park River	Walsh	998	28	22.2	−5.6	62	4	−11	19	38	0.66	−0.12	0.50	7.5	3	6	9	15	nw.	C. B. Wright.
Parshall (near)	Mountrail	...	17	24.4	...	50	6	−10	15	42	0.15	−0.14	0.08	2.5	3	3	20	7	nw.	C. E. Shubert.
Pembina	Pembina	789	58	17.4	−5.9	42	4†	−15	19	39	1.03	+0.24	0.28	12.7	8	4	9	17	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	...	...	...	...	...	...	...	0.83	...	0.28	4.5	6	6	13	11	nw.	T. M. Bakken.
Pettibone	Kidder	1,856	23	25.0	−1.4	58	6	−12	14†	43	0.71	+0.05	0.46	2.5	3	13	6	11	sw.	H. H. McCumber.
Portal	Burke	1,954	27	20.8	−4.6	47	28	−10	14†	44	0.23	−0.35	0.13	5.0	2	11	1	18	w.	R. G. Wegener.
Power‡‡	Richland	1,020	38	...	...	...	...	...	...	...	1.00	+0.25	0.30	10.0	5	13	11	6	n.	Frank B. Power.
Powers Lake	Burke	2,205	27	26.2	...	51	3	−16	15	35	0.59	+0.01	0.37	7.0	2	11	6	13	w.	Geo. B. Gee.
Richardton	Stark	2,467	16	27.4	−0.9	55	28	−17	15	37	0.27	−0.19	0.27	2.7	1	11	12	7	nw.	John Muggli.
Rugby (near)	Pierce	1,552	3	...	...	...	...	...	...	...	0.31	...	0.12	2.0	6	4	19	7	nw.	E. C. Erickson.
Ryder	Ward	2,108	3	...	...	...	...	...	...	...	0.11	...	0.06	1.0	3	...	...	...	...	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	24.8	...	52	28	−9	15	38	0.17	...	0.08	...	4	4	2	24	nw.	Geo. Buerkle.
Sharon	Steele	1,516	8	21.8	...	46	3†	−15	19	35	0.81	...	0.22	5.4	8	4	14	12	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8	...	...	...	...	...	...	...	0.21	...	0.18	0.7	2	10	8	12	nw.	J. H. Giffey.
Steele	Kidder	1,857	38	26.8	+0.5	61	29	−8	15	37	0.13	−0.49	0.05	0.8	5	12	10	8	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	17	...	...	...	...	...	...	...	T.	−0.37	T.	T.	0	17	6	7	...	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	...	...	...	...	...	...	...	0.09	...	0.04	1.0	3	10	9	11	nw.	J. C. Abbott.
Tioga	Williams	2,279	3	...	...	...	...	...	...	...	0.10	...	0.10	1.0	1	3	7	20	nw.	Anton Carlson.
Towner	McHenry	1,482	30	22.5	−2.7	47	6	−11	15†	39	0.34	−0.25	0.15	3.8	4	14	6	10	nw.	Karl Weber.
Trotters	Golden Valley	...	6	...	...	...	...	...	...	...	0.56	...	0.38	6.0	3	7	11	12	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	E. T. Kusler.
Valley City	Barnes	1,245	26	26.1	−1.9	60	6	−11	18	37	1.02	+0.28	0.40	11.9	6	13	11	6	sw.	I. C. Robertson.
Velva	McHenry	1,511	5	25.1	...	51	28†	−7	15	46	0.21	...	0.13	3.0	3	2	11	17	w.	Oscar Anderson.
Verona	LaMoure	1,387	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. C. Taylor.
Wahpeton	Richland	962	40	27.7	−1.1	67	6	−10	19	32	0.94	−0.22	0.40	9.0	5	14	0	16	se.	C. G. Luick.
Washburn	McLean	1,731	31	26.7	−3.6	55	6	−7	15	41	0.31	−0.21	0.25	0.6	3	8	11	11	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	21.2	−4.4	43	6	11	15	37	0.16	−0.39	0.12	1.6	2	10	16	4	nw.	C. M. Condit.
Williston	Williams	1,878	53	26.6	−0.6	50	4	−7	14	35	0.62	+0.04	0.27	6.2	5	8	13	9	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	21.4	−1.2	49	29	−15	19	49	0.40	−0.19	0.20	4.0	2	10	17	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	3	26.0	−3.8	61	6	−8	15	48	0.10	−0.42	0.10	1.0	1	18	6	6	nw.	Gottlieb Herr.
Zap	Mercer	1,838	17	...	...	...	...	...	...	...	0.29	−0.04	0.15	...	2	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	51	25.3	−1.8	53	6	−10	19	34	0.84	−0.06	0.51	11.1	8	2	10	18	s.	U. S. Weather Bureau.
Averages	...	...	...	25.2	−2.2	70	8	−17	15	51	0.49	+0.12	2.60	4.6	4	10	10	10	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods: Dogden Butte, near Butte: Energy, Underwood: Grand Forks, University: Power, Leonard: Howard, Grenora: Stowers, Thunder Hawk, S. D.

Daily Precipitation for November, 1932

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri														.10								.11										0.21
Amenia	Red									T	.03	.15	.03								T	T											[illegible]
Arnegard (near)	Missouri							.30					.05	[illegible]	[illegible]								[illegible]										[illegible]
Ashley	Missouri										.21	.03			[illegible]				.03														[illegible]
Beach	Lit. Missouri						T.	.13			.01			.30	.10			[illegible]					[illegible]										0.80
Berthold Agency	Missouri				T			T					T	T	.20																		0.20
Bismarck ***	Missouri			T				.04	T	T	.02	T	T.	.05	.05			T	T														0.16
Bottineau	Mouse			T				.08	T		T	T.		.02		T	.01		[illegible]				[illegible]										0.22
Bowman	Grand			T.					.01						.01								[illegible]										0.31
Cando	Devils Lake							.06	.17	T.	.07			T			T	T	[illegible]	T			[illegible]										0.76
Carrington‖	James							T.			.27		.10	T					T				[illegible]										[illegible]
Carson	Heart							T			.08			.10										.12									0.30
Cavalier	Red	[illegible]						[illegible]		.02	.10		.05	.30			.10		.30				.40										1.69
Cooperstown	Sheyenne		T.					[illegible]	T	T		.28		T						T.	T	T	[illegible]										[illegible]
Corinth	Missouri							.10				.20	.15																				0.45
Courtenay	James										.50				.10																		0.60
Crosby	Mouse							.20					.10																				0.30
Devils Lake ***	Devils Lake	T.		T.				.16	T.	.01	.12	T.	.03	.03			.01		.13	T.	T.		.28	T		T.							0.77
Dickinson‖	Heart		T					T	.02		.01	.01		.02	.11			.02	[illegible]				.22	T									0.45
Dogden Butte	Mouse							.04	.12					.10	.05				T.		T.		.06										0.37
Drake‖	Mouse								.12					.07									.15										0.34
Dunn Center	Knife						.50	T					T.	.22	.12								.04										0.88
Dunseith	Mouse										[illegible]						.50			.50			.06										1.41
Eckman	Mouse							T	.01		T			.10					.05				T.										0.23
Edgeley	James										.10			.03					T														0.13
Edmore	Devils Lake	T.					T	.10			[illegible]			.01		T	.02		.21		.01		.12	T.		T.							0.85
Ellendale***	James						T		T.	T.	.06		T.	.01	.03				.05	T.			T.										0.15
Energy	Missouri						T	.10						.04	[illegible]								.16										0.32
Epping	Missouri							.25			.05		T.	.30																			0.60
Fairfield	Knife							.20			.10			.20																			0.50
Fessenden‖	James								.20			.23		.10									.25										0.78
Forman	Sheyenne							T.		.20	.22				T.																		0.42
Fort Yates	Missouri													T																			T.
Foxholm (near)	Mouse							.10		T.			T.	.12			.02		.01		T		T.										0.25
Fryburg	Heart				T.		.16	T.	T	.16	[illegible]		.12		.10		.05	T.				T.	.45										0.97
Fullerton	James							T.	T.		.38			T.	T				T.	T													0.38
Gackle	James										.30				.04								.01										0.38
Garrison	Missouri			.03				T.	T.	T.	T																						0.66
Grafton	Red							T.		T	.57	.08	T										.03										0.96
Grand Forks ***	Red	T.						.19	.06	.08	.18	.01	.02	.03			.12		.19		T.		T.										0.88
Granville	Mouse						T	.12			T.			T.			T		.10	T			.21										0.29
Hankinson	Red								.01	.05	.75						T		.10		T.		.07										0.91
Hannah	Pembina	T.	.06	T.				T.	T.		.13	.10		.10			T.	.02	T.		T.		.32	T.									0.73
Hansboro	Devils Lake	.04						.02			2.60			.03										T.									2.69
Hettinger	Grand							T.	.01					.01				.02					T.										0.04
Hillsboro	Red										.10			.02							.08												0.50
Howard (near)	Missouri										.10	.05		T				.20															0.35
Jamestown	James						T.				.50			.15					.02				.02										0.69
Kenmare	Mouse																																......
Langdon	Pembina										.60						.10																0.70
Larimore	Red							.12	.11	T	.40	.05		.04					.05	T.	T.		.20			T.							0.97
Linton	Missouri							T.			.05			T.																			0.05
Lisbon	Sheyenne									.02		.40			.05				.05														0.52
McClusky	Missouri							.10	.10					.10	.20							.30											0.80
McLeod	Sheyenne							T.	T			.59		.03						.05		T.											0.67
Maddock	Sheyenne								T		.15								T				.27										0.42
Mandan‖	Missouri						.02	T	T	T.			T.	.10					.01			.06											0.19
Manfred	James							T.	.15		.15			.05	T.				.08				.24										0.67
Marmarth	Lit. Missouri						.02	.14			.02			.11	T.			.05					.12										0.46
Mary	Lit. Missouri							.18			T.			.33								.18											0.69
Max‖	Missouri									.10				.10					.05														0.25
Mayville	Red							.08		T.	.01	.05		T.					.10				.05										0.29
Minot	Mouse						T							.05																			0.05
Mohall	Mouse						.22						.15																				0.37
Mott	Cannon Ball							.04				.02																					0.06
Napoleon‖	Missouri											.20		T.	.20					.05			.04										0.49
New England	Cannon Ball										T			.10			T.	.05				.14									.14		0.43
New Salem	Heart							T.	T	T.	.01			.02	.02			T.					.02										0.07
Oakes	James								T.		.23	.03			T.			.02															0.28
Park River	Red																.08			.08	T		.50										0.66
Parshall (near)	Missouri						T.	.04		T	T.			.08	.03								T.										0.15
Pembina‖	Red	T.	.02					.10	T.	T	.10	.22	T.	.09	T.		T.	.01	.21	T.	T.	T.	T	.28		T.							1.03
Petersburg	Red							.05	.07		.28			.09			T.		.10				.24										0.83
Pettibone	James							T.	.10	.15			T.	T.					T.				.46										0.71
Portal‖	Mouse							.10					.13																				0.23
Power	Sheyenne									.20	.30	.20		.10					.20		T.					T.							1.00
Powers Lake	Missouri							.37	.22																						T.		0.59
Richardton	Heart													T.								.27											0.27
Rugby [near]	Mouse						.04	.12	.02		T.			.02			T.		.08	T.			.03										0.31
Ryder	Missouri		T.	T.	T.	T.	.06							.02														.03					0.11
Sanish‖	Missouri							.02	.03						.08								.04										0.17
Sharon	Red	T.						.10	.02	.08	.22	.03	T.	.01					.13	T.	T.		.22			T.							0.81
Stanton	Missouri							T.							.03								.18										0.21
Steele	Missouri						.03	.01	.01		T.			.03					T.		T.		.05										0.13
Stowers	Cannon Ball							T.		T.	T.								T														T.
Tagus	Mouse						.03		.02		.01																						0.09
Tioga	Missouri														.10																		0.10
Towner	Mouse								.15	T.	T.			.05					.10				.04										0.34
Trotters	Lit. Missouri						.03	.15					T.	.38				T.	T.				T.										0.56
Turtle Lake	Missouri																																......
Valley City	Sheyenne							.03	T.		.40	.06		.40	.06				.07		T.												1.02
Velva	Mouse						T.	.13	T.	T.	T.		T.	.05	T.				.03				T.										0.21
Verona	James																																......
Wahpeton	Red								.04	.10	.30	.40						.10															0.94
Washburn	Missouri								.02	T.	T.			.04									.25										0.31
Westhope	Mouse																		.12				.04										0.16
Williston ***	Missouri		T.				T.	.26			T		.03	.27	.04	T.		.02															0.62
Willow City	Mouse			T.			T.	T.			T.			.20			T.		.20				T.										0.40
Wishek‖	Missouri											.10																					0.10
Zap	Knife													.14									.15										0.29
Moorhead, Minn.***	Red	T		T				T.	.03	.23	.39	T.	.01	.02	.03				.12		T		.01			T.							0.84

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	41	40	44	44	42	45	41	32	30	26	24	24	18	12	18	20	22	22	20	18	22	20	32	38	30	34	38	40	46	52	....	31.2
	Minimum	12	20	28	31	30	29	30	31	26	22	12	8	10	4	-9	-12	-10	0	0	-2	-16	-4	0	6	10	4	16	24	28	25	....	11.8
Arnegard (near)	Maximum	42	39	47	49	50	47	40	35	23	24	31	30	30	3	5	19	24	15	42	29	37	38	37	42	35	43	49	50	49	45	....	35.0
	Minimum	24	24	33	27	34	33	22	21	17	10	21	10	1	-11	-15	-1	-4	5	7	12	17	20	16	32	17	15	31	32	32	30	....	17.1
Ashley	Maximum	47	42	58	52	49	63	49	30	25	22	32	32	39	12	17	26	33	30	29	44	39	39	39	60	54	38	57	59	63	57	....	41.2
	Minimum	15	25	34	27	30	28	27	21	15	14	14	10	11	3	-8	-1	3	8	-3	14	13	28	13	26	19	8	17	27	26	35	....	16.6
Beach	Maximum	42	36	46	46	47	49	43	26	20	25	36	35	38	5	10	21	28	28	44	48	39	40	41	42	47	41	54	53	49	49	....	37.6
	Minimum	30	23	35	27	27	35	22	12	4	12	11	9	6	-9	-15	5	-2	18	13	28	23	27	23	28	34	24	31	32	34	30	....	19.2
Berthold Agency	Maximum	35	38	45	45	50	50	40	30	30	20	34	30	30	5	12	20	24	24	48	36	35	40	40	52	42	40	54	60	60	57	....	37.5
	Minimum	25	28	28	23	28	30	25	12	15	10	10	11	-5	-5	-10	4	-2	5	-2	14	15	22	13	25	18	17	20	28	28	28	....	15.3
Bismarck	Maximum	44	43	50	49	51	56	40	27	22	20	35	36	38	8	14	25	28	28	47	34	41	40	44	58	35	42	54	53	54	54	....	39.0
	Minimum	28	27	29	26	30	31	26	18	18	16	18	15	7	-3	-5	8	5	5	4	18	20	21	17	32	20	17	25	30	26	31	....	18.7
Bottineau	Maximum	37	32	48	37	42	41	36	28	21	19	32	30	15	6	7	14	17	18	21	29	34	23	28	38	33	31	41	47	46	43	....	29.8
	Minimum	18	19	27	19	21	26	26	18	12	14	8	3	0	-4	-13	4	3	-4	-13	4	14	20	0	18	2	4	21	24	26	32	....	11.6
Cando	Maximum	36	39	41	39	43	41	44	32	22	33	31	27	21	16	13	11	20	21	18	31	39	34	28	38	36	29	40	41	43	39	....	31.5
	Minimum	16	19	22	24	25	26	22	21	16	12	11	7	5	-2	-9	5	1	1	-12	1	6	25	3	21	5	4	11	18	28	20	....	11.8
Carrington §§	Maximum	35	50	48	54	56	36	25	22	21	32	25	20	8	11	13	26	16	42	36	37	35	38	44	27	32	49	50	55	51	56	....	35.0
	Minimum	23	23	18	32	24	30	23	16	16	13	10	10	1	-8	-8	-2	3	-7	-8	10	17	10	10	15	10	10	26	33	33	34	....	13.9
Crosby	Maximum	32	32	40	38	35	40	33	25	21	19	34	33	13	4	8	12	20	20	12	42	33	35	31	42	34	37	39	49	41	41	....	29.8
	Minimum	25	25	31	30	25	29	25	18	14	12	15	11	-1	-6	-10	4	3	-1	-2	5	3	15	15	15	12	15	25	31	30	29	....	14.7
Devils Lake	Maximum	35	35	46	42	45	48	36	27	22	22	33	26	16	8	10	12	23	21	40	30	34	34	33	41	31	30	43	45	51	43	....	32.1
	Minimum	23	23	32	28	32	35	27	20	18	16	12	7	4	-3	-8	5	5	-9	-10	7	13	17	7	27	7	6	22	31	32	32	....	15.2
Dickinson §§	Maximum	41	42	46	48	46	52	27	29	18	25	31	40	12	2	12	18	28	19	13	35	40	36	41	51	34	47	56	54	46	52	....	35.8
	Minimum	16	20	26	24	25	27	25	22	14	13	13	12	12	0	-16	-15	-3	15	10	19	16	21	21	21	24	21	25	25	28	29	....	16.3
Dunn Center	Maximum	39	35	49	47	48	50	39	29	24	22	34	32	34	5	10	14	26	24	42	40	47	38	39	46	41	42	50	48	42	48	....	36.1
	Minimum	26	24	33	25	27	32	24	20	14	12	21	12	4	-8	-14	-1	-2	6	6	20	12	25	17	29	20	18	23	31	27	25	....	16.9
Dunseith	Maximum	33	28	40	36	42	45	37	27	19	19	33	17	13	6	7	12	17	17	17	20	34	33	26	42	26	31	45	44	48	45	....	28.6
	Minimum	17	15	25	19	25	28	25	16	13	13	11	4	-2	-5	-8	2	1	1	-11	5	14	17	2	21	2	4	19	23	27	23	....	11.5
Edgeley	Maximum	48	37	57	53	54	63	48	32	26	21	33	34	37	16	16	24	31	31	23	49	37	40	40	35	40	36	48	56	44	50	....	38.6
	Minimum	17	26	34	28	27	35	28	24	18	16	11	12	10	5	-6	-3	2	8	-6	13	11	25	22	25	12	17	22	30	32	31	....	17.5
Ellendale	Maximum	47	39	55	54	51	61	46	33	26	22	34	31	39	11	17	29	33	28	29	45	37	42	39	62	42	34	45	49	60	57	....	39.9
	Minimum	15	28	31	30	21	30	29	19	19	17	17	14	11	1	-6	-1	5	-3	-7	15	9	21	12	20	14	8	20	31	28	29	....	16.1
Fessenden §§	Maximum	39	40	49	37	51	55	35	25	20	29	33	24	13	9	12	16	25	15	41	39	36	35	36	45	29	34	50	54	50	50	....	34.2
	Minimum	22	26	28	27	29	32	30	20	13	15	13	10	9	1	-9	-8	2	4	-8	6	12	12	11	15	13	12	14	32	31	30	....	14.8
Foxholm (near)	Maximum	31	31	40	39	41	44	37	25	20	19	35	29	15	4	9	12	20	21	36	42	35	36	35	43	38	34	18	50	48	49	....	32.2
	Minimum	18	23	27	26	29	34	24	16	14	12	11	6	1	-3	-9	3	-3	-3	-7	6	9	15	9	28	9	9	27	35	35	34	....	14.5
Fullerton	Maximum	45	40	55	52	50	60	49	31	26	23	37	30	36	15	17	28	32	27	23	44	39	44	35	59	45	33	43	47	55	52	....	39.1
	Minimum	17	27	29	29	23	27	35	23	20	18	12	12	11	3	-6	-2	2	6	-6	3	8	29	12	24	21	9	21	29	28	30	....	16.6
Garrison	Maximum	36	38	44	47	49	51	43	30	24	23	35	32	30	7	14	18	22	12	39	45	38	38	38	48	34	38	50	53	46	50	....	35.7
	Minimum	25	24	33	25	28	32	25	12	12	12	13	12	11	-2	-8	2	5	3	-1	10	14	24	13	28	15	16	24	30	19	28	....	16.1
Grafton	Maximum	33	32	40	41	39	38	40	39	28	25	31	27	25	7	11	12	19	23	11	32	26	36	28	41	33	26	35	36	41	37	....	29.7
	Minimum	11	10	24	22	26	29	34	24	23	20	15	12	6	0	-8	3	0	0	-13	4	2	23	3	16	4	-6	17	25	26	32	....	12.8
Grand Forks	Maximum	35	34	50	48	42	46	48	38	28	26	30	26	18	8	11	15	23	24	13	35	30	36	25	42	32	24	35	37	42	40	....	31.4
	Minimum	17	17	34	29	30	33	38	28	25	21	14	14	6	1	-8	5	10	-3	-13	4	2	25	3	0	5	0	19	28	28	35	....	14.9
Granville	Maximum	34	33	40	40	41	40	35	28	21	21	35	28	18	7	10	16	23	22	40	42	37	37	35	42	35	36	48	47	49	45	....	32.8
	Minimum	18	22	27	24	28	34	27	19	12	17	14	8	5	2	-7	8	-1	2	-5	8	11	20	9	30	5	11	32	27	30	32	....	15.6
Hansboro	Maximum	30	30	37	37	36	38	33	32	30	25	32	28	11	5	10	12	10	8	20	20	30	28	32	38	30	23	42	40	40	40	....	27.6
	Minimum	10	2	26	25	25	26	21	20	15	10	10	5	-2	-5	-7	0	-1	-4	-13	4	5	15	2	19	1	-2	15	27	30	30	....	10.3
Hettinger	Maximum	47	38	48	49	50	52	39	29	23	23	39	41	44	11	22	29	36	33	51	51	43	38	45	60	41	51	61	62	52	52	....	42.1
	Minimum	28	22	34	26	28	32	26	23	15	15	22	13	10	0	-7	9	9	14	26	24	18	30	21	31	22	20	23	32	27	30	....	20.8
Hillsboro	Maximum	32	33	46	46	44	44	39	41	31	28	30	28	22	8	9	8	8	20	12	12	26	32	32	40	40	21	32	34	36	40	....	29.1
	Minimum	24	22	32	29	32	29	29	26	21	19	12	15	8	3	-5	-3	4	0	-13	5	11	25	8	19	13	0	10	28	26	30	....	15.3
Howard (near)	Maximum	33	37	43	46	41	40	34	21	22	35	30	25	-2	8	5	15	18	19	30	34	34	34	32	42	36	38	39	45	42	43	....	30.7
	Minimum	22	21	27	29	28	22	18	12	12	16	9	-2	-11	-3	-11	-1	-1	-1	2	2	17	13	9	28	12	11	32	30	32	26	....	13.3
Jamestown	Maximum	29	34	54	52	50	59	49	29	24	23	34	33	27	12	11	16	27	29	25	44	37	37	35	54	40	32	52	52	62	58	....	37.3
	Minimum	21	26	32	26	30	32	28	20	12	15	13	9	9	1	-10	-2	-1	-1	9	10	12	26	9	26	11	9	20	26	31	30	....	16.1
Langdon	Maximum	30	35	40	40	42	40	39	30	30	21	30	10	10	10	10	10	20	11	29	20	34	35	30	40	12	25	40	40	40	40	....	28.1
	Minimum	15	7	8	23	25	28	30	21	20	15	8	2	2	-5	-10	-10	0	0	19	-3	24	14	0	0	2	-5	0	12	22	28	....	9.7
Larimore	Maximum	35	31	45	46	44	43	41	35	25	25	30	29	18	8	12	13	23	14	14	34	32	36	25	42	33	24	38	39	47	41	....	30.7
	Minimum	15	17	24	24	30	31	33	25	23	18	12	10	8	0	-7	1	1	-4	-10	5	0	25	7	18	5	0	19	28	32	32	....	14.1
Linton	Maximum	43	37	52	52	47	62	46	35	24	20	35	33	37	14	19	30	28	29	32	44	42	37	45	62	41	41	56	57	56	62	....	40.6
	Minimum	24	25	30	17	22	24	22	20	17	15	15	10	13	3	-10	4	1	10	0	15	3	25	10	20	20	5	23	29	20	32	....	15.5
Lisbon	Maximum	45	37	55	54	50	65	42	32	30	26	34	30	26	12	12	15	32	26	22	30	38	41	34	53	30	26	43	46	56	54	....	36.5
	Minimum	17	23	35	29	27	28	32	28	25	18	15	14	12	7	-7	-5	5	8	-5	5	10	30	12	23	16	8	20	22	26	29	....	16.9
McClusky	Maximum	37	36	47	46	50	56	44	26	20	24	32	32	30	20	13	20	23	24	34	41	31	35	38	34	32	31	51	54	48	48	....	35.2
	Minimum	26	25	33	25	35	31	25	17	15	15	22	6	5	-2	-11	0	-2	-4	-6	9	18	15	10	10	11	14	14	31	32	31	....	15.0
Maddock	Maximum	35	33	44	42	47	50	45	35	22	22	32	32	29	7	10	13	23	23	25	40	35	35	33	42	39	31	45	47	49	44	....	33.6
	Minimum	16	20	29	25	26	29	29	20	10	15	11	6	5	-1	-11	3	10	0	-12	6	9	27	5	26	8	8	18	27	28	28	....	14.0
Marmarth	Maximum	46	45	56	59	50	49	26	36	28	30	40	44	20	15	26	39	37	37	52	50	45	47	45	56	55	55	35	56	52	50	....	42.7
	Minimum	23	22	32	32	22	26	4	12	10	8	24	20	11	-3	-11	11	8	16	37	26	23	30	22	22	24	23	23	26	25	27	....	19.2
Minot	Maximum	37	35	43	43	44	48	43	28	24	21	36	32	19	8	13	17	23	23	37	43	37	38	38	47	40	37	49	50	49	42	....	34.8
	Minimum	21	24	31	22	28	34	25	18	14	14	14	9	4	0	-12	6	-1	0	-4	9	10	23	12	28	12	11	27	34	29	32	....	15.8
Mohall	Maximum	31	36	43	40	44	46	43	28	22	28	35	28	10	7	10	15	21	18	41	22	36	33	35	41	28	51	49	48	53	44	....	32.9
	Minimum	24	22	24	25	33	28	18	15	15	13	8	5	-2	-7	2	-1	3	-8	6	9	16	10	10	10	8	17	20	32	30	30	....	13.8
Mott	Maximum	43	48	48	51	50	58	33	28	26	26	32	20	20	14	19	24	30	25	26	33	40	42	36	56	50	52	56	52	55	53	....	38.2
	Minimum	30	35	26	32	33	32	21	21	15	19	18	-1	5	-2	6	7	11	6	10	18	28	19	20	26	27	31	33	31	32	32	....	20.7
Napoleon §§	Maximum	46	42	53	51	49	61	31	28	23	23	32	37	18	8	16	27	30	18	43	26	41	38	44	59	31	41	59	61	58	60	....	38.4
	Minimum	22	24	33	27	30	29	30	19	13	14	13	8	15	0	-13	-6	-3	18	-8	12	14	30	8	28	18	8	20	33	25	34	....	16.5
New Salem	Maximum	39	38	46	43	48	48	29	28	24	28	34	33	38	17	10	19	24	25	38	34	43	37	43	53	43	40	57	60	53	58	....	37.7
	Minimum	27	27	34	28	27	36	18	22	15	12	17	12	11	-3	-10	-10	2	10	-2	28	28	27	19	32	29	17	29	31	31	30	....	19.1
Oakes	Maximum	48	38	55	56	52	62	50	33	27	25	34	32	33	13	17	26	33	28	22	39	38	43	34	59	43	33	45	48	55	56	....	39.2
	Minimum	16	27	35	28	23	27	33	26	21	17	14	12	13	4	-7	-4	3	7	-11	12	7	30	12	24	20	8	23	32	24	33	....	17.0
Pembina §§	Maximum	30	36	39	42	41	42	42	31	26	23	24	14	9	1	6	12	20	11	12	13	32	32	29	39	2	20	34	36	40	42	....	26.0
	Minimum	16	12	12	24	24	26	26	30	25	20	13	13	8	-6	-13	-9	0	-1	-15	-10	0	12	1	0	1	-4	-5	19	23	22	....	8.8
Sharon	Maximum	37	30	46	44	43	45	39	32	25	21	30	28	13	9	11	13	24	22	20	36	32	35	22	40	32	24	39	39	46	41	....	30.6
	Minimum	17	21	25	23	27	31	31	23	21	16	11	8	6	-1	-11	2	2	-7	-15	2	1	22	5	22	6	1	19	28	31	33	....	13.0
Steele	Maximum	35	38	52	49	50	54	58	33	37	19	33	30	33	27	10	14	20	26	27	34	41	39	36	39	57	40	38	58	61	53	....	38.0
	Minimum	25	26	32	22	25	29	30	27	20	15	15	8	10	1	-8	-5	3	-1	6	-3	12	12	20	12	26	15	12	28	30	27	....	15.7
Towner	Maximum	31	31	42	41	42	47	39	27	21	20	32	28	18	5	8	15	17	21	28	40	34	34	32	40	32	33	44	43	46	42	....	31.1
	Minimum	15	25	30	21	24	30	26	17	15	15	13	7	3	0	-11	6	0	-1	-11	6	9	24	5	26	5	11	20	29	25	30	....	13.9
Valley City	Maximum	47	35	53	51	49	60	56	35	35	26	32	30	28	11	10	15	23	23	21	46	34	37	39	48	39	35	47	43	51	49	....	36.9
	Minimum	19	23	31	26	27	28	31	25	21	16	12	10	10	3	-8	-4	-5	-11	9	9	6	28	10	18	12	6	20	28	26	32	....	15.3
Wahpeton	Maximum	43	42	51	58	57	67	55	40	30	27	26	28	30	13	12	18	32	30	14	37	37	42	35	47	41	25	39	41	50	52	....	37.3
	Minimum	21	27	35	30	28	35	37	30	25	20	13	18	13	6	-8	-5	14	5	-10	10	12	27	15	20	13	6	19	30	21	37	....	18.1
Westhope	Maximum	35	31	38	38	42	43	35	38	23	22	32	28	11	7	11	16	17	19	22	40	34	35	32	39	29	34	38	40	42	38	....	30.3
	Minimum	15	12	28	21	21	27	26	17	14	15	11	5	3	4	-11	6	-1	-1	-8	3	11	19	3	21	2	5	18	24	26	29	....	12.2
Williston	Maximum	38	39	48	50	48	48	34	30	20	26	33	30	23	4	10	16	22	21	44	34	38	38	38	47	36	44	46	49	43	42	....	34.6
	Minimum	27	27	32	29	32	33	25	17	15	14	21	15	2	-7	-7	1	3	5	9	16	20	19	15	29	19	22	31	32	30	30	....	18.5
Moorhead, Minn	Maximum	41	38	51	52	46	53	50	34	28	24	30	30	27	10	11	21	31	24	24	34	32	40	24	46	29	23	36	38	43	48	....	33.9
	Minimum	19	26	35	32	29	32	34	26	23	20	14	16	8	2	-5	1	18	-6	-10	5	6	22	13	19	6	5	20	30	27	35	....	16.7

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 1-3-33—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XXXXI   BISMARCK, N. D., DECEMBER, 1932   No. 12

GENERAL SUMMARY

Changeable weather characterized the weather of the month. Mild temperature prevailed during the first six days, being followed by decidedly colder until the 17th, when milder weather again prevailed and continued to the close of the month. The precipitation was decidedly below the normal, being confined to light snows, mostly during the periods 3d-6th, and 10th-13th. Some of these snows were accompanied by high winds, which blocked some highways and necessitated some yard feeding of livestock.

TEMPERATURE

The mean temperature for the state was 12.4°, or 0.2° below the normal, and 8.6° lower than the mean for December, 1931. The highest mean reported was 19.9° at Crosby, Divide County; the lowest was 4.1° at Howard, Williams County. The highest temperature reported was 60° at Fort Yates, Sioux County on the 4th; the lowest was -31° at Howard, Williams County on the 21st. The greatest monthly range of temperature was 85° at Ellendale, Dickey County; the least was 52° at Crosby, Divide County. The greatest daily range in temperature was 51° at Mohall, Renville County on the 5th.

PRECIPITATION

The average precipitation for the state was 0.18 inch, or 0.34 inch below the normal, and 0.05 inch less than the average for December, 1931. The greatest monthly amount reported was 0.80 inch at Howard, Williams County; there was none at Portal, Burke County, and Zap, Mercer County. The greatest amount recorded in any 24 consecutive hours was 0.80 inch at Howard, Williams County on the 1st. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 1.7 inches.

AURORAS

Auroras were observed at Foxholm and Williston on the 1st; at Crosby on the 3d; at Foxholm and Pembina on the 4th; at Arnegard on the 7th; at Pembina on the 8th; at Rugby on the 14th and 15th; at Stowers on the 17th; at Arnegard, Grand Forks and Pembina on the 24th; at Devils Lake, Eckman, Edmore, Foxholm, Rugby and Sanish on the 25th; at Dogden Butte, Edmore, Foxholm, New Salem, Pembina and Sanish on the 26th; at Pettibone and Williston on the 27th; and at Eckman, Foxholm and Rugby on the 30th.

BAROMETRIC PRESSURE AND WINDS

Stations	Barometric pressure, in inches, reduced to sea level					Winds					
	Average	Highest	Date	Lowest	Date	Elevation of Anemometer	Total movement, in miles	Velocity, in miles per hour: Average	Highest*	Direction	Date
Bismarck	30.05	30.72	8	29.51	21	57	6,026	8.1	34	nw.	3
Devils Lake	30.01	30.65	8	29.46	20	41	7,266	9.8	23	nw.	2
Ellendale	30.06	30.72	8	29.41	24	56	8,978	12.1	38	nw.	3
Grand Forks	30.10	30.60	8	29.49	13	90	......	.....	36	nw.	3
Williston	30.03	30.76	8	29.42	19	48	6,008	8.1	32	nw.	3
Moorhead, Minn	30.05	30.70	8	29.45	26	58	6,866	9.2	25	nw.	3
Av'ges and extremes	30.03	30.76	8	29.41	21	.....	....	9.5	38	nw	3

* For any five-minute period. † And other dates.

SUNSHINE AND HUMIDITY

Stations	Sunshine				Humidity				
	Total hours of sunshine	No. of hours possible	Per cent of possible	Dep'ture from normal, p-c't.	Average per cent: 7 a. m.	Mean noon	7 p. m.	Lowest observed	Date
Bismarck	157.4	265.8	59	+10	83	66	74	27	1
Devils Lake	162.6	262.1	62	+17	92	76	83	42	10
Ellendale	192.4	269.6	71	+ 6	84	67	....	28	1
Grand Forks	......	......	.....	.....	82	.....	83	.....	....
Williston	163.9	262.1	63	+14	79	67	72	51	18
Moorhead, Minn	138.9	265.8	52	+ 3	92	80	89	56	1
Averages and extremes	163.1	265.1	61	+10	85	71	80	27	1

† And other dates.

COMPARATIVE STATE DATA FOR DECEMBER

Year	Temperature				Precipitation				Sky			Wind Dir.
	Mean	Dep.	Highest	Lowest	Average	Dep.	Snow fall	No. rainy days	Clear days	P.cdy days	Cl'dy days	
1891	16.1	+3.5	50	−41	1.33	+0.81	......	4	12	8	11	nw.
1892	7.1	−5.5	60	−39	0.57	+0.05	......	4	13	8	10	nw.
1893	4.7	−7.9	55	−36	0.85	+0.33	......	6	11	9	11	nw.
1894	19.1	+6.5	70	−32	0.29	−0.23	1.6	2	18	7	6	nw.
1895	13.8	+1.2	62	−32	0.29	−0.23	2.6	3	12	9	10	nw.
1896	16.4	+3.8	53	−35	0.37	−0.15	2.6	3	13	9	9	nw.
1897	10.8	−1.8	69	−35	0.22	−0.30	2.2	3	12	8	11	nw.
1898	12.1	−0.5	55	−38	0.24	−0.28	2.1	3	14	9	8	uw.
1899	12.8	+0.2	60	−26	0.32	−0.20	3.3	3	13	7	11	nw.
1900	17.3	+4.7	58	−29	0.31	−0.21	3.0	4	13	8	10	nw.
1901	12.4	−0.2	61	−43	0.74	+0.22	7.2	5	10	7	14	nw.
1902	7.8	−4.8	49	−35	0.51	−0.01	4.2	4	14	7	10	nw.
1903	11.6	−1.0	57	−33	0.77	+0.25	7.2	6	11	7	13	nw.
1904	14.2	+1.6	55	−43	0.62	+0.10	6.2	5	7	8	16	nw.
1905	15.3	+2.7	55	−34	0.16	−0.36	1.6	4	16	2	13	nw.
1906	8.4	−4.2	48	−40	1.07	+0.55	10.7	6	11	7	13	nw.
1907	20.1	+7.5	68	−26	0.30	−0.22	3.1	3	15	7	9	nw.
1908	14.4	+1.8	62	−37	0.38	−0.14	3.7	3	13	10	8	nw.
1909	5.2	−7.4	54	−42	1.27	+0.75	12.1	7	9	8	14	nw.
1910	12.9	+0.3	56	−34	0.42	−0.10	4.6	4	12	8	11	nw.
1911	14.9	+2.3	61	−33	0.39	−0.13	4.5	4	10	8	13	nw.
1912	18.9	+6.3	72	−28	0.43	−0.09	4.0	4	14	8	9	nw.
1913	22.7	+10.1	61	−21	0.07	−0.45	0.3	1	18	6	7	nw.
1914	5.4	−7.2	57	−42	0.50	−0.02	5.7	4	12	9	10	nw.
1915	15.8	+3.2	57	−27	0.52	0.00	5.4	5	11	9	11	nw.
1916	2.7	−9.9	61	−50	1.21	+0.69	13.9	5	15	8	8	nw.
1917	0.7	−11.9	58	−44	0.60	+0.08	7.4	6	9	9	13	nw.
1918	18.5	+5.9	65	−41	0.88	+0.36	9.9	5	9	8	14	nw.
1919	7.4	−5.2	49	−38	0.46	−0.06	4.8	3	14	9	8	nw.
1920	15.2	+2.6	59	−32	0.32	−0.20	3.2	3	11	9	11	nw.
1921	16.5	+3.9	59	−33	0.41	−0.11	3.9	4	14	7	10	nw.
1922	8.5	−4.1	55	−34	0.67	+0.15	7.4	5	11	8	12	nw.
1923	22.2	+9.6	62	−36	0.32	−0.20	3.6	3	16	8	7	nw.
1924	2.9	−9.7	58	−46	0.43	−0.09	5.3	4	12	7	12	nw.
1925	16.5	+3.9	67	−38	0.28	−0.24	2.6	3	12	8	11	nw.
1926	9.2	−3.4	55	−36	0.57	+0.05	5.5	3	14	8	9	nw.
1927	−1.8	−14.4	43	−38	0.75	+0.23	8.7	5	14	7	10	nw.
1928	20.7	+8.1	57	−30	0.28	−0.24	3.2	3	14	7	10	nw.
1929	12.5	−0.1	59	−38	0.81	+0.29	9.9	5	12	8	11	nw.
1930	19.9	+7.3	53	−30	0.19	−0.33	2.0	3	12	8	11	nw.
1931	21.0	+8.4	58	−21	0.23	−0.29	2.7	2	13	8	10	sw.
1932	12.4	−0.2	60	−31	0.18	−0.34	1.7	3	14	10	7	nw.
Av.	12.6	....	72*	−50*	0.52	....	5.0	4	13	8	10	nw.

*Extremes.

Climatological Data for December, 1932

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	6	......	......	......	......	......	......	......	0.19	......	0.16	......	2	......	......	......	......	H. A. Bury.
Amenia	Cass	954	36	13.0	+0.8	50	1	−18	15†	34	T.	−0.55	T.	T.	0	10	16	5	nw.	I. Idso.
Arnegard (near)	McKenzie	......	19	14.4	+1.4	40	1†	−22	11	30	0.15	−0.42	0.10	1.0	2	18	10	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	36	13.2	−1.0	55	1	−25	12	35	0.12	−0.39	0.07	4.0	4	18	6	7	nw.	H. D. Piper.
Beach	Golden Valley	2,759	26	16.1	−0.9	49	1	−23	8†	34	0.26	−0.24	0.08	2.5	4	21	5	5	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	39	15.3	−0.1	56	20	−20	11	39	T.	−0.39	T.	T.	0	13	3	15	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	57	15.7	+1.0	54	1	−17	12	30	0.17	−0.40	0.06	1.3	6	13	12	6	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	40	7.0	−0.4	42	1	−25	8†	36	0.24	−0.20	0.17	2.5	3	8	21	2	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	18	14.4	−0.7	56	1	−24	8	32	0.44	+0.16	0.18	5.7	6	21	5	5	nw.	George Larsen.
Cando	Towner	1,488	31	10.1	+1.5	43	1	−21	12†	34	0.50	+0.06	0.50	5.0	1	19	1	11	nw.	A. J. Swanson.
Carrington	Foster	1,579	34	12.0	+0.3	43	22	−16	14†	34	T.	−0.42	T.	T.	0	20	7	4	nw.	L. A. Swanson.
Carson	Grant	2,500	20	14.8	+0.1	52	1	−25	8	41	0.10	−0.45	0.10	1.0	1	18	7	6	nw.	J. W. Evens.
Cavalier	Pembina	894	22	......	......	......	......	......	......	......	0.37	−0.63	0.35	3.8	2	22	2	7	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	35	......	......	......	......	......	......	......	0.01	−0.51	0.01	0.1	1	12	14	5	nw.	Theo. Marquardt.
Corinth	Williams	2,180	4	......	......	......	......	......	......	......	0.14	......	0.14	0.0	1	20	7	4	nw.	W. A. Clem.
Courtenay	Stutsman	1,523	3	......	......	......	......	......	......	......	T.	......	T.	T.	0	16	14	1	nw.	Geo. E. Berg.
Crosby	Divide	1,954	25	19.9	+8.3	44	19	−8	12	30	0.74	+0.29	0.37	3.7	6	13	11	7	sw.	John Jensen.
Devils Lake	Ramsey	1,478	35	11.0	+1.5	48	1	−20	8	31	0.14	−0.40	0.11	1.4	4	8	14	9	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	40	13.4	−3.0	49	1	−21	11	38	0.28	−0.21	0.06	2.3	8	13	12	6	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	6	13.8	......	47	1	−19	11	25	0.15	......	0.09	0.8	2	16	7	8	nw.	R. L. Williams.
Drake	McHenry	1,634	3	12.4	......	51	1	−19	11	35	0.11	......	0.09	0.5	3	15	9	7	nw.	Peter Anton.
Dunn Center	Dunn	2,191	33	15.6	−2.1	47	1	−19	11†	31	T.	−0.55	T.	T.	0	15	7	9	nw.	W. F. Moede.
Dunseith	Rolette	1,682	36	8.6	−2.1	45	1	−25	8	32	0.74	+0.34	0.36	7.4	3	8	15	8	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	27	10.1	+0.8	43	1	−23	15	32	0.15	−0.36	0.15	1.0	1	10	16	5	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	31	14.9	−0.9	57	1	−19	12	34	0.20	−0.19	0.20	2.0	1	8	18	5	nw.	O. A. Thompson.
Ellendale	Dickey	1,457	37	12.4	−4.4	57	1	−28	12	39	0.11	−0.37	0.07	2.3	5	9	11	11	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	20	15.0	......	49	1	−22	11	33	0.10	−0.34	0.05	1.0	2	15	11	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	24	9.7	......	42	1	−26	14	37	0.34	−0.10	0.25	2.5	4	20	7	4	nw.	A. O. Wang.
Fairfield	Billings	......	3	......	......	......	......	......	......	......	0.20	......	0.10	2.0	2	17	6	8	nw.	F. R. Hecker.
Fessenden	Wells	1,610	20	12.4	+1.8	51	1	−20	15	35	0.06	−0.60	0.06	0.0	1	17	8	6	sw.	T. D. Monsen.
Forman	Sargent	1,249	39	......	......	......	......	......	......	......	0.09	−0.46	0.06	1.5	2	26	4	1	sw.	Helge Dyste.
Fort Yates	Sioux	1,670	32	18.6	+0.2	60	4	−20	9†	35	T.	−0.48	T.	T.	0	16	11	4	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	11	12.4	......	47	1	−22	11	28	0.18	−0.25	0.16	0.5	2	14	8	9	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	14	......	......	......	......	......	......	......	0.55	−0.03	0.20	4.5	5	16	11	4	sw.	Verne King.
Fullerton	Dickey	1,439	34	14.0	−0.4	51	1	−24	12	36	0.53	−0.32	0.25	5.0	6	15	11	5	nw.	F. O. Alin.
Gackle	Logan	1,951	2	......	......	......	......	......	......	......	0.12	......	0.09	1.2	2	10	9	12	nw.	Geo. Hummel.
Garrison	McLean	1,901	55	14.1	+0.4	50	1	−20	11	32	0.17	−0.28	0.17	T.	1	13	14	4	nw.	W. F. Robinson.
Grafton	Walsh	827	40	10.5	+1.6	42	1	−19	15	33	0.30	−0.22	0.30	2.0	1	13	7	11	s.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	41	10.6	0.0	45	1	−18	15	29	0.07	−0.56	0.05	0.8	2	6	16	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	25	13.4	+1.4	47	1	−20	11	28	0.15	−0.37	0.15	T.	1	16	8	7	nw.	W. A. Christianson.
Hankinson	Richland	1,068	3	14.8	......	54	1	−20	15	48	0.10	......	0.10	1.0	1	16	7	8	nw.	R. G. Stock.
Hannah	Cavalier	1,568	40	4.2	......	39	1	−25	8†	32	0.10	−0.50	0.05	1.0	2	14	15	2	nw.	James Muir.
Hansboro	Towner	1,597	24	7.8	−0.2	40	1	−24	8	32	0.20	−0.45	0.10	2.0	2	23	5	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	25	15.4	−1.4	52	1	−24	11	34	0.12	−0.25	0.08	0.9	4	19	6	6	nw.	C. H. Plath.
Hillsboro	Traill	901	26	10.2	−1.0	39	1†	−17	12	30	0.08	−0.68	0.08	0.8	1	8	15	8	s.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	25	4.1	−7.5	40	3	−31	21	31	0.80	+0.13	0.80	T.	1	22	8	1	nw.	C. P. Ansbaugh.
Jamestown	Stutsman	1,390	40	13.6	+0.2	42	3	−20	15	38	0.13	−0.55	0.08	1.3	2	19	9	3	nw.	S. Calvelage.
Langdon	Cavalier	1,615	36	5.6	−2.7	42	1	−25	8	40	0.50	−0.13	0.30	5.0	2	9	17	5	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	39	11.8	+0.8	47	1	−18	8	32	0.14	−0.43	0.10	1.9	2	17	4	10	nw.	Mabel Walsh.
Linton	Emmons	1,711	15	11.7	−2.2	56	1	−26	12†	39	0.05	−0.36	0.03	2.2	3	10	17	4	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	28	12.8	−1.3	54	1	−21	12†	35	0.24	−0.27	0.12	2.5	4	4	10	17	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	14	12.4	......	51	1	−22	12†	32	0.45	−0.17	0.20	4.5	5	17	12	2	nw.	Edw. Tapley.
McLeod	Ransom	1,075	21	13.1	−1.3	57	1	−23	15	37	0.10	−0.37	0.06	1.0	2	11	11	9	sw.	J. G. Carlson.
Maddock	Benson	1,601	17	12.4	+2.4	48	1	−20	8†	33	0.06	−0.20	0.06	T.	1	9	15	7	nw.	A. T. Felland.
Mandan	Morton	1,750	18	14.5	+0.8	53	1	−17	9†	38	0.18	−0.25	0.07	2.0	5	10	8	13	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	29	......	......	......	......	......	......	......	0.12	−0.54	0.06	0.8	4	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	23	14.2ᵃ	−2.6	53ᵃ	2	−23ᵃ	8†	35ᵃ	0.27	−0.13	0.18	4.7	5	8	8	15	nw.	S. P. Grane.
Mary	McKenzie	......	3	......	......	......	......	......	......	......	0.07	......	0.07	T.	1	11	9	11	nw.	Fred Hartman.
Max	McLean	2,093	3	11.0	......	53	2	−22	11†	43	0.10	......	0.10	T.	1	16	5	10	nw.	A. W. Rice.
Mayville	Traill	975	36	11.3	−1.6	49	1	−19	12†	31	0.11	−0.45	0.04	1.1	4	7	13	11	s.	H. B. Addicott.
Minot	Ward	1,557	36	14.4	+2.5	48	1	−19	8†	28	0.03	−0.45	0.03	0.0	1	15	5	11	w.	Julia B. Rue.
Mohall	Renville	1,646	38	11.0	0.0	46	1	−22	10	51	T.	−0.41	T.	T.	0	13	12	6	nw.	G. V. Davidson.
Mott	Hettinger	2,424	25	15.9	+2.1	54	1	−25	11	29	0.20	−0.44	0.12	2.0	3	11	10	10	nw.	O. H. Opland.
Napoleon	Logan	1,955	40	12.4	−0.2	54	1	−14	9†	37	0.20	−0.25	0.10	1.5	4	18	3	10	sw.	C. J. Hoof.
New England	Hettinger	2,400	38	14.0	−2.5	56	1	−22	10	38	0.40	0.00	0.10	4.0	4	12	14	5	nw.	F. S. Sleight.
New Salem	Morton	2,163	28	15.6	+0.3	51	1	−18	12	30	0.07	−0.51	0.04	0.8	2	15	11	5	nw.	J. Christiansen.
Oakes	Dickey	1,318	3	13.4	......	54	1	−25	12	35	0.14	......	0.11	2.0	2	12	11	8	nw.	Eugene Naylor.
Park River	Walsh	998	28	10.6	+0.1	48	4	−21	8	46	T.	−0.45	T.	T.	0	18	10	3	nw.	C. B. Wright.
Parshall	Mountrail	......	17	12.1	......	48	1	−24	16	37	0.08	−0.32	0.08	T.	1	12	12	7	nw.	C. E. Shubert.
Pembina	Pembina	789	58	4.6	−1.7	42	1	−24	12	37	0.33	−0.44	0.14	4.7	8	9	7	15	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	2	......	......	......	......	......	......	......	0.05	......	0.03	0.5	3	17	8	6	sw.	T. M. Rykken.
Pettibone	Kidder	1,856	23	12.0	+1.5	50	1	−22	15	36	0.11	−0.46	0.08	1.1	2	16	13	2	nw.	H. H. McCumber.
Portal	Burke	1,954	27	9.2	−3.0	37	3	−25	10	38	0.00	−0.50	0.00	0.0	0	14	4	13	w.	R. G. Wegener.
Power‡‡	Richland	1,020	38	......	......	......	......	......	......	......	0.50	−0.13	0.20	5.0	3	19	10	2	s.	Frank B. Power.
Powers Lake	Burke	2,205	27	14.1	......	40	1†	−24	8	36	0.42	−0.17	0.23	6.0	2	18	7	6	w.	Geo. B. Gee.
Richardton	Stark	2,467	16	14.4	+0.4	49	1	−24	11	42	0.20	−0.18	0.20	2.0	1	13	13	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	3	......	......	......	......	......	......	......	0.12	......	0.10	1.0	3	9	16	6	nw.	E. C. Erickson.
Ryder	Ward	2,108	3	......	......	......	......	......	......	......	0.10	......	0.07	0.5	4	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	12.2	......	57	2	−21	11†	37	0.28	......	0.16	3.0	3	9	5	17	nw.	Geo. Buerkle.
Sharon	Steele	1,516	8	11.0	......	45	1	−20	15	30	0.14	......	0.08	0.9	5	10	13	8	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	8	......	......	......	......	......	......	......	0.01	......	0.01	0.5	1	14	7	10	nw.	J. H. Giffey.
Steele	Kidder	1,857	38	12.7	+0.4	49	1	−26	16	43	0.08	−0.47	0.03	1.2	4	11	11	9	sw.	V. A. Laney.
Stowers‡‡	Adams	2,325	17	......	......	......	......	......	......	......	0.02	−0.47	0.01	1.0	2	19	7	5	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	3	......	......	......	......	......	......	......	0.15	......	0.15	......	1	8	19	4	nw.	J. C. Abbott.
Tioga	Williams	2,279	3	......	......	......	......	......	......	......	0.35	......	0.30	......	6	10	5	16	nw.	Anton Carlson.
Towner	McHenry	1,482	30	11.4	+1.3	45	1	−23	11	29	0.13	−0.27	0.10	0.5	2	20	5	6	nw.	Karl Weber.
Trotters	Golden Valley	......	6	......	......	......	......	......	......	......	0.09	......	0.05	0.5	2	15	9	7	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	18	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. T. Kesler.
Valley City	Barnes	1,245	26	14.2	+0.5	47	1	−15	16	33	0.21	−0.25	0.11	2.0	5	15	8	8	w.	I. C. Robertson.
Velva	McHenry	1,511	5	14.2	......	49	1	−19	11	28	0.13	......	0.12	0.5	2	8	12	11	w.	Oscar Anderson.
Verona	LaMoure	1,387	4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	W. C. Taylor.
Wahpeton	Richland	962	40	14.3	−1.0	46	23	−21	15	33	0.12	−0.32	0.10	2.0	3	19	0	12	se.	C. G Luick.
Washburn	McLean	1,731	31	13.6	−0.4	52	1	−17	11	37	0.12	−0.20	0.08	1.2	3	15	8	8	n.	Fred F. Jefferis.
Westhope	Bottineau	1,508	26	9.2	−0.8	41	1	−26	11†	39	0.02	−0.25	0.02	0.2	1	15	14	2	nw.	C. M. Condit.
Williston	Williams	1,878	53	14.8	+1.0	47	1	−21	11	27	0.18	−0.40	0.14	0.5	2	18	3	10	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	40	7.2	−1.5	46	1	−27	11	41	0.20	−0.34	0.15	2.0	2	20	10	1	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	3	13.6	+0.6	......	......	......	......	......	0.21	−0.43	......	......	......	......	......	......	......	Gottlieb Herr.
Zap	Mercer	1,838	17	......	......	......	......	......	......	......	0.00	−0.33	0.00	0.0	0	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	51	11.5	0.0	18	1	−17	12	29	0.14	−0.58	0.06	2.0	6	9	9	13	s.	U. S. Weather Bureau.
Averages	......	......	......	12.4	−0.2	60	4	−31	21	51	0.18	−0.34	0.80	1.7	3	14	10	7	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for December, 1932

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri			.03		.16																					T.						0.19
Amenia	Red				T.						T	T.		T													T.		T		T		T.
Arnegard (near)	Missouri		.10			T		T						.05													T.		T				0.15
Ashley	Missouri			T		T					.02	.07		.02												.01							0.12
Beach	Lit. Missouri			.08		.08	T	T						.07													.03		T.				0.26
Berthold Agency	Missouri		T			T.	T							T				T									T.						T.
Bismarck ***	Missouri			.06		T.	T.	.01	T		.02	T.	.01	.01				T							T		.06		T	T	T		0.17
Bottineau	Mouse			.17	.01						T		T	.06				T											T				0.24
Bowman	Grand			.15		T.	.18				.01			.03											.03						.01		0.44
Cando	Devils Lake			.50							T		T.	T				T												T	T		0.59
Carrington||	James			T.							T.			T.													T						T
Carson	Heart						.10																		T		T.				T		0.10
Cavalier	Red			.35										.02																			0.37
Cooperstown	Sheyenne			T	T.					.01				T.					T								T						0.01
Corinth	Missouri		.14																						T.								0.14
Courtenay	James			T.																													T.
Crosby	Mouse			.37								.15	.05					.02									.05				.10		0.74
Devils Lake ***	Devils Lake		T	.11	T.	T.		T	T.		.01	T	T	.01	T.		T.	T.			T.	T.			T		T.	T	T.	.01	T		0.14
Dickinson||	Heart			.05			.06	.02	T.	T	.03			.03	.04	T.												.03		T	.01	T.	0.28
Dogden Butte	Mouse			.09			T	T.			T		T.	.06													T.			T			0.15
Drake||	Mouse			.09			T.	T.			T	.01			.01													T.					0.11
Dunn Center	Knife						T.				T.			T.																T			T.
Dunseith	Mouse			.35								T.	.36																	.03			0.74
Eckman	Mouse			.15				T.																									0.15
Edgeley	James											.20																					0.20
Edmore	Devils Lake			.10	T.	.01					.03		T	T				T.									T.			T.	T.		0.14
Ellendale***	James			T		T.	T	T.		.01	.01	.07	T.	.01			T.								.01		T.	T.			T.		0.11
Energy	Missouri			T.			T.				.05		T.	.05													T.						0.10
Epping	Missouri			.25		.01	.03						.05	T.			T.												T				0.34
Fairfield	Knife						.10																				.10						0.20
Fessenden||	James			.06																													0.06
Forman	Sheyenne										T.	.06														.03							0.09
Fort Yates	Missouri				T.		T.																		T.								T.
Foxholm (near)	Mouse			.16		T.	T	T.			T.		T.	.02													T.	T		T.			0.18
Fryburg	Heart			.14		.08	.05							.08														.20					0.55
Fullerton	James			.03		T	.03	T.	T.		.07	.25		.10											.05		T.	T.			T		0.53
Gackle	James											.09		.03																			0.12
Garrison	Missouri			.17									T.					T.									T.						0.17
Grafton	Red			.30	T.	T.					T.		T.	T.														T					0.30
Grand Forks ***	Red			.05	T	T.		T.	T.		T.		T.	.02											T.	T.	T.			T	T.		0.07
Granville	Mouse			.15							T.			T.	T.																		0.15
Hankinson	Red									T.		.10																					0.10
Hannah	Pembina			T.	.05	T.	T.							.05	T.			T.										T.		T.	T.		0.10
Hansboro	Devils Lake			.10										.10																			0.20
Hettinger	Grand			T.		.08	.01				T		T.	.01											.02		T.						0.12
Hillsboro	Red			T.	.08		T.				T.	T.		T.														T.					0.08
Howard (near)	Missouri	.80											T.	T.			T.												T.		T.		0.80
Jamestown	James			T.							.08																	T.				.05	0.13
Kenmare	Mouse		.17									T.																					0.17
Langdon	Pembina											.30								.20													0.50
Larimore	Red			.10							.04																			T.			0.14
Linton	Missouri						T.				.03			.01				T.								.01		T.					0.05
Lisbon	Sheyenne										.02	.12		.05													.05						0.24
McClusky	Missouri							T.			.05			.20				.05									.10	.05					0.45
McLeod	Sheyenne							T.				.06		.04																			0.10
Maddock	Sheyenne			.06			T.				T.		T.	T.													T.			T.	T.		0.06
Mandan||	Missouri		.06			.02	T.			.02	T.		.01	T.			T.										.07			T.	T.		0.18
Manfred	James			.06			T.		T.	.01				.03													.02	T.		T.			0.12
Marmarth	Lit. Missouri		.05			.18	.01				.02		T.														.01			T.	T.		0.27
Mary	Lit. Missouri			.07									T.	T.													T.			T.			0.07
Max||	Missouri			.10							T.																						0.10
Mayville	Red			T.	.02						.02		.03	T.												T.		.04			T.		0.11
Minot	Mouse			.03																													0.11
Mohall	Mouse													T.																			0.03
Mott	Cannon Ball		.05		.03	.12				T.																							T
Napoleon||	Missouri			.10			.02				.05			.03												T.		T.					0.20
New England	Cannon Ball					.10							T.	.10											.10		.10						0.20
New Salem	Heart			.03			T.	T.			T.		T.	T.													.04						0.40
Oakes	James			T.			T.				T.	.11	T.		T.												.03						0.07
Park River	Red										T.																						0.14
Parshall	Missouri			.08									T.	T.																			T.
Pembina||	Red			.14	.06	.02	.03		T.			.01		.01	.05	T.		T.		T.					T.			T.		T.	.01		0.08
Petersburg	Red			.03	.01						.01		T.	T.				T.												T.			0.33
Pettibone	James		T.	.08		T.	T.	T.			.03	T.	T.	T.	T.			T.							T.			T.		T.	T.		0.05
Portal||	Mouse																																0.11
Power	Sheyenne										.10	.20													.20						T.		0.00
Powers Lake	Missouri			.19																	.23												0.50
Richardton	Heart					T.	T.							T.		.20																	0.42
Rugby (near)	Mouse			.10							.01			.01														T.			T.		0.20
Ryder	Missouri		.07		T.																.01			T.			.01		T.	.01			0.12
Sanish||	Missouri			.16										.02	.10																		0.10
Sharon	Red			.08	.01	T.					.01		T.	.01	T.			T.								.03	T.	T.	T.	T.	T.		0.28
Stanton	Missouri										.01		T.														T.						0.14
Steele	Missouri			.02	T.	T.	T.				.01		T.	.02											T.		.03						0.01
Stowers	Cannon Ball					.01	T.	T.			T.		.01																				0.08
Tagus	Mouse			.15																													0.02
Tioga	Missouri	.01	.01	.30										.01			.01	.01															0.15
Towner	Mouse			.10			T.						T.	.03														T.	T.	T.			0.35
Trotters	Lit. Missouri			.04			T.	T.				T.	T.		T.												.05						0.13
Turtle Lake	Missouri																																0.09
Valley City	Sheyenne			.03							T.	.11		.03											.02		.02			T.			......
Velva	Mouse			.12			T.	T			.01		T.	T.			T.																0.21
Verona	James																																0.13
Wahpeton	Red										.01	.10														.01							......
Washburn	Missouri			.08				T.			.02			T.	T.													.02			T.		0.12
Westhope	Mouse													T.											.02								0.12
Williston ***	Missouri		.14	T		T.	T.				T.		T.	.04				T.									T.						0.02
Willow City	Mouse			.15				T.			T.			.05																			0.18
Wishek||	Missouri												.20	.01																			0.20
Zap	Knife																																0.21
Moorhead, Minn ***	Red			.02	T.	T.	T.	T.			.01	.06	T.	.01	T.		T.	T.							T.	.02	T.	.02	T.	T.	T.	T.	0.00
																																	0.14

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December, 1932

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum...	50	41	40	38	36	30	21	19	14	12	10	12	22	5	2	15	18	25	30	30	33	35	34	28	26	30	19	32	27	15	21	24.8
	Minimum...	31	26	21	21	19	-2	-8	-15	-12	-12	-17	-17	-10	-7	-18	-18	-9	-3	-1	4	13	9	3	9	5	7	7	8	7	13	-13	1.3
Arnegard (near)	Maximum...	40	39	36	40	33	14	2	-10	0	1	-8	12	23	13	7	17	25	27	37	40	38	37	32	30	35	34	31	32	31	25	33	24.1
	Minimum...	26	25	24	26	13	1	-11	-19	-16	-13	-22	-15	2	12	-20	-7	2	11	7	12	14	16	15	18	12	15	11	9	7	5	9	4.7
Ashley	Maximum...	55	45	40	47	40	27	13	-8	-7	7	2	2	23	18	2	14	18	25	30	38	35	32	36	34	29	25	29	30	27	23	22	24.3
	Minimum...	26	25	12	15	26	0	-11	-21	-22	-11	-11	-25	1	-10	-21	-14	4	2	8	8	12	11	1	6	5	13	18	8	6	9	-7	2.0
Beach	Maximum...	49	46	44	45	34	20	15	-11	-3	-3	-10	9	25	19	15	20	26	23	30	35	36	31	32	30	29	35	30	29	29	25	32	24.7
	Minimum...	28	34	30	30	19	8	-12	-23	-22	-13	-23	-18	8	0	-19	6	1	10	12	25	25	12	20	15	12	19	10	19	6	8	6	7.5
Berthold Agency	Maximum...	48	38	40	44	38	16	6	-10	4	4	-5	12	22	15	5	23	24	30	30	56	40	38	30	30	34	35	30	28	30	20	35	25.5
	Minimum...	28	28	20	18	15	4	-10	-17	-13	-8	-20	-18	12	-8	18	-12	4	4	-2	17	10	12	15	19	15	10	10	20	12	5	7	5.1
Bismarck	Maximum...	54	38	44	47	34	17	2	-8	0	5	-8	11	24	9	5	21	23	30	32	43	39	40	37	32	37	37	28	30	32	21	30	25.4
	Minimum...	28	27	20	17	17	-1	-9	-14	-16	-10	-15	-17	9	-7	-15	-8	8	8	9	19	18	15	10	16	8	20	13	17	14	2	2	6.0
Bottineau	Maximum...	42	40	24	34	31	17	-10	-15	0	-1	-6	11	15	-5	-4	9	14	12	18	36	34	26	28	32	28	29	26	24	25	24	20	18.0
	Minimum...	25	16	8	-2	16	-14	-18	-25	-21	12	-25	-24	-9	-21	-25	-14	-8	-9	-5	12	6	10	5	16	-1	7	5	4	-4	-5	-8	-3.9
Cando	Maximum...	43	41	26	35	36	16	-3	-12	2	3	17	8	15	8	-2	9	16	20	23	29	37	31	34	32	35	36	32	30	29	26	25	21.8
	Minimum...	29	20	7	1	3	-11	-14	-17	-19	-6	-14	-21	0	-15	-21	-13	-15	-7	-2	7	10	12	8	12	7	9	1	3	2	-2	-5	-1.6
Carrington §§	Maximum...	35	30	40	29	2	0	-8	4	20	4	11	18	0	3	17	18	23	32	42	36	38	43	25	24	33	20	32	33	16	23	28	21.6
	Minimum...	31	27	10	25	-4	-6	-14	-15	-12	-12	-14	-15	-9	-16	-16	-8	-6	2	12	17	17	15	15	-2	-1	17	10	13	15	-1	0	2.4
Crosby	Maximum...	36	42	36	20	38	8	10	23	16	20	14	12	14	16	25	33	38	38	44	32	30	30	23	36	38	28	33	35	34	32	28	27.8
	Minimum...	8	12	14	12	8	4	-5	5	5	12	0	-8	-4	-1	10	8	14	18	30	28	12	19	14	18	22	16	18	19	18	27	19	12.0
Devils Lake	Maximum...	48	37	28	36	30	3	-4	-14	4	5	-10	11	16	-1	0	15	16	18	27	41	29	34	38	29	31	32	23	29	31	23	28	20.4
	Minimum...	33	23	7	7	3	-9	-17	-20	-14	-14	-20	-14	-1	-14	-19	-9	-1	2	6	16	13	17	13	17	8	18	4	10	9	-3	-3	1.5
Dickinson §§	Maximum...	49	43	38	44	30	10	-5	-14	-4	-1	7	18	23	0	7	21	23	26	35	38	37	35	31	30	32	34	28	27	28	20	32	22.8
	Minimum...	26	25	20	26	28	10	-10	-17	-19	-17	-21	-20	7	0	-20	-17	1	3	8	10	16	13	6	13	9	13	16	8	5	13	1	3.9
Dunn Center	Maximum...	47	35	38	44	40	30	10	-5	-10	-4	-1	-7	18	23	0	22	22	28	34	40	38	35	30	31	34	33	30	28	30	20	33	24.1
	Minimum...	28	29	28	26	28	5	-8	-17	-15	-8	-19	-16	3	-8	-19	-2	8	8	8	18	17	11	12	20	10	17	14	21	9	8	8	7.2
Dunseith	Maximum...	45	40	23	35	32	13	12	-18	-4	4	-3	9	14	4	2	14	21	15	25	33	30	32	31	31	25	31	27	25	26	21	20	19.8
	Minimum...	28	15	6	4	12	-15	-20	-25	-21	-11	-24	-21	-4	-14	-20	-14	-2	4	0	11	2	11	9	7	3	7	3	5	-3	0	-3	-2.5
Edgeley	Maximum...	57	50	47	42	28	13	12	3	5	6	7	5	27	17	8	18	18	25	35	39	39	35	33	35	32	30	31	32	31	25	20	26.0
	Minimum...	32	27	15	25	-1	-5	-5	-15	-15	-6	-9	-19	3	12	-18	16	5	4	7	10	20	11	10	10	9	12	17	5	13	10	-5	3.8
Ellendale	Maximum...	57	39	43	48	36	17	3	-5	3	5	3	11	25	4	0	15	18	27	24	41	38	35	33	33	28	34	31	32	26	21	23	24.1
	Minimum...	27	26	16	13	17	-2	-11	-15	-18	-4	-16	-28	2	-10	-19	-21	0	2	0	2	16	9	5	8	9	13	2	2	9	-4	-9	0.7
Fessenden §§	Maximum...	51	35	35	40	28	1	-7	-12	5	7	-9	14	18	0	3	17	18	18	31	40	40	38	41	30	34	31	22	30	31	16	27	21.7
	Minimum...	31	29	26	11	28	-5	-8	-18	-17	-6	-18	-18	-14	-11	-20	-18	-7	-1	5	8	17	12	11	15	7	15	13	6	10	14	-3	3.0
Foxholm (near)	Maximum...	47	39	33	38	34	16	0	-12	1	-2	-9	12	17	11	3	15	17	21	21	38	33	31	35	30	29	34	31	27	27	26	30	21.8
	Minimum...	30	18	12	14	16	-10	-16	-21	-17	13	-22	-16	4	-14	-19	-9	0	4	8	13	14	19	17	22	9	16	3	13	8	4	2	2.9
Fullerton	Maximum...	51	38	40	47	38	26	3	-4	4	9	5	6	24	15	1	14	18	27	24	39	37	35	32	32	29	33	30	32	30	23	23	24.5
	Minimum...	31	27	20	13	21	0	-4	-14	-16	-5	-7	-24	6	-9	-19	-20	4	1	3	3	16	10	8	10	8	12	15	4	12	7	-8	3.4
Garrison	Maximum...	50	35	38	41	38	20	10	-2	4	12	-2	11	20	-5	6	16	21	27	30	40	38	35	31	31	35	34	31	28	30	17	32	24.3
	Minimum...	29	25	20	17	9	-2	-10	-16	-14	-15	-20	-16	-12	-18	-5	-8	3	5	14	17	10	12	10	18	14	8	8	14	14	7	2	3.9
Grafton	Maximum...	42	39	25	34	34	18	-3	-7	5	8	0	7	16	11	-1	9	13	19	25	38	35	32	31	27	27	33	31	29	30	23	17	20.9
	Minimum...	32	15	10	1	16	-10	-13	18	-17	-4	-18	-15	2	-12	-19	-14	1	-1	3	10	14	13	6	11	7	11	3	2	-2	-2	-8	0.1
Grand Forks	Maximum...	45	37	34	34	33	17	-3	-10	5	7	-2	6	19	7	-2	8	17	20	24	28	29	30	28	27	26	28	30	30	30	22	16	20.0
	Minimum...	32	18	11	5	17	-8	-12	-17	-15	-3	-15	-15	3	-11	-18	-12	5	1	2	10	12	15	8	14	5	13	4	2	4	-5	-9	1.3
Granville	Maximum...	47	39	35	39	37	19	5	2	5	3	-10	2	17	10	5	15	20	23	28	40	35	35	35	30	31	25	29	29	30	28	30	23.2
	Minimum...	32	22	14	14	16	-8	-18	-14	-12	-12	-20	-12	5	-12	19	-10	-2	6	6	12	15	14	12	15	7	12	12	14	12	4	5	3.5
Hansboro	Maximum...	40	36	17	34	34	20	-5	-12	-5	0	-4	10	10	5	0	10	10	10	17	25	23	30	32	30	28	28	27	23	20	14	22	17.1
	Minimum...	27	15	8	4	20	-12	-17	-24	-20	-10	-22	-18	5	-11	-19	-12	0	-6	-2	7	7	7	8	12	7	2	10	5	0	-5	-8	-1.4
Hettinger	Maximum...	52	49	42	48	37	21	3	11	-3	-1	-11	8	25	21	8	26	28	36	30	38	37	35	30	32	30	32	32	29	28	23	35	25.5
	Minimum...	22	25	31	28	20	-1	-15	-22	-22	-18	-24	-20	5	-18	-19	-6	7	9	20	20	19	15	7	15	7	19	16	17	10	8	1	5.4
Hillsboro	Maximum...	39	39	36	23	28	20	-4	-9	3	3	6	6	13	13	-3	11	11	15	16	25	27	25	26	25	25	25	25	28	28	12	15	17.8
	Minimum...	32	26	19	15	6	-5	-9	-16	-13	-3	-5	-17	2	-9	-18	-15	6	9	0	6	11	10	6	12	7	8	6	-2	12	5	-10	2.5
Howard (near)	Maximum...	39	36	40	30	28	10	-3	-8	-3	-11	-12	11	20	10	2	0	2	13	-5	-3	-5	-18	18	29	30	33	29	29	26	23	29	13.4
	Minimum...	20	17	23	7	-3	-6	-15	-21	-19	-18	-20	-16	-10	-14	-22	-15	-17	4	-27	-28	-31	-25	3	9	7	12	15	10	10	5	5	-5.2
Jamestown	Maximum...	39	38	42	32	19	0	-7	4	8	4	7	21	12	0	17	17	24	36	40	38	34	38	33	32	34	32	33	32	24	22	39	24.0
	Minimum...	34	26	14	11	19	-5	-11	-16	-16	-6	-12	-17	4	-11	-20	-15	2	0	4	7	15	13	5	8	7	19	11	6	12	2	5	3.1
Langdon	Maximum...	42	22	20	32	30	18	-2	-15	0	5	-10	10	10	-5	-5	14	10	15	22	35	30	35	30	30	30	35	20	30	20	4	20	17.2
	Minimum...	16	20	14	0	10	-12	-15	-25	-25	-20	-25	15	-20	-18	-22	-22	-10	-9	0	0	5	5	5	10	0	-5	-5	-5	-6	-4	-10	-6.1
Larimore	Maximum...	47	37	35	36	34	14	-4	-12	8	8	-2	6	18	11	0	13	19	20	29	41	32	37	34	30	30	35	30	30	28	22	19	21.8
	Minimum...	34	19	19	7	14	-9	-12	-18	-15	-3	-15	-13	4	-11	-17	-13	3	0	0	9	13	15	10	12	8	19	5	4	5	-6	-8	1.9
Linton	Maximum...	56	45	39	49	44	26	1	-6	0	6	0	7	24	15	5	21	21	29	28	32	27	28	26	34	35	34	32	32	24	24	25	24.6
	Minimum...	17	16	19	10	25	0	-12	-25	-24	-9	-14	-26	-6	-6	-26	-14	-2	5	-8	9	8	7	-2	2	-4	10	15	12	8	-3	-8	-1.2
Lisbon	Maximum...	54	39	40	41	34	10	3	-1	4	9	5	-1	24	2	1	11	16	27	28	33	37	36	36	32	29	30	20	30	20	25	30	22.7
	Minimum...	31	28	20	13	15	2	-2	-14	-13	-3	-5	-21	-4	-9	-21	-17	15	2	2	4	14	16	5	7	11	10	9	-1	6	-10	-2	2.8
McClusky	Maximum...	51	35	36	39	30	18	-1	-11	2	4	-8	10	18	8	10	11	20	25	28	40	38	35	33	30	32	31	30	28	28	27	27	22.7
	Minimum...	31	25	15	14	12	-5	-12	-18	-17	-15	-21	-22	1	-16	22	-11	0	0	3	15	9	15	12	20	6	14	6	11	12	1	0	2.0
Maddock	Maximum...	48	38	36	38	35	13	0	-12	4	5	-1	9	16	12	2	15	17	18	29	42	37	34	39	35	31	33	29	29	31	26	27	23.1
	Minimum...	32	24	11	9	13	-8	-13	-20	-16	-6	-20	-17	4	-13	-19	-12	-2	1	2	9	19	15	8	13	7	15	7	9	4	3	-5	1.7
Marmarth	Maximum...	52	53	46	46	46	21	10	-3	-5	-5	-10	10	25	20	20	20	20	25	32	38	32	30	30	32	31	32	29	....	28	25	35	[a]25.5
	Minimum...	22	22	31	22	20	8	-14	-23	-23	-19	-22	-20	10	-6	-12	-10	-6	5	4	22	8	6	5	10	3	22	8	....	7	5	0	[a]2.8
Minot	Maximum...	48	43	35	40	38	21	3	-8	3	3	-3	13	19	13	8	19	20	23	29	40	36	35	35	33	32	35	33	28	29	29	30	24.6
	Minimum...	31	22	14	14	18	-7	-14	-19	-15	-7	-19	-13	5	-11	-17	-8	-1	2	7	15	9	15	16	22	8	19	6	16	8	7	6	4.2
Mohall	Maximum...	46	36	38	39	37	1	-11	-7	2	-3	-14	16	17	-5	8	17	19	23	34	37	34	32	34	28	32	34	28	27	28	29	29	21.5
	Minimum...	19	14	12	14	-14	-15	-21	-16	-8	-22	-16	-1	-12	-17	-14	0	1	7	2	18	12	12	19	12	6	4	7	4	0	6	3	0.5
Mott	Maximum...	54	46	44	35	32	11	7	-12	-6	4	-8	12	23	5	20	22	25	27	31	38	40	40	38	37	36	38	28	31	35	21	24	25.1
	Minimum...	29	32	31	11	9	-4	-15	-22	-21	-16	-25	6	-5	-16	7	6	0	9	12	16	18	11	14	17	18	24	16	20	14	4	8	6.7
Napoleon §§	Maximum...	54	41	39	46	28	4	-3	-8	-1	5	-10	14	22	-3	5	17	19	26	30	39	38	35	40	31	29	32	25	31	28	16	26	22.4
	Minimum...	27	25	33	12	26	0	-12	-22	-24	-10	-14	-23	-3	-15	-24	-15	0	1	7	10	16	13	6	4	3	13	17	8	9	12	-8	2.3
New Salem	Maximum...	51	41	42	43	40	25	4	-5	5	2	0	5	21	15	3	20	21	28	30	40	40	36	31	29	35	32	30	30	26	26	29	25.0
	Minimum...	30	29	21	20	23	0	-10	-16	-17	-10	17	-18	5	-8	-17	-10	6	7	13	20	19	18	15	14	13	18	9	15	9	16	2	6.2
Oakes	Maximum...	54	40	41	45	38	30	6	-1	5	9	6	0	25	17	5	14	19	30	26	30	38	35	35	32	31	33	32	31	30	21	23	25.3
	Minimum...	31	23	18	11	28	1	-6	-15	-17	-5	-7	-25	0	-9	-19	-21	0	1	1	2	7	11	1	8	9	10	8	3	10	2	-11	1.6
Pembina §§	Maximum...	42	29	20	34	24	-8	-12	-16	-1	8	-11	12	10	-6	-7	12	13	15	20	35	22	24	26	22	17	30	9	25	22	4	27	14.2
	Minimum...	32	29	10	3	-2	-12	-14	-21	-23	-22	-23	-24	-21	-10	-16	-19	-14	-5	-5	0	11	11	7	2	3	2	0	-5	-7	-6	-10	-5.0
Sharon	Maximum...	45	36	34	35	31	13	-3	-12	4	6	-5	8	17	3	4	11	15	22	28	37	31	33	35	29	27	31	26	28	26	20	20	20.6
	Minimum...	33	21	10	8	13	-8	-12	-17	-15	-5	-14	-15	2	-11	-20	-14	1	1	1	11	15	17	11	13	6	14	3	4	5	-8	-10	1.3
Steele	Maximum...	49	37	36	42	35	18	-1	-8	-3	3	-6	7	21	24	23	17	12	26	27	39	36	37	38	32	30	32	30	29	27	27	25	23.7
	Minimum...	25	23	12	11	24	-1	-8	-20	-20	-10	-14	-22	5	-13	-12	-26	-8	1	1	12	12	12	8	8	3	12	12	12	14	0	0	1.7
Towner	Maximum...	45	37	30	37	35	19	-1	-13	1	-1	-7	11	16	11	-1	14	17	17	25	37	34	30	31	26	28	33	30	28	27	25	26	20.9
	Minimum...	30	21	12	10	18	-10	-16	-22	-16	-8	-23	-17	6	-13	-20	-10	-2	-2	1	15	15	14	10	15	4	10	7	18	7	6	-3	1.8
Valley City	Maximum...	47	41	37	39	37	30	2	-3	2	15	6	17	20	16	0	13	15	24	28	38	31	31	31	30	30	29	29	31	31	24	20	23.5
	Minimum...	29	28	16	11	29	-3	-6	-14	-14	5	-8	3	1	-11	-14	-15	3	2	0	10	15	11	3	8	7	15	9	0	12	14	-10	4.8
Wahpeton	Maximum...	45	42	42	37	38	33	5	1	-3	6	5	0	22	19	-4	14	17	25	31	28	35	40	46	30	24	34	31	32	33	21	17	24.1
	Minimum...	35	30	25	11	26	0	-5	-13	-14	-3	-5	-19	-8	10	-21	-17	2	3	5	10	15	16	10	20	11	14	12	6	11	4	-10	4.5
Westhope	Maximum...	41	39	28	37	33	17	0	-11	4	-3	-11	13	18	11	-4	12	18	18	15	36	31	28	27	30	29	33	32	28	27	27	23	20.2
	Minimum...	25	17	10	4	12	-15	-19	-22	-17	-15	-26	-26	5	-16	-22	-14	-5	-4	-5	8	13	10	6	15	0	15	-2	7	3	0	-1	-1.8
Williston	Maximum...	47	38	39	41	32	11	-1	-12	0	-2	-8	13	23	10	5	15	20	27	33	38	37	32	31	30	32	37	33	29	29	22	31	23.0
	Minimum...	28	24	23	27	11	-1	-12	-18	-14	-15	-21	-14	10	-13	-17	-6	7	9	8	19	19	15	19	13	12	19	16	20	15	12	13	6.7
Moorhead, Minn	Maximum...	48	36	39	38	33	11	-1	-7	4	8	5	12	20	0	-4	12	17	23	27	28	32	36	32	24	24	30	30	31	23	21	19	21.0
	Minimum...	31	23	13	10	11	-6	-10	-13	-12	-1	-10	-17	0	-8	-15	-16	4	-1	0	8	16	14	7	16	10	10	1	2	13	-7	-10	2.0

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 2-7-33—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XLI BISMARCK, N. D., ANNUAL, 1932 No. 13

GENERAL SUMMARY

While the average annuals of both temperature and precipitation for the state for the year were nearly normal, the temperature being 0.7° above, and the precipitation 0.07 inch below the normal, crop yields varied greatly and were generally somewhat unsatisfactory. Due to decidedly deficient precipitation during the three preceding years, there was at the opening of the year a marked deficiency in both surface and subsoil moisture, and more than the normal rainfall was required to produce a normal crop. During the crop season precipitation was deficient during May, July, August and September.

The average annual temperature for the state was 40.0°, or 0.7° above the normal, and 4.9° lower than the average for 1931. The highest average temperature reported was 43.9° at Wahpeton, Richland County; the lowest was 35.5° at Langdon, Cavalier County. The highest temperature reported was 108° at Max, McLean County, on July 17th; the lowest was -34° at Eckman and Willow City, both in Bottineau County, on January 31st.

The average annual precipitation for the state was 17.11 inches, or 0.07 inch below the normal, and 2.12 inches more than the average for 1931. The greatest annual precipitation reported was 23.13 inches at Cavalier, Pembina County; the least was 10.07 inches at Portal, Burke County. The greatest monthly amount reported was 8.22 inches at Powers Lake, Burke County, in June; there was none at Edgeley and Richardton in February, and at Portal and Zap in December. The average snowfall for the state was 34.9 inches.

The average number of days with 0.01 inch or more of precipitation was 69.

There were 156 clear days, 108 partly cloudy days and 102 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS.

JANUARY.—Changeable weather characterized the weather for the month, the greater portion of the precipitation occurring between the 6th and 21st, inclusive. While the temperature averaged in excess of the normal, subzero readings were frequent, and being accompanied by occasional high winds blocked many highways.

FEBRUARY.—During the first two decades unseasonably low temperatures prevailed, and during this period most of the snowfall occurred. High winds were frequent and caused considerable blocking of highways, and necessitated much yard feeding of livestock. The last decade was mild and pleasant, and the snow covering was greatly reduced.

MARCH.—Unseasonably low temperature prevailed during the first and second decades, the mean for the month being the lowest for March for a period of eight years. Much yard feeding of livestock was required throughout the month, especially during the first two decades.

APRIL.—Due to wet grounds spring work on farms was delayed in many sections, not much being accomplished until the middle of the month. Rapid progress, however, was made in seeding of spring wheat, oats, barley, speltz and spring rye, and at the close of the month was nearing completion in the south portion. Early planted grains were up to good stand and color, and both tame and wild grasses afforded ample food for livestock.

MAY.—Favorable weather conditions prevailed during the first and second decades, and rapid progress was made in completing the seeding of small grains, and in plowing for and planting corn and potatoes. Except in the extreme northwestern and north-central portions, soil conditions were excellent. Some delay in farm work occurred during the last decade by heavy rains.

JUNE.—Taken as a whole, the weather conditions throughout North Dakota were favorable, and at the close of the month crop prospects were the best for several years. Generous rains in most sections occurred during the first and second decades, while scattered showers occurred during the last decade. These heavy and scattered showers greatly reduced the grasshopper menace, and only small damage was reported. The hay crop was generally abundant.

JULY.—Favorable weather prevailed generally at the opening of the month and crop prospects were nearly normal. Small grains were mostly headed and general rains from the 3d to the 5th, inclusive, were very beneficial. However, unseasonably high temperature prevailed during the last two decades, greatly reducing soil moisture, and caused late crops and corn to deteriorate rapidly. Except for scattered showers on the 19th and 20th, there was practically no precipitation of importance during this period. Harvesting, combining and threshing made excellent progress.

AUGUST.—Generally favorable weather for farm and other outdoor work prevailed, though too dry for late crops, pastures and ranges. Harvesting of small grains was mostly completed and threshing made excellent progress. Less than the usual marketing was done, farmers being advised generally to store grain for better prices.

SEPTEMBER.—While the weather throughout the state was favorable for outdoor work, the deficiency in precipitation not only retarded plant development, but greatly interfered with fall plowing and the seeding of winter rye. Threshing made excellent progress and at the close of the month was nearing

[Continued on page 53]

Climatological Data for the Year 1932

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)							Precipitation (inches)								Number rainy days	Sky			Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date		Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall			Number clear days	Number partly cloudy days	Number cloudy days	
Alpha	Golden Valley	...	...	...	...	...	...	...		7	17.16	5.20	June	0.18	Sept.	48.6		62	...	...	...	...
Amenia	Cass	954	37	40.8	101	July 17	−26	Jan. 31		37	16.12	2.58	Apr.	T.	Dec.	16.6		76	57	197	112	nw.
Arnegard	McKenzie	...	20	41.0	105	July 18	−27	Jan. 30†		20	15.80	3.58	June	0.15	Dec.	37.0		66	218	72	76	nw.
Ashley	McIntosh	2,001	37	41.0	101	July 19	−26	Jan. 30		37	18.57	3.64	June	0.12	Dec.	45.3		83	201	61	104	nw.
Beach	Golden Valley	2,579	27	41.8	104	July 18	−25	Jan. 30		27	20.45	6.98	June	0.14	Feb.	29.9		80	...	...	...	nw.
Berthold Agency	McLean	2,082	40	40.2	103	July 18	−27	Feb. 14		40	18.35	4.38	Apr.	T.	Sept†	23.0		44	185	63	118	nw.
Bismarck	Burleigh	1,674	58	41.8	99	July 19	−22	Jan. 30		58	14.41	3.78	May	0.16	Nov.	26.4		82	135	131	100	nw.
Bottineau	Bottineau	1,638	41	37.0	97	July 17†	−32	Jan. 31		41	16.72	5.91	June	0.13	Feb.	31.3		73	106	211	49	nw.
Bowman	Bowman	2,961	18	41.8	102	July 17†	−24	Jan. 30†		19	22.17	5.41	Apr.	0.10	Feb.	42.7		95	...	...	...	nw.
Cando	Towner	1,488	32	38.9	94	July 17†	−31	Feb. 1		32	22.25	4.55	June	0.50	Dec.	52.5		59	137	106	123	nw.
Carrington	...	...	35	38.8	100	July 16†	−25	Jan. 30		35	16.77	4.14	June	T.	Dec.	33.0		51	228	56	82	nw.
Carson	Grant	2,500	21	41.9	100	July 19	−30	Jan. 31		21	14.47	3.57	June	0.10	Feb.†	25.0		64	200	92	74	nw.
Cavalier	Pembina	...	...	...	...	...	...	...		23	23.13	4.97	June	0.21	Mar.	50.4		79	219	57	90	n.
Cooperstown	Griggs	1,428	...	...	...	...	...	...		36	18.34	3.37	June	T.	Jan.	25.6		45	182	86	98	nw.
Corinth	Williams	2,180	...	...	...	...	...	...		5	12.59	3.34	June	0.14	Feb.†	25.4		62	219	87	60	nw.
Courtenay	Stutsman	1,523	...	...	...	...	...	...		4	20.77	4.10	June	T.	Dec.	41.3		74	167	104	95	nw.
Crosby	Divide	1,954	26	39.0	98	July 17†	−28	Jan. 29		26	17.99	5.94	June	0.10	Sept.	37.8		83	115	155	96	nw.
Devils Lake	Ramsey	1,478	36	38.5	100	July 17	−28	Jan. 30		36	20.02	4.16	June	0.14	Dec.	35.1		107	103	125	138	nw.
Dickinson	Stark	2,543	41	39.7	103	July 17†	−23	Jan. 30†		41	17.24	5.16	June	0.21	Sept.	39.2		117	156	118	92	nw.
Dogden Butte	McLean	1,880	7	40.2	99	July 17	−26	Jan. 31		7	18.77	2.78	June	0.15	Dec.	47.1		71	152	102	112	nw.
Drake	McHenry	1,634	4	...	100	July 17	...	...		4	...	4.18	June	...	...	...		...	...	...	...	nw.
Dunn Center	Dunn	2,191	34	40.1	102	July 18	−26	Feb. 14		34	16.73	3.67	June	T.	Dec.	47.9		62	138	101	127	nw.
Dunseith	Rolette	1,682	37	37.7	97	July 17	−27	Jan. 30†		37	22.08	5.95	July	0.35	Mar.	61.5		82	118	124	124	nw.
Eckman	Bottineau	1,500	28	37.7	104	July 17	−34	Jan. 31		28	12.00	2.87	June	0.15	Dec.	37.7		71	116	137	113	nw.
Edgeley	LaMoure	1,468	32	41.3	100	July 19	−25	Jan. 31		32	20.99	6.89	June	0.00	Feb.	17.4		53	77	207	82	nw.
Edmore	Ramsey	1,524	...	...	...	...	...	...		...	19.36	4.41	June	0.14	Dec.	39.7		88	124	137	105	nw.
Ellendale	Dickey	1,449	30	40.7	101	July 19	−28	Dec. 12		38	19.59	4.67	June	0.11	Feb.†	25.6		99	101	118	147	nw.
Energy	McLean	1,750	8	41.3	102	July 17	−25	Feb. 14		21	12.95	2.36	Oct.	0.10	Dec.	25.0		49	141	174	51	nw.
Epping	Williams	2,224	8	39.2	101	July 18	−29	Jan. 30		25	17.72	5.55	June	0.24	Sept.	41.3		68	209	93	64	nw.
Fairfield	Billings	...	...	...	...	...	...	...		4	16.24	3.80	June	0.14	Sept.	34.5		56	182	96	88	nw.
Fessenden	Wells	[illegible]610	21	39.0	103	July 17	−28	Jan. 31		21	20.86	5.24	June	0.06	Dec.	42.2		81	193	95	78	se.
Forman	Sargent	[illegible]249	...	...	...	...	...	...		40	18.93	4.46	Aug.	T	Feb.	22.2		58	210	63	93	nw.
Fort Yates	Sioux	1,670	33	42.4	103	July 19	−25	Feb. 3		33	17.77	4.64	June	T.	Nov.†	27.0		44	189	98	79	nw.
Foxholm	Ward	1,657	8	38.6	102	July 18	−28	Jan. 30		12	17.33	3.84	June	0.18	Dec.	43.2		76	111	124	131	nw.
F[illegible]burg	Billings	2,790	...	...	...	...	...	...		15	17.25	4.21	June	T.	Sept.	51.4		69	183	107	76	nw.
[illegible]erton	Dickey	1,439	35	41.9	103	July 19	−24	Dec. 12		35	22.30	4.80	June	0.38	Nov.	44.4		70	176	106	84	nw.
Gackle	Logan	1,951	...	...	...	...	...	...		2	15.49	3.47	June	0.12	Dec.	44.3		71	159	85	122	nw.
Garrison	McLean	1,901	38	40.9	101	July 18	−24	Jan. 30		56	13.82	2.67	June	0.06	Nov.	26.0		58	183	106	77	nw.
Grafton	Walsh	827	41	39.8	101	July 17†	−21	Jan. 31†		41	18.27	3.57	Oct.	T	Mar.	33.7		59	161	97	108	s.
Grand Forks	Grand Forks	830	42	39.7	101	July 17	−24	Jan. 31		42	17.87	2.97	Aug.	0.07	Dec.	37.3		86	90	142	134	nw.
Granville	McHenry	1,504	26	39.5	103	July 18	−28	Jan. 31		26	15.83	4.06	June	0.15	Dec.	43.0		68	169	98	99	nw.
Hankinson	Richland	1,068	4	43.2	106	July 19	−23	Jan. 30		4	17.76	4.83	June	0.05	Jan.	21.2		74	191	71	104	nw.
Hannah	Cavalier	1,568	...	...	97	July 23	...	...		41	15.94	3.59	Aug.	0.10	Dec.	28.4		76	...	...	...	...
Hansboro	Towner	1,597	25	36.4	98	July 17†	−33	Jan. 31		25	21.37	4.96	June	0.10	Feb.	66.5		67	226	70	70	nw.
Hettinger	Adams	2,675	26	42.2	102	July 17	−25	Jan. 30		26	14.59	3.45	June	0.04	Feb.†	19.8		74	197	94	75	nw.
Hillsboro	Traill	901	27	40.3	103	July 19†	−25	Jan. 31		27	18.11	2.78	Oct.	0.08	Dec.	31.3		59	152	127	87	nw.
Howard	Williams	2,275	26	37.6	97	July 17	−31	Dec. 21		26	14.70	4.89	June	T.	Jan.†	13.5		41	155	132	79	nw.
Jamestown	Stutsman	1,390	41	40.3	101	July 18	−25	Jan. 30†		41	19.69	4.50	May	0.13	Dec.	34.8		70	154	130	82	nw.
Langdon	Cavalier	1,615	37	35.5	95	Sept. 8	−31	Jan. 31		37	16.91	4.14	June	0.10	Sept.	46.0		52	177	128	61	sw.
Larimore	Grand Forks	1,134	40	38.9	101	July 17	−26	Feb. 8		40	21.88	4.11	Oct.	0.14	Dec.	47.2		68	169	77	120	nw.
Linton	Emmons	1,711	15	40.9	104	July 19	−29	Jan. 31		16	16.19	3.95	June	0.05	Nov.†	25.3		69	128	171	67	se.
Lisbon	Ransom	1,091	29	41.0	105	July 19	−22	Jan. 31		29	18.23	3.25	Apr.	0.24	Dec.	23.5		73	89	126	151	...
McClusky	Sheridan	1,943	8	39.8	101	July 17†	−26	Jan. 30		15	19.41	3.78	May	0.22	Mar.	44.5		59	202	101	63	nw.
McLeod	Ransom	1,075	21	41.9	106	July 19	−26	Jan. 31†		22	17.28	4.40	May	0.10	Dec.	19.2		60	185	94	87	nw.
Maddock	Benson	1,604	18	39.0	103	July 24	−31	Jan. 31		18	18.08	3.56	July	0.06	Dec.	35.0		63	84	168	114	nw.
Mandan	Morton	1,644	19	41.0	99	July 17	−23	Jan. 30		19	15.76	3.48	May	0.18	Dec.	23.8		91	127	44	195	nw.
Manfred	Wells	1,605	30	...	...	...	...	...		30	17.93	3.66	June	0.12	Dec.	41.8		84	...	...	...	...
Marmarth	Slope	2,714	19	42.1	101	July 18	−31	Jan. 30		24	17.14	5.14	June	0.06	Feb.	50.4		86	131	90	145	...
Mary	McKenzie	...	...	...	...	...	...	...		4	16.05	4.48	June	0.07	Dec.	26.3		65	205	71	90	nw.
Max	McLean	2,093	4	39.6	108	July 17	−28	Jan. 30		4	15.17	3.97	June	0.10	Dec.	47.9		59	160	48	158	nw.
Mayville	Traill	975	37	40.5	104	July 19	−26	Jan. 31		37	16.16	3.26	May	0.10	Jan.	15.6		65	120	121	115	s.
Minot	Ward	1,557	37	39.6	101	July 18	−30	Jan. 30		37	19.20	4.78	June	0.03	Dec.	47.9		73	178	70	118	w.
Mohall	Renville	...	39	39.6	104	July 18	−28	Jan. 29		39	19.80	4.40	July	T.	Sept†	29.5		46	88	217	61	nw.
Mott	Hettinger	2,424	26	42.1	102	July 17	−27	Jan. 30		26	18.08	5.49	June	0.06	Nov.	36.2		65	155	81	130	nw.
Napoleon	Logan	1,955	41	40.1	102	July 19	−30	Jan. 30		41	19.75	6.00	Apr.	0.20	Dec.	35.4		84	183	62	121	nw.
New England	Hettinger	2,400	39	42.3	105	July 16†	−25	Jan. 29		39	16.93	3.93	June	0.24	Feb.	40.0		61	154	130	82	nw.
New Salem	Morton	2,163	29	41.5	100	July 17	−24	Jan. 30		29	11.78	2.43	June	0.05	Sept.	32.3		79	162	127	77	nw.
Oakes	Dickey	1,318	4	42.2	107	July 19	−25	Dec. 12		4	17.36	3.52	May	0.61	Feb.	23.4		90	123	155	88	nw.
Park River	Walsh	998	29	38.5	102	July 17	−24	Jan. 31		29	18.14	4.00	Aug.	T.	Dec.	28.7		59	134	96	136	nw.
Parshall	Mountrail	...	...	39.0	104	July 18	−28	Jan. 31		18	14.63	3.92	June	0.08	Dec.	24.0		65	105	184	77	nw.
Pembina	Pembina	789	59	36.4	94	July 17†	−25	Feb. 1		59	17.28	4.47	June	0.29	Mar.	46.2		114	71	149	146	nw.
Petersburg	Nelson	1,520	3	...	...	...	...	...		3	18.99	3.29	June	0.05	Dec.	30.1		77	145	150	71	nw.
Pettibone	Kidder	1,856	24	39.7	102	July 17†	−29	Jan. 31		24	15.44	3.50	June	0.11	Dec.	34.8		65	167	89	110	nw.
Portal	Burke	1,954	20	36.8	104	July 17	−32	Jan. 30		28	10.07	3.15	June	0.00	Dec.	21.5		47	198	42	126	w.
Power	Richland	1,020	...	...	...	...	...	...		39	16.60	2.40	Apr.	0.50	Dec.	53.0		59	184	102	80	s.
Powers Lake	Burke	2,205	7	38.1	101	July 19	−30	Jan. 28		28	22.80	8.22	June	0.42	Dec.	61.4		56	218	86	62	e.
Richardton	Stark	2,467	17	40.8	105	July 17†	−25	Jan. 30		17	14.92	3.31	June	0.00	Feb.	35.2		44	150	131	85	nw.
Rugby	Pierce	1,562	...	...	...	...	...	...		4	13.48	3.07	June	0.12	Dec.	34.3		70	145	119	102	nw.
Ryder	Ward	2,108	...	...	...	...	...	...		4	13.95	2.88	June	0.10	Dec.	20.2		71	...	...	...	...
Sanish	Mountrail	1,835	10	39.8	103	July 18	−26	Jan. 30†		10	13.91	4.68	June	0.08	Sept.	30.8		68	115	59	192	nw.
Sharon	Steele	1,516	6	38.6	99	July 19	−28	Jan. 31		9	19.50	3.31	June	0.14	Dec.	35.8		88	120	130	116	nw.
Stanton	Mercer	1,722	...	...	...	...	...	...		9	13.58	2.72	Aug.	0.01	Dec.	24.7		38	180	96	90	nw.
Steele	Kidder	1,857	39	40.1	104	July 19	−26	Jan. 30†		39	13.60	3.30	Apr.	0.08	Dec.	26.8		90	127	130	109	nw.
Stowers	Adams	...	...	...	...	...	...	...		18	16.13	4.93	June	T.	Nov.	21.7		50	219	84	63	...
Tagus	Mountrail	2,179	...	...	...	...	...	...		4	11.53	2.74	June	0.09	Nov.	23.5		59	181	82	103	nw.
Tioga	Williams	2,279	...	...	...	...	...	...		4	14.49	5.57	June	0.10	Sept†	21.0		61	129	81	156	nw.
Towner	McHenry	1,482	31	39.4	102	July 17†	−30	Jan. 31		31	14.64	3.88	Oct.	0.13	Dec.	52.4		70	168	98	100	nw.
Trotters	Golden Valley	...	...	...	...	...	...	...		7	17.39	5.67	June	0.08	Sept.	35.3		65	139	117	110	...
Turtle Lake	McLean	1,899	19	...	...	...	...	...		19	...	2.83	June	...	...	...		...	...	...	...	...
Valley City	Barnes	1,245	27	41.1	102	July 19	−23	Jan. 31		27	17.45	3.04	June	0.21	Dec.	40.8		76	190	94	82	w.
Velva	McHenry	1,511	6	40.6	103	July 18	−28	Jan. 31		6	16.33	3.95	Oct.	0.13	Dec.	50.8		77	95	140	131	w.
Verona	LaMoure	1,387	5	...	...	...	...	...		5	...	5.42	June	T.	Feb.	...		...	...	...	...	nw.
Wahpeton	Richland	962	41	43.9	106	July 19†	−23	Jan. 31		41	16.06	3.19	May	0.12	Dec.	29.7		84	221	0	145	se.
Washburn	McLean	1,731	...	41.6	101	July 17	−25	Jan. 30		32	16.49	4.24	June	0.12	Dec.	27.9		65	157	85	124	n.
Westhope	Bottineau	1,508	27	39.2	106	July 18	−32	Jan. 31		27	11.96	3.08	June	0.02	Dec.	19.8		71	202	118	46	nw.
Williston	Williams	1,878	54	41.1	103	July 18	−24	Jan. 30		54	17.74	6.98	June	0.18	Dec.	36.1		90	172	99	95	se.
Willow City	Bottineau	1,471	41	37.3	102	July 18	−34	Jan. 31		41	14.60	3.50	July	0.20	Dec.	45.6		66	194	121	51	nw.
Wishek	McIntosh	2,010	4	39.6	101	July 19	−25	Jan. 30		4	21.85	5.81	June	0.10	Nov.	44.4		71	141	28	197	nw.
Zap	Mercer	1,838	...	...	...	...	...	...		18	13.16	3.13	June	0.00	Dec.	19.9		47	...	...	...	...
Moorhead, Minn.	Clay	935	61	41.0	104	July 19	−21	Jan. 31		52	15.05	2.48	Aug.	0.14	Dec.	45.5		98	86	115	165	s.

†Indicates on other dates (or in other months) also.

T. Indicates trace.

Monthly and Annual Precipitation for the Year 1932, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Alpha	0.36	......	0.40	......	2.40	......	2.22	......	1.19	......	5.20	......	1.16	......	1.75	......	0.18	......	1.90	......	0.21	......	0.18	......	17.16	......
Amenia	0.52	+0.04	0.22	−0.32	0.29	−0.23	2.58	+0.78	2.56	−0.29	2.47	−1.32	1.77	−1.12	1.00	−1.55	2.26	+0.15	2.24	+0.87	0.21	−0.11	T	−0.55	16.12	[illegible]
Arnegard	0.60	+0.05	0.50	+0.05	0.65	−0.07	1.71	+0.24	1.88	−0.18	3.58	+0.42	1.65	−0.11	1.77	+0.32	0.27	−1.16	2.39	+1.44	0.15	[illegible]	0.15	−0.12	15.80	+0.83
Ashley	0.99	+0.48	0.15	−0.37	0.56	−0.46	3.39	+1.47	2.81	+0.41	3.64	+0.10	1.53	−1.30	2.90	+0.46	0.90	−0.55	1.25	+0.06	[illegible]	[illegible]	0.12	[illegible]	18.57	−0.39
Beach	0.44	0.07	0.14	−0.26	0.59	−0.04	2.74	+1.52	2.44	−0.14	6.98	+3.09	1.39	−0.43	1.80	+0.03	0.21	−1.11	2.66	+1.68	0.80	+0.27	0.26	−0.24	[illegible]	+4.30
Berthold Agency	0.20	−0.11	0.28	−0.19	0.43	−0.26	1.38	+3.29	2.90	+0.46	4.02	+0.14	2.57	+0.40	1.65	−0.68	T	−1.46	2.32	+1.46	0.20	−0.24	T.	−0.39	[illegible]	[illegible]
Bismarck	0.35	−0.10	0.20	−0.26	0.73	0.16	2.08	+0.56	3.78	+1.46	2.57	−0.78	1.38	−0.80	0.61	−1.21	0.33	−0.90	2.05	+1.11	0.16	−0.41	0.17	[illegible]	14.41	−1.95
Bottineau	0.38	−0.02	0.13	0.22	0.63	0.06	0.38	−0.51	0.66	−1.43	5.91	+2.60	3.15	+0.85	1.13	−1.06	0.38	−1.24	3.51	+2.48	0.22	0.32	0.24	−0.20	16.72	+0.87
Bowman	1.50	+1.05	0.10	−0.19	1.07	+0.61	5.41	+4.28	2.52	+0.10	3.44	−0.05	0.68	−1.69	2.87	+1.51	0.34	−0.86	3.49	+2.51	0.31	−0.67	0.44	[illegible]	22.17	+7.36
Cando	1.24	+0.82	0.64	+0.27	0.74	+0.06	2.34	+1.26	1.54	−0.78	4.55	+0.95	3.83	+1.31	1.23	−0.90	1.73	+0.11	3.15	+2.29	0.76	+0.23	0.50	[illegible]	22.25	+5.68
Carrington	0.40	+0.08	0.63	+0.24	0.35	−0.32	2.52	+1.29	2.48	−0.15	4.14	+0.63	1.41	−1.13	1.22	−0.90	0.50	−1.04	2.50	+1.53	0.62	+0.07	T.	−0.42	[illegible]	[illegible]
Carson	0.52	+0.17	0.10	−0.21	0.73	+0.14	1.43	−0.05	2.88	+0.59	3.57	−0.50	2.00	+0.06	0.62	−0.90	0.67	−1.07	1.55	+0.55	0.30	−0.31	0.10	−0.45	14.47	−1.98
Cavalier	0.92	+0.18	0.53	0.08	0.21	−0.47	2.33	+1.11	1.43	−1.28	4.97	+2.05	2.82	+0.09	2.97	+0.71	1.12	−0.82	3.77	+2.68	1.69	+0.86	0.37	−0.63	23.13	+4.40
Cooperstown	T.	−0.42	0.32	−0.09	1.00	+0.42	3.12	+1.56	3.05	+0.67	3.37	−0.19	0.72	−1.83	2.67	+0.41	0.66	−1.13	2.89	+1.83	0.53	−0.17	0.01	−0.51	18.34	+0.55
Corinth	0.50	......	0.14	......	0.71	......	1.32	......	1.60	......	3.34	......	1.08	......	1.68	......	0.22	......	1.41	......	0.45	......	0.14	......	12.59	......
Courtenay	0.50	......	0.68	......	0.87	......	2.29	......	2.83	......	4.10	......	2.35	......	2.94	......	0.90	......	2.71	......	0.60	......	T	......	20.77	......
Crosby	0.51	+0.08	0.52	+0.24	0.50	−0.01	1.15	+0.03	0.58	−1.43	5.94	+2.78	1.99	−0.16	3.51	+1.59	0.10	−1.30	2.15	+1.27	0.30	−0.35	0.74	+0.29	[illegible]	+3.03
Devils Lake	0.35	−0.12	0.40	−0.11	0.72	−0.06	2.58	+1.06	2.24	+0.21	4.16	+0.60	3.87	+1.30	1.23	−1.25	0.68	−0.95	2.88	+1.63	0.77	+0.05	0.14	−0.40	20.02	+1.96
Dickinson	0.90	+0.46	0.23	0.20	0.61	−0.18	1.95	+0.72	1.63	−0.73	5.16	+1.97	1.02	1.23	2.68	+0.89	0.21	−0.98	2.12	+1.25	0.45	−0.07	0.28	−0.21	17.24	+1.69
Dogden Butte	0.43	......	0.53	......	0.60	......	2.76	......	2.61	......	2.78	......	2.11	......	2.02	......	0.65	......	3.76	......	0.37	......	0.15	......	18.77	......
Drake	......	......	......	......	......	......	1.71	......	2.22	......	4.18	......	2.06	......	2.48	......	0.76	......	3.76	......	0.34	......	0.11	......	......	......
Dunn Center	0.53	+0.10	0.30	−0.24	0.78	−0.14	1.47	+0.09	1.80	−0.72	3.67	−0.34	2.54	+0.36	2.10	+0.69	0.14	−1.19	2.52	+1.77	0.88	+0.31	T.	−0.55	16.73	+0.14
Dunseith	1.60	+1.20	0.45	+0.03	0.35	−0.31	0.97	+0.16	0.90	−0.94	4.93	+1.85	5.95	+3.51	2.26	−0.12	0.54	−1.17	1.98	+1.07	1.41	+0.90	0.74	+0.34	22.08	+6.52
Eckman	0.27	−0.17	0.16	−0.20	0.20	−0.28	2.45	+1.49	0.34	−1.77	2.87	−0.07	2.16	−0.11	0.61	−1.46	0.20	−1.20	2.36	+1.43	0.23	−0.35	0.15	−0.36	12.00	−3.05
Edgeley	0.47	+0.14	0.00	−0.34	0.20	−0.46	3.81	+2.04	2.83	+0.17	6.89	+3.20	1.14	−1.60	2.89	+0.63	0.39	−1.43	2.04	+1.01	0.13	−0.34	0.20	−0.19	20.99	+2.83
Edmore	0.50	......	0.37	......	0.69	......	1.56	......	1.75	......	4.41	......	3.13	......	0.96	......	1.17	......	3.83	......	0.85	......	0.14	......	19.36	......
Ellendale	0.28	−0.20	0.11	−0.48	0.25	−0.58	4.47	+2.37	2.49	−0.59	4.67	+0.08	1.93	−1.22	3.65	+0.57	0.70	−1.32	0.78	−0.39	0.15	−0.59	0.11	−0.37	19.59	−2.72
Energy	0.41	+0.15	0.27	−0.06	0.68	+0.18	0.80	−0.33	2.07	−0.15	2.08	−1.40	1.93	−0.33	1.78	−0.07	0.15	−1.32	2.36	+1.54	0.32	−0.05	0.10	−0.34	12.95	−2.18
Epping	0.55	+0.09	0.60	+0.19	1.05	+0.54	1.49	+0.30	1.71	−0.60	5.55	+1.98	1.85	−0.16	1.47	−0.23	0.24	−1.37	2.27	+1.42	0.60	+0.14	0.34	−0.10	17.72	+2.20
Fairfield	0.40	......	0.25	......	1.00	......	1.56	......	2.53	......	3.80	......	2.45	......	1.45	......	0.14	......	1.96	......	0.50	......	0.20	......	16.24	......
Fessenden	0.45	−0.03	0.69	+0.14	0.79	+0.09	1.98	+0.47	2.70	+0.32	5.24	+1.41	1.61	−0.51	3.20	+1.03	0.89	−0.90	2.47	+1.56	0.78	+0.02	0.06	−0.60	20.86	+3.00
Forman	0.18	−0.36	T.	−0.65	0.35	−0.45	2.32	+0.17	4.16	+1.29	2.54	−0.95	1.94	−1.01	4.46	+1.72	1.02	−0.92	1.45	+0.05	0.42	−0.22	0.09	−0.46	18.93	−1.79
Fort Yates	0.80	+0.28	0.72	+0.10	0.50	−0.44	2.09	+0.50	2.95	+0.98	4.64	+1.14	1.87	−0.55	1.47	−0.53	0.82	−0.33	1.91	+1.00	T.	−0.55	T.	−0.48	17.77	+1.12
Foxholm (near)	0.83	+0.50	0.56	−0.01	0.98	+0.31	2.23	+0.88	0.42	−1.55	3.84	+0.75	3.76	+1.53	0.98	−0.76	0.26	−1.24	3.04	+1.94	0.25	−0.42	0.18	−0.25	17.33	+1.68
Fryburg	0.78	+0.33	0.46	−0.08	1.46	+0.74	2.34	+1.01	1.72	−0.52	4.21	+0.82	1.65	−0.35	1.16	−0.30	T.	−1.69	1.95	+0.76	0.97	+0.33	0.55	0.03	17.25	+1.02
Fullerton	0.99	+0.19	0.43	−0.49	1.02	−0.16	4.73	+2.64	3.86	+0.66	4.80	+1.05	1.77	−1.42	1.50	−1.08	0.84	−1.32	1.45	+0.03	0.38	−0.47	0.53	−0.32	22.30	−0.69
Gackle	0.31	......	0.23	......	0.70	......	2.52	......	3.12	......	3.47	......	1.37	......	0.71	......	1.00	......	1.56	......	0.38	......	0.12	......	15.49	......
Garrison	0.50	+0.08	0.70	+0.20	0.45	−0.48	0.53	−0.69	1.82	−0.41	2.67	−0.75	2.40	+0.20	1.74	−0.28	0.38	−1.06	2.40	+1.50	0.06	−0.49	0.17	−0.38	13.82	−2.56
Grafton	0.40	−0.17	0.40	−0.19	T.	−0.66	2.39	+0.99	1.75	−0.44	3.10	−0.26	2.02	−0.47	1.84	−0.63	1.54	−0.52	3.57	+2.56	0.96	+0.22	0.30	−0.22	18.27	+0.21
Grand Forks	0.34	−0.20	0.68	+0.10	0.55	−0.18	2.48	+0.64	2.30	−0.31	2.27	−1.15	1.51	−1.22	2.97	+0.49	1.08	−0.77	2.74	+1.47	0.88	+0.07	0.07	−0.56	17.87	−1.62
Granville	0.85	+0.45	0.42	−0.03	0.57	+0.09	1.03	−0.02	1.43	−0.50	4.06	+1.17	2.60	+0.50	1.28	−0.57	0.25	−1.24	2.90	+1.95	0.29	−0.52	0.15	−0.37	15.83	+1.11
Hankinson	0.05	......	0.20	......	0.36	......	2.01	......	2.82	......	4.83	......	1.78	......	2.71	......	1.14	......	0.85	......	0.91	......	0.10	......	17.76	......
Hannah	0.60	−0.08	0.47	−0.11	0.28	−0.38	1.70	+0.43	0.86	−1.27	2.94	−0.46	1.39	−1.04	3.59	+1.77	0.47	−1.74	2.81	+1.74	0.73	−0.05	0.10	−0.50	15.94	−1.69
Hansboro	0.60	−0.09	0.10	−0.48	1.30	+0.58	1.79	+0.30	1.60	−0.71	4.96	+1.87	2.41	−0.03	2.07	−0.13	0.37	−1.63	3.28	+2.11	2.69	+2.10	0.20	−0.45	21.37	+3.44
Hettinger	0.46	+0.13	0.04	−0.30	0.38	−0.30	2.11	+1.11	2.70	+0.35	3.45	−0.15	1.01	−1.54	2.31	+1.01	0.60	−0.90	1.37	+0.56	0.04	−0.40	0.12	−0.25	14.59	−0.68
Hillsboro	0.55	−0.03	1.06	+0.43	0.72	+0.05	2.70	+0.85	2.74	−0.45	1.11	−2.31	2.66	+0.23	1.74	−0.75	1.47	−0.75	2.78	+1.58	0.50	−0.41	0.08	−0.68	18.11	−2.24
Howard (near)	T.	−0.61	0.32	−0.28	T.	−1.02	1.44	+0.14	2.01	−0.37	4.89	+2.11	1.64	−0.14	2.35	+0.84	0.10	−1.44	0.80	−0.10	0.35	−0.26	0.80	+0.13	14.70	−1.00
Jamestown	0.55	−0.03	0.51	−0.11	0.77	−0.14	3.05	+1.32	4.50	+1.72	3.70	0.10	1.58	−1.14	1.51	−1.02	0.72	−1.01	1.98	+0.86	0.69	−0.03	0.13	−0.55	19.69	−0.23
Langdon	0.70	+0.13	0.30	−0.32	1.10	+0.29	1.23	0.11	1.20	−1.01	4.14	+0.73	2.52	+0.05	1.92	−0.55	0.10	−2.19	2.50	+1.47	0.70	−0.13	0.50	−0.13	16.91	−1.77
Larimore	0.42	−0.23	0.65	+0.07	0.74	−0.02	3.29	+1.61	2.48	−0.28	2.45	−1.49	1.40	−1.83	3.41	+0.77	1.82	−0.26	4.11	+2.74	0.97	+0.10	0.14	−0.43	21.88	+0.75
Linton	0.47	+0.04	0.16	−0.39	1.09	+0.61	2.22	+0.70	3.32	+1.04	3.95	+1.39	1.56	−0.50	0.99	−1.02	0.95	−0.83	1.38	+0.34	0.05	−0.61	0.05	−0.36	16.19	+0.41
Lisbon	0.46	−0.14	0.25	−0.42	0.52	0.00	3.25	+1.41	2.77	−0.26	2.79	−1.17	1.35	−1.95	2.86	+0.52	1.38	0.79	1.84	+0.69	0.52	−0.21	0.24	−0.27	18.23	−2.59
McClusky	0.70	+0.25	0.80	+0.12	0.22	−0.52	2.37	+0.95	3.78	+1.13	2.27	−0.88	1.57	−0.75	1.69	−0.06	1.22	−0.09	3.54	+2.55	0.80	+0.09	0.45	−0.17	19.41	+2.62
McLeod	0.41	−0.19	0.14	−0.56	0.38	−0.16	1.78	−0.39	4.40	+1.08	2.51	−1.58	1.40	−1.53	2.16	+0.01	2.24	−0.12	1.06	−0.34	0.67	−0.06	0.10	−0.37	17.28	−4.21
Maddock	0.55	+0.28	0.31	−0.06	0.36	−0.03	1.87	+0.52	2.42	+0.22	3.53	+0.15	3.56	+1.16	0.75	−1.46	1.69	0.34	2.56	+1.63	0.42	−0.12	0.06	−0.20	18.08	+1.75
Mandan	0.44	+0.16	0.19	−0.17	1.00	+0.29	1.99	+0.57	3.48	+1.06	3.33	0.00	1.90	−0.75	0.70	−0.80	0.24	−1.22	2.12	+1.28	0.19	−0.33	0.18	−0.25	15.76	−0.16
Manfred	0.72	+0.16	0.67	+0.16	0.74	−0.01	1.80	+0.45	2.60	+0.25	3.66	+0.04	1.66	−0.48	1.24	−1.11	1.00	−0.57	3.05	+2.08	0.67	−0.05	0.12	−0.54	17.93	+0.38
Marmarth	1.11	+0.74	0.06	−0.34	0.83	+0.25	1.46	+0.42	1.48	−0.99	5.14	+1.88	1.54	−0.30	2.52	+0.78	0.12	−1.23	2.15	+1.31	0.46	+0.05	0.27	−0.13	17.14	+2.44
Mary	0.15	......	0.24	......	0.51	......	1.46	......	2.29	......	4.48	......	2.05	......	1.78	......	0.51	......	1.82	......	0.69	......	0.07	......	16.05	......
Max	0.55	......	0.50	......	1.12	......	1.15	......	0.68	......	3.97	......	2.47	......	1.71	......	0.27	......	2.40	......	0.25	......	0.10	......	15.17	......
Mayville	0.10	−0.32	0.16	−0.29	0.18	−0.54	2.00	+0.30	3.26	+0.24	2.98	−0.43	1.95	−0.84	2.03	−0.59	0.91	−1.29	2.19	+0.99	0.29	−0.50	0.11	−0.45	16.16	−3.72
Minot	0.37	−0.01	0.17	−0.30	0.34	−0.35	2.40	+1.17	3.45	+1.41	4.78	+1.56	3.63	+1.76	1.34	−0.67	0.40	−1.21	2.24	+1.26	0.05	−0.62	0.03	−0.45	19.20	+3.55
Mohall	1.05	+0.72	0.37	+0.05	0.96	+0.28	4.08	+3.14	0.47	−1.54	3.95	+0.65	4.40	+2.17	1.29	−0.52	T.	−1.55	2.86	+1.82	0.37	−0.23	T.	−0.41	19.80	+4.58
Mott	0.57	−0.27	0.41	−0.17	1.13	+0.21	1.49	+0.09	2.09	−0.29	5.49	+1.95	1.59	−1.00	2.37	+0.60	0.68	−0.80	2.00	+0.93	0.06	−0.49	0.20	−0.44	18.08	+0.32
Napoleon	0.70	+0.27	0.30	−0.13	0.86	+0.03	6.00	+4.39	3.25	+0.89	3.23	−0.30	1.00	−1.50	0.51	−1.82	1.01	−0.43	2.20	+1.17	0.49	−0.16	0.20	−0.25	19.75	+2.16
New England	0.70	+0.20	0.24	−0.28	0.90	+0.11	1.84	+0.81	1.69	−0.38	3.93	+1.03	2.42	+0.47	1.58	−0.01	0.27	−1.01	2.53	+1.83	0.43	−0.08	0.40	0.00	16.93	+2.71
New Salem	0.26	−0.24	0.18	−0.26	0.85	+0.02	1.28	+0.06	1.74	−0.51	2.43	−1.00	1.53	−0.50	0.92	−0.66	0.05	−1.32	2.40	+1.44	0.07	−0.42	0.07	−0.51	11.78	−3.90
Oakes	0.55	......	0.01	......	0.43	......	2.33	......	3.52	......	2.93	......	2.79	......	2.32	......	0.68	......	1.38	......	0.28	......	0.14	......	17.36	......
Park River	0.12	−0.26	0.36	−0.04	0.13	−0.40	2.57	+1.25	1.30	−1.07	2.05	−1.43	2.01	−0.50	4.00	+1.72	1.12	−0.87	3.82	+2.68	0.66	−0.12	T.	−0.45	18.14	+0.51
Parshall (near)	0.70	+0.51	0.50	+0.11	0.39	+0.17	2.30	+1.16	0.21	−1.90	3.92	+0.83	2.30	+0.49	1.23	−0.60	0.38	−1.18	2.47	+1.78	0.15	−0.14	0.08	−0.32	14.63	+0.94
Pembina	0.85	+0.23	0.44	−0.29	0.29	−0.58	1.97	+0.53	1.14	−1.29	4.47	+0.87	1.36	−1.10	2.07	−0.19	1.10	−0.90	2.23	+0.80	1.03	+0.24	0.33	−0.44	17.28	−2.12
Petersburg	0.29	......	0.22	......	0.37	......	2.70	......	2.37	......	3.29	......	2.84	......	2.69	......	0.61	......	2.73	......	0.83	......	0.05	......	18.99	......
Pettibone	1.16	+0.75	0.52	+0.09	0.30	−0.25	2.51	+1.18	1.84	−0.78	3.50	+0.34	1.50	−1.20	0.69	−1.74	0.34	−1.22	2.26	+1.28	0.71	+0.05	0.11	−0.46	15.44	−1.96
Portal	0.10	−0.38	0.02	−0.41	0.25	−0.39	1.08	−0.04	0.62	−1.55	3.15	−0.20	2.61	+0.71	1.09	−0.84	0.03	−1.44	0.89	+0.14	0.23	−0.35	0.00	−0.50	10.07	−5.25
Power	0.90	+0.27	0.90	+0.26	0.85	+0.15	2.40	+0.60	2.35	−0.36	1.50	−2.03	0.72	−2.57	1.50	−0.87	1.95	−0.11	1.63	+0.20	1.00	+0.25	0.50	−0.13	16.60	−4.34
Powers Lake	0.74	+0.13	0.68	+0.20	0.78	−0.04	1.46	−0.12	2.55	+0.38	8.22	+4.67	1.92	−0.30	1.27	−0.22	0.66	−0.61	3.51	+2.28	0.59	+0.01	0.42	−0.17	22.80	+6.21
Richardton	1.20	+0.78	0.00	−0.37	0.60	+0.07	2.45	+0.97	2.41	−0.08	3.31	−0.14	1.26	−0.78	1.16	−0.41	0.06	−1.29	2.00	+1.26	0.27	−0.19	0.20	−0.18	14.92	−0.36
Rugby	1.00	......	0.55	......	0.40	......	0.58	......	1.43	......	3.07	......	1.93	......	0.83	......	0.51	......	2.75	......	0.31	......	0.12	......	13.48	......
Ryder	0.66	......	0.28	......	0.57	......	1.14	......	2.26	......	2.88	......	1.99	......	1.79	......	0.29	......	1.88	......	0.11	......	0.10	......	13.95	......
Sanish	0.60	......	0.44	......	0.63	......	2.09	......	0.49	......	4.68	......	1.94	......	0.95	......	0.08	......	1.56	......	0.17	......	0.28	......	13.91	......
Sharon	0.62	......	0.63	......	0.52	......	2.14	......	3.10	......	3.31	......	1.77	......	2.32	......	0.95	......	3.19	......	0.81	......	0.14	......	19.50	......
Stanton	0.50	......	0.21	......	0.64	......	1.40	......	1.44	......	2.40	......	1.89	......	2.72	......	0.15	......	2.01	......	0.21	......	0.01	......	13.58	......
Steele	0.23	−0.23	0.16	−0.31	0.27	−0.54	3.30	+2.11	3.20	+0.62	2.15	−1.35	1.13	−1.77	0.35	−2.02	0.33	−1.22	2.27	+1.20	0.13	−0.49	0.08	−0.47	13.60	−4.37
Stowers	0.59	+0.23	0.08	−0.47	0.31	−0.48	1.55	+0.39	3.17	+0.79	4.93	+1.48	1.09	−0.64	1.94	+0.63	0.99	−0.30	1.46	+0.35	T.	−0.37	0.02	−0.47	16.13	+1.14
Tagus	0.47	......	0.56	......	0.39	......	2.48	......	0.37	......	2.74	......	2.30	......	0.82	......	0.50	......	0.66	......	0.09	......	0.15	......	11.53	......
Tioga	0.30	......	0.35	......	0.70	......	1.24	......	0.57	......	5.57	......	1.24	......	2.29	......	0.10	......	1.68	......	0.10	......	0.35	......	14.49	......
Towner	0.43	−0.01	0.37	−0.07	0.46	−0.27	0.89	−0.21	1.54	−0.67	2.98	+0.08	2.14	−0.12	0.94	−0.95	0.54	−1.23	3.88	+2.89	0.34	−0.25	0.13	−0.27	14.64	−1.08
Trotters	0.59	......	0.28	......	0.87	......	1.64	......	2.18	......	5.67	......	1.81	......	1.45	......	0.08	......	2.17	......	0.56	......	0.09	......	17.39	......
Turtle Lake	0.53	+0.15	0.09	−0.32	0.42	−0.32	1.15	−0.04	2.69	+0.37	2.83	1.15	2.34	−0.56	1.27	−1.08	......	......	......	......	......	......	......	......	......	......
Valley City	0.35	−0.20	0.58	+0.09	0.79	+0.22	2.26	+0.74	2.58	−0.33	3.04	−0.29	2.87	+0.08	0.87	−1.20	0.68	−1.27	2.20	+1.22	1.02	+0.28	0.21	−0.25	17.45	−0.91
Velva	0.66	......	0.28	......	0.82	......	1.59	......	1.17	......	2.95	......	1.96	......	2.19	......	0.42	......	3.95	......	0.21	......	0.13	......	16.33	......
Verona	0.07	......	T.	......	0.30	......	3.60	......	3.05	......	5.42	......	1.74	......	2.06	......	0.61	......	......	......	......	......	......	......	......	......
Wahpeton	0.70	+0.26	0.23	−0.28	0.23	−0.55	1.99	−0.16	3.19	+0.51	1.50	−2.36	1.83	−1.63	2.90	+0.15	1.55	−0.71	0.88	−0.59	0.94	−0.22	0.12	−0.32	16.06	−5.90
Washburn	0.24	−0.10	0.34	−0.05	0.50	−0.02	1.74	+0.67	1.56	−0.51	4.24	+0.93	2.24	+0.05	1.49	+0.15	0.40	−0.77	3.31	+2.45	0.31	−0.21	0.12	−0.20	16.49	+2.39
Westhope	0.34	−0.06	0.10	−0.10	0.39	−0.07	1.93	+1.02	0.47	−1.47	3.08	+0.07	1.56	−0.67	1.39	−0.65	0.33	−1.02	2.19	+1.36	0.16	−0.39	0.02	−0.25	11.96	−2.23
Williston	0.59	+0.05	0.37	−0.06	0.92	+0.23	1.13	−0.07	1.52	−0.54	6.98	+3.55	1.75	−0.14	1.24	−0.23	0.33	−0.76	2.11	+1.25	0.62	+0.04	0.18	−0.40	17.74	+2.92
Willow City	1.35	+0.81	0.40	−0.12	0.60	−0.13	0.83	−0.17	0.89	−1.03	2.38	−0.73	3.50	+1.41	1.05	−0.95	0.25	−1.47	2.75	+1.91	0.40	−0.19	0.20	−0.34	14.60	−1.00
Wishek	1.19	+0.66	0.85	+0.26	0.40	−0.32	5.24	+4.20	2.65	−0.23	5.81	+2.89	1.16	−1.46	1.43	−0.68	1.77	+0.42	1.04	+0.07	0.10	−0.42	0.21	−0.43	21.85	+4.96
Zap	0.09	−0.25	0.17	−0.10	0.51	−0.12	1.47	+0.42	2.52	+0.13	3.13	−0.64	1.41	−0.55	1.96	+0.14	0.10	−1.13	1.51	+0.44	0.29	−0.04	0.00	−0.33	13.16	−2.03
Moorhead, Minn.	0.32	−0.35	0.60	−0.11	0.74	−0.27	1.06	−1.12	2.05	−0.84	2.16	−1.89	1.36	−2.07	2.48	−0.41	1.93	−0.29	1.37	−0.32	0.84	−0.06	0.14	−0.58	15.05	−8.31

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1932, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	12.9	+8.0	16.0	+7.2	21.8	-2.8	43.2	+1.2	58.0	+4.0	66.4	+3.0	68.4	-0.3	69.8	+3.3	57.4	+0.1	41.4	-3.2	21.5	-6.5	13.0	+0.8	40.8	+1.2
Arnegard	10.6	+1.6	15.0	+1.1	19.6	-5.7	46.0	+4.9	57.0	+4.3	67.4	+5.7	71.0	+1.7	68.6	+1.3	57.0	+0.7	39.2	-3.7	26.0	-2.3	14.4	+1.4	41.0	+0.9
Ashley	9.5	+0.9	14.0	+2.9	20.0	-4.3	45.6	+3.0	56.5	+3.0	66.6	+4.2	70.2	+1.5	68.6	+2.1	57.5	+0.2	40.8	-2.0	28.9	+0.9	13.2	-1.0	41.0	+1.0
Beach	12.8	+1.7	19.6	+3.4	21.8	-5.4	47.4	+5.4	57.0	+5.6	65.0	+3.3	69.6	+1.1	68.6	+2.2	56.4	0.0	39.0	-4.6	28.4	-2.6	16.1	-0.9	41.8	+0.8
Berthold Agency	9.6	+1.0	13.2	+1.0	19.0	-7.0	44.8	+1.3	53.3	-0.8	68.4	+5.6	70.6	+1.4	68.0	+0.3	57.2	+0.3	36.6	-8.0	26.4	-2.1	15.3	-0.1	40.2	-0.6
Bismarck	9.8	+2.0	15.7	+5.4	20.5	-3.7	46.8	+4.7	56.5	+2.0	67.5	+3.8	72.0	+2.2	69.7	+2.4	58.4	+0.3	40.2	-4.7	28.8	+0.3	15.7	+1.0	41.8	+1.3
Bottineau	8.0	+7.4	9.2	+5.0	15.9	-4.2	40.2	+1.1	54.6	+3.3	66.4	+5.1	66.6	0.0	66.7	+2.6	53.3	-1.6	35.0	-6.0	20.7	-2.9	7.0	-0.4	37.0	+0.8
Bowman	12.8	-0.2	19.2	+0.7	22.0	-5.7	46.4	+3.8	55.2	+3.0	64.6	+2.1	71.6	+2.2	69.0	+1.3	56.2	-0.6	40.5	-3.5	30.0	-0.6	14.4	-0.7	41.8	+0.1
Cando	9.4	+9.4	12.3	+6.7	18.2	-4.0	42.0	+1.3	55.2	+3.2	67.6	+6.1	68.0	+1.2	67.2	+2.3	56.0	-0.2	38.8	-4.9	21.6	-4.9	10.1	+1.5	38.9	+1.5
Carrington	7.9	+1.2	12.0	+3.3	16.8	-6.6	41.8	+2.2	53.4	+0.9	65.6	+2.6	68.6	-0.1	67.8	+1.0	57.0	+0.4	[a]37.8	-6.0	24.4	-3.4	12.0	+0.3	38.8	-0.3
Carson	10.7	+1.7	16.4	+1.0	20.9	-5.4	47.2	+4.5	57.2	+4.1	65.4	+3.0	72.5	+3.7	68.4	+0.5	59.2	+2.8	40.0	-3.2	30.0	0.0	14.8	+0.1	41.9	+1.1
Crosby	7.4	+3.8	13.2	+3.8	18.0	-5.5	42.1	+1.9	54.8	+3.6	65.2	+4.1	68.4	+1.6	66.0	+1.4	55.3	+1.2	35.1	-6.7	22.2	-4.5	19.9	+8.3	39.0	+1.1
Devils Lake	7.4	+5.6	10.5	+5.4	16.2	-3.6	41.8	+3.0	54.6	+2.0	67.6	+5.7	68.5	+1.1	67.6	+2.8	56.3	+0.4	36.7	-5.7	23.6	-0.9	11.0	+1.5	38.5	+1.5
Dickinson	10.4	-0.1	14.7	+1.6	19.0	-6.3	44.5	+2.4	54.4	+2.2	64.6	+2.9	70.0	+1.8	67.6	+1.3	54.6	-1.4	36.7	-6.9	26.0	-2.3	13.4	-3.0	39.7	-0.6
Dogden Butte	10.4	......	14.8	......	19.0	......	45.2	......	55.6	......	66.6	......	69.8	......	68.4	......	57.4	......	36.8	......	24.8	......	13.8	......	40.2	......
Drake	......	......	......	......	......	......	44.4	......	53.8	......	66.4	......	68.6	......	67.4	......	56.4	......	36.8	......	24.9	......	12.4	......	......	......
Dunn Center	10.8	-3.0	15.8	+1.2	20.6	-4.9	[a]45.0	+3.2	54.1	+1.4	65.4	+3.4	68.8	+0.8	66.7	+0.5	54.0	-2.2	37.4	-7.0	26.5	-1.4	15.6	-2.1	40.1	-0.8
Dunseith	7.3	+4.8	10.0	+3.6	15.2	-5.0	41.5	+1.6	55.5	+3.4	66.8	+5.9	68.4	+2.5	66.7	+2.8	56.2	+1.8	35.8	-5.6	20.0	-4.4	8.6	-2.1	37.7	+0.8
Eckman	5.9	+2.8	10.0	+2.4	17.0	-5.9	42.6	+2.0	55.1	+3.7	66.0	+4.4	68.5	+1.7	67.3	+3.1	55.2	0.0	34.4	-7.4	20.8	-5.0	10.1	+0.8	37.7	+0.2
Edgeley	10.2	+1.4	15.8	+3.1	21.4	-5.9	46.2	+3.5	57.0	+3.3	67.1	+4.2	70.3	+1.5	68.4	+1.5	56.4	-1.2	40.6	-4.7	28.0	-1.8	14.9	-0.9	41.3	+0.3
Ellendale	8.0	-2.7	13.7	+3.0	20.3	-5.3	45.2	+1.6	55.8	+0.1	67.0	+1.0	70.6	-0.1	69.0	+0.2	57.2	-1.2	41.4	-4.2	28.0	+1.9	12.4	-4.4	40.7	-0.9
Energy	10.6	......	15.2	......	22.8	......	47.1	......	56.8	......	67.2	......	70.9	......	69.0	......	56.0	......	38.0	......	27.4	......	15.0	......	41.3	......
Epping	7.3	......	14.2	......	19.8	......	43.8	......	56.0	......	64.8	......	68.0	......	66.2	......	[d]57.1	......	37.2	......	25.7	......	9.7	......	39.2	......
Fessenden	7.6	+3.1	11.3	+1.2	17.5	-5.9	42.0	+1.3	54.7	+2.7	67.0	+5.3	69.2	+1.2	68.1	+2.2	56.0	+0.3	37.2	-5.8	24.5	-2.6	12.4	+1.8	39.0	+0.4
Fort Yates	9.0	-0.2	16.4	+4.6	22.8	-3.5	48.8	+3.9	58.0	+1.9	66.4	+0.2	70.8	-0.9	69.4	+0.1	58.8	-1.0	40.8	-5.6	31.3	+1.5	16.6	-1.8	42.4	-0.1
Foxholm (near)	8.0	......	13.0	......	17.4	......	42.5	......	55.6	......	65.6	......	68.0	......	66.3	......	56.0	......	34.8	......	23.4	......	12.4	......	38.6	......
Fullerton	10.6	+1.7	16.3	+4.3	21.2	-5.6	45.6	+2.8	57.4	+3.4	68.0	+4.6	72.2	+3.2	69.4	+2.3	58.2	+1.0	41.6	-3.2	27.8	-1.4	14.0	-0.4	41.9	+1.1
Garrison	11.2	+3.6	15.2	+4.3	20.3	-3.5	46.0	+3.7	56.0	+3.3	67.4	+5.2	71.4	+3.2	68.6	+2.5	56.5	+1.6	37.6	-5.1	25.9	-0.4	14.1	+0.4	40.9	+1.6
Grafton	10.2	+8.0	11.2	+4.5	17.6	-3.6	41.8	+1.2	57.3	+4.0	70.0	+7.2	70.6	+2.9	69.8	+4.6	58.4	+2.1	39.2	-2.9	21.2	-3.5	10.5	+1.6	39.8	+2.2
Grand Forks	9.4	+5.9	10.0	+2.4	17.0	-5.4	41.8	+0.1	56.4	+2.7	69.6	+6.6	70.7	+3.2	69.7	+4.3	58.0	+1.6	40.4	-3.2	23.2	-2.8	10.6	0.0	39.7	+1.3
Granville	8.6	+4.0	12.6	+2.5	18.0	-6.1	43.1	+2.3	55.8	+4.2	67.6	+5.4	69.4	+1.9	67.4	+2.5	56.8	+2.0	36.4	-6.9	24.2	-2.5	13.4	+1.4	39.5	+0.9
Hankinson	13.9	......	19.4	......	21.8	......	45.2	......	59.8	......	70.2	......	72.4	......	71.4	......	59.6	......	42.6	......	27.0	......	14.8	......	43.2	......
Hannah	......	......	......	......	......	......	......	......	......	......	67.4	......	66.6	......	67.2	......	54.4	......	34.8	......	17.4	......	4.2	......	......	......
Hansboro	5.4	+5.5	7.4	+1.6	15.8	-4.8	40.6	+1.7	52.7	+2.0	69.6	+9.2	64.5	-0.7	63.1	+0.7	55.4	+1.9	35.4	-5.3	19.0	-4.5	7.8	-0.2	36.4	+0.6
Hettinger	11.3	-1.7	17.6	+1.1	22.4	-6.2	47.0	+4.2	56.0	+2.4	65.5	+2.6	73.0	+2.9	70.0	+1.2	57.2	-0.4	39.4	-6.2	31.4	-0.2	15.4	-1.4	42.2	-0.1
Hillsboro	11.0	+6.4	11.8	+1.5	18.7	-6.9	42.4	-0.4	57.8	+3.9	69.2	+5.0	72.8	+3.2	69.6	+2.1	57.8	-0.8	40.4	-4.8	22.2	-5.6	10.2	-1.0	40.3	+0.2
Howard (near)	8.4	+4.0	11.8	+2.8	17.2	-4.7	43.6	+4.5	54.5	+4.7	64.2	+4.0	67.4	+1.4	65.7	+0.8	56.6	+2.3	36.0	-5.6	22.0	-4.3	4.1	-7.5	37.6	+0.2
Jamestown	10.2	+3.2	13.6	+4.0	19.1	-4.9	43.4	+1.3	55.3	+1.8	67.8	+4.6	70.4	+1.9	68.0	+1.6	55.9	-0.6	39.9	-4.6	26.7	-0.6	13.6	+0.2	40.3	+0.6
Langdon	5.5	+6.4	2.2	-2.6	13.1	-6.5	38.7	+0.9	53.3	+2.4	67.3	+7.4	65.4	+0.8	65.9	+3.4	55.6	+3.3	34.7	-6.2	18.9	-5.1	5.6	-2.7	35.5	+0.1
Larimore	9.2	+5.6	10.3	+3.0	17.3	-5.0	39.8	-0.6	54.8	+2.2	67.7	+5.3	70.0	+3.0	68.1	+3.1	56.6	+1.3	39.0	-4.9	22.4	-3.4	11.8	+0.8	38.9	+0.9
Linton	7.7	-1.8	13.8	-0.7	20.2	-7.5	47.1	+4.4	57.2	+3.0	66.2	+1.9	71.7	+0.4	70.0	+0.8	57.2	-1.3	39.9	-4.8	28.0	-1.0	11.7	-2.2	40.9	-0.7
Lisbon	11.6	+4.3	15.6	+4.4	18.8	-8.3	44.1	+1.7	55.4	+1.5	68.0	+4.5	71.6	+2.3	69.4	+2.4	56.7	-0.8	41.3	-2.5	26.7	-2.2	12.8	-1.3	41.0	+0.5
McClusky	9.8	......	14.0	......	19.0	......	44.9	......	54.0	......	65.8	......	69.5	......	68.2	......	56.9	......	38.3	......	25.1	......	12.4	......	39.8	......
McLeod	11.9	+3.5	15.2	+1.9	22.0	-5.7	44.9	+0.7	59.0	+4.5	67.3	+2.8	72.4	+2.2	69.0	+1.1	58.2	-0.8	41.8	-4.4	27.5	-2.8	13.1	-1.3	41.9	+0.2
Maddock	8.0	+3.2	11.6	+0.5	17.4	-7.2	43.0	+2.0	55.5	+2.8	66.1	+5.0	68.2	+0.6	68.2	+2.5	56.2	+0.5	38.0	-4.9	23.8	-2.8	12.4	+2.4	39.0	+0.4
Mandan	9.6	+1.3	14.0	+1.1	19.8	-6.9	45.7	+3.0	55.8	+1.9	67.1	+3.8	71.3	+0.7	69.3	+1.2	58.2	+0.8	39.4	-4.6	27.1	-2.1	14.5	+0.8	41.0	+0.1
Marmarth	11.6	-1.2	19.0	+1.3	23.8	-3.9	47.4	+4.4	57.3	+6.1	65.4	+3.4	71.1	+1.7	69.0	+1.7	56.6	+0.1	38.7	-6.8	31.0	-0.4	[a]14.2	-2.6	42.1	+0.3
Max	9.5	......	14.5	......	19.2	......	44.0	......	55.6	......	66.8	......	69.9	......	68.3	......	56.4	......	36.0	......	24.6	......	11.0	......	39.6	......
Mayville	11.4	+5.6	12.6	+3.1	18.2	-6.3	42.6	-0.4	57.2	+5.9	68.9	+4.9	70.8	-0.7	69.2	+2.2	59.0	+1.6	41.2	-4.7	24.0	-4.2	11.3	-1.6	40.5	+0.4
Minot	9.6	+3.4	14.0	+4.3	19.4	-3.4	43.8	+3.0	55.2	+3.0	66.8	+4.5	69.0	+1.1	65.8	+0.8	54.9	-1.0	37.0	-6.3	25.3	-2.2	14.4	+2.5	39.6	+0.8
Mohall	10.2	+5.6	15.8	+8.7	16.2	-4.7	43.3	+2.8	57.2	+4.9	68.0	+6.9	70.4	+4.1	68.4	+4.5	56.1	+2.1	35.0	-6.7	23.4	-1.4	11.0	0.0	39.6	+2.2
Mott	9.0	+0.2	17.2	+3.7	20.8	-6.1	47.1	+5.3	56.6	+3.1	68.4	+4.0	73.2	+2.9	70.0	+2.9	57.3	+0.7	40.2	-3.1	29.4	+0.2	15.9	+2.1	42.1	+1.3
Napoleon	7.0	+0.6	12.9	+4.6	17.9	-4.8	44.8	+3.4	55.2	+2.8	65.9	+3.5	70.4	+1.8	69.4	+3.0	58.0	+1.3	39.6	-4.1	27.4	+0.7	12.4	-0.2	40.1	+1.1
New England	12.4	-1.0	18.8	+4.7	22.3	-2.9	[b]46.4	+4.1	57.2	+5.2	65.8	+3.2	74.1	+5.3	70.0	+3.1	56.1	-0.3	38.6	-4.8	32.0	+2.9	14.0	-2.5	42.3	+1.4
New Salem	12.6	+3.5	15.0	+1.9	19.8	-6.1	45.8	+3.4	56.1	+4.0	66.2	+3.3	70.4	+0.5	69.0	+1.8	59.0	+1.5	39.2	-5.6	28.4	-1.4	15.6	+0.3	41.5	+0.6
Oakes	9.9	......	16.2	......	21.9	......	46.2	......	57.9	......	69.2	......	72.6	......	70.2	......	58.6	......	42.2	......	28.1	......	13.4	......	42.2	......
Park River	8.2	+5.5	10.0	+2.3	17.6	-5.5	40.6	-0.7	56.4	+3.4	68.1	+5.2	68.6	+0.7	67.2	+1.0	56.0	-0.6	37.3	-6.5	22.2	-5.6	10.6	+0.1	38.5	-0.1
Parshall	8.1	......	13.5	......	19.4	......	44.3	......	54.7	......	65.2	......	68.4	......	66.8	......	54.8	......	36.1	......	24.4	......	12.1	......	39.0	......
Pembina	7.0	+9.4	6.3	+3.3	12.9	-5.3	39.0	+0.4	54.0	+1.2	68.5	+5.8	67.8	+0.3	67.2	+2.9	55.6	+1.5	36.4	-5.0	17.4	-5.9	4.6	-1.7	36.4	+0.6
Pettibone	9.2	+6.2	10.7	+1.9	18.5	-5.8	44.3	+3.4	55.2	+3.4	66.1	+4.6	[a]68.6	+0.6	70.2	+1.9	58.2	+3.0	38.1	-3.7	25.0	-1.4	12.0	+1.5	39.7	+1.3
Portal	3.1	+0.6	10.1	+4.7	14.7	-3.0	42.0	+0.6	55.6	+5.1	65.5	+6.3	68.3	+2.1	65.7	+1.5	55.2	+0.8	32.0	-9.4	20.8	-4.6	9.2	-3.0	36.8	+0.1
Powers Lake	9.0	......	9.2	......	10.4	......	42.6	......	55.1	......	63.8	......	71.0	......	63.2	......	54.0	......	38.2	......	26.2	......	14.1	......	38.1	......
Richardton	10.4	+0.2	15.6	+0.4	19.2	-7.9	45.3	+4.2	55.6	+3.0	65.8	+3.2	71.0	+0.9	69.0	+0.9	57.7	+0.9	37.6	-5.8	27.4	-0.9	14.4	+0.4	40.8	0.0
Sanish	8.8	......	14.3	......	19.7	......	45.2	......	56.4	......	66.8	......	[c]69.3	......	68.2	......	55.8	......	36.6	......	24.8	......	12.2	......	39.8	......
Sharon	7.6	......	10.3	......	16.2	......	41.4	......	54.7	......	66.8	......	69.4	......	68.9	......	57.0	......	37.6	......	21.8	......	11.0	......	38.6	......
Steele	6.8	-0.5	12.3	+2.9	18.8	-4.5	45.2	+2.0	55.0	+1.6	67.4	+4.9	71.1	+1.7	69.3	+2.6	56.9	0.0	39.0	-4.8	26.8	+0.5	12.7	+0.4	40.1	+0.6
Towner	8.0	+4.2	12.2	+4.5	19.0	-3.1	44.4	+2.5	56.7	+3.5	68.1	+5.3	70.0	+2.0	68.3	+2.9	57.2	+1.0	35.4	-8.0	22.5	-2.7	11.4	+1.3	39.4	+1.1
Valley City	11.2	+5.7	14.2	+2.7	20.0	-6.0	43.4	+0.8	56.5	+3.0	68.1	+5.0	70.8	+2.1	69.7	+2.9	57.4	-0.8	41.2	-3.4	26.1	-1.9	14.2	+0.5	41.1	+0.9
Velva	9.4	......	13.8	......	19.7	......	45.2	......	56.7	......	68.5	......	70.5	......	68.8	......	57.3	......	37.6	......	25.1	......	14.2	......	40.6	......
Wahpeton	14.2	+5.8	18.2	+6.2	22.2	-5.3	45.9	+1.5	59.6	+4.0	71.1	+6.0	74.5	+4.7	72.9	+5.0	61.4	+2.2	44.4	-2.2	27.7	-1.1	14.3	-1.0	43.9	+2.2
Washburn	12.6	+5.2	17.2	+7.7	21.4	-3.0	46.0	+2.2	55.8	+2.0	67.6	+3.5	71.8	+2.3	69.7	+2.3	58.2	-0.3	38.1	-6.4	26.7	-3.6	13.6	-0.4	41.6	+1.0
Westhope	6.8	+5.5	11.8	+4.8	18.2	-3.8	43.7	+3.8	58.1	+6.3	69.0	+7.0	70.8	+4.0	69.2	+4.5	57.6	+2.7	35.6	-6.5	21.2	-4.4	9.2	-0.8	39.2	+1.9
Williston	10.6	+4.2	15.0	+6.7	20.2	-2.7	46.2	+4.2	57.0	+3.0	67.0	+4.3	71.4	+2.5	68.8	+2.7	57.3	+0.7	38.6	-4.8	26.6	-0.6	14.8	+1.0	41.1	+1.8
Willow City	5.3	+4.4	8.6	+3.7	16.0	-3.7	42.4	+2.8	54.2	+2.7	67.0	+6.0	67.6	+1.9	67.3	+3.7	55.4	+1.2	35.0	-6.4	21.4	-1.2	7.2	-1.5	37.3	+1.1
Wishek	8.3	+1.3	13.0	+4.0	18.8	-7.5	[d]44.6	+2.7	[d]54.2	+3.5	[d]66.0	+3.7	68.8	+0.2	67.4	+1.6	55.6	0.0	38.4	-5.5	26.0	-3.8	13.6	+0.6	39.6	+0.1
Moorhead, Minn.	11.4	+7.6	13.2	+5.1	17.8	-4.9	43.6	+3.0	57.0	+1.9	68.9	+4.5	72.1	+4.0	70.7	+4.6	58.8	+0.6	41.2	-3.3	25.3	-1.8	11.5	0.0	41.0	+1.8

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49]

completion. Corn shocking and silo filling were also well advanced.

OCTOBER.—The month opened with temperature considerably above the normal, and but little precipitation occurred during the first two decades, which continued to interfere with fall plowing and the seeding of winter rye. A general storm covered the state from the 17th to the 20th, inclusive, with high winds, light to heavy snow and subnormal temperature. Great damage to telephone, telegraph and power lines was occasioned by one of the most severe sleet storms in recent years. Corn husking made good progress during the first two decades.

NOVEMBER.—Rather disagreeable weather prevailed during the first two decades, the temperature averaging below the normal, accompanied by occasional high winds and snow. As a result, much yard feeding of livestock was required, and auto travel was greatly impeded. The last decade was fair with mild temperature, which resulted in a rapid diminution in snow covering, and allowed livestock to range freely on pastures and harvested fields.

DECEMBER.—Mild temperature prevailed during the first six days, being followed by decidedly colder until the 17th when milder weather again prevailed and continued to the close of the month. The precipitation was deficient, being confined to light snows, mostly during the 3d-6th and 10th-13th. Some of these snows were accompanied by high winds which blocked roads and necessitated considerable yard feeding of livestock.

Killing Frosts

STATIONS	Last in Spring		First in Autumn		STATIONS	Last in Spring		First in Autumn	
Amenia	May	16	Oct.	5	Langdon	May	27	Sept.	17
Arnegard	..	28	Sept.	22	Larimore	..	28	Oct.	[illegible]
Ashley	..	28	..	20	Linton	..	28	Sept.	13
Beach	..	27	..	22	Lisbon	..	2	..	22
Berthold Agency	..	28	..	13	McClusky	..	27	..	22
Bismarck	Apr.	27	..	22	McLeod	..	17	..	30
Bottineau	May	27	..	13	Maddock	..	27	..	17
Bowman	..	27	..	16	Mandan	Apr.	27	..	22
Cando	..	26	..	17	Marmarth	May	27	..	12
Carrington	..	26	..	19	Max	..	28	..	13
Carson	..	27	..	28	Mayville	..	27	..	23
Crosby	..	28	..	22	Minot	..	28	..	13
Devils Lake	..	1	Oct.	5	Mohall	..	27	..	21
Dickinson	..	28	Sept.	16	Mott	..	28	..	21
Dogden Butte	..	26	Oct.	8	Napoleon	..	27	..	20
Drake	..	27	..	1	New England	..	26	..	15
Dunn Center	..	28	Sept.	12	New Salem	..	1	Oct.	5
Dunseith	..	26	..	27	Oakes	..	16	Sept.	20
Eckman	..	28	..	13	Park River	..	16	..	17
Edgeley	..	1	..	22	Pembina	..	16	Oct.	5
Ellendale	Apr.	27	Oct.	5	Pettibone	..	27	Sept.	13
Energy	May	28	Sept.	13	Portal	..	15	..	16
Epping	..	28	..	20	Powers Lake	..	27	..	13
Fessenden	..	28	..	22	Richardton	..	27	..	27
Fort Yates	..	28	..	22	Sanish	..	28	..	12
Foxholm	..	26	..	23	Sharon	..	16	..	27
Fryburg	..	27	Oct.	8	Steele	..	28	..	20
Fullerton	..	27	..	5	Towner	..	3	..	17
Garrison	..	26	Sept.	21	Valley City	..	27	..	22
Grafton	..	16	Oct.	1	Velva	..	26	Oct.	5
Grand Forks	..	16	..	5	Wahpeton	..	1	..	5
Granville	..	28	Sept.	17	Washburn	..	1	Sept.	22
Hankinson	Apr.	30	..	21	Westhope	..	26	..	17
Hansboro	May	28	..	17	Williston	..	16	..	28
Hettinger	..	27	..	16	Willow City	..	26	..	13
Hillsboro	..	16	Oct.	5	Wishek	..	28	..	20
Howard	..	16	Sept.	22	Moorhead, Minn.	..	1	Oct.	5
Jamestown	..	27	..	22	....	....		....	

Comparative Annual State Data

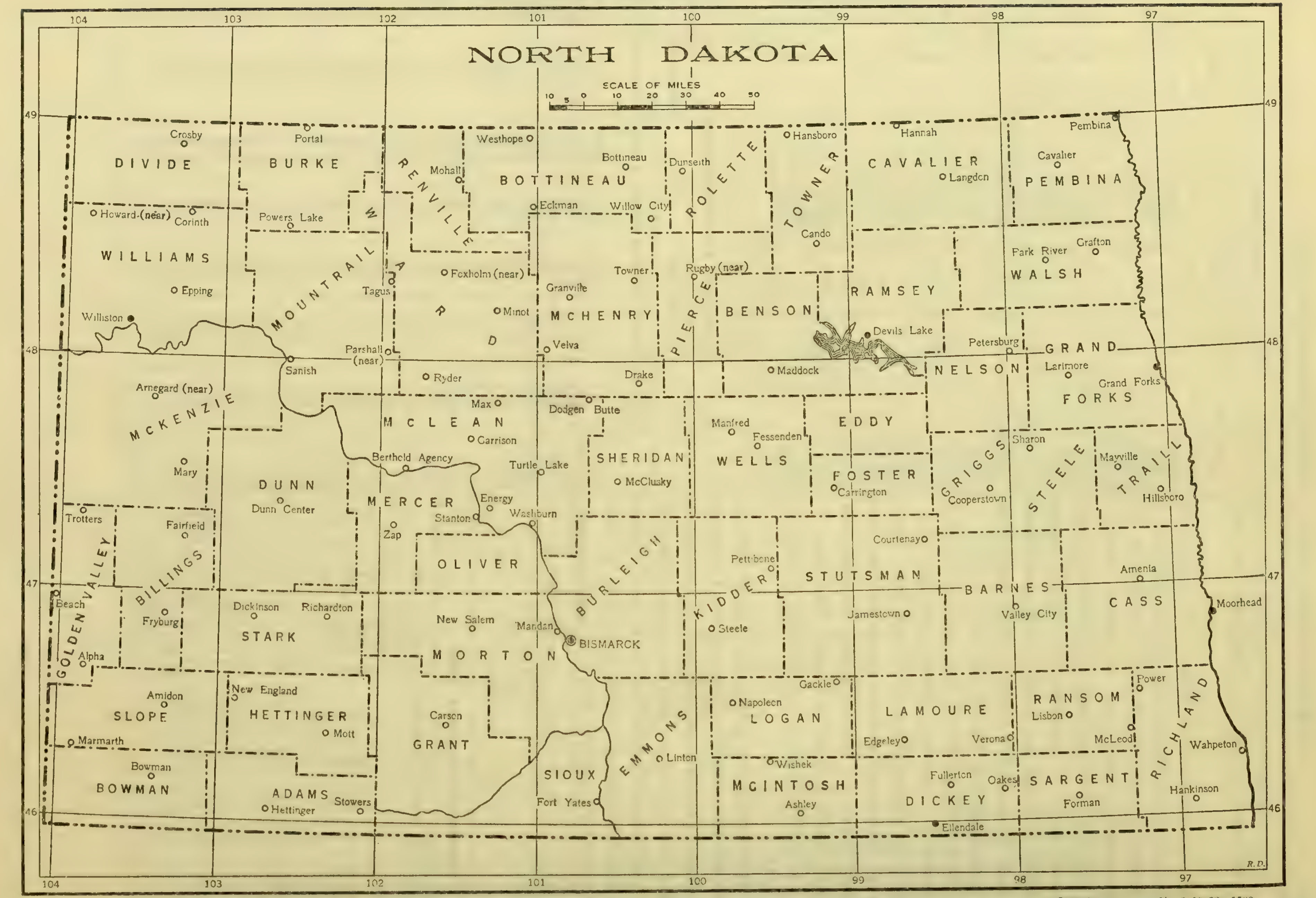
Year	Temperature				Precipitation		
	Mean	Departure	Highest	Lowest	Average	Departure	Average snowfall
1892	37.8	−1.5	108	−52	18.34	+1.16	35.0
1893	35.8	−3.5	112	−54	15.91	−1.27	46.1
1894	40.3	+1.0	107	−47	15.64	−1.54	24.6
1895	37.7	−1.6	104	−50	17.30	+0.12	20.9
1896	37.3	−2.0	107	−42	23.57	+6.39	48.0
1897	37.8	−1.5	109	−48	15.88	−1.30	33.9
1898	39.2	−0.1	106	−38	16.15	−1.03	22.7
1899	36.9	−2.4	109	−48	17.67	+0.49	26.6
1900	40.9	+1.6	114	−48	19.06	+1.88	23.2
1901	40.4	+1.1	110	−43	19.48	+2.30	20.2
1902	39.4	+0.1	106	−39	19.34	+2.16	29.9
1903	38.3	−1.0	108	−49	19.25	+2.07	28.8
1904	37.6	−1.7	103	−52	19.02	+1.84	38.1
1905	39.3	0.0	107	−46	19.96	+2.78	29.6
1906	39.4	+0.1	109	−40	19.72	+2.54	35.4
1907	36.9	−2.4	104	−49	14.41	−2.77	28.6
1908	40.7	+1.4	104	−41	18.64	+1.46	43.7
1909	38.2	−1.1	109	−48	17.73	+0.55	33.5
1910	41.1	+1.8	114	−50	12.19	−4.99	21.0
1911	38.0	−1.3	108	−43	19.40	+2.22	36.5
1912	38.2	−1.1	124	−52	20.35	+3.17	19.3
1913	40.0	+0.7	106	−54	14.69	−2.49	19.4
1914	40.1	+0.8	109	−47	19.16	+1.98	30.0
1915	39.7	+0.4	104	−48	19.42	+2.24	21.2
1916	36.2	−3.1	105	−56	20.50	+3.32	54.2
1917	36.3	−3.0	114	−48	10.92	−6.26	40.5
1918	40.0	+0.7	102	−44	16.02	−1.16	29.7
1919	38.6	−0.7	108	−44	15.76	−1.42	47.2
1920	39.5	+0.2	108	−44	15.34	−1.84	27.9
1921	42.0	+2.7	110	−33	19.59	+2.41	29.4
1922	39.7	+0.4	115	−46	19.75	+2.57	42.8
1923	40.7	+1.4	103	−40	17.76	+0.58	30.1
1924	38.2	−1.1	105	−46	17.55	+0.37	26.1
1925	40.6	+1.3	111	−39	16.81	−0.37	19.7
1926	40.7	+1.4	108	−36	15.70	−1.48	23.7
1927	38.0	−1.3	101	−44	21.52	+4.34	36.2
1928	41.1	+1.8	107	−41	18.40	+1.22	17.3
1929	38.0	−1.3	109	−44	14.32	−2.86	41.8
1930	41.4	+2.1	107	−43	14.90	−2.28	25.0
1931	44.9	+5.6	111	−31	14.99	−2.19	18.0
1333	40.0	+0.7	108	−34	17.11	−0.07	34.9
Annual	39.3	....	124*	−56*	17.18	....	30.2

*Extremes.

Climatological Summary, 1932

Month	Temperature in degrees Fahrenheit				Precipitation, in inches				Sky			Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Number of rainy days	Clear	Pt. cloudy	Cloudy	
January	9.5	+3.3	50	−34	0.55	+0.08	6.3	4	12	7	12	nw.
February	13.6	+3.4	69	−31	0.35	−0.14	4.3	3	12	9	8	nw.
March	18.9	−5.2	64	−30	0.63	−0.07	6.0	6	10	11	10	nw.
April	44.1	+2.5	79	0	2.16	+0.77	0.7	8	9	9	12	se.
May	55.9	+3.1	98	25	2.14	−0.26	2.2	6	13	9	9	se.
June	67.0	+4.5	98	34	3.83	+0.38	0	10	14	10	6	se.
July	70.0	+1.6	108	36	2.01	−0.41	0	7	19	8	4	nw.
August	68.3	+2.1	100	28	1.82	−0.22	0	7	16	10	5	se.
September	56.8	+0.4	102	22	0.64	−1.01	0	3	18	8	4	nw.
October	38.3	−5.2	90	− 3	2.31	+1.27	9.1	8	9	7	15	nw.
November	25.2	−2.2	70	−17	0.49	−0.12	4.6	4	10	10	10	nw.
December	12.4	−0.2	60	−31	0.18	−0.34	1.7	3	14	10	7	nw.
Annual	40.0	+0.7	108	−34	17.11	−0.07	34.9	69	156	108	102	nw.

CHART SHOWING METEOROLOGICAL OBSERVATION.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations).

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XLII BISMARCK, N. D., JANUARY, 1933 No. 1

GENERAL SUMMARY

The weather of the month was generally mild and pleasant, outdoor work made excellent progress, especially the harvesting of ice which was wholly completed, and livestock ranged freely on pastures and harvested fields, saving much feed. While the average precipitation was considerably above the normal, the heaviest occurred during the second decade, and, being accompanied by occasional high winds, effectively blocked highways at times.

TEMPERATURE

The mean temperature for the state was 11.8°, or 5.6° above the normal, and 2.3° higher than the mean for January, 1932. The highest mean reported was 22.8° at New England, Hettinger County; the lowest was 3.8° at Hannah, Cavalier County. The highest temperature reported was 53° at New England, Hettinger County on the 24th; the lowest was -30° at Mott, Hettinger County on the 16th. The greatest monthly range of temperature was 80° at Mott, Hettinger County; the least was 47° at Hillsboro, Traill County. The greatest daily range of temperature was 56° at Wishek, McIntosh County on the 15th.

PRECIPITATION

The average precipitation for the state was 0.80 inch, or 0.33 inch above the normal, and 0.25 inch more than the average for January, 1932. The greatest monthly amount reported was 1.79 inches at Hillsboro, Traill County; the least was 0.11 inch at Wishek, McIntosh County. The greatest amount recorded in any 24 consecutive hours was 1.00 inch at Marmarth, Slope County on the 16th. The average number of days with 0.01 inch or more of precipitation was 7. The average snowfall was 10.0 inches.

AURORAS

Auroras were observed at Eckman and Rugby on the 1st; at Pembina on the 2d; at Eckman and Towner on the 17th; at Eckman, Foxholm, Hannah and Rugby on the 19th; at Crosby, Eckman, Pembina and Towner on the 20th; at Eckman, Ellendale, Foxholm, Oakes, Parshall and Rugby on the 21st; at Eckman, Ellendale, Foxholm and Rugby on the 22d; at Crosby, Eckman, Ellendale, Foxholm, Napoleon, Parshall, Pembina, Rugby, Willow City and Moorhead on the 23d; at Crosby and Williston on the 24th; at Pembina on the 25th; at Foxholm on the 26th; and at Eckman and Dogden Butte on the 30th.

MISCELLANEOUS PHENOMENA

FOG: Ellendale, Linton, New Salem, 4th; Devils Lake, Pembina, 9th; Hansboro, 10th; Grafton, 11th; Pembina, 14th; Ellendale, 15th; Power, 18th; Moorhead, 21st; Rugby, 22d; Ellendale, 23d; Devils Lake, Linton, New Salem, Steele, 27th; Garrison, 29th; Arnegard, Corinth, Epping, Garrison, Linton, New Salem, Williston, 30th; Bismarck, Garrison, Granville, New Salem, Parshall, Rugby, Steele, Washburn, Westhope, 31st.

HALOS, lunar: Williston, 1st; Bismarck, Grand Forks, Oakes, Moorhead, 2d; Grand Forks, 4th; Williston, 8th; Oakes, 9th; Bismarck, Williston, 10th; Edmore 11th; Ellendale, Grand Forks, 12th; Bismarck, 20th; Bismarck, Ellendale, Oakes, Moorhead, 31st.

HALOS, solar: Oakes, 3d; Grand Forks, Moorhead, 7th; Devils Lake, 8th; Moorhead, 9th; Oakes, 10th; Grand Forks, Edmore, Williston, Moorhead, 11th; Moorhead, 14th; Grand Forks, 17th; Grand Forks, Moorhead, 19th; Ellendale, Dogden Butte, 23d; Ellendale, Foxholm, Moorhead, 25th; Foxholm, Moorhead, 27th; Marmarth, Williston, 28th; Rugby, 30th; Ellendale, Oakes, 31st.

SLEET: Dunseith, Linton, 6th; Epping, 10th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a m.	12 noon	7 p. m.	
Bismarck	29.86	30.38	13	29.37	18	7.9	34	nw.	6	84	77	79	41
Devils Lake	29.87	30.37	13	29.15	10	10.0	32	se.	28	92	81	91	51
Ellendale	29.85	30.28	11	29.31	18	12.7	42	nw.	10	90	74	....	65
Grand Forks	29.85	30.33	13	29.13	10	......	47	nw.	11	82	....	84	....
Williston	29.84	30.45	16	29.22	9	7.3	38	w.	9	82	73	76	43
Moorhead, Minn	29.88	30.36	13	29.18	10	9.3	30	n.	10	93	84	90	48
Averages & ext's	29.86	30.45	16	29.13	10	9.4	47	nw.	11	87	78	84	50

† And other dates.

COMPARATIVE DATA FOR JANUARY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	3.3	−2.9	58	−52	0.32	−0.15	1.40	0.04	2.8	4	15	8	8
1893.	0.8	−5.4	52	−48	0.98	+0.51	2.54	0.15	8.4	7	11	11	9
1894.	0.6	−5.6	60	−47	0.39	−0.08	1.30	0.06	3.6	4	13	9	9
1895.	−2.9	−9.1	42	−46	0.56	+0.09	1.20	0.20	5.5	5	16	8	7
1896.	5.3	−0.9	58	−42	0.70	+0.23	2.02	T.	6.6	6	9	9	13
1897.	3.6	−2.6	49	−38	0.79	+0.32	2.04	T.	7.5	5	11	9	11
1898.	14.6	+8.4	69	−32	0.11	−0.36	0.65	0.00	1.1	2	15	8	8
1899.	5.2	−1.0	55	−41	0.25	−0.22	0.78	T.	2.4	3	13	9	9
1900.	15.4	+9.2	70	−30	0.22	−0.25	0.90	T.	2.0	3	15	9	7
1901.	7.7	+1.5	68	−39	0.28	−0.19	1.64	T.	3.0	4	14	8	9
1902.	12.7	+6.5	51	−40	0.14	−0.33	0.80	0.00	1.4	2	17	7	7
1903.	9.4	+3.2	56	−37	0.66	+0.19	1.64	T.	6.7	5	13	8	10
1904	3.6	−2.6	50	−52	0.37	−0.10	1.10	T.	4.0	5	15	6	10
1905	0.9	−5.3	48	−40	0.30	−0.17	1.10	0.00	2.9	3	15	8	8
1906.	12.2	+6.0	60	−38	0.69	+0.22	1.62	0.09	6.9	4	14	6	11
1907.	−6.2	−12.4	45	−45	1.40	+0.93	3.94	0.30	14.5	8	12	8	11
1908	17.0	+10.8	70	−41	0.18	−0.29	1.25	0.00	1.9	2	17	8	6
1909	3.5	−2.7	53	−48	0.42	−0.05	1.45	0.00	4.3	4	14	8	9
1910.	9.4	+3.2	49	−35	0.33	−0.14	1.80	0.00	4.1	3	16	8	7
1911.	−1.0	−7.2	56	−43	0.91	+0.44	3.65	0.05	8.5	6	11	8	12
1912.	−4.6	−10.8	63	−52	0.35	−0.12	1.04	0.03	3.6	4	16	6	9
1913.	3.2	−3.0	60	−54	0.45	−0.02	1.97	T.	4.6	5	12	9	10
1914.	14.8	+8.6	62	−38	0.50	+0.03	1.80	0.00	4.9	4	12	8	11
1915.	5.8	−0.4	51	−48	0.29	−0.18	1.25	0.00	3.4	3	12	9	10
1916.	−6.4	−12.6	49	−56	1.38	+0.91	3.50	0.20	15.1	6	13	8	10
1917.	1.7	−4.5	47	−46	0.73	+0.26	2.80	0.05	8.6	5	13	8	10
1918.	0.5	−5.7	48	−44	0.45	−0.02	1.38	T.	5.0	5	12	8	11
1919.	18.7	+12.5	66	−44	0.17	−0.30	0.66	0.00	1.7	2	17	8	6
1920	2.7	−3.5	49	−44	0.93	+0.46	2.97	0.00	10.0	5	10	9	12
1921	15.9	+9.7	58	−31	0.24	−0.23	1.21	T.	2.5	2	13	9	[illegible]
1922.	7.0	+0.8	55	−46	0.49	+0.02	1.60	0.10	5.2	5	12	9	10
1923.	10.1	+3.9	56	−35	0.53	+0.06	1.36	0.00	6.0	5	9	9	13
1924.	2.6	−3.6	61	−42	0.23	−0.24	0.96	0.00	2.5	3	14	9	8
1925.	8.6	+2.4	52	−35	0.22	−0.25	1.17	0.00	2.5	3	11	10	10
1926.	16.3	+10.1	55	−30	0.38	−0.09	1.10	0.00	4.1	4	13	8	10
1927.	10.1	+3.9	60	−44	0.41	−0.06	1.24	0.00	4.3	4	14	8	9
1928.	13.0	+6.8	50	−41	0.21	−0.26	1.04	0.00	2.3	3	14	9	8
1929.	−4.8	−11.0	42	−42	0.63	+0.16	1.82	T.	9.2	6	13	8	10
1930.	−1.9	−8.1	41	−43	0.29	−0.18	1.41	0.00	2.7	4	12	9	10
1931.	21.4	+15.2	68	−31	0.15	−0.32	0.91	0.00	1.4	2	15	8	8
1932.	9.5	+3.3	50	−34	0.55	+0.08	1.60	T.	6.3	4	12	7	12
1933.	11.8	+5.6	53	−30	0.80	+0.33	1.79	0.11	10.0	7	12	7	12
Per..	6.2	....	70	−56	0.47	....	3.94	0.00	5.0	4	13	8	10

Climatological Data for January, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	7	......	......	......	......	......	......	......	0.54	......	0.27	6.0	5	......	......	......	......	H. A. Bury.
Amenia	Cass	954	37	9.8	+4.9	41	6	-16	17	53	0.51	+0.03	0.22	6.0	4	9	12	10	nw.	I. Idso.
Arnegard (near)	McKenzie	......	20	16.5	+7.5	49	10	-20	17†	47	0.57	+0.02	0.30	5.8	6	16	4	11	sw.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	16.2	+7.6	47	10	22	17	43	0.46	-0.05	0.15	6.0	6	12	9	10	nw.	H. D. Piper.
Beach	Golden Valley	2,759	27	18.3	+7.2	45	9	-20	17	40	1.23	+0.72	0.48	15.0	7	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	12.8	+4.2	52	9	-23	27	42	0.82	+0.48	0.36	14.5	5	15	0	16	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	14.2	+6.4	52	9	-20	17	44	0.83	+0.38	0.40	12.5	8	9	8	14	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	7.1	+6.5	34	10	-19	17	36	0.33	-0.07	0.08	5.0	10	9	17	5	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	17.4	+4.4	46	9	-24	17	34	1.14	+0.69	0.37	16.0	8	21	7	3	nw.	George Larsen.
Cando	Towner	1,488	32	6.6	+6.6	37	14	-16	12	43	1.43	+1.01	0.47	17.9	5	13	9	9	sw.	A. J. Swanson.
Carrington	Foster	1,579	35	10.8	+4.1	41	8	-11	17†	34	0.88	+0.56	0.32	11.0	6	16	3	12	nw.	L. A. Swanson.
Carson	Grant	2,500	21	18.7	+9.7	50	9†	-25	17	40	0.62	+0.27	0.40	7.0	5	12	10	9	nw.	J. W. Evens.
Cavalier	Pembina	894	23	......	......	......	......	......	......	......	1.08	+0.34	0.40	13.0	9	16	4	11	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	......	......	......	......	......	......	......	0.82	+0.40	0.28	10.0	6	......	......	......	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	......	......	......	......	......	......	......	0.81	......	0.24	10.0	8	11	11	9	nw.	W. A. Clem.
Courtenay	Stutsman	1,523	4	......	......	......	......	......	......	......	1.60	......	0.60	16.0	7	11	13	7	nw.	Geo. E. Berg.
Crosby	Divide	1,954	26	9.3	+5.7	42	9†	-18	16†	46	0.55	+0.12	0.12	6.6	9	8	14	9	nw.	John Jensen.
Devils Lake	Ramsey	1,478	36	9.5	+7.7	39	10	-13	31	44	0.88	+0.41	0.32	9.8	10	9	3	19	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	14.2	+3.7	48	9	-28	17	42	0.83	+0.39	0.34	8.3	13	13	9	9	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	13.2	......	41	10	-15	17	38	0.62	......	0.45	12.0	4	11	7	13	sw.	R. L. Williams.
Drake	McHenry	1,634	4	9.9	......	44	9	-15	17†	43	0.61	......	0.38	10.2	5	11	9	11	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	14.4	+0.6	46	9	-22	17†	40	0.85	+0.42	0.50	14.0	5	15	3	13	sw.	W. F. Meede.
Dunseith	Rolette	1,682	37	6.8	+4.3	35	14†	-19	17	43	0.48	+0.08	0.16	5.9	6	9	11	11	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	28	5.2	+2.1	40	10	-21	13	40	0.40	-0.04	0.15	5.0	8	7	8	16	nw.	C. E. Streck.
Edgeley	LaMoure	1,568	32	15.2	+6.4	43	6	-17	17	39	0.42	+0.09	0.20	6.0	4	6	16	9	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	6.6	......	36	14	-15	23	41	0.70	......	0.35	7.6	9	12	6	13	w.	E. D. Warner.
Ellendale	Dickey	1,457	38	15.2	+4.5	46	9	-23	17	41	0.26	-0.22	0.10	4.7	6	8	10	13	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	21	13.4	......	48	9†	-23	17	44	1.15	+0.89	0.35	13.0	8	10	14	7	se.	H. S. Solenberger.
Epping	Williams	2,224	25	11.6	......	45	9	-18	16	33	1.00	+0.54	0.20	11.0	6	15	5	11	se.	A. O. Wang.
Fairfield	Billings	......	4	......	......	......	......	......	......	......	1.04	......	0.40	13.0	7	15	4	12	sw.	F. R. Hecker.
Fessenden	Wells	1,610	21	10.2	+5.7	41	9	-15	17†	42	0.92	+0.44	0.32	10.5	7	8	12	11	sw.	T. D. Monsen.
Forman	Sargent	1,249	40	......	......	......	......	......	......	......	0.25	-0.29	0.15	5.0	5	16	5	10	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	33	17.5	+8.3	50	9†	-26	17	41	0.32	-0.20	0.16	4.0	3	14	6	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	9.6	......	42	9†	-19	17	45	0.86	+0.53	0.32	9.0	7	8	8	15	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	......	......	......	......	......	......	......	1.48	+1.03	0.50	15.5	5	16	10	5	sw.	Verne King.
Fullerton	Dickey	1,439	35	16.4	+7.5	44	9†	-18	17	38	1.05	+0.25	0.40	10.5	9	12	6	13	nw.	F. O. Alin.
Gackle	Logan	1,951	3	......	......	......	......	......	......	......	0.61	......	0.20	10.1	7	4	8	19	nw.	Geo. Hummel.
Garrison	McLean	1,901	56	12.7	+5.1	48	9	-18	17	38	1.44	+1.02	0.64	18.0	7	9	12	10	sw.	W. F. Robinson.
Grafton	Walsh	827	41	8.6	+6.4	39	14	-15	13	43	0.64	+0.07	0.30	9.2	4	17	5	9	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	42	9.4	+5.9	40	10	-14	13	43	1.06	+0.52	0.30	11.6	10	7	14	10	se.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	10.2	+5.6	43	9†	-19	23	46	0.88	+0.48	0.24	11.0	6	7	7	17	nw.	W. A. Christianson.
Hankinson	Richland	1,068	4	14.4	......	50	6	-12	16	42	0.75	......	0.42	6.0	4	13	3	15	nw.	R. G. Stock.
Hannah	Cavalier	1,568	41	3.8	......	33	15	-17	13†	39	0.65	-0.03	0.30	6.5	8	5	16	10	sw.	James Muir.
Hansboro	Towner	1,597	25	6.0	+6.1	35	14	-18	16†	40	1.15	+0.46	0.40	17.0	6	18	10	3	sw.	C. E. Blackerby.
Hettinger	Adams	2,675	26	18.8	+5.8	51	9	-27	17	40	0.51	+0.18	0.33	6.0	2	17	8	6	nw.	C. H. Plath.
Hillsboro	Traill	901	27	9.0	+4.4	35	14†	-12	31	45	1.79	+1.21	0.55	20.0	6	15	6	10	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	12.5	+8.1	......	......	......	......	......	0.26	-0.35	......	......	......	......	......	......	......	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	11.8	+4.8	44	8†	-21	17	44	1.02	+0.44	0.36	12.8	6	12	9	10	nw.	S. Calvelage.
Kenmare	Ward	1,799	2	......	......	......	......	......	......	......	0.27	......	0.10	4.0	8	8	15	8	sw.	R. Costello.
Langdon	Cavalier	1,615	37	4.2	+5.1	34	14	-20	17	39	1.60	+1.03	0.48	20.0	7	14	11	6	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	9.9	+6.3	39	10	-11	13†	42	0.91	+0.26	0.30	10.7	8	12	2	17	nw.	Mabel Walsh.
Linton	Emmons	1,711	16	14.4	+4.9	50	9	-29	17	42	0.25	-0.18	0.09	5.0	6	10	10	11	se.	Rev. E. J Oberding.
Lisbon	Ransom	1,091	29	12.0	+4.7	43	6	-17	17	41	1.04	+0.44	0.16	13.0	12	4	5	22	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	11.8	......	44	9	-19	17	40	1.15	+0.70	0.25	11.5	7	12	8	11	nw.	Edw. Tapley.
McLeod	Ransom	1,075	22	11.8	+3.4	43	6	-17	17	44	1.04	+0.44	0.16	12.9	12	4	6	21	nw.	J. G. Carlson.
Maddock	Benson	1,604	18	9.1	+4.3	39	9†	16	23	40	0.56	+0.29	0.23	6.2	5	5	11	15	sw.	A. T. Felland.
Mandan	Morton	1,750	19	13.6	+5.3	51	9	-22	17	42	1.23	+0.95	0.67	15.2	9	9	4	18	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	......	......	......	......	......	......	......	1.01	+0.45	0.30	15.2	12	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	24	16.0	+3.2	45	6†	-28	17	43	1.64	+1.27	1.00	20.0	5	15	5	11	......	S. P. Grane.
Mary	McKenzie	......	4	......	......	......	......	......	......	......	0.62	......	0.31	9.5	6	17	7	7	sw.	Fred Hartman.
Max	McLean	2,093	4	9.5	......	45	9	-20	17†	47	1.66	......	0.40	13.2	7	10	7	14	......	A. W. Rice.
Mayville	Traill	975	37	10.8	+5.0	41	10	-17	13	50	0.93	+0.51	0.29	10.0	9	11	5	15	nw.	H. B. Addicott.
Minot	Ward	1,557	37	12.2	+6.0	46	9	17	31	38	0.46	+0.08	0.10	8.7	9	12	5	14	w.	Julia B. Rue.
Mohall	Renville	1,646	39	7.7	+3.1	44	9	-20	12†	44	0.45	+0.12	0.25	5.0	3	10	10	11	w.	G. V. Davidson.
Mott	Hettinger	2,424	26	13.8	+5.0	50	9	-30	16	38	0.66	-0.18	0.38	9.0	4	13	5	13	nw.	O. H. Opland.
Napoleon	Logan	1,955	41	14.6	+8.2	46	9	-20	17	38	0.66	+0.23	0.20	7.0	7	12	7	12	w.	C. J. Hoof.
New England	Hettinger	2,400	39	22.8	+9.4	53	24	-16	30	28	1.26	+0.76	......	15.0	6	18	7	6	nw.	F. S. Sleight.
New Salem	Morton	2,163	29	16.1	+7.0	49	9	-22	17	38	1.18	+0.68	0.30	12.0	8	13	6	12	sw.	J. Christiansen.
Oakes	Dickey	1,318	4	15.0	......	45	6	-17	17	38	0.31	......	0.15	5.7	6	12	9	10	sw.	Eugene Naylor.
Park River	Walsh	998	29	8.4	+5.7	42	6	-15	13	52	0.62	+0.24	0.20	8.0	3	15	6	10	nw.	C. B. Wright.
Parshall	Mountrail	......	18	10.8	......	46	9	-20	27	43	0.48	+0.29	0.15	7.0	8	6	15	10	se.	C. E. Shubert.
Pembina	Pembina	789	59	4.4	+6.8	33	14	-21	14	54	0.87	+0.25	0.48	10.7	8	7	6	18	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	......	......	......	......	......	......	......	0.59	......	0.29	6.0	6	12	7	12	sw.	T. M. Rykken.
Pettibone	Kidder	1,856	24	10.9	+7.9	43	9	-19	17	39	0.58	+0.17	0.25	6.0	4	13	5	13	nw.	H. H. McCumber.
Portal	Burke	1,954	28	7.6	+5.1	43	9	-18	30†	44	0.13	-0.35	0.08	2.5	2	11	3	17	w.	R. G. Wegener.
Power‡‡	Richland	1,020	39	......	......	......	......	......	......	......	1.60	+0.97	0.32	20.0	12	13	5	13	nw.	Frank B. Power.
Powers Lake	Burke	2,205	28	16.0	......	40	14	-21	15	49	0.62	+0.01	0.21	9.5	4	14	7	10	w.	Geo. B. Gee.
Richardton	Stark	2,467	17	15.6	+5.4	48	9	-25	17	42	0.70	+0.28	0.70	7.0	1	12	10	9	sw.	John Muggli.
Rugby (near)	Pierce	1,562	4	......	......	......	......	......	......	......	0.39	......	0.11	5.5	9	7	7	17	nw.	E. C. Erickson.
Ryder	Ward	2,108	4	......	......	......	......	......	......	......	0.42	......	0.16	5.0	7	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	10.8	......	50	10	-22	17	44	1.04	......	0.48	13.0	6	6	2	23	se.	Geo. Buerkle.
Sharon	Steele	1,516	9	9.3	......	39	6	-13	13	39	0.92	......	0.36	9.2	11	8	7	16	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	......	......	......	......	......	......	......	0.35	......	0.24	11.2	3	10	7	14	nw.	J. H. Giffey.
Steele	Kidder	1,857	39	12.2	+4.9	44	9	-24	17	40	0.61	+0.15	0.20	9.4	9	11	7	13	sw.	V. A. Laney.
Stowers‡‡	Adams	2,325	18	......	......	......	......	......	......	......	0.36	0.00	0.36	4.0	1	18	3	10	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	......	......	......	......	......	......	......	0.27	......	0.08	3.0	5	10	11	10	sw.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	......	......	......	......	......	0.61	......	0.20	6.0	5	11	3	17	nw.	Anton Carlson.
Towner	McHenry	1,482	31	8.6	+4.8	40	9†	-17	17	39	0.77	+0.33	0.45	14.2	6	15	4	12	nw.	Karl Weber.
Trotters	Golden Valley	......	7	......	......	......	......	......	......	......	0.95	......	0.53	10.0	5	17	2	12	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	......	......	......	......	......	......	......	0.62	+0.24	0.22	8.0	7	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	27	12.4	+6.9	40	6†	-13	17	40	0.95	+0.40	0.28	14.0	11	14	3	14	w.	I. C. Robertson.
Velva	McHenry	1,511	6	11.8	......	47	9	-18	23	43	0.83	......	0.46	12.5	7	7	10	14	w.	Oscar Anderson.
Wahpeton	Richland	962	41	16.4	+8.0	45	6	-14	17	46	1.46	+1.02	0.40	14.0	11	15	0	16	se.	C. G. Luick.
Washburn	McLean	1,731	32	12.4	+5.0	50	9	-17	17†	37	1.02	+0.68	0.45	12.0	9	9	7	15	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	6.2	+4.9	40	10	-23	13	47	0.47	+0.07	0.15	5.0	6	11	13	7	nw.	C. M. Condit.
Williston	Williams	1,878	54	14.8	+8.4	49	9	-15	31	43	0.49	-0.05	0.26	5.1	8	9	8	14	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	5.0	+4.1	39	10	-26	23	45	1.10	+0.56	0.40	11.0	5	12	13	6	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	4	15.2	+8.2	43	10	-20	18	56	0.11	-0.42	0.10	1.1	2	14	2	15	nw.	Gottlieb Herr.
Zap	Mercer	1,838	18	......	......	......	......	......	......	......	0.42	+0.08	0.15	5.0	4	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	52	11.9	+8.1	41	10	-10	20	45	1.37	+0.70	0.30	20.8	14	8	8	15	s.	U. S. Weather Bureau.
Averages	......	......	......	11.8	+5.6	53	24	30	16	56	0.80	+0.33	1.00	10.0	7	12	7	12	nw.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for January, 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			T	.01		.01								T	.13	.12	.27															0.54
Amenia	Red			T	T			T		T	T		T	T		T	[illegible]		[illegible]								.01			[illegible]			[illegible]
Arnegard (near)	Missouri			.02	T		T	.05			T	T.				T	.10		[illegible]	[illegible]							T						0.57
Ashley	Missouri						.12						.10	[illegible]			[illegible]	.10															0.46
Beach	Lit. Missouri				.12		.01				T		T	.03		.28	[illegible]		[illegible]														[illegible]
Berthold Agency	Missouri			T	T	T	T	T				T	[illegible]		T		[illegible]		[illegible]	.18													[illegible]
Bismarck ***	Missouri			T	T		T	.01			.02	.03	[illegible]	T		.19	.31		.12											[illegible]	T		[illegible]
Bottineau	Mouse	.03			T		.01	[illegible]	.05		.08	T	.05	T		T		T	.01	[illegible]							[illegible]			T	T		[illegible]
Bowman	Grand		T	T.		T	T	.02	T			T	.01	[illegible]			[illegible]	.15	[illegible]	[illegible]								T	T	[illegible]	.01		[illegible]
Cando	Devils Lake						T	T		.32				.24			.08	T		.47							T	T		[illegible]	.32		1.43
Carrington‖‖	James			T.	T.		T.	.08			T	T	T			.08	.08		.24	.08									T	[illegible]	T		[illegible]
Carson	Heart												[illegible]			.02	.40			.10							.07						0.62
Cavalier	Red	.10				.01		.07	.12		.12								.40	.08													[illegible]
Cooperstown	Sheyenne				T.	T	.02	T			.17		.06				.05	T	[illegible]											.16	[illegible]		0.82
Corinth	Missouri	.08					.01	.08			.16		.08													.06					.28		0.81
Courtenay	James							.16			.10		.30				.20		.16										.24		[illegible]		1.00
Crosby	Mouse		.04	.02				.18					.09		.08	.01											.10	.12	.20				0.55
Devils Lake ***	Devils Lake	T.		T	T	T	.01	.11	.05	T.	.03	T	.10	T	T	T	.01		[illegible]	.01						.02	T	T	T	[illegible]	.02		[illegible]
Dickinson‖‖	Heart			T.	.01	.01		.01	.01			.01	.01	.01			.54	[illegible]	.03	.19							[illegible]			[illegible]	T		0.83
Dogden Butte	Mouse			T	T			T	.09		.05		.03	T.		T.	T		.45	T							T			T	T		0.62
Drake‖‖	Mouse				T	T.			.05			[illegible]		.07			T	.03		.35								T.		T			0.61
Dunn Center	Knife			.05				T.	T.		T	T.	.05				.50		.29								.63						0.85
Dunseith	Mouse	.16					.07		.07		.06		.06			T			.06														0.48
Eckman	Mouse	.15					.02	T.	.05		.02		.05			.02			.03										.06				0.40
Edgeley	James				.05							.05						.12												.20			0.42
Edmore	Devils Lake	.09					.01	.02	.03	T	.03		.05						.35								T		T	.09	.03		0.70
Ellendale***	James			T.			.03	T			.01	T	.06	T.		T.	.10	T.	.03	T						T.	T.	T.		.03			0.26
Energy	Missouri			.10		T.		.05			T.		.10			.10	.35		.30	.08							.07				T.		1.15
Epping	Missouri			T.	T.			T.			.25	.10	.10			.16									.15					.30			1.00
Fairfield	Knife				.08						.08		.08			.16	.16		.40											.08			1.04
Fessenden‖‖	James								.15			.09	.07	.04			.20	.01													.32		0.92
Forman	Sheyenne						T.	T.			.03	T.	.02	T.			T.	.15	.03											.02			0.25
Fort Yates	Missouri									T.		.08			T.	.16											.08						0.32
Foxholm (near)	Mouse	.16			T.			.10	.11		T.		.04			T.	T.		.15								.32			.04	T		0.86
Fryburg	Heart												T.	.15	.25	.40			.50											.18			1.48
Fullerton	James			T			.08	.02			.02	T.	.10	.06		T.	.40	.30	.03							T.	T.		T.	.04	T.		1.05
Gackle	James			.02			T.		.06		T.		.03	.04			.15		.11											.20			0.61
Garrison	Missouri	T.		.04				.04			T.		.08	T.			.64		.48								.08			.08			1.44
Grafton	Red	T.					T		T.		T.	T		T.					.30								.13			.04	.17		0.64
Grand Forks ***	Red						T.	.07	T		.05	.02	.03		T.		.01		.30	.01							.20			.29	.08		1.06
Granville	Mouse	T					T.	.04	.01		.08		.21			T.			.21	.21							T.	T.			T.		0.88
Hankinson	Red						T.				T.	T	.10				.42		T.								T.		.03	.20			0.75
Hannah	Pembina		.06			T.	T.	.08	.01	T.	T.	.03		.02	T.	T.				.30								T.	T.	.06	.09	T.	0.65
Hansboro	Devils Lake	.05							.15		.20		.05						.40											.30			1.15
Hettinger	Grand				T.		T.							T.		T.	.33		.18											T.			0.51
Hillsboro	Red				T.				.22	T.	T.		.09	.01			T.			.46							.55			.43			1.79
Howard (near)	Missouri																																.....
Jamestown	James				.02			.04					.08				.36		.16											.36			1.02
Kenmare	Mouse	.10						.02	T			.04	.02			.04										.01	.02		.02	T.			0.27
Langdon	Pembina								.16			.08				.16				.48				.32					.08		.32		1.60
Larimore	Red	T.						T	.12		.02	.01	.02						.27								.12		.05	.30			0.91
Linton	Missouri			.01			T.	.05				T.	.05				.09	.03	T.	.02							T.			T.			0.25
Lisbon	Sheyenne			.02					.08		.06		.12	.12			.08	.16	.10	.08							.02		.04	.16			1.04
McClusky	Missouri			.10	.10						.20					.20	.10		.25											.20			1.15
McLeod	Sheyenne			.02					.08		.06		.12	.12			.08	.16	.10	.08							.02		.04	.16			1.04
Maddock	Sheyenne			T.	T.		T	T.	.09		.05		T.	T.		T.	T.		.23	.07										.12	T.		0.56
Mandan‖‖	Missouri		T.	.02	T	T.	.03			T.	.01	.13	.04			.67	.11		.12							T.	.10			T.	T.		1.23
Manfred	James			.02				.05	.03		.05		.16			.01	.05	.02	.30	.09							T.	.01			.22		1.01
Marmarth	Lit. Missouri				.04		T						.05				1.00		.40											.15			1.64
Mary	Lit. Missouri				.01		.02						.01			.23			.31											.04			0.62
Max‖‖	Missouri	T.			T.						.16			.16			.24	.01		.40								.02		.04			1.06
Mayville	Red			T.	T.				.05			.04	.02	.03						.29							.18	.01	T.	.20	.11		0.93
Minot	Mouse				.01			.02	.05		.01		.10						.10	.05							.08			.04			0.46
Mohall	Mouse	.25			T.		T.	T.			T.		.10														.10				T.		0.45
Mott	Cannon Ball										T.	T.	.01				.38		.16							T.	.08						0.66
Napoleon‖‖	Missouri				T.			T.				.05	.05	.06			.08	.20		.10											.10		0.66
New England	Cannon Ball					.20								.10	*	*	.96													T.			1.26
New Salem	Heart			.01			T.	.02			T.	T	.12			.20	.40		.32	.07							.04			T.			1.18
Oakes	James			T.			.02		.02			.01	.03	T.				.08												.15			0.31
Park River	Red							T	T.										.30								T.			.29	.03		0.62
Parshall	Missouri			T.	T			.01			T.	T	.09			.03	.03		.15	.08							.04			.05	T.		0.48
Pembina‖‖	Red		.06		T.	T.		.03	.03	T.		.04	T.	T.	.01	T.				.48	T.						T.	.02	T.	T.	.17	T.	0.87
Petersburg	Red							T.	.08		.04		.02					T.	.29								T.		.06	.10			0.59
Pettibone	James	T.		T.	T.		T.	T.	.10		T.		.13	T.					.25											.10	T		0.58
Portal‖‖	Mouse	.05									.08																						0.13
Power	Sheyenne			.08			.08	.08			.08	.08	.08			T.	.32	.08	.16								.16		.16	.24			1.60
Powers Lake	Missouri							.10	.19		.21																				.12		0.62
Richardton	Heart							T.				T.	T.			T.	.70		T.														0.70
Rugby (near)	Mouse	.01					.05		.05		.04		.03			T.			.11	.04							T.			.05	.01		0.39
Ryder	Missouri			T.				.02		T.		.01	.06		T.	T.	.08		.16						T.	.06				.03	T.		0.42
Sanish‖‖	Missouri											T.	.16	.08			.16		T.	.48							.08				.08		1.04
Sharon	Red	T.		T.	.01		T.	.01	.05	T.	.03	T.	.03	T.			.08	.04	.36	T.							.05	T.	T.	.21	.05		0.92
Stanton	Missouri						T.	.03			T.						.08		.24								T.						0.35
Steele	Missouri			.01				.02	.02		.01		.10	T.		T.	.20	.05	.10								T.			.10	T.		0.61
Stowers	Cannon Ball						T.				T.		T.				.36	T.	T.														0.36
Tagus	Mouse						.05				.06					.08			.02								.06						0.27
Tioga	Missouri										.10	.10	.01			.20															.20		0.61
Towner	Mouse	T.					.05	.01	.08		.10		.08			T.	T.		T.	.45										T.	T.		0.77
Trotters	Lit. Missouri			.07	T.									.11		.16			.53											.08			0.95
Turtle Lake	Missouri							.05			.04		.03			.16	.06		.22								.06						0.62
Valley City	Sheyenne			.02	.01			T.	.10		T.	.02	.03				.16	.13	.15								.03			.28	.02		0.95
Velva	Mouse							.07	.02		.09		.08			T.	T.		.46	.07							T.	T.		.04			0.83
Wahpeton	Red							.01				.05	.10	.10			.05	.30	.15								.05		.05	.40	.20		1.46
Washburn	Missouri			T.	.03	T.			.03		T.	.01	.06	.05			.25	.08		.45								.06		T.	T.		1.02
Westhope	Mouse	.15							.10		.02		.09														.08			.03			0.47
Williston ***	Missouri	T.		T.	T.			.01	T.	T.	T.	.08	T.	T.		.03	.09		.01							T.	.01		.07	.19	T.		0.49
Willow City	Mouse	.20				.10	T				.20		.20			T.			.40									T.		T.	T.		1.10
Wishek‖‖	Missouri												T.	.10				.01															0.11
Zap	Knife			.05								.15				.10				.12													0.42
Moorhead, Minn ***	Red	T.		.03	.02		.02	.11	.02	T.	.20	T.	.09	T.	T.	T.	.22	.04	.17	.07							.06			.29	.03		1.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for January, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	39	37	15	17	38	41	15	25	37	10	5	10	20	39	21	−3	8	22	18	20	27	18	27	26	12	18	20	24	30	20	14	21.6
	Minimum	0	14	9	−3	8	12	2	2	−3	2	−5	−10	−7	−14	18	9	−16	−15	−3	−14	−12	−3	−11	0	−7	4	−10	−8	17	13	−14	−2.0
Arnegard (near)	Maximum	33	40	19	30	40	41	22	38	47	49	18	32	37	42	40	0	14	12	14	23	33	23	29	29	22	19	28	30	25	20	22	28.1
	Minimum	20	19	2	10	19	18	5	12	21	2	4	17	17	27	−2	−12	−20	−20	8	−3	0	4	1	10	9	−3	−9	9	15	3	−15	4.9
Ashley	Maximum	39	32	28	27	39	40	37	32	42	47	11	21	22	39	36	8	5	20	18	22	35	30	29	32	22	11	12	30	30	22	15	26.9
	Minimum	16	17	11	8	15	35	8	12	21	4	0	5	3	9	5	−8	−22	−5	2	−5	−2	8	4	7	−2	4	−1	2	22	2	−8	5.4
Beach	Maximum	31	37	30	31	40	43	35	38	45	43	30	33	32	44	40	3	20	13	21	25	33	26	23	26	33	21	24	30	27	21	21	29.6
	Minimum	20	19	8	9	15	30	22	30	23	15	7	27	16	22	2	−12	−20	−2	−8	−8	0	7	2	6	3	1	−6	11	−2	−15	−6	7.0
Berthold Agency	Maximum	37	40	25	30	42	45	23	42	52	35	10	32	28	32	40	10	10	10	17	20	32	30	21	11	10	10	10	30	28	18	12	25.5
	Minimum	12	20	8	13	10	20	5	8	18	3	4	8	0	3	0	−10	−20	−10	−12	−10	−10	0	−12	−8	−12	−16	−23	5	10	8	−11	0.0
Bismarck	Maximum	38	36	25	31	46	42	24	38	52	42	15	25	15	46	40	−4	4	14	13	17	19	28	23	29	12	8	9	33	28	15	10	24.9
	Minimum	17	20	9	8	21	18	8	18	16	4	4	7	3	16	−4	−8	−20	−5	−4	−7	−9	−1	−6	−3	−4	−6	−6	7	15	3	−2	3.5
Bottineau	Maximum	24	30	29	7	27	33	12	14	32	31	4	6	6	33	26	−2	0	16	11	8	22	19	14	15	9	12	12	25	26	24	11	17.4
	Minimum	12	9	−5	−18	2	11	6	1	10	−2	−13	−15	−3	3	−5	−15	−19	−9	−9	−8	−5	0	−15	−2	−3	−2	−1	2	10	0	−16	−3.2
Cando	Maximum	22	27	26	8	30	30	15	21	35	30	4	6	8	37	35	−2	4	7	9	7	11	18	18	16	10	4	8	12	18	25	12	16.6
	Minimum	5	5	−2	−9	5	11	1	5	3	4	−15	−16	−11	6	−8	−14	−14	−9	−7	−12	−10	−11	−14	0	−11	−8	1	7	10	12	−10	−3.4
Carrington §§	Maximum	36	14	26	40	40	15	31	41	23	3	11	34	34	31	−3	6	9	3	18	26	24	25	23	7	17	13	31	26	18	12	12	20.8
	Minimum	10	12	1	8	19	2	2	15	23	−2	−6	0	0	14	−8	−10	−11	−3	−7	−3	−3	−6	−6	−8	−8	−1	0	12	15	−11	−11	0.9
Crosby	Maximum	32	30	22	24	36	36	14	25	42	42	32	27	33	40	36	−4	6	10	15	15	12	20	17	16	6	12	15	19	25	16	9	21.9
	Minimum	20	−4	−6	−2	17	4	−3	7	16	−2	−3	−1	−2	12	−10	−18	−18	−10	−12	−14	−17	−8	−6	−1	−8	−6	−11	−3	6	−6	−12	−3.3
Devils Lake	Maximum	27	33	25	17	36	37	11	18	38	39	5	7	16	39	34	−5	4	8	2	11	23	21	16	20	5	5	9	23	24	20	10	18.6
	Minimum	21	18	−2	1	15	10	2	7	17	−4	−6	−3	−4	16	−10	−11	−9	−5	−6	−6	−3	−2	−8	−2	−9	−3	−7	3	19	−4	−13	0.4
Dickinson §§	Maximum	33	36	24	32	40	36	38	39	48	20	28	34	35	43	28	−8	11	14	9	21	24	25	25	26	20	16	19	32	23	12	21	25.9
	Minimum	12	15	16	11	11	21	19	11	16	20	5	11	11	15	27	−9	−28	−17	−3	−13	−9	−8	−6	−5	−7	−1	−15	−10	14	−15	−14	2.6
Dunn Center	Maximum	37	38	27	30	37	41	26	38	46	40	23	31	30	42	37	0	8	9	14	22	21	24	23	26	18	13	18	31	26	19	11	26.0
	Minimum	23	18	10	−1	11	23	8	16	16	6	5	17	5	20	−2	−10	−22	−9	0	−12	−8	12	−4	1	−8	−6	−22	6	18	−7	−18	2.7
Dunseith	Maximum	27	24	22	5	28	33	11	15	26	32	2	5	9	35	35	−2	1	12	6	12	27	23	17	22	12	11	5	23	25	17	18	17.4
	Minimum	13	−3	−4	−9	0	10	−3	0	6	−4	−13	−13	−3	−3	−8	−17	−19	−12	−8	−8	−3	1	−11	−1	−7	−7	−4	0	9	11	−8	−3.8
Edgeley	Maximum	40	34	30	27	40	43	21	35	40	44	13	12	13	42	38	10	5	20	20	20	30	30	28	30	20	12	10	30	30	29	10	26.0
	Minimum	20	10	15	5	20	20	4	8	11	5	−4	0	−5	10	9	−5	−17	−10	4	−8	1	8	0	3	5	4	−2	−1	25	8	−8	4.4
Ellendale	Maximum	40	30	21	28	40	44	19	35	46	46	10	21	16	43	37	2	2	24	14	24	31	33	28	35	12	12	13	32	31	19	11	25.8
	Minimum	13	15	10	12	19	19	12	13	12	5	2	5	6	10	1	−4	−23	−6	−1	−6	0	9	1	7	−4	1	−3	0	19	0	−5	4.5
Fessenden §§	Maximum	35	34	11	26	37	39	19	29	41	10	6	14	33	40	7	5	3	9	4	17	28	28	30	24	1	10	14	24	27	20	15	20.6
	Minimum	10	18	7	3	5	17	1	1	15	9	−4	−7	2	7	7	−11	−15	−15	−3	−14	−6	−6	12	−6	−10	−12	−2	−2	13	14	−13	−0.3
Foxholm (near)	Maximum	30	36	32	10	35	38	15	22	42	42	6	19	21	41	37	−6	4	3	6	17	25	25	23	20	8	3	7	27	27	18	8	20.7
	Minimum	19	18	−4	0	8	13	−5	2	10	0	−10	−5	−7	12	−8	−16	−19	−11	−9	−11	0	4	−8	6	−9	−5	−15	0	16	1	−15	−1.5
Fullerton	Maximum	40	35	28	27	39	43	24	33	44	41	13	21	13	41	38	10	3	24	22	18	27	32	27	32	18	10	32	32	34	28	9	27.1
	Minimum	14	16	16	8	17	24	10	10	13	6	−1	4	5	11	10	−4	−18	−7	3	−4	−5	8	−1	10	−4	5	−3	10	26	6	−6	5.8
Garrison	Maximum	34	39	31	21	38	39	20	34	48	43	10	30	20	44	40	2	7	8	10	17	22	27	21	23	11	10	8	30	30	18	9	24.0
	Minimum	17	18	4	10	12	17	2	8	13	5	−3	3	2	16	2	−12	−18	−8	−4	−7	−7	2	−13	−2	−4	−1	−15	2	15	−2	−10	1.4
Grafton	Maximum	27	31	29	11	35	35	13	18	27	38	5	5	4	39	37	−4	−3	8	6	11	22	27	21	29	21	9	12	21	24	25	15	19.3
	Minimum	13	4	−4	−7	4	11	0	−2	0	−1	−7	−11	−15	−4	−5	−13	−11	−5	−1	−7	−4	0	−7	5	−5	−2	−3	−4	15	12	−8	−2.0
Grand Forks	Maximum	27	33	28	14	31	37	12	20	29	40	6	8	6	38	33	0	5	13	11	14	26	29	16	30	15	10	11	21	24	25	9	20.0
	Minimum	15	10	−2	−6	7	12	2	5	0	−1	−7	−7	−14	−5	0	−10	−9	−6	−3	−8	−4	2	−7	4	−6	4	−9	−7	16	8	−12	−1.2
Granville	Maximum	25	37	32	17	35	37	19	22	43	43	14	17	18	40	38	10	8	5	7	15	23	23	22	15	5	5	7	29	30	12	14	21.5
	Minimum	20	16	−2	0	10	17	−1	−2	15	−3	−7	−4	−8	10	−2	−13	−15	−9	−7	−15	−7	5	−19	2	−14	−4	−2	4	8	7	−14	−1.1
Hansboro	Maximum	22	27	25	4	20	30	10	18	32	22	0	5	5	35	30	−10	2	7	4	5	10	27	12	20	5	6	5	20	25	25	12	15.2
	Minimum	5	5	−5	−7	0	15	−2	0	12	−2	−11	−14	−5	4	−10	−18	−16	−11	−8	−18	−2	2	−12	4	−11	−6	−4	0	12	12	−12	−3.3
Hettinger	Maximum	34	37	31	37	42	43	33	40	51	45	27	36	33	46	40	5	9	12	18	29	31	28	29	26	23	22	23	32	32	27	22	30.4
	Minimum	20	18	18	11	20	32	19	25	22	10	7	25	22	21	4	−10	−27	−8	0	−7	−7	7	−1	3	−3	6	−11	11	16	−13	−10	7.2
Hillsboro	Maximum	30	25	12	9	28	28	17	26	32	32	9	13	13	35	35	10	−4	14	14	9	15	15	12	29	29	7	6	19	19	20	19	18.6
	Minimum	14	10	−2	−5	7	17	4	7	−4	3	−1	−6	−11	−10	4	−4	−10	−10	−1	−10	−7	−6	−6	4	−4	4	−6	−8	13	14	−12	−0.6
Howard (near)	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Jamestown	Maximum	37	27	22	40	42	20	30	41	42	7	12	12	41	34	4	4	17	9	19	25	26	24	26	13	7	11	30	26	23	9	14	22.6
	Minimum	20	11	5	0	17	19	4	4	11	3	−3	−5	0	9	1	−9	−21	−13	−3	−10	−5	5	−9	4	−9	0	−5	−2	20	3	−10	1.0
Langdon	Maximum	28	29	0	20	30	20	10	20	32	20	5	5	20	34	4	0	0	9	9	9	29	30	20	20	0	6	21	20	22	21	20	16.5
	Minimum	−2	0	−4	−11	−4	0	−3	−5	−3	−15	−11	−10	−12	−5	−5	−18	−20	−15	−9	−12	−5	−4	−15	−15	−11	−10	−10	0	5	−10	−14	−8.2
Larimore	Maximum	29	30	24	12	37	37	12	20	31	39	4	6	13	38	37	−3	5	7	4	12	28	27	18	31	14	7	15	19	24	22	16	19.6
	Minimum	17	14	−2	−5	8	12	3	3	1	0	−8	−8	−11	−4	−3	−11	−8	−6	−3	−8	−2	5	−7	8	−4	−1	−5	0	16	13	−5	0.0
Linton	Maximum	39	34	28	26	44	40	28	36	50	45	12	25	26	43	40	6	6	23	16	21	33	34	29	25	25	12	10	30	29	23	13	27.5
	Minimum	1	14	−1	4	9	25	9	11	10	6	2	9	2	10	6	−10	−29	−7	2	−9	−7	−8	−13	−4	−8	2	0	6	20	−2	−10	1.3
Lisbon	Maximum	40	37	19	22	40	43	30	29	40	42	8	11	8	39	15	5	0	23	3	16	20	33	19	31	11	13	11	24	28	26	16	22.6
	Minimum	17	17	12	−2	17	29	10	1	10	5	−1	−6	−10	−5	5	−6	−17	−13	−1	−12	−6	1	−9	3	−6	4	−4	−7	10	5	−6	1.3
McClusky	Maximum	34	33	26	22	36	37	19	27	44	42	15	17	13	40	38	0	−1	12	5	14	25	25	21	24	10	5	10	28	25	21	10	21.8
	Minimum	18	16	2	5	13	17	1	11	13	2	−5	−2	2	6	−2	−12	−19	−7	−6	−6	1	0	−2	5	−4	−5	0	4	19	7	−14	1.9
Maddock	Maximum	32	34	28	14	33	38	15	17	39	38	5	9	10	39	37	−1	4	7	5	13	23	20	17	18	10	4	5	27	26	23	14	19.5
	Minimum	15	10	3	1	11	14	−2	5	9	1	−7	−10	−2	9	−3	−13	−14	−11	−8	−12	−11	−3	−16	0	−10	−11	0	−1	19	11	−15	−1.3
Marmarth	Maximum	35	32	31	35	42	45	37	44	45	37	30	35	34	44	39	2	10	15	14	20	21	25	21	22	25	24	27	35	26	9	23	28.5
	Minimum	18	14	17	10	31	32	20	25	22	10	7	26	19	22	2	−12	−28	−15	−9	−15	−12	−9	−14	1	−10	9	−16	−1	−4	−20	−10	3.5
Minot	Maximum	34	38	31	25	37	39	20	26	46	38	9	21	23	41	36	1	8	8	11	19	30	27	26	24	18	7	11	30	30	20	20	24.3
	Minimum	27	18	−1	3	13	17	−1	−1	8	2	−7	−2	−4	12	−2	−13	−15	−7	−8	−15	−4	5	−12	9	−10	−5	−12	4	17	5	−17	0.1
Mohall	Maximum	28	35	15	24	36	38	19	30	44	6	3	10	36	40	4	−5	7	6	7	20	28	17	22	11	4	4	12	23	27	12	12	18.5
	Minimum	14	−4	−4	11	22	−6	1	8	2	−9	−7	−20	8	−2	−16	−20	−14	−8	−16	−2	13	−14	9	−7	−4	−16	−8	11	9	−18	−10	−3.1
Mott	Maximum	28	35	18	37	44	43	37	39	50	37	19	26	30	28	31	8	−6	4	11	15	25	29	23	30	14	7	18	24	26	16	11	24.4
	Minimum	11	15	6	12	32	14	15	18	22	6	10	5	7	−1	−6	−30	−22	−11	2	−10	5	4	−4	−1	2	−5	−6	0	7	−1	−1	3.1
Napoleon §§	Maximum	38	30	22	30	42	39	25	34	46	35	15	25	28	40	30	−4	10	17	9	22	35	28	30	26	15	16	15	30	28	13	13	25.2
	Minimum	13	17	11	0	15	29	5	15	8	31	−3	−2	2	9	21	−11	−20	−7	0	−9	0	−2	−3	3	−5	1	0	1	22	−2	−15	4.0
New Salem	Maximum	36	35	31	28	40	42	29	35	49	39	20	31	22	41	39	21	12	9	18	19	23	25	21	21	20	10	5	29	27	21	17	26.3
	Minimum	21	20	10	19	19	24	7	16	23	5	2	11	0	18	1	−11	−22	−10	3	−7	2	10	15	11	−5	−2	−15	−2	20	11	−10	5.9
Oakes	Maximum	42	32	28	25	43	45	24	31	40	42	12	15	16	39	37	7	7	24	14	21	33	35	29	36	19	12	12	34	32	29	12	26.7
	Minimum	15	11	13	4	15	23	11	10	13	6	−1	−3	3	5	6	−4	−17	−10	0	−8	−5	5	−8	6	−8	4	−5	−3	−6	6	−8	3.3
Pembina §§	Maximum	27	28	−2	13	29	29	6	14	32	28	−3	0	16	33	11	−9	5	6	−3	9	17	24	13	26	1	6	12	24	24	20	10	14.4
	Minimum	−3	5	−4	−10	−3	7	−1	−2	−3	12	−16	−18	−20	−21	11	−16	−18	−13	−6	−11	−9	−6	−13	−12	−7	−10	−3	−2	6	18	−5	−5.6
Sharon	Maximum	32	29	24	11	35	39	14	20	35	36	2	5	6	36	33	−4	1	6	5	13	23	24	19	26	7	7	13	17	23	22	20	18.9
	Minimum	17	15	0	−2	9	13	5	5	0	−3	−10	−10	−13	5	−6	−10	−9	−7	−5	−7	−2	5	−6	7	−5	−2	−6	0	16	5	−8	−0.3
Steele	Maximum	36	34	21	25	40	40	24	31	44	42	7	23	23	40	36	5	−2	13	7	10	21	23	22	25	15	10	8	29	31	22	4	22.9
	Minimum	15	16	4	−4	12	24	3	11	8	2	−2	0	5	8	2	−10	−24	−10	−2	−8	−3	−3	−2	2	−7	−2	2	8	18	−4	−13	1.5
Towner	Maximum	27	24	30	14	32	37	16	16	40	40	6	11	14	37	36	12	4	8	8	9	18	18	8	14	9	9	7	28	28	21	9	19.0
	Minimum	21	13	−3	−3	9	15	−3	6	9	1	−9	−10	−6	12	−3	−11	−17	−11	−8	−14	−9	−9	−9	−6	−11	−6	−4	3	21	4	−16	−1.7
Valley City	Maximum	37	32	34	17	37	40	22	24	38	38	34	9	10	40	38	5	1	15	12	11	25	28	21	28	20	17	10	21	24	24	19	23.6
	Minimum	15	16	11	−3	13	19	7	3	12	3	−3	0	−5	0	4	−3	−13	−11	−3	−11	−8	1	−8	−2	−8	−2	−8	−3	18	13	−7	1.2
Wahpeton	Maximum	39	40	37	19	41	45	40	24	39	38	10	12	10	39	37	13	3	28	28	25	34	35	28	33	26	25	15	23	26	30	28	28.5
	Minimum	16	16	9	−2	15	29	11	5	2	8	−5	−6	−3	−7	14	−1	−14	−3	0	−7	−3	5	−5	18	−4	12	5	0	18	14	−5	4.3
Westhope	Maximum	27	31	25	5	29	35	17	17	32	40	6	8	10	37	31	−2	5	6	6	6	17	17	9	12	14	6	10	25	26	23	7	17.4
	Minimum	17	8	−6	−13	2	12	−6	1	10	0	−14	−11	−23	−10	−7	−18	−21	−13	−10	−12	−7	0	−17	−3	−10	3	−3	3	19	0	−16	−5.1
Williston	Maximum	34	41	15	28	39	40	22	37	49	36	19	34	32	43	35	−6	11	14	12	23	27	27	30	19	12	17	27	30	26	14	13	25.8
	Minimum	19	15	0	8	18	20	4	15	23	3	0	8	8	25	−8	−12	−13	−7	−4	−7	−1	7	4	2	−2	−1	−9	15	14	−9	−15	3.9
Moorhead, Minn	Maximum	37	38	25	18	36	40	12	23	34	41	7	9	6	38	35	1	1	24	6	19	31	29	20	27	15	21	11	21	29	29	9	22.3
	Minimum	19	18	−2	−3	16	12	6	3	3	−4	−6	−6	−9	0	1	−7	−8	−1	−7	−10	−2	5	1	8	−4	9	−2	−2	19	5	−5	1.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

ORRIS W. ROBERTS, Meteorologist

VOL. XLII BISMARCK, N. D., FEBRUARY, 1933 No. 2

GENERAL SUMMARY

Unseasonably low temperature, accompanied by snow and occasional high winds characterized the opening of the month and prevailed through the first and part of the second decade, the storm of the 7–8th being the most severe in the history of the state. This condition was followed by generally mild and pleasant weather with only light scattered precipitation. Much yard feeding of livestock was necessitated during the fore part of the month, and highways in all sections were snow blocked.

TEMPERATURE

The mean temperature for the state was 7.9°, or 2.3° below the normal, and 5.7° lower than the mean for February, 1932. The highest mean reported was 13.0° at New England, Hettinger County, and Fort Yates, Sioux County; the lowest was 0.6° at Hannah, Cavalier County. The highest temperature reported was 58° at Fort Yates, Sioux County on the 25th; the lowest was -45° at Energy, McLean County, and Marmarth, Slope County on the 7th. The greatest monthly range of temperature was 97° at Linton, Emmons County; the least was 72° at Hansboro, Towner County. The greatest daily range of temperature was 65° at Fort Yates, Sioux County on the 5th.

PRECIPITATION

The average precipitation for the state was 0.28 inch, or 0.21 inch below the normal, and 0.07 inch less than the average for February, 1932. The greatest monthly amount reported was 1.00 inch at Sanish, Mountrail County; the least was a trace at Amenia, Cass County, and Dunn Center, Dunn County. The greatest amount recorded in any 24 consecutive hours was 0.43 inch at Cooperstown, Griggs County on the 6th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 3.3 inches.

AURORAS

Auroras were observed at Foxholm and Pembina on the 2d; at Eckman on the 12th; at Eckman, Edmore and Foxholm on 14th; at Pembina on the 15th; at Moorhead on the 16th; at Eckman, Pembina, Rugby, Trotters and Williston on the 19th; at Bottineau, Devils Lake, Dogden Butte, Edmore, Foxholm, Grand Forks, Pembina, Petersburg, Rugby, Stowers and Willow City on the 20th; at Bottineau, Devils Lake, Eckman, Edmore, Grand Forks, Pembina, Petersburg, Rugby and Williston on the 21st; at Foxholm and Pembina on the 22d; at Pembina on the 23d; at Crosby, Eckman and Foxholm on the 24th; at Crosby, Devils Lake, Eckman, Edmore, Fessenden, Foxholm, Grand Forks, Oakes, Pembina, Petersburg, Rugby, Sharon and Willow City on the 25th; at Carson, Dogden Butte and Oakes on the 26th; and at Eckman on the 27th.

MISCELLANEOUS PHENOMENA

Fog: Bismarck, Devils Lake, Garrison, Petersburg, Williston, Moorhead, 1st; Devils Lake, 2d; New Salem, 3d; Moorhead, 9th; Bismarck, Foxholm, Garrison, 19th; Grand Forks, 20th; Edmore, Foxholm, 22d; Hansboro, 23d; Hansboro, Williston, 24th.

HALOS, lunar: Ellendale, Grand Forks, Oakes, Moorhead, 1st; Bismarck, Grand Forks, Oakes, Moorhead, 2d; Ellendale, Grand Forks, Sharon, 3d; Moorhead, 4th; Oakes, 5th; Bismarck, Ellendale, Grand Forks, Pembina, Moorhead, 6th; Ellendale, Foxholm, Pembina, 7th; Ellendale, Oakes, 8th; Bismarck, Grand Forks, Moorhead, 9th; Grand Forks, Williston, Moorhead, 10th; Grand Forks, Moorhead, 11th; Bismarck, Edmore, Grand Forks, 12th; Bismarck, Moorhead, 16th

HALOS, solar: Ellendale, Moorhead, 1st; Devils Lake, 2d; Devils Lake, Grand Forks, Napoleon, Oakes, Moorhead, 3d; Devils Lake, Ellendale, Oakes, Moorhead, 4th; Bismarck, Devils Lake, Grand Forks, Marmarth, 6th; Moorhead, 7th; Bismarck, Grand Forks, Moorhead, 8th; Grand Forks, 9th; Devils Lake, Grand Forks, 10th; Edmore, 11th; Bismarck, Devils Lake, Edmore, Grand Forks, Oakes, 12th; Edmore, Williston, Moorhead, 14th; Grand Forks, Moorhead, 17th; Grand Forks, 19th; Devils Lake, 20th; Edmore, 21st.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.04	30.68	6	29.52	22	9.9	31	nw.	10	83	74	75	69
Devils Lake	30.01	30.60	7	29.46	21	10.9	28	n.	5	90	78	88	65
Ellendale	30.02	30.63	6	29.52	22	14.2	40	nw.	10	86	64	....	72
Grand Forks	30.00	30.55	7	29.49	22	......	28	se.†	5	82	...	81	....
Williston	30.04	30.70	6	29.46	21	9.6	35	w.	27	81	66	68	61
Moorhead, Minn	30.05	30.58	7	29.49	22	10.1	30	nw.	10	93	83	88	64
Averages & ext's	30.03	30.70	6	29.46	21	10.9	40	nw.	10	86	73	80	66

† And other dates.

COMPARATIVE DATA FOR FEBRUARY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	10.0	−0.2	62	−45	0.58	+0.09	1.15	0.07	4.9	4	14	7	8
1893.	−0.3	−10.5	52	−41	0.59	+0.10	1.70	T.	5.7	4	12	7	9
1894.	8.0	−2.2	55	−54	0.22	−0.27	0.80	T.	2.3	2	14	9	5
1895.	5.9	−4.3	65	−40	0.36	−0.13	1.20	T.	3.6	4	13	7	8
1896.	14.3	+4.1	64	−50	0.44	−0.05	1.86	T.	4.3	3	12	9	8
1897.	6.1	−4.1	52	−29	1.15	+0.66	2.87	0.30	11.5	7	12	7	9
1898.	13.3	+3.1	65	−40	0.46	−0.03	1.05	0.05	4.5	3	13	8	7
1899.	0.4	−9.8	60	−34	0.20	−0.29	0.52	T.	1.9	3	14	8	6
1900.	1.3	−8.9	46	−48	0.47	−0.02	1.10	0.08	4.5	4	12	9	7
1901.	7.1	−3.1	60	−48	0.31	−0.18	0.88	T.	2.9	3	15	7	6
1902.	12.1	+1.9	51	−31	0.98	+0.49	3.60	0.21	6.7	6	10	6	12
1903.	3.1	−7.1	46	−33	0.38	−0.11	1.38	T.	3.7	3	19	4	5
1904.	−2.1	−12.3	52	−49	0.54	+0.05	2.00	T.	7.6	5	13	6	10
1905	8.2	−2.0	64	−42	0.30	−0.19	0.81	T.	2.9	2	19	4	5
1906.	9.8	−0.4	57	−46	0.13	−0.36	0.80	0.00	1.4	2	13	8	7
1907.	10.7	+0.5	58	−38	0.27	−0.22	1.42	0.00	2.8	3	15	7	6
1908.	13.8	+3.6	62	−49	1.07	+0.58	4.85	T.	10.1	5	12	7	10
1909.	9.6	−0.6	56	−34	0.34	−0.15	1.08	0.00	3.7	4	11	7	10
1910.	3.4	−6.8	56	−34	0.50	+0.01	1.61	0.00	5.6	4	14	7	7
1911.	7.3	−2.9	55	−50	0.73	+0.24	2.85	T.	8.0	3	15	8	5
1912.	11.8	+1.6	48	−38	0.15	−0.34	0.66	0.00	1.7	2	10	9	10
1913.	8.5	−1.7	64	−33	0.10	−0.39	0.70	0.00	1.0	2	12	9	7
1914.	1.0	−9.2	57	−44	0.34	−0.15	1.80	0.00	3.8	3	12	8	8
1915.	17.4	+7.2	50	−47	0.62	+0.13	4.20	0.00	6.1	3	9	5	14
1916	6.4	−3.8	55	−20	0.46	−0.03	2.30	0.00	4.8	4	14	8	7
1917.	−0.7	−10.9	61	−39	0.66	+0.17	1.59	T.	7.1	5	10	8	10
1918.	10.8	+0.6	60	−48	0.19	−0.30	0.65	0.00	2.3	3	13	9	6
1919.	7.7	−2.5	58	−41	0.66	+0.17	1.90	0.00	6.5	5	10	8	10
1920.	12.5	+2.3	53	−40	0.30	−0.19	1.70	T.	3.2	3	11	[illegible]	9
1921	19.9	+9.7	64	−36	0.39	−0.10	1.30	T.	3.8	3	11	10	7
1922.	0.7	−9.5	45	−33	1.21	+0.72	3.34	T.	12.8	5	13	6	9
1923.	4.1	−6.1	48	−39	0.65	+0.16	2.10	T.	7.2	4	13	7	8
1924.	20.3	+10.1	67	−40	0.41	−0.08	1.01	T.	4.2	3	14	6	[illegible]
1925.	16.5	+6.3	62	−27	0.31	−0.18	1.80	0.00	3.6	3	10	9	9
1926.	22.3	+12.1	58	−39	0.41	−0.08	1.44	T.	3.7	4	9	9	10
1927.	13.3	+3.1	50	−19	0.36	−0.13	1.51	0.00	3.1	4	12	7	9
1928.	18.8	+8.6	59	−31	0.10	−0.39	0.51	0.00	1.2	2	14	8	7
1929.	2.8	−7.4	44	−19	0.29	−0.20	0.80	T.	3.3	4	12	8	8
1930.	21.7	+11.5	63	−44	1.18	+0.69	2.50	0.11	11.7	6	11	8	9
1931.	28.0	+17.8	62	−30	0.28	−0.21	1.62	0.00	2.9	2	14	6	8
1932.	13.6	+3.4	69	-31	0.35	−0.14	1.06	0.00	4.3	3	12	9	8
1933.	7.9	−2.3	58	−45	0.28	−0.21	1.00	T.	3.3	3	13	8	7
Per..	10.2	....	69	−54	0.49	....	4.85	0.00	4.8	4	13	7	8

Climatological Data for February, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	7	......	......	....	....	....	....	......	0.28	......	0.10	3.0	4	....	....	....	....	H. A. Bury.
Amenia	Cass	954	37	7.4	−1.4	44	26†	−38	7	49	T.	−0.54	T.	T.	0	15	6	7	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	11.4	−2.5	47	25	−37	7†	43	0.35	−0.10	0.20	3.5	3	16	9	3	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	11.0	−0.1	54	26	−35	7†	51	0.04	−0.48	0.04	2.0	1	15	7	6	nw.	H. D. Piper.
Beach	Golden Valley	2,759	27	10.8	−5.4	45	26	−38	7†	34	0.15	−0.25	0.06	1.4	3	....	....	....	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	9.2	−3.0	44	23†	−42	7	62	0.38	−0.09	0.23	5.0	3	18	4	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	10.6	+0.3	54	26	−38	7	51	0.22	−0.22	0.10	3.3	5	13	10	5	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	3.9	−0.3	39	25	−42	7	53	0.28	−0.07	0.15	3.0	5	12	15	1	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	9.7	−8.8	47	27	−37	7†	58	0.54	+0.25	0.18	6.0	6	20	4	4	nw.	George Larsen.
Cando	Towner	1,488	32	5.8	+0.2	42	28	−38	7	55	0.25	−0.12	0.14	2.5	6	14	2	12	nw.	A. J. Swanson.
Carrington	Foster	1,579	35	7.6	−1.1	49	26	−34	6	49	0.10	−0.29	0.10	1.0	1	17	5	6	nw.	L. A. Swanson.
Carson	Grant	2,500	21	10.8	−4.6	54	26	−39	7	58	0.16	−0.15	0.16	2.0	1	19	3	6	nw.	J. W. Evens.
Cavalier	Pembina	894	23	......	......	....	....	....	....	......	0.27	−0.34	0.12	3.2	6	13	8	7	nw.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	......	......	....	....	....	....	......	0.59	+0.18	0.43	6.0	2	17	0	11	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	......	......	....	....	....	....	......	0.85	......	0.30	8.5	5	17	9	2	sw.	W. A. Clem.
Courtenay	Stutsman	1,523	4	......	......	....	....	....	....	......	......	......	......	......	....	....	....	....	....	Geo. E. Berg.
Crosby	Divide	1,954	26	8.7	−0.7	42	25	−38	8	49	0.07	−0.21	0.05	0.8	2	6	15	7	sw.	John Jensen.
Devils Lake	Ramsey	1,478	36	5.8	+0.7	44	26	−35	7	53	0.11	−0.39	0.04	1.1	6	7	10	11	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	8.2	−4.9	44	26	−37	7	45	0.35	−0.08	0.12	3.5	10	11	9	8	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	8.5	......	40	23†	−35	8	52	0.25	......	0.25	3.0	1	15	8	5	nw.	R. L. Williams.
Drake	McHenry	1,634	4	6.6	......	43	26	−36	9	52	0.09	......	0.03	1.0	4	13	12	3	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	10.2	−4.4	44	26	−37	7	47	T.	−0.54	T.	T.	0	16	6	6	nw.	W. F. Moede.
Dunseith	Rolette	1,682	37	4.1	−2.3	40	26	−38	7	52	0.24	−0.18	0.18	4.7	2	16	9	3	nw.	T. H. Tharalson.
Eckman	Bottineau	1,500	28	4.2	−3.4	38	25†	−42	7	57	0.21	−0.15	0.09	2.6	4	6	17	5	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	32	12.6	−0.1	55	26	−35	7	56	0.05	−0.29	0.05	0.5	1	6	19	3	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	4.1	......	38	26	−36	7	51	0.12	......	0.10	1.5	3	12	10	6	w.	E. D. Warner.
Ellendale	Dickey	1,457	38	11.0	+0.3	56	26	−32	7	50	0.07	−0.51	0.03	1.4	3	10	6	12	nw.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	21	9.3	......	46	26	−45	7	62	0.60	+0.27	0.20	8.5	5	10	18	0	nw.	H. S. Solenberger.
Epping	Williams	2,224	25	7.9	......	43	26	38	8	60	0.51	+0.10	0.20	5.0	5	16	3	9	nw.	A. O. Wang.
Fairfield	Billings	......	4	......	......	....	....	....	....	......	0.16	......	0.16	2.0	1	14	9	5	nw.	F. R. Hecker.
Fessenden	Wells	1,610	21	6.2	−3.9	45	26	−35	7†	55	0.41	−0.14	0.16	5.5	4	17	3	8	nw.	T. D. Monsen.
Forman	Sargent	1,249	40	......	......	....	....	....	....	......	0.07	−0.58	0.04	1.0	2	15	9	4	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	33	13.0	+1.2	58	25	−35	7	65	0.16	−0.46	0.16	2.0	1	15	5	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	6.9	......	43	26	−40	8	55	0.23	−0.34	0.15	3.0	4	7	16	5	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	......	......	....	....	....	....	......	0.08	−0.46	0.08	1.0	1	15	7	6	nw.	Verne King.
Fullerton	Dickey	1,439	35	11.2	−0.8	54	26	−34	7	51	0.62	−0.30	0.35	6.2	3	12	11	5	nw.	F. O. Alin.
Gackle	Logan	1,951	3	......	......	....	....	....	....	......	0.42	......	0.20	3.5	4	13	5	10	nw.	Geo. Hummel.
Garrison	McLean	1,901	56	9.5	−1.4	43	26	−35	7†	52	0.20	−0.30	0.20	2.5	1	15	9	4	nw.	W. F. Robinson.
Grafton	Walsh	827	41	7.2	+0.5	41	27	−34	7	44	0.20	−0.39	0.20	3.8	1	15	4	9	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	42	5.6	−2.0	43	27	−33	7	40	0.13	−0.45	0.07	1.5	5	4	17	7	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	6.8	−3.3	45	26	−37	7	56	0.36	−0.09	0.16	4.5	4	9	13	6	nw.	W. A. Christianson.
Hankinson	Richland	1,068	4	11.4	......	52	26†	−29	6	41	0.35	......	0.22	3.0	2	15	4	9	nw.	R. G. Stock.
Hannah	Cavalier	1,568	41	0.6	......	38	26	−38	8	47	0.31	−0.27	0.08	3.1	6	7	13	8	nw.	James Muir.
Hansboro	Towner	1,597	25	2.3	−3.5	36	24	36	9	48	0.35	−0.23	0.20	6.0	2	20	8	0	nw.	C. F. Blackorby.
Hettinger	Adams	2,675	26	12.7	−3.8	56	26	−37	7	55	0.06	−0.28	0.03	0.6	2	19	2	7	nw.	C. H. Plath.
Hillsboro	Traill	901	27	7.7	−2.6	49	23	−34	7	42	0.06	−0.57	0.06	1.0	1	18	8	2	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	6.7	−2.3	40	25	−39	8	53	0.90	+0.30	......	9.0	....	13	8	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	8.4	−1.2	50	26	−38	7	54	0.19	−0.43	0.10	2.0	3	11	12	5	nw.	S. Calvelage.
Kenmare	Ward	1,799	2	......	......	....	....	....	....	......	0.11	......	0.06	1.4	4	4	17	7	nw.	R. Costello.
Langdon	Cavalier	1,615	37	1.6	−3.2	42	27	−42	9	47	0.52	−0.10	0.24	6.5	4	6	18	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	7.4	+0.1	42	27	−32	7	49	0.06	−0.52	0.06	0.8	1	16	4	8	nw.	Mabel Walsh.
Linton	Emmons	1,711	16	9.8	−4.7	56	26	−41	7	56	0.08	−0.47	0.07	1.7	2	5	20	3	w.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	29	9.5	−1.7	55	26	−34	7	48	0.32	−0.35	0.16	4.0	3	10	9	9	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	7.8	......	42	28	−38	7	52	0.64	−0.04	0.24	8.0	5	12	9	7	nw.	Edw. Tapley.
McLeod	Ransom	1,075	22	8.9	−4.4	50	26	−36	7	47	0.25	−0.45	0.13	2.5	4	20	4	4	sw.	J. G. Carlson.
Maddock	Benson	1,604	18	6.8	−4.3	45	27	−39	7	54	0.22	−0.15	0.13	2.7	2	7	15	6	nw.	A. T. Felland.
Mandan	Morton	1,750	19	8.9	−4.0	52	26	−36	8	55	0.34	−0.02	0.15	5.0	4	14	3	11	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	......	......	....	....	....	....	......	0.42	−0.09	0.27	4.5	7	....	....	....	......	P. B. Anderson.
Marmarth	Slope	2,714	24	10.8	−6.9	45	26	−45	7	48	0.45	+0.05	0.20	5.1	7	10	10	8	......	S. P. Grane.
Mary	McKenzie	......	4	......	......	....	....	....	....	......	0.14	......	0.08	2.0	3	19	4	5	nw.	Fred Hartman.
Max	McLean	2,093	4	6.8	......	43	26	−37	8	48	0.65	......	0.20	6.5	4	11	4	13	nw.	A. W. Rice.
Mayville	Traill	975	37	7.4	−2.1	44	27†	−35	7	41	0.37	−0.08	0.20	3.7	4	9	14	5	nw.	H. B. Addicott.
Minot	Ward	1,557	37	9.0	−0.7	45	26†	36	8	56	0.12	−0.35	0.06	1.8	2	16	8	4	nw.	Julia B. Rue.
Mohall	Renville	1,646	39	5.7	−1.4	41	26	−38	7	62	0.10	−0.22	0.10	1.2	1	14	10	4	w.	G. V. Davidson.
Mott	Hettinger	2,424	26	11.7	−1.8	48	26	−40	7	42	0.34	−0.24	0.17	4.0	3	9	5	14	nw.	O. H. Opland.
Napoleon	Logan	1,955	41	8.4	+0.1	54	26	−41	7	54	0.20	−0.23	0.05	2.0	4	10	4	14	nw.	C. J Hoof.
New England	Hettinger	2,400	39	13.0	−1.1	49	26	−38	6	57	0.32	−0.18	0.24	4.0	2	17	7	4	nw.	F. S. Sieight.
New Salem	Morton	2,163	29	10.0	−3.1	48	26	−36	7	58	0.41	−0.03	0.15	6.0	7	16	5	7	nw.	J. Christiansen.
Oakes	Dickey	1,318	4	11.3	......	56	26	−34	7	49	0.18	......	0.18	2.0	1	14	7	7	nw.	Eugene Naylor.
Park River	Walsh	998	29	6.6	−1.1	41	27	−33	7	56	0.10	−0.30	0.07	4.0	2	11	7	10	nw.	C. B. Wright.
Parshall	Mountrail	1,929	18	7.5	......	40	25	−42	7	54	0.11	−0.25	0.11	1.0	1	7	17	4	sw.	C. E. Shubert.
Pembina	Pembina	789	59	1.1	−1.9	39	27	−37	8	45	0.30	−0.43	0.11	4.9	7	9	4	15	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	......	......	....	....	....	....	......	0.06	......	0.03	0.6	4	17	6	5	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	24	7.6	−1.2	42	28	−38	7	49	0.78	+0.35	0.31	8.5	5	11	10	7	nw.	H. H. McCumber.
Portal	Burke	1,954	28	5.0	−0.4	41	25	−40	7	50	0.08	−0.35	0.05	1.0	2	14	4	10	w.	R. G. Wegener.
Power‡‡	Richland	1,020	39	......	......	....	....	....	....	......	0.56	−0.08	0.24	7.0	4	9	9	10	nw.	Frank B. Power.
Powers Lake	Burke	2,205	28	6.0	......	45	27	−38	8	39	0.24	−0.24	0.24	3.0	1	18	6	4	e.	Geo. B. Gee.
Richardton	Stark	2,467	17	9.6	−5.6	46	26†	−42	7	64	0.20	−0.17	0.20	2.0	1	11	15	2	nw.	John Muggli.
Rugby (near)	Pierce	1,562	4	......	......	....	....	....	....	......	0.12	......	0.05	1.5	6	10	8	10	nw.	E. C. Erickson.
Ryder	Ward	2,108	4	......	......	....	....	....	....	......	0.21	......	0.35	5.0	2	....	....	....	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	5.8	......	47	28	−42	7†	64	1.00	......	0.30	10.0	5	11	4	13	nw.	Geo. Buerkle.
Sharon	Steele	1,516	9	6.2	......	39	26†	−35	7	47	0.17	......	0.10	1.5	4	8	13	7	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	......	......	....	....	....	....	......	0.20	......	0.20	2.0	1	11	9	8	nw.	J. H. Giffey.
Steele	Kidder	1,857	39	7.0	−2.4	47	26	−41	7	50	0.10	−0.37	0.05	2.0	3	11	10	7	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	18	......	......	....	....	....	....	......	0.14	−0.41	0.14	1.5	1	15	5	8	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	......	......	....	....	....	....	......	0.72	......	0.24	9.0	4	16	6	6	nw.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	....	....	....	....	......	0.60	......	0.20	6.0	6	10	5	13	nw.	Anton Carlson.
Towner	McHenry	1,482	31	5.8	−1.9	40	26	−41	8†	54	0.02	−0.42	0.02	0.2	1	15	8	5	nw.	Karl Weber.
Trotters	Golden Valley	......	7	......	......	....	....	....	....	......	0.21	......	0.10	2.5	3	10	8	10	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	......	......	....	....	....	....	......	0.13	−0.28	0.06	1.6	3	....	....	....	......	M. A. Slettum.
Valley City	Barnes	1,245	27	7.3	−4.2	46	26	−35	7	51	0.37	−0.12	0.15	4.0	5	17	6	5	w.	I. C. Robertson.
Velva	McHenry	1,511	6	8.9	......	43	27	−37	8	53	0.19	......	0.07	3.0	3	6	14	8	w.	Oscar Anderson.
Wahpeton	Richland	962	41	10.3	−1.7	49	26†	−32	8	44	0.55	+0.04	0.20	5.5	5	16	0	12	nw.	C. G. Luick.
Washburn	McLean	1,731	32	8.0	−1.5	47	26	−37	8	55	0.34	−0.05	0.15	5.0	3	16	2	10	nw.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	5.3	−1.7	39	23†	−38	7†	51	0.19	−0.01	......	2.0	......	16	9	3	nw.	C. M. Condit.
Williston	Williams	1,878	54	10.0	+1.9	44	26	−35	8	43	0.61	+0.20	0.22	5.9	5	12	10	6	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	3.0	−1.9	42	26	−41	7	52	0.10	−0.42	0.10	1.0	1	14	14	0	nw.	O. M. Sanderson.
Wishek	McIntosh	2,010	4	9.0	0.0	53	27	−34	7†	52	0.10	−0.49	0.10	1.0	1	14	0	14	nw.	Gottlieb Herr.
Zap	Mercer	1,838	18	......	......	....	....	....	....	......	0.12	−0.15	0.12	1.2	1	....	....	....	......	R. A. Norton.
Moorhead, Minn	Clay	935	52	7.4	−0.7	46	27	−31	7	44	0.43	−0.26	0.19	5.7	9	8	7	13	nw.	U. S. Weather Bureau.
Averages				7.9	−2.3	58	25	−45	7	65	0.28	−0.21	0.43	3.3	3	13	8	7	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for February, 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri				[illegible]		.06			T.	.05		.10								T.												[illegible]
Amenia	Red					T.	T.			T.	T.		T.							T.	T.	T.	T.										T.
Arnegard (near)	Missouri					.05	.20		.10																								0.35
Ashley	Missouri												.01																				0.01
Beach	Lit. Missouri					.04			.06			.05									T.												0.15
Berthold Agency	Missouri	T.			.08		.23						.07									T.											[illegible]
Bismarck ***	Missouri		.01		.10	.04			T.		T.	.05	.02								T.												[illegible]
Bottineau	Mouse				.02	.01	T.		T.	T.	T.		T.				T.	.06			.04	T.			.15								[illegible]
Bowman	Grand			.10	.05				.05	.13	.18										.03												0.54
Cando	Devils Lake	T.	.02		.03		.03	T.			T.		.02	T.				.01			.14	T.											0.25
Carrington‖	James				T.	T.	T.		T.	T.	T.		.10																				0.10
Carson	Heart				.16																												0.16
Cavalier	Red					.02					.02							.08			.12	.02			.01								[illegible]
Cooperstown	Sheyenne						.13	T.	T.	T.	T.		.16								T.												[illegible]
Corinth	Missouri				.30	.30		.10				.10												.05									[illegible]
Courtenay	James																																
Crosby	Mouse					.05																			.02								0.07
Devils Lake ***	Devils Lake	T.	.01		T.	.01	T.		.01		T.		.03		T.	T.	.01			T.	.04		T.	T.				T.					0.11
Dickinson‖	Heart			.01	.12	.05	.04	T.	.01	.02	.01	.02	.03			T.					T.	.01		T.									[illegible]
Dogden Butte	Mouse		T.		.25	T.							T.		T.						T.												0.25
Drake‖	Mouse				.02		.03					.02	.02											T.									0.09
Dunn Center	Knife					T.	T.														T.												T.
Dunseith	Mouse										.06										.18												0.24
Eckman	Mouse					T.	.03				.06	T.										.03			.09								0.21
Edgeley	James							.05																									0.05
Elmore	Devils Lake		T.								T.		.01		T.			T.		T.	.10	T.			.01			T.					0.12
Ellendale***	James		T.	T.	.02	.02	T.			T.	T.		.03								T.												0.07
Energy	Missouri		T.		.20	.10	.08				.10		.12																				0.60
Epping	Missouri				.10	.20	.10				.05		.06								T.	T.											0.51
Fairfield	Knife				.16																												0.16
Fessenden‖	James					.06	.08					.16	.11																				0.41
Forman	Sheyenne					T.		.03			T.	.04									T.												0.07
Fort Yates	Missouri				.16																												0.16
Foxholm (near)	Mouse				.15	.04							.02								T.	.02			T.								0.23
Fryburg	Heart												.08											T.	T.	T.	T.		T.				0.08
Fullerton	James					T.	.35			T.	.05		.22								T.												0.62
Gackle	James			.03	.20		.04						.15																				0.42
Garrison	Missouri		T.		.20							T.									T.												0.20
Grafton	Red										T.		T.		T.						.20												0.20
Grand Forks ***	Red	T.	T.	T.		.01	T.		T.		.01	.01	.03		T.			T.			.07			T.									0.13
Granville	Mouse		T.		T.	.08	.16		T.	T.	T.		.08					T.			.04												0.36
Hankinson	Red							T.	T.	T.	T.		.13						.22														0.35
Hannah	Pembina			T.			.02			T.	.06							.02		T.	.08	T.	.05	T.	.08								0.31
Hansboro	Devils Lake																				.15				.20								0.35
Hettinger	Grand				.03		.03		T.												T.												0.06
Hillsboro	Red												.06									T.					T.						0.06
Howard (near)	Missouri				*	*	*	*	*	*	.80														T.			.10					0.90
Jamestown	James					.07					.02										.10												0.19
Kenmare	Mouse			.06	T.					.02			T.							T.	.02	T.	T.	.01									0.11
Langdon	Pembina					.16					.08										.24				.04								0.52
Larimore	Red						T.														.06												0.06
Linton	Missouri			.01	.07																				T.								0.08
Lisbon	Sheyenne						.12						.16								.04												0.32
McClusky	Missouri					.24	.12		.08	.08	.12																						0.64
McLeod	Sheyenne						.13	T.	T.	.06	.03										.03												0.25
Maddock	Sheyenne		T.		T.	T.	T.			.13	.09		T.								T.		T.										0.22
Mandan‖	Missouri	T.	.02	.15		.06			T.	T.	T.	.11								T.	T.												0.34
Manfred	James	.01				.27			T.	.02			.08		.01			T.			.01		.02										0.42
Marmarth	Lit. Missouri		.03		.20		.04		.03	T.		.04					.10				.01												0.45
Mary	Lit. Missouri					.02	.04		.08																								0.14
Max‖	Missouri				.20				.20	.20			.05																				0.65
Mayville	Red		T.	T.	T.		.15		T.	T.	.01	.01	.20			T.					T.	T.											0.37
Minot	Mouse		T.		.06								.06																				0.12
Mohall	Mouse				.10												T.			T.	T.			T.									0.10
Mott	Cannon Ball	T.	T.	.09	.17		.08														T.												0.34
Napoleon‖	Missouri			.05		.05	.05						.05																				0.20
New England	Cannon Ball			.24		.08					T.																						0.32
New Salem	Heart		.01	.01	.11		.05		.15		.05		.03								T.												0.41
Oakes	James						T.		T.		T.		.18																				0.18
Park River	Red																				.07	.03											0.10
Parshall	Missouri				.11																												0.11
Pembina‖	Red			T.		T.	.11	T.		T.	T.	.04			T.	T.		.07	T.		.03	.02		.01	.02	T.							0.30
Petersburg	Red		T.			T.	.01				.01		.03								.01												0.06
Pettibone	James					.31	.15	T.	.10	.10	.12																						0.78
Portal‖	Mouse			.03					.05												T.												0.08
Power	Sheyenne					.24	.08		.16	T.			.08		T.								T.										0.56
Powers Lake	Missouri										.24																						0.24
Richardton	Heart		T.		.20																T.												0.20
Rugby [near]	Mouse					.01			.02	.05	.02	.01	.01					T.			T.				T.								0.12
Ryder	Missouri		.06										.35		T.						T.	T.											0.41
Sanish‖	Missouri				.30	.10	.10	.20	.30						T.																		1.00
Sharon	Red		T.			.03	T.		T.	.03			.10				T.	T.		T.	.01	T.	T.					T.					0.17
Stanton	Missouri		T.		.20	T.					T.																						0.20
Steele	Missouri			.02	.05		T.				T.		.03							T.	T.												0.10
Stowers	Cannon Ball		T.	T.	.14		T.		T.				T.	T.																			0.14
Tagus	Mouse			.16		.16	.24														.16												0.72
Tioga	Missouri			.10	.20	.10	.10	.05	.05	T.																							0.60
Towner	Mouse	T.			.02	T.	T.		T.																								0.02
Trotters	Lit. Missouri			T.	.07	.10					.04																						0.21
Turtle Lake	Missouri		.01		.06		.06																										0.13
Valley City	Sheyenne			T.			.07		T.	.01	T.		.12								.02		.15										0.37
Velva	Mouse				.07	T.	.05		T.	T.			.07								T.		T.										0.19
Wahpeton	Red						.10			.05			.10							.20	.10												0.55
Washburn	Missouri			T.	.10		.15				.09																						0.34
Westhope	Mouse																							.19									0.19
Williston ***	Missouri		.01		.20	.13						.22	T.								T.				.05								0.61
Willow City	Mouse		T.																			T.			.10								0.10
Wishek‖	Missouri												.10																				0.10
Zap	Knife			.12																													0.12
Moorhead, Minn ***	Red	T.	.01		T.	.16	.03	T.	T.	.01	.01		.09		T.					.06	.02		.04										0.43

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for February, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum..	11	13	-4	18	20	-14	-16	-4	14	6	9	9	15	20	22	26	28	29	21	20	30	35	37	41	43	44	44	40	....	....	....	19.9
	Minimum...	-6	-3	-10	-25	-29	-18	-38	-31	-29	10	-14	-10	-15	-9	-25	-10	-1	-4	0	4	-8	10	20	28	20	21	21	26	....	....	....	-5.2
Arnegard (near)	Maximum...	20	10	7	25	34	5	-17	-20	0	6	5	8	10	27	32	31	30	27	20	41	35	41	36	43	47	37	43	41	....	....	....	22.3
	Minimum...	-9	0	-16	-18	2	-26	-37	-37	-22	0	-11	-20	-9	-6	1	11	10	5	6	7	25	24	27	20	27	27	19	15	....	....	....	0.5
Ashley	Maximum...	23	14	8	3	29	28	-14	-14	-3	13	5	4	8	11	30	26	31	33	28	23	35	37	42	38	45	54	47	48	....	....	....	22.6
	Minimum...	-4	-5	-10	-19	-16	-23	-35	-35	-29	-12	-18	-6	-10	-8	-15	6	15	10	14	8	4	22	28	30	18	23	32	21	....	....	....	-0.5
Beach	Maximum...	20	13	9	28	37	4	-12	-21	0	7	8	7	7	14	26	33	31	32	31	28	40	36	41	34	39	45	39	42	....	....	....	22.1
	Minimum...	-8	-6	-15	-6	4	-27	-38	-38	-21	0	-25	-12	-22	-8	3	10	9	11	3	10	14	24	22	23	17	25	25	16	....	....	....	-0.4
Berthold Agency	Maximum...	11	10	4	7	38	5	-6	-15	0	13	8	4	10	5	40	32	38	38	30	22	42	35	44	35	40	44	40	40	....	....	....	21.9
	Minimum...	-18	0	-21	-18	-14	-23	-42	-35	-21	-11	-17	-7	-18	-18	-22	-2	12	12	0	7	8	8	30	28	12	24	30	18	....	....	....	-3.5
Bismarck	Maximum...	16	10	4	1	37	1	-13	-17	0	12	4	4	10	7	31	29	32	30	28	22	37	36	41	37	42	54	41	44	....	....	....	20.7
	Minimum...	-4	2	-14	-16	-14	-28	-38	-35	-17	-11	-16	-8	-13	-12	-15	5	18	14	12	7	7	26	32	28	21	27	31	23	....	....	....	0.4
Bottineau	Maximum...	5	4	-3	29	11	-18	-19	-6	0	-3	-2	9	9	20	19	22	28	26	21	23	28	36	38	31	39	38	32	30	....	....	....	16.0
	Minimum...	-10	-18	-17	-24	-23	-27	-42	-38	-30	-12	-23	-11	-19	-8	-26	-10	3	0	14	0	-10	8	17	25	3	22	28	8	....	....	....	-8.2
Cando	Maximum...	8	7	5	14	21	28	17	-17	-3	-6	-1	2	2	8	23	23	21	29	27	27	23	26	35	34	37	39	40	42	....	....	....	18.2
	Minimum...	-11	-14	-24	-22	-24	-25	-38	-33	-31	-10	-19	-15	-16	-5	-21	-13	2	12	8	4	8	10	19	17	10	14	16	13	....	....	....	-6.7
Carrington §§	Maximum...	9	-5	-2	32	4	-14	-12	8	10	3	3	6	5	23	25	28	33	23	23	33	35	37	40	38	42	49	45	38	....	....	....	20.0
	Minimum...	-11	-11	-16	-17	-17	-34	-28	-33	-26	-14	-11	-13	-13	-15	-12	-9	13	11	12	12	-11	6	12	17	19	24	15	12	....	....	....	-4.8
Crosby	Maximum...	9	12	18	17	36	-8	-10	-12	20	10	2	1	6	6	25	26	27	29	30	26	39	38	36	37	42	38	38	37	....	....	....	20.5
	Minimum...	-4	-10	-18	-13	-13	-28	-35	-38	20	-14	-23	-15	-17	-17	-15	-3	12	13	7	0	2	19	24	24	26	28	27	14	....	....	....	-3.1
Devils Lake	Maximum...	9	6	-7	-10	33	-7	-15	-20	-1	8	0	2	7	2	24	24	23	29	23	15	28	30	36	36	38	44	39	35	....	....	....	15.4
	Minimum...	-11	-9	-22	-20	-20	-30	-35	-33	-20	-13	-15	-8	-14	-15	-18	-11	8	16	11	-5	-2	14	25	29	18	25	30	19	....	....	....	-3.8
Dickinson §§	Maximum...	16	9	26	26	37	-18	-12	-13	11	11	4	0	8	8	26	30	29	30	28	22	39	35	41	34	39	44	36	43	....	....	....	21.0
	Minimum...	-18	-16	-13	-18	-3	-19	-37	-36	-34	-13	-22	-21	-21	-18	-19	2	9	8	5	8	8	20	22	24	16	18	27	16	....	....	....	-4.5
Dunn Center	Maximum...	17	13	5	24	37	10	2	-21	2	11	7	3	9	7	27	31	30	33	30	23	40	35	39	35	42	44	38	35	....	....	....	21.7
	Minimum...	-18	1	-17	-16	3	-25	-37	-35	-23	-11	-17	-4	-17	-7	-20	-3	13	14	7	8	7	26	28	29	8	24	26	16	....	....	....	-1.4
Dunseith	Maximum...	15	6	7	-6	31	4	-19	-20	-5	-5	-2	1	5	4	20	27	22	29	26	24	26	28	38	38	32	40	35	34	....	....	....	15.5
	Minimum...	-4	-17	-9	-24	-21	-28	-38	-37	-31	-16	-24	-11	-20	-5	-21	-10	3	7	16	-2	-8	10	15	24	7	15	15	10	....	....	....	-7.3
Edgeley	Maximum...	22	15	8	5	31	30	20	-19	-2	15	8	10	10	11	33	31	31	32	29	24	35	38	41	39	48	55	50	46	....	....	....	24.9
	Minimum...	-8	-5	-8	-20	-25	-21	-35	-31	-27	-12	-15	-5	-10	-5	-15	0	5	12	14	9	5	24	28	32	30	35	33	24	....	....	....	0.3
Ellendale	Maximum...	24	11	8	0	30	0	-13	-19	-2	17	8	7	9	13	30	21	32	30	26	25	37	40	45	42	47	56	48	47	....	....	....	22.1
	Minimum...	-4	-4	-18	-19	-20	-26	-32	-31	-19	-12	-15	-1	-7	-11	-18	3	15	9	18	7	6	27	30	29	22	22	25	23	....	....	....	0.0
Fessenden §§	Maximum...	12	10	12	10	35	-18	-16	-18	11	9	2	3	3	4	27	25	30	37	25	15	31	35	40	36	40	45	39	37	....	....	....	18.6
	Minimum...	-11	-6	-16	-18	-20	-20	-35	-34	-35	-7	-18	-11	-16	-5	-22	-10	-5	-13	-15	9	-1	4	23	27	15	18	30	20	....	....	....	-6.1
Foxholm (near)	Maximum...	8	9	0	-5	36	3	-14	-17	-1	10	1	2	6	4	23	23	28	30	28	26	31	35	37	34	37	43	38	34	....	....	....	17.6
	Minimum...	-8	-11	-18	-20	-19	-29	-38	-40	-24	-15	-18	-11	-14	-8	-19	-8	13	15	13	2	0	17	24	26	17	25	29	14	....	....	....	-3.8
Fullerton	Maximum...	16	11	5	-2	29	29	-15	-17	-2	21	7	7	9	11	28	25	31	34	27	24	35	39	42	40	46	54	47	44	....	....	....	22.3
	Minimum...	-6	-3	-9	-19	-20	-22	-34	-31	-26	-11	-15	-3	-6	-6	-17	2	8	10	17	6	-6	25	29	33	22	23	34	24	....	....	....	0.0
Garrison	Maximum...	10	9	8	-2	34	22	-15	-23	0	4	3	8	7	6	27	29	30	31	25	25	40	40	42	35	41	43	42	40	....	....	....	20.0
	Minimum...	-10	-3	-17	-22	-18	-23	-35	-35	-24	-15	-6	-18	-6	-3	-18	-2	22	13	10	6	5	22	27	25	26	22	31	17	....	....	....	-1.0
Grafton	Maximum...	13	13	11	-2	19	9	-14	-11	-3	10	7	8	10	9	21	22	21	31	30	26	16	23	39	38	39	39	41	38	....	....	....	18.0
	Minimum...	-12	-8	-14	-26	-25	-21	-34	-30	-29	-8	-16	-8	-11	-4	-22	-10	6	11	12	4	-10	13	17	30	20	20	34	21	....	....	....	-3.6
Grand Forks	Maximum...	9	10	3	-10	14	-5	-12	-18	-1	12	8	9	9	5	18	9	21	30	26	19	17	23	38	38	39	41	43	36	....	....	....	15.4
	Minimum...	-13	-10	-24	-28	-26	-27	-33	-29	-24	-10	19	-5	-13	-12	-21	-11	10	10	13	-7	-9	13	22	31	22	26	34	24	....	....	....	-4.1
Granville	Maximum...	8	10	-8	-7	36	-13	-20	-25	2	-4	11	4	10	6	25	25	31	30	29	17	35	36	40	40	38	45	39	36	....	....	....	17.0
	Minimum...	-10	-12	-12	-23	-20	-25	-37	-36	-22	-13	-13	-8	-15	-5	-22	-12	13	13	9	2	0	16	18	22	17	27	32	17	....	....	....	-3.5
Hansboro	Maximum...	10	5	0	15	27	10	10	-21	-3	-5	-8	-3	3	5	16	16	22	27	27	22	18	26	34	36	32	34	35	33	....	....	....	13.3
	Minimum...	-12	-11	-20	-26	-21	-25	-34	-35	-36	-8	-21	-11	-17	-10	-24	-16	3	10	10	0	-12	10	10	10	11	11	12	8	....	....	....	-8.7
Hettinger	Maximum...	26	12	9	27	37	33	-10	-14	-4	9	11	9	11	16	29	35	29	34	29	27	40	36	44	37	41	56	41	48	....	....	....	24.9
	Minimum...	-8	12	-11	-13	0	-22	-37	-36	-23	-9	-22	-2	-11	-9	-4	14	11	7	10	12	12	21	28	27	18	25	29	18	....	....	....	0.5
Hillsboro	Maximum...	20	20	8	-10	14	14	-13	-17	-4	-5	2	12	11	7	15	15	21	30	28	25	18	33	49	46	35	42	39	37	....	....	....	17.6
	Minimum...	6	-4	-10	-23	-28	-20	-34	-30	-30	-7	-12	-8	-15	-3	-23	-9	-1	10	15	18	-6	12	24	22	23	22	23	25	....	....	....	-2.2
Howard (near)	Maximum...	10	10	4	25	35	-18	-15	-22	2	6	3	-1	5	4	25	27	27	29	26	20	37	34	37	37	40	38	36	39	....	....	....	17.9
	Minimum...	-3	-10	-10	-15	-18	-28	-33	-39	-26	-15	-22	-15	-17	-16	-15	-2	5	10	5	-1	5	17	17	22	20	29	16	12	....	....	....	-4.5
Jamestown	Maximum...	14	9	5	-7	32	13	-16	-25	-3	11	4	4	8	8	30	23	30	33	27	20	33	35	39	37	43	50	44	39	....	....	....	19.3
	Minimum...	-12	-5	-18	-22	-22	-22	-38	-35	-27	-13	-16	-7	-15	-6	-23	-5	12	14	13	2	0	19	26	31	19	23	33	22	....	....	....	-2.6
Langdon	Maximum...	12	14	15	6	5	-28	-28	-29	-15	0	5	8	7	2	21	21	20	30	22	11	20	28	27	38	40	38	42	34	....	....	....	13.1
	Minimum...	-15	-17	-20	-18	-28	-35	-40	-41	-42	-35	-22	-15	-18	-17	-26	-19	-15	4	8	4	14	4	10	27	8	25	12	20	....	....	....	-9.9
Larimore	Maximum...	17	14	9	-11	25	6	-15	-18	-5	10	5	5	8	5	24	19	25	34	28	20	19	28	39	38	41	40	42	37	....	....	....	17.5
	Minimum...	-6	-6	-15	-23	-24	-20	-32	-29	-29	-10	-16	-6	-14	-3	-21	-10	5	14	14	0	-7	14	22	30	20	26	22	22	....	....	....	-2.6
Linton	Maximum...	20	9	9	3	34	34	-17	-17	-3	12	9	5	12	10	32	32	34	31	29	26	23	37	42	39	44	56	52	48	....	....	....	23.4
	Minimum...	-5	-5	-12	-24	-22	-22	-41	-36	-35	-24	-24	-7	-13	-11	-19	5	14	8	7	3	8	10	27	26	15	22	30	16	....	....	....	-3.9
Lisbon	Maximum...	16	14	6	0	20	-12	-15	27	-4	10	7	10	10	14	24	18	32	35	30	24	25	40	41	41	47	55	48	42	....	....	....	19.7
	Minimum...	-1	-3	-5	-10	-23	-18	-34	-31	-28	-8	-16	-4	-11	-10	-24	-2	5	15	11	9	3	12	28	30	25	22	24	25	....	....	....	-0.7
McClusky	Maximum...	13	16	5	-1	33	20	-16	-18	-2	9	1	1	-1	3	25	24	29	31	26	23	29	32	40	38	38	39	40	42	....	....	....	18.5
	Minimum...	-2	-4	-18	-21	-19	-25	-38	-37	-25	-15	-19	-12	-20	-9	-18	-2	15	13	16	3	2	19	26	23	14	23	32	16	....	....	....	-2.9
Maddock	Maximum...	8	8	6	-4	34	20	-14	-18	-2	10	2	1	7	6	25	26	27	29	27	20	28	29	37	35	38	44	45	38	....	....	....	18.3
	Minimum...	-11	-11	-18	-21	-20	-25	-39	-37	-31	-11	-17	-8	-18	-6	-24	-12	5	7	8	3	-4	15	21	27	17	23	30	24	....	....	....	-4.8
Marmarth	Maximum...	17	17	10	31	39	25	9	-16	-3	10	10	10	10	16	30	31	30	29	30	28	43	40	41	37	41	45	39	31	....	....	....	23.6
	Minimum...	-21	-9	-12	-14	12	-23	-45	-34	-22	-9	-31	-5	-21	-8	-2	13	8	4	5	11	16	14	25	28	13	21	25	6	....	....	....	-2.0
Minot	Maximum...	11	11	9	-4	37	9	-13	-15	2	-6	6	6	9	10	26	26	31	35	30	26	38	40	40	37	39	45	45	40	....	....	....	20.4
	Minimum...	-12	-11	-14	-19	19	-25	-35	-36	-25	-13	-16	-9	-14	-4	-22	-10	14	15	16	5	3	19	25	28	18	25	31	15	....	....	....	-2.5
Mohall	Maximum...	7	8	-8	-8	35	-24	-26	-10	8	0	2	0	9	-2	25	25	31	26	27	20	36	34	36	34	39	41	35	32	....	....	....	15.4
	Minimum...	-12	-18	-20	-20	-27	-35	-38	-28	-12	-15	-13	-14	-5	-22	-11	-3	17	16	6	2	11	19	28	12	12	30	14	15	....	....	....	-4.0
Mott	Maximum...	15	12	3	26	28	17	-15	-25	-2	11	17	4	5	16	29	38	35	32	30	24	41	39	41	40	38	48	46	40	....	....	....	22.6
	Minimum...	0	0	-13	-16	16	-21	-40	-38	30	-10	-24	10	-12	-15	-5	3	12	14	11	8	12	20	28	30	21	32	27	22	....	....	....	0.8
Napoleon §§	Maximum...	15	8	-3	-2	32	-10	-17	-15	8	11	4	3	8	7	29	28	30	35	21	19	35	35	40	36	42	54	38	49	....	....	....	19.3
	Minimum...	-8	-11	-10	-25	-22	-15	-41	36	-35	-12	-24	-9	-16	-6	-19	-3	16	13	13	8	1	22	27	29	16	23	33	19	....	....	....	-2.6
New Salem	Maximum...	18	9	8	-1	35	35	-7	-15	-3	11	1	0	7	4	28	29	30	30	26	22	36	34	39	35	40	48	40	40	....	....	....	20.7
	Minimum...	0	-2	-13	-18	-15	-23	-36	-35	-25	-10	-19	-10	-16	-5	-13	3	13	17	9	8	5	20	26	24	20	26	30	21	....	....	....	-0.6
Oakes	Maximum...	20	15	8	-3	25	15	12	-18	-2	17	10	11	12	15	27	23	35	32	29	26	36	42	44	42	50	56	51	45	....	....	....	23.2
	Minimum...	-6	-4	-11	-20	-24	-21	-34	-30	-26	9	-17	-3	-9	-13	-22	1	6	10	16	8	5	18	30	32	23	23	37	23	....	....	....	-0.6
Pembina §§	Maximum...	6	10	-6	-12	10	-21	-14	-23	2	4	3	6	8	1	18	16	17	30	20	11	16	23	37	36	35	37	39	30	....	....	....	12.1
	Minimum...	-12	-8	-8	-29	-26	-21	-34	-37	-34	-27	-22	-23	-14	-13	-27	-23	15	2	8	7	-11	-8	11	20	16	14	19	18	....	....	....	-9.9
Sharon	Maximum...	16	8	5	-8	22	0	-15	-26	-3	8	1	4	6	7	20	15	24	32	28	20	18	27	36	36	37	39	39	38	....	....	....	15.5
	Minimum...	-7	-4	-16	-24	-25	-23	-35	-31	-26	-11	-14	-6	-16	-8	-21	-9	6	11	14	0	-4	16	21	28	19	25	33	21	....	....	....	-3.1
Steele	Maximum...	13	8	-7	-5	29	18	-21	-21	-4	12	-1	2	5	3	24	22	29	32	20	18	31	34	36	35	38	47	40	39	....	....	....	17.0
	Minimum...	-7	-0	-13	-22	-21	-24	-41	-36	-26	-12	20	-11	-18	-11	-19	-2	18	9	14	6	2	17	29	26	14	24	29	19	....	....	....	-3.0
Towner	Maximum...	5	8	6	-5	34	19	-15	-15	0	8	0	1	7	4	24	24	24	28	23	23	30	30	39	35	36	40	38	35	....	....	....	17.4
	Minimum...	-11	-16	-18	-22	-20	25	-37	-41	-41	-13	-16	-9	-16	-6	-25	-15	12	8	14	1	-3	12	16	26	11	23	33	16	....	....	....	-5.8
Valley City	Maximum...	16	12	10	-12	16	-11	-14	-17	-5	10	2	6	8	9	26	27	27	32	29	21	22	32	37	37	43	46	43	41	....	....	....	17.6
	Minimum...	-10	-2	-9	-23	-20	-20	-35	-30	-30	-8	-16	-10	-13	-5	-25	-8	8	10	16	-6	0	15	22	26	18	16	33	23	....	....	....	-3.0
Wahpeton	Maximum...	13	14	9	-1	12	12	-18	-16	-4	14	6	10	10	14	28	29	28	35	35	30	22	36	40	42	46	49	49	48	....	....	....	21.1
	Minimum...	-2	-4	-10	-25	-27	-18	-31	-32	-26	-9	-14	-2	-8	-6	-16	-3	5	14	19	9	-3	13	13	30	27	27	36	28	....	....	....	-0.5
Westhope	Maximum...	7	9	6	12	35	7	-11	-15	0	9	0	1	11	6	23	20	28	26	34	22	27	28	39	34	39	38	37	32	....	....	....	18.0
	Minimum...	-16	-17	-21	-23	-16	-27	-38	-38	-26	-14	-20	-17	-16	-10	-24	-13	4	5	13	1	-3	10	17	27	5	13	28	8	....	....	....	-7.4
Williston	Maximum...	7	13	4	27	34	-7	-11	-17	7	11	1	2	8	6	25	30	32	31	28	21	43	37	39	36	43	44	37	43	....	....	....	20.5
	Minimum...	-14	-1	-14	-8	-7	-26	-34	-35	-17	-12	-17	-11	-16	-10	-18	0	13	15	6	5	10	26	28	27	23	31	27	19	....	....	....	-0.4
Moorhead, Minn	Maximum...	12	9	7	-12	12	-4	-18	-19	-3	14	4	8	9	10	23	14	24	31	27	22	19	29	39	38	39	42	46	38	....	....	....	16.4
	Minimum...	-6	-2	-16	-22	-25	-23	-31	-28	-19	-13	-13	-7	-12	-8	-21	-6	8	11	17	-3	-4	14	24	28	25	23	33	28	....	....	....	-1.7

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 3-21-33—1050]

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CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XLII Bismarck, N. D., March, 1933 No. 3

GENERAL SUMMARY

While mild and pleasant weather prevailed throughout the state during the greater part of the month, soil conditions were such that practically no spring work on farms could be accomplished until the last few days in the month, due to frozen ground and occasional snow banks. The precipitation, while below the normal, was practically all absorbed by the soil, and surface moisture conditions were excellent generally. Winter rye came through as a rule in good condition.

TEMPERATURE

The mean temperature for the state was 28.5°, or 4.4° above the normal, and 9.6° higher than the mean for March, 1932. The highest mean reported was 33.0° at Carson, Grant County; the lowest was 20.2° at Pembina, Pembina County. The highest temperature reported was 70° at Berthold Agency, McLean County on the 28th, at Fort Yates, Sioux County on the 30th, and at Sanish, Mercer County on the 29th; the lowest was -14° at Bottineau, Bottineau County, Dunseith, Rolette County, and Hannah, Cavalier County on the 9th. The greatest monthly range of temperature was 78° at Howard, Williams County; the least was 55° at Hillsboro, Traill County. The greatest daily range of temperature was 57° at Cando, Towner County on the 5th.

PRECIPITATION

The average precipitation for the state was 0.45 inch, or 0.25 inch below the normal, and 0.18 inch less than the average for March, 1932. The greatest monthly amount reported was 1.85 inches at Hankinson, Richland County; the least was a trace at Berthold Agency, McLean County. The greatest amount recorded in any 24 consecutive hours was 1.50 inches at Hankinson, Richland County on the 29th. The average number of days with 0.01 inch or more of precipitation was 3. The average snowfall was 3.7 inches.

MISCELLANEOUS PHENOMENA

Auroras: Arnegard, Drake, Velva, 20th; Bottineau, 19th, 27th, 30th; Devils Lake, 13th, 17th, 20th; Dogden Butte, Epping, 28th; Eckman, 13th, 17th, 18th, 19th, 20th, 22d, 25th, 27th, 30th; Edmore, Moorhead, 19th, 21st; Ellendale, 21st; Fessenden, 3d; Foxholm, 13th, 18th, 19th, 20th, 22d, 23d, 26th, 27th; Grand Forks, 10th, 17th, 18th, 19th, 20th, 21st, 22d, 23d; Hannah, 20th, 21st; Hansboro, 21st, 22d; Howard, 25th, 27th, 30th; Napoleon, Trotters, 18th, 21st; Oakes, 19th, 20th, 21st, 27th; Pembina, 2d, 14th, 17th, 18th, 19th, 20th, 21st, 22d, 23d, 26th, 27th; Petersburg, 18th, 19th, 21st, 23d; Pettibone, 16th, 19th, 20th, 21st, 22d, 28th; Rugby, 18th, 19th, 20th, 22d, 27th; Sharon, 19th, 20th, 21st; Stowers, 19th, 20th; Towner, 17th, 19th, 20th, 21st, 22d, 24th, 28th; Willow City, 18th, 19th, 20th, 21st, 30th.

Fog: Bismarck, 6th, 12th, 25th, 29th; Devils Lake, 2d, 29th, 31st; Eckman, Sharon, Steele, 29th; Ellendale, 7th, 12th, 26th; Epping, Howard, Linton, New Salem, Trotters, Williston, 25th; Grand Forks, 2d, 3d, 13th, 29th, 30th; Hannah, 13th, 29th; Hansboro, 12th; Kenmare, 2d; Moorhead, 30th; Petersburg 7th.

Halos, lunar: Devils Lake, 3d, 4th; Dogden Butte, 15th; Epping, 6th; Grand Forks, 8th, 9th, 12th; Linton, 12th; Moorhead, 2d, 10th; Towner, 5th.

Halos, solar: Bismarck, Epping, Williston, 8th; Devils Lake, 2d, 12th, 13th, 18th, 23d, 28th; Dogden Butte, 18th, 23d, 28th; Ellendale, 11th, 18th, 19th, 22d, 23d; Foxholm, 8th, 12th, 14th; Grand Forks, 9th, 11th; Linton, 9th; Moorhead, 4th, 11th, 12th, 17th, 18th, 19th, 20th, 23d, 29th, 30th; Oakes, 18th; Rugby, 2d, 18th, 24th; Towner, 7th.

Sleet: Devils Lake, Portal, Valley City, Williston, 7th; McLeod, 24th; Mandan, 3d, 4th; New England, 17th; Velva, 4th.

Thunerstorms: Hankinson, Linton, Oakes, Pembina, Petersburg, Pettibone, Sharon, Moorhead, 29th; McLeod, 29th, 30th; Napoleon, 7th, 29th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	Percentage of sunshine
Bismarck	30.06	30.51	2	29.38	12	9.4	37	nw.	8	82	57	57	52
Devils Lake	30.09	30.65	2	29.34	7	10.0	43	nw.	7	91	65	73	71
Ellendale	30.09	30.55	2	29.34	13	13.3	47	nw.	8	86	52	....	69
Grand Forks	30.09	30.60	2	29.31	7	......	38	nw.	8	86	....	73	....
Williston	30.20	30.51	5	29.38	12	8.4	35	w.	7	80	61	62	59
Moorhead, Minn	30.10	30.63	2	29.32	13	9.5	40	nw.	8	87	71	69	58
Averages & ext's	30.10	30.65	2	29.31	7	10.1	47	nw.	8	85	61	66	62

† And other dates.

COMPARATIVE DATA FOR MARCH

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	24.2	+0.1	66	−35	0.83	+0.13	2.41	0.38	1.9	4	12	8	11
1893	13.9	−10.2	68	−35	0.99	+0.29	3.14	0.12	10.0	5	13	7	11
1894	24.8	+0.7	69	−22	1.45	+0.75	3.52	0.45	10.1	5	12	9	10
1895	23.2	−0.9	75	−35	0.16	−0.54	1.06	0.00	1.0	2	16	10	5
1896	15.7	−8.4	70	−35	1.18	+0.48	3.27	T.	8.0	8	12	10	9
1897	11.9	−12.2	58	−48	1.27	+0.57	3.37	0.03	8.0	7	15	7	9
1898	21.3	−2.8	79	−24	0.79	+0.09	2.16	0.16	6.7	5	13	8	10
1899	7.5	−16.6	72	−30	1.00	+0.30	2.99	0.11	10.0	5	12	10	9
1900	20.3	−3.8	77	−24	1.01	+0.31	2.65	0.15	8.5	5	14	7	10
1901	25.3	+1.2	85	−32	0.86	+0.16	2.56	0.06	5.2	5	15	8	8
1902	27.4	+3.3	65	−25	2.73	+2.03	6.26	0.51	11.7	8	10	6	15
1903	22.1	−2.0	80	−24	0.55	−0.15	1.58	0.00	5.1	3	12	6	13
1904	18.2	−5.9	64	−26	1.33	+0.63	2.24	0.30	11.5	5	11	6	14
1905	32.5	+8.4	81	−25	0.87	+0.17	2.50	0.00	2.3	4	11	8	12
1906	18.5	−5.6	67	−34	0.38	−0.32	2.00	T.	3.1	3	15	6	10
1907	23.1	−1.0	83	−20	0.70	0.00	3.25	T.	5.1	4	14	9	8
1908	21.1	−3.0	68	−31	1.16	+0.46	2.90	0.08	12.1	8	10	9	12
1909	24.0	−0.1	61	−24	0.32	−0.38	2.57	0.00	2.7	4	10	9	12
1910	41.3	+17.2	90	− 7	0.97	+0.27	2.37	0.00	0.3	3	18	8	5
1911	30.6	+6.5	78	−18	0.24	−0.46	1.21	0.00	1.6	2	16	10	5
1912	15.4	−8.7	65	−28	0.33	−0.37	1.20	0.00	3.6	3	17	8	6
1913	17.2	−6.9	70	−31	0.81	+0.11	2.75	T.	8.2	6	12	9	10
1914	25.5	+1.4	76	−20	0.90	+0.20	1.82	0.24	9.2	5	10	9	12
1915	22.9	−0.8	63	−23	0.22	−0.48	1.37	0.00	2.0	2	16	[illegible]	9
1916	20.3	−3.8	69	−45	1.48	+0.78	4.12	0.30	13.5	6	11	9	11
1917	22.2	−1.9	67	−39	0.39	−0.31	1.50	0.00	3.9	3	13	10	8
1918	35.0	+10.9	82	−15	0.39	−0.31	1.20	0.00	2.9	2	16	8	7
1919	17.8	−6.3	67	−35	0.82	+0.12	2.63	0.08	6.2	4	12	9	10
1920	22.4	−1.7	67	−32	0.79	+0.09	2.18	T.	7.1	4	15	8	8
1921	25.2	+1.1	75	−22	1.00	+0.30	2.69	0.04	9.1	6	9	12	10
1922	25.8	+1.7	60	−30	0.72	+0.02	2.05	0.04	6.4	4	12	7	12
1923	18.3	−5.8	65	−35	0.41	−0.29	1.68	T.	4.8	4	10	10	11
1924	25.5	+1.4	58	−20	0.45	−0.25	1.45	T	4.4	4	10	9	12
1925	27.4	+3.3	75	−26	0.67	−0.03	2.00	0.05	6.0	4	14	9	8
1926	25.8	+1.7	83	−23	0.24	−0.46	1.27	0.00	1.8	3	13	10	8
1927	30.4	+6.3	77	−10	0.74	+0.04	2.26	0.00	6.5	5	13	8	10
1928	28.1	+4.0	85	−17	0.54	−0.16	2.60	0.00	4.8	3	15	8	8
1929	30.5	+6.4	77	−15	0.78	+0.08	3.00	0.00	5.3	5	12	8	11
1930	26.1	+2.0	62	−17	0.09	−0.61	0.80	0.00	0.9	1	17	8	6
1931	25.7	+1.6	63	−24	0.94	+0.24	2.33	0.07	4.8	5	11	8	12
1932	18.9	−5.2	64	−30	0.63	−0.07	2.40	T.	6.0	6	10	11	10
1933	28.5	+4.4	70	−14	0.45	−0.25	1.85	T.	3.7	3	14	10	7
Per..	24.1	....	90	−48	0.70	....	6.26	0.00	5.8	4	13	8	10

Climatological Data for March, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	....	7	....	....	....	....	....	....	....	1.17	....	0.61	....	5	....	....	....	....	H. A. Bury.
Amenia	Cass	954	37	28.5	+3.9	62	31	−6	9	35	0.20	−0.32	0.20	....	1	10	14	7	ne.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	31.6	+6.3	67	28	−4	9	35	0.57	−0.15	0.40	5.0	5	16	7	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	30.4	+6.1	66	31	−6	9	44	0.68	−0.34	0.32	13.0	3	19	6	6	nw.	H. D. Piper.
Beach	Golden Valley	2,759	27	31.4	+4.2	65	28	−2	9	42	0.74	+0.11	0.44	5.0	5	....	....	....	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	32.1	+6.1	70	28	−4	9	38	T.	−0.69	T.	T.	0	19	6	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	31.0	+6.8	64	31	−2	9	38	0.68	−0.21	0.34	7.1	2	9	13	9	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	24.0	+3.9	61	31	−14	9	42	0.26	−0.43	0.19	3.0	4	11	18	2	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	30.4	+2.7	64	29	−5	9	35	1.14	+0.68	0.43	10.0	9	15	9	7	se.	George Larsen.
Cando	Towner	1,488	32	26.6	+4.4	59	31	−10	9	57	0.07	−0.61	0.07	0.7	1	20	6	5	nw.	A. J. Swanson.
Carrington	Foster	1,579	35	27.8	+4.4	64	31	−8	9	41	0.35	−0.32	0.35	4.0	1	17	8	6	nw.	L. A. Swanson.
Carson	Grant	2,500	21	33.0	+6.7	64	28†	−3	9	33	0.80	+0.21	0.50	8.0	2	21	3	7	se.	J. W. Evens.
Cavalier	Pembina	894	23	....	....	....	....	....	....	....	0.09	−0.59	0.05	0.5	3	22	5	4	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	....	....	....	....	....	....	....	0.63	+0.05	0.53	5.0	2	5	12	14	sw.	Theo. Marquardt.
Corinth	Williams	2,180	5	....	....	....	....	....	....	....	0.10	....	0.05	0.5	3	21	5	5	se.	W. A. Clem.
Courtenay	Stutsman	1,523	4	....	....	....	....	....	....	....	0.45	....	0.40	4.0	2	16	14	1	nw.	Geo. E. Berg.
Crosby	Divide	1,954	26	29.3	+5.8	64	28	−8	9	33	0.25	−0.26	0.10	2.0	4	12	11	8	nw.	John Jensen.
Devils Lake	Ramsey	1,478	36	25.8	+6.0	60	31	−8	9	32	0.27	−0.51	0.25	3.6	4	8	9	14	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	30.8	+5.5	67	28	−3	9	43	0.24	−0.55	0.08	2.4	7	12	14	5	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	28.4	....	60	31	−7	9	40	0.35	....	0.30	4.0	2	12	11	8	nw.	R. L. Williams.
Drake	McHenry	1,634	4	27.6	....	61	31	−8	9	34	0.26	....	0.21	3.0	2	11	14	6	se.	Peter Anton.
Dunn Center	Dunn	2,191	34	31.4	+5.9	67	28	1	9	34	0.49	−0.43	0.49	1.0	1	13	7	11	e.	W. F. Moede.
Dunseith	Rolette	1,682	37	23.8	+3.6	58	31	−14	9	43	0.13	−0.53	0.07	2.4	2	11	12	8	se.	T. H. Tharalson.
Eckman	Bottineau	1,500	28	25.6	+2.7	61	30	−10	9	41	0.14	−0.34	0.10	2.0	2	9	19	3	se.	C. E. Strock.
Edgeley	LaMoure	1,568	32	30.8	+3.5	69	31	−6	9†	38	0.35	−0.31	....	3.5	2	5	22	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	24.0	....	55	31	−10	9	39	0.44	....	0.34	3.8	6	8	15	8	ne.	E. D. Warner.
Ellendale	Dickey	1,457	38	29.8	+4.2	65	31	−5	10	44	0.60	−0.23	0.37	4.1	5	6	14	11	ne.	U. S. Weather Bureau
Energy ‡‡	McLean	1,750	21	31.2	....	63	28	−4	9	35	0.50	0.00	0.35	3.0	3	7	18	6	nw.	H. S. Solenberger.
Epping	Williams	2,224	25	30.2	....	65	28	−9	8	33	0.11	−0.40	0.10	T	2	26	5	0	nw.	A. O. Wang.
Fairfield	Billings	....	4	....	....	....	....	....	....	....	0.50	....	0.30	5.0	2	13	15	3	nw.	F. R. Hecker.
Fessenden	Wells	1,610	21	26.8	+3.4	61	31	−8	9	34	0.77	+0.07	0.66	6.0	2	16	12	3	se.	T. D. Monsen.
Forman	Sargent	1,249	40	....	....	....	....	....	....	....	0.36	−0.44	0.20	3.0	2	18	9	4	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	33	32.1	+5.8	70	30	−1	9	45	0.40	−0.54	0.20	4.0	3	18	6	7	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	27.1	....	61	31	−10	9	35	0.53	−0.14	0.50	3.5	2	8	11	12	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	....	....	....	....	....	....	....	0.84	+0.12	0.30	8.0	5	14	13	4	nw.	Verne King.
Fullerton	Dickey	1,439	35	30.4	+3.6	65	31	−5	9†	40	0.88	−0.30	0.40	6.5	5	15	7	9	nw.	F. O. Alin.
Gackle	Logan	1,951	3	....	....	....	....	....	....	....	0.70	....	0.65	8.0	3	21	5	5	ne.	Geo. Hummel.
Garrison	McLean	1,901	56	30.3	+6.5	62	28	−5	9	41	0.10	−0.83	0.10	1.0	1	12	10	9	se.	W. F. Robinson.
Grafton	Walsh	827	41	26.0	+4.8	55	31	−7	9	40	0.12	−0.54	0.12	T.	1	13	9	9	n.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	42	26.4	+4.0	57	31	−7	9	32	0.40	−0.33	0.21	2.2	5	7	19	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	28.8	+4.7	65	31	−6	9	37	0.67	+0.19	0.27	4.0	3	15	8	8	se.	W. A. Christianson.
Hankinson	Richland	1,068	4	31.2	....	59	31	−4	8†	44	1.85	....	1.50	3.5	3	14	12	5	nw.	R. G. Stock.
Hannah	Cavalier	1,568	41	22.4	....	55	31	−14	9	41	0.18	−0.48	0.09	1.8	3	5	23	3	nw.	James Muir.
Hansboro	Towner	1,597	25	23.6	+3.0	54	31	−13	9	40	0.15	−0.57	0.10	3.0	2	18	10	3	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	26	32.9	+4.3	68	28	−1	9	40	0.52	−0.16	0.20	5.2	4	19	6	6	nw.	C. H. Plath.
Hillsboro	Traill	901	27	25.4^{f}	−0.2	50^{f}	30	−5^{f}	7	29^{f}	0.60	−0.07	0.42	....	3	....	....	....	....	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	28.6	+6.7	69	30	−9	9	43	0.11	−0.91	0.11	1.1	1	10	7	14	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	28.9	+4.9	65	31	−8	9	40	0.45	−0.46	....	4.5	2	19	8	4	nw.	S. Calvelage.
Kenmare	Ward	1,799	2	28.2	....	61	28	−7	9	37	0.27	....	0.26	3.0	2	4	17	10	nw.	R. Costello.
Langdon	Cavalier	1,615	37	21.6	+2.0	52	31	−13	9	39	0.20	−0.61	0.10	2.0	2	17	12	2	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	26.3	+4.0	55	31	−7	9	38	0.53	−0.23	0.40	3.7	3	17	8	6	ne.	Mabel Walsh.
Linton	Emmons	1,711	16	31.2	+3.5	67	31	−5	9	45	0.33	−0.15	0.26	3.1	2	8	20	3	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	29	30.0	+2.9	67	31	−5	9	40	0.08	−0.44	0.04	0.2	3	9	15	7	....	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	28.2	....	60	31	−8	9	36	0.60	−0.14	0.45	6.0	2	16	8	7	se.	Edw. Tapley.
McLeod	Ransom	1,075	22	29.4	+1.7	61	31	−4	9	49	0.31	−0.23	0.15	T.	3	17	6	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	18	26.8	+2.2	61	31	−10	9	43	0.33	−0.06	0.13	....	3	8	17	6	nw.	A. T. Felland.
Mandan	Morton	1,750	19	30.0	+3.3	63	28†	−3	9	40	1.02	+0.31	0.65	6.2	3	14	3	14	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	....	....	....	....	....	....	....	0.50	−0.25	0.20	4.5	3	....	....	....	....	P B. Anderson.
Marmarth	Slope	2,714	24	32.2	+4.5	65	28	−1	9	38	1.20	+0.62	0.60	14.5	6	15	6	10	....	S. P. Grane.
Mary	McKenzie	....	4	....	....	....	....	....	....	....	0.44	....	0.33	5.0	3	14	8	9	sw.	Fred Hartman.
Max	McLean	2,093	4	26.3'	....	60'	29†	−8'	9†	42'	0.07	....	0.05	0.8	2	....	....	....	....	A. W. Rice.
Mayville	Traill	975	37	26.6	+2.1	60	31	−8	9	39	0.30	−0.42	0.25	2.6	3	8	14	9	s.	H. B. Addicott.
Minot	Ward	1,557	37	29.4	+6.6	63	31	−7	9	36	0.24	−0.45	0.14	3.5	2	24	4	3	w.	Julia B. Rue.
Mohall	Renville	1,646	39	26.4	+5.5	61	28†	−8	8	42	0.60	−0.08	0.45	6.0	2	11	15	5	nw.	G. V. Davidson.
Mott	Hettinger	2,424	26	32.6	+5.7	60	28†	−3	8	39	0.56	−0.36	0.23	5.0	3	11	5	15	e.	O. H. Opland.
Napoleon	Logan	1,955	41	29.2	+6.5	68	31	−8	9	45	0.93	+0.10	0.60	7.5	4	17	5	9	se.	C. J. Hoof.
New England	Hettinger	2,400	39	32.4	+7.2	67	28	−2	8	41	0.35	−0.44	0.10	3.5	4	18	8	5	se.	F. S. Sleight.
New Salem	Morton	2,163	29	29.6	+3.7	61	31	−4	9	34	0.37	−0.46	0.27	3.5	2	12	10	9	se.	J. Christiansen.
Oakes	Dickey	1,318	4	31.0	....	69	31	−5	9	43	0.45	....	0.16	1.0	3	13	10	8	ne.	Eugene Naylor.
Park River	Walsh	998	29	25.0	+1.9	55	31	−10	9	39	0.77	+0.24	0.55	3.0	3	10	6	15	nw.	C. B. Wright.
Parshall	Mountrail	1,929	18	28.6	....	65	28	−6	9	33	0.33	+0.11	0.23	1.5	2	6	19	6	se.	C. E. Shubert.
Pembina	Pembina	789	59	20.2	+2.0	51	31	−10	9†	35	0.19	−0.68	0.15	0.7	3	7	11	13	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	....	....	....	....	....	....	....	0.44	....	0.23	2.0	3	12	12	7	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	24	28.8	+4.5	65	31	−9	11	39	0.30	−0.25	0.20	3.0	2	21	4	6	nw.	H. H. McCumber.
Portal	Burke	1,954	28	26.8	+9.1	63	27	−10	8	37	0.06	−0.58	0.06	0.0	1	15	5	11	se.	R. G. Wegener.
Power‡‡	Richland	1,020	39	....	....	....	....	....	....	....	0.15	−0.55	0.08	2.0	2	17	5	9	se.	Frank B. Power.
Powers Lake	Burke	2,205	28	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Geo. B. Gee.
Richardton	Stark	2,467	17	31.2	+4.1	68	28	−7	9	38	0.10	−0.43	0.10	1.0	1	8	15	8	nw.	John Muggli.
Rugby (near)	Pierce	1,562	4	....	....	....	....	....	....	....	0.26	....	0.10	2.6	6	12	12	7	nw.	E. C. Erickson.
Ryder	Ward	2,108	4	....	....	....	....	....	....	....	0.18	....	0.16	....	3	....	....	....	....	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	28.8	....	70	29	−3	9†	45	0.30	....	0.30	3.0	1	8	4	19	se.	Geo. Buerkle.
Sharon	Steele	1,516	9	25.9	....	60	31	−9	9	38	0.45	....	0.27	3.7	5	8	13	10	ne.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	....	....	....	....	....	....	....	0.27	....	0.27	3.0	1	8	15	8	se.	J. H. Giffey.
Steele	Kidder	1,857	39	29.2	+5.9	64	31	−6	9	37	0.40	−0.41	0.20	6.0	3	12	9	10	ne.	V. A. Laney.
Stowers‡‡	Adams	2,325	18	....	....	....	....	....	....	....	0.32	−0.47	0.32	3.0	1	26	0	5	....	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	....	....	....	....	....	....	....	0.30	....	0.30	3.0	1	14	16	1	nw.	J. C. Abbott.
Tioga	Williams	2,279	4	....	....	....	....	....	....	....	0.21	....	0.10	1.0	3	13	10	8	nw.	Anton Carlson.
Towner	McHenry	1,482	31	27.4	+5.3	64	31	−9	8	38	0.65	−0.08	0.35	4.0	5	21	6	4	nw.	Karl Weber.
Trotters	Golden Valley	....	7	....	....	....	....	....	....	....	1.27	....	0.43	14.5	4	7	18	6	....	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	....	....	....	....	....	....	....	0.42	−0.32	0.35	5.5	2	....	....	....	....	M. A. Slettum.
Valley City	Barnes	1,245	27	28.2	+2.2	64	31	−6	9	34	0.37	−0.20	0.24	2.0	4	22	6	3	n.	I. C. Robertson.
Velva	McHenry	1,511	6	29.4	....	65	31	−6	9	38	0.29	....	0.14	2.0	5	7	15	9	e.	Oscar Anderson.
Wahpeton	Richland	962	41	31.4	+3.9	58	28	−4	9	33	1.31	+0.53	1.05	....	4	21	0	10	se.	C. G Luick.
Washburn	McLean	1,731	32	29.2	+4.8	65	31	−4	9	43	0.61	+0.09	0.51	4.5	2	13	8	10	e.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	27.0	+5.0	64	31	−11	9	45	0.45	−0.01	0.29	3.6	4	20	10	1	se.	C. M. Condit.
Williston	Williams	1,878	54	31.9	+9.0	69	28	−3	9	37	0.29	−0.40	0.17	2.2	4	12	11	8	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	24.1	+4.4	63	31	−13	9	37	0.55	−0.18	0.30	5.5	3	18	11	2	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	4	26.3	0.0	61	12	−6	9	51	0.52	−0.20	0.46	5.2	2	18	0	13	se.	Gottlieb Herr.
Zap	Mercer	1,838	18	....	....	....	....	....	....	....	0.14	−0.49	0.14	1.4	1	....	....	....	....	R. A. Norton.
Moorhead, Minn.	Clay	935	52	28.0	+5.3	56	28	−5	9	32	0.37	−0.64	0.20	3.1	7	10	5	16	s.	U. S. Weather Bureau.
Averages	....	....	....	28.5	+4.4	70	28†	−14	9	57	0.45	−0.25	1.50	3.7	3	14	10	7	nw.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for March, 1933

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri				.61	.06					T							.15	.28			T.			.07								1.17
Amenia	Red							T		T.															T.	.20					T		0.20
Arnegard (near)	Missouri				.40	.05		.05											.02						.05								0.57
Ashley	Missouri				.06																				.32	.30				T			0.68
Beach	Lit. Missouri				.21							T.						T	.44			.03	.01		.02								0.71
Berthold Agency	Missouri				T	T		T.	T																T.								T.
Bismarck ***	Missouri				.34	T.		T.	T.	T.				T.											.34								0.68
Bottineau	Mouse				.19	.04		T.	T.								T.								T	.01	.02	T.					0.26
Bowman	Grand				.03	.34			T			.12							.43	.11		.03		.04	.02			T.			.02		1.14
Cando	Devils Lake																								T	.07							0.07
Carrington‖	James																								.35								0.35
Carson	Heart				.30																				.50								0.80
Cavalier	Red								.02																.05					.02			0.09
Cooperstown	Sheyenne								T.																	.53				T	.10	T.	0.63
Corinth	Missouri					.05		.03														.02											0.10
Courtenay	James							T.																	.40					.05			0.45
Crosby	Mouse				.10	.05		.05	.05																								0.25
Devils Lake ***	Devils Lake		T.					.01	T.																.22	.03	T.	T.		.01	T.		0.27
Dickinson‖	Heart					.05		T.	T.	T.		.01		T.					.03				.01	T.	.05	.08		.01			T.		0.24
Dogden Butte	Mouse				T.	.05		T.	T.																.30	T.							0.35
Drake‖	Mouse					.05			T.																	.21							0.26
Dunn Center	Knife					.49																			T.								0.49
Dunseith	Mouse				.06	T.			.07																T.		T.						0.13
Eckman	Mouse				.10	.04		T.	T.																								0.14
Edgeley	James																								*	.35							0.35
Edmore	Devils Lake							.01	.01		T.														.34	.05	.02			.01			0.44
Ellendale***	James					.01		T.		T.	.01	T		T.											.37					.06	.15		0.60
Energy	Missouri				.10	.05		T.				T.													.35								0.50
Epping	Missouri							.10										T.					T.	T	.01								0.11
Fairfield	Knife				.30																				.20								0.50
Fessenden‖	James				.11																					.66							0.77
Forman	Sheyenne					T.																			.20	T.				T.	.16		0.36
Fort Yates	Missouri				.10	.10						T.												.20									0.40
Foxholm (near)	Mouse				.50	.03		T.	T.																			T.					0.53
Fryburg	Heart				.25	.30												T.	.20		T.	T.	.05				.04						0.84
Fullerton	James					T.	.07	T.																	.25	.40				T.	.12	.04	0.88
Gackle	James				.03																				.65						.02		0.70
Garrison	Missouri					T.																			.10								0.10
Grafton	Red							T							T.											T.	T.			.12			0.12
Grand Forks ***	Red					T.		T.	.05	T.				T.	T.										.21	.02	T.			.06	.06		0.40
Granville	Mouse				.20	.20		T.																	.27								0.67
Hankinson	Red																								.30					1.50	.05		1.85
Hannah	Pembina							T.	.06	T.	T.	T.	T.		T.										T.	.09	.03	T.		T			0.18
Hansboro	Devils Lake								.05																.10								0.15
Hettinger	Grand				.20	.12						T.						T.	.16						.04						T.		0.52
Hillsboro	Red						.06																			.42					.12		0.60
Howard (near)	Missouri							T.										T.	.11	T.		T.	T.	T.	T.								0.11
Jamestown	James																								*	.45				T.			0.45
Kenmare	Mouse					.26		.01	T.																	T.							0.27
Langdon	Pembina																									.10	.10						0.20
Larimore	Red					T.		T.	T.			T.			.04										T.	.40				T.	.09		0.53
Linton	Missouri				T.	T.		T.																	.26	.07				T.			0.33
Lisbon	Sheyenne							.02																	.02						.04		0.08
McClusky	Missouri								T.																.45	.15							0.60
McLeod	Sheyenne							.02							T.										.15					T.	.14		0.31
Maddock	Sheyenne				.08	T.		T.	T.																.12	.13							0.33
Mandan‖	Missouri			.03	.34		T.	T.	T.	T.	T.														.65								1.02
Manfred	James				.20	T.		T																	.17	.13							0.50
Marmarth	Lit. Missouri					.55				T.	.01							.01	.60				.01	.02									1.20
Mary	Lit. Missouri				.33			.06										T.							.05								0.44
Max‖	Missouri					.05																				.02							0.70
Mayville	Red							T.	.01						T.											.25					.04		0.30
Minot	Mouse													.14	.10																		0.24
Mohall	Mouse				.45			.15																									0.60
Mott	Cannon Ball				.22														T.						.23		.11						0.56
Napoleon‖	Missouri				.10							.05														.60					.18		0.93
New England	Cannon Ball				.10						T.							.10							.10		.05						0.35
New Salem	Heart				.10																				.27								0.37
Oakes	James																								.13	.16				T.	.16		0.45
Park River	Red									T.															T.	.11				.11	.55		0.77
Parshall	Missouri				.23	.10																		T.		T.							0.33
Pembina‖	Red								.02	T.			.02													T.		T.	T.		.15		0.19
Petersburg	Red							.01																	.20		T.			.23			0.44
Pettibone	James				T.					T.		T.													.20	.10					T.		0.30
Portal‖	Mouse							.06																									0.06
Power	Sheyenne					T.																			.08						.07		0.15
Powers Lake	Missouri																																
Richardton	Heart				T.																				.10								0.10
Rugby [near]	Mouse				.08	.03		.02																	.10	.02	.01						0.26
Ryder	Missouri				.16		.01	T.	T.						T.									T.	.01								0.18
Sanish‖	Missouri				T.	.30																											0.30
Sharon	Red					T.		.01	T.	T.	T.			T.	T.	T.									.13	.27	T.			.01	.03		0.45
Stanton	Missouri																								.27								0.27
Steele	Missouri				.10	T.		T.	T.																.20	.10							0.40
Stowers	Cannon Ball				.32														T.						T.								0.32
Tagus	Mouse				.30																												0.30
Tioga	Missouri			.10			.10	.01																									0.21
Towner	Mouse				.35	.03	T.	.09	T.																.11	.07	T.						0.65
Trotters	Lit. Missouri			.43														.20	.43						.21								1.27
Turtle Lake	Missouri				.07																				.35								0.42
Valley City	Sheyenne							.01	T.																.10	.24					.02		0.37
Velva	Mouse				.08	.05		.01	T.																.14	.01							0.29
Wahpeton	Red								.05						.01											.20					1.05		1.31
Washburn	Missouri					.10						T.														.51							0.61
Westhope	Mouse				.29	.07	.06																				.03						0.45
Williston***	Missouri				.17			.07	T.										.01	T.		T.		T.	.04			T.					0.29
Willow City	Mouse				.30			T.	.15																.10								0.55
Wishek‖	Missouri				.06																					.46							0.52
Zap	Knife																								.14								0.14
Moorhead, Minn ***	Red					T.		.01	.05	T.	T.				.01	T.									.09	.11	T.			.09	.01		0.37

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 4-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for March, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia	Maximum	40	31	37	40	34	34	37	40	9	30	30	46	50	35	36	38	40	42	29	30	39	40	40	45	39	40	38	56	56	55	62	39.3
	Minimum	18	16	17	17	28	27	26	9	-6	-3	2	17	29	13	2	21	15	18	13	7	13	17	18	21	29	28	18	27	29	37	27	17.7
Arnegard (near)	Maximum	37	37	43	37	32	40	48	24	18	25	40	52	40	35	50	47	33	34	34	40	33	40	41	42	48	40	57	67	57	58	57	41.5
	Minimum	20	22	28	24	20	18	22	0	-4	0	7	24	30	14	21	23	24	23	23	17	25	28	29	27	24	30	23	32	38	31	32	21.8
Ashley	Maximum	43	40	43	40	48	36	51	49	14	32	36	45	61	32	48	49	40	35	32	32	40	41	45	35	38	42	41	55	55	58	66	42.6
	Minimum	22	21	22	27	27	23	20	5	-6	-4	15	25	28	19	9	24	18	19	10	4	6	8	14	21	24	23	14	28	37	36	27	18.1
Beach	Maximum	38	40	44	35	25	43	46	38	15	26	45	53	41	47	48	51	40	35	34	31	39	36	38	34	40	47	52	65	54	55	55	41.6
	Minimum	27	23	27	20	10	10	32	7	-2	15	3	27	27	20	22	27	28	23	20	2	23	20	30	23	17	17	25	34	36	31	33	21.2
Berthold Agency	Maximum	42	42	40	38	40	40	50	32	30	28	42	54	40	30	50	44	37	32	35	37	35	38	47	35	42	40	58	70	60	60	60	42.8
	Minimum	28	26	28	30	14	14	22	5	-4	4	8	24	28	17	20	24	30	22	15	15	20	28	27	28	22	25	22	32	30	30	28	21.4
Bismarck	Maximum	34	39	44	37	34	34	56	23	12	30	36	57	47	31	51	47	38	33	34	36	38	40	46	33	40	43	54	61	52	61	64	41.5
	Minimum	29	26	27	31	18	13	23	0	-2	4	10	19	24	16	16	26	21	21	17	14	15	20	21	27	20	24	22	33	37	36	30	20.6
Bottineau	Maximum	30	23	32	33	31	28	44	39	4	16	25	35	34	38	36	37	30	28	30	29	32	32	34	37	38	41	46	52	55	56	61	35.0
	Minimum	11	12	20	26	18	0	18	-3	-14	-8	-7	15	18	3	2	11	9	14	6	10	11	18	11	25	21	22	14	26	34	31	32	13.1
Cando	Maximum	32	26	33	34	37	39	47	48	47	23	28	34	37	31	34	37	42	29	28	31	34	36	35	37	39	41	39	54	56	54	59	38.1
	Minimum	0	15	18	21	24	19	25	11	-10	-1	3	10	15	6	12	10	7	13	15	9	11	11	16	17	27	30	14	26	30	32	29	15.0
Carrington §§	Maximum	34	38	41	35	42	56	44	8	8	28	35	51	45	27	51	40	35	31	33	33	42	40	43	38	38	42	45	56	49	57	64	39.6
	Minimum	20	19	18	27	27	25	26	5	-8	-2	0	10	22	12	11	9	14	14	13	8	10	10	12	12	21	24	20	21	34	34	29	16.0
Crosby	Maximum	32	35	38	34	26	37	47	20	12	12	37	46	40	29	47	40	37	32	33	37	32	37	37	39	42	42	53	64	58	56	57	38.3
	Minimum	21	19	27	20	17	18	20	-3	-8	5	4	20	23	10	22	21	20	20	23	20	25	24	25	27	24	27	26	32	38	28	34	20.3
Devils Lake	Maximum	28	30	31	37	32	39	49	21	4	26	30	43	38	18	41	34	30	28	27	28	34	35	36	38	37	39	42	52	46	53	60	35.1
	Minimum	15	16	19	28	22	21	21	-5	-8	0	7	20	18	8	9	17	12	13	12	10	12	15	14	23	27	20	17	29	34	34	30	16.5
Dickinson §§	Maximum	36	36	45	31	24	40	50	14	14	28	44	57	41	35	51	51	35	31	36	38	36	38	40	36	47	44	54	67	56	58	58	41.0
	Minimum	18	25	26	29	17	12	19	9	-3	0	6	14	28	22	21	23	24	22	18	17	22	26	27	27	23	26	24	28	33	29	29	20.7
Dunn Center	Maximum	34	35	42	37	30	41	47	30	11	27	43	53	42	35	51	45	36	32	35	39	36	38	40	37	48	41	55	67	57	59	59	41.4
	Minimum	21	24	23	28	16	10	29	4	1	2	9	23	22	18	20	26	31	22	17	17	22	26	26	24	25	23	30	34	30	31	30	21.4
Dunseith	Maximum	27	24	33	32	31	32	42	39	8	20	27	35	35	26	37	37	28	39	27	26	32	30	34	36	38	37	45	50	52	55	58	34.6
	Minimum	8	7	23	25	22	12	20	-4	-14	-10	-2	14	24	2	0	15	7	10	9	5	10	15	10	22	24	22	8	28	32	26	30	12.9
Edgeley	Maximum	44	38	42	41	38	47	58	50	30	32	31	30	54	33	44	42	42	37	32	30	31	42	46	43	40	46	42	40	52	60	69	42.1
	Minimum	20	20	21	28	29	21	31	28	-6	-6	6	16	26	13	6	25	17	20	11	4	7	17	9	26	26	26	20	20	33	35	48	19.6
Ellendale	Maximum	34	38	45	44	33	40	46	30	11	26	32	62	52	33	46	48	45	34	31	31	40	41	45	38	36	45	43	59	59	59	65	41.6
	Minimum	20	21	16	28	29	23	24	2	-4	-5	8	18	24	12	6	22	18	21	13	5	10	10	13	25	22	23	22	27	37	38	31	18.0
Fessenden §§	Maximum	32	32	37	36	27	40	50	10	7	27	36	46	40	22	41	39	33	31	30	31	38	38	40	34	39	40	44	55	41	58	61	36.6
	Minimum	18	20	21	23	23	17	23	3	-8	-7	6	12	30	12	10	15	14	16	12	10	12	17	14	21	25	25	16	29	33	33	29	16.9
Foxholm (near)	Maximum	29	34	39	34	31	31	46	33	6	21	32	44	40	26	44	43	31	30	30	30	33	33	38	37	45	41	52	60	57	59	61	37.7
	Minimum	17	20	24	27	16	5	13	-2	-10	0	3	21	24	9	12	19	13	15	12	12	11	19	17	23	22	28	18	29	30	32	33	16.5
Fullerton	Maximum	33	37	44	44	36	40	43	46	12	28	32	51	58	34	47	48	43	35	32	32	40	41	43	39	37	45	42	60	60	59	65	42.1
	Minimum	22	21	16	27	28	27	25	12	-5	-5	7	19	30	10	7	19	18	23	15	5	10	9	11	26	28	23	23	28	35	40	28	18.8
Garrison	Maximum	33	34	39	38	33	39	52	43	12	25	38	50	40	28	52	40	34	31	32	33	37	37	43	35	42	40	55	62	59	60	61	40.5
	Minimum	25	24	27	24	20	13	25	2	-5	2	7	20	25	14	14	24	20	20	13	14	14	25	21	27	21	28	31	31	31	34	31	20.1
Grafton	Maximum	34	32	34	38	37	38	37	42	7	28	29	38	38	32	31	31	30	29	28	30	36	35	37	40	41	41	34	50	48	49	55	35.8
	Minimum	12	16	12	15	30	24	27	2	-7	1	3	17	25	5	2	20	8	13	12	9	9	16	14	21	29	26	14	25	34	34	31	16.1
Grand Forks	Maximum	28	30	35	39	33	34	40	33	5	29	28	41	40	24	31	32	32	30	26	27	36	35	37	40	39	41	35	54	49	48	57	35.1
	Minimum	15	15	19	29	30	25	28	1	-7	0	6	19	24	6	4	19	12	14	12	8	14	15	15	24	30	20	15	30	36	36	33	17.6
Granville	Maximum	38	35	38	34	34	40	48	19	8	25	32	44	38	25	48	45	33	33	35	31	37	35	42	40	45	44	53	61	57	61	65	39.5
	Minimum	20	23	22	30	20	10	19	3	-6	1	6	18	21	12	14	22	16	18	13	14	13	21	17	27	20	24	22	28	32	32	28	18.1
Hansboro	Maximum	32	28	34	33	32	33	40	37	8	25	28	38	34	24	40	35	27	25	32	30	32	32	36	32	38	44	45	50	45	50	54	34.6
	Minimum	0	10	12	25	25	10	20	-1	-13	0	-2	12	21	0	0	17	5	5	5	6	9	8	12	20	8	25	25	28	33	34	28	12.6
Hettinger	Maximum	42	40	48	41	28	44	52	35	18	33	44	63	47	39	53	55	40	37	34	33	33	34	39	36	48	47	55	68	58	59	59	43.9
	Minimum	28	25	30	24	15	7	28	10	-1	4	18	23	30	19	22	23	25	23	17	10	18	21	25	28	20	26	28	31	37	32	31	21.9
Hillsboro	Maximum	36	30	35	35	36	36	10	....	....	....	....	....	....	18	32	33	34	34	28	26	34	34	35	35	33	34	36	39	42	50	49	[f]33.8
	Minimum	16	16	16	26	27	7	-5	....	....	....	....	....	....	-4	5	21	18	16	9	7	11	14	17	21	18	16	19	21	30	41	39	[f]16.9
Howard (near)	Maximum	34	33	38	28	23	40	47	21	11	17	37	49	38	32	50	40	35	45	33	30	30	34	37	40	45	35	55	67	55	69	55	38.8
	Minimum	14	19	19	19	5	9	21	-5	-9	0	9	21	26	13	15	21	19	19	17	17	14	24	24	23	25	25	24	24	42	40	40	18.5
Jamestown	Maximum	32	34	39	41	35	42	56	44	8	33	33	53	45	30	46	42	35	31	31	29	37	39	40	35	39	41	43	60	54	57	65	40.3
	Minimum	20	19	17	27	27	25	22	5	-8	-4	5	18	28	13	6	24	15	18	11	5	10	11	11	22	25	23	20	28	31	37	27	17.5
Langdon	Maximum	35	33	35	36	34	37	42	20	6	24	29	35	32	17	39	30	30	27	26	29	30	30	35	37	37	40	35	44	37	44	52	32.8
	Minimum	6	5	10	13	21	18	20	0	-13	-10	-6	0	10	0	0	8	2	6	7	8	10	13	10	14	26	25	9	10	28	43	30	10.4
Larimore	Maximum	32	29	34	38	36	38	40	42	6	29	29	40	43	32	32	35	31	28	26	26	34	34	36	35	39	40	39	53	49	50	55	35.8
	Minimum	15	17	18	26	30	24	26	4	-7	0	5	18	26	8	4	20	11	14	11	8	12	14	13	20	28	22	13	22	34	36	30	16.8
Linton	Maximum	37	39	38	40	37	40	57	49	14	34	31	60	55	34	51	51	42	37	35	34	41	43	48	42	43	39	53	57	54	62	67	44.1
	Minimum	24	24	25	28	25	17	20	6	5	1	8	15	26	16	14	17	21	21	10	4	2	15	18	25	22	27	18	29	38	36	22	18.4
Lisbon	Maximum	36	34	40	42	40	38	42	26	12	31	32	52	52	27	47	44	41	37	30	29	39	39	43	40	39	47	44	59	58	57	67	40.8
	Minimum	23	19	19	27	30	28	26	11	-5	-2	6	22	27	16	7	10	18	21	11	7	12	13	18	20	29	28	23	30	35	39	28	19.2
McClusky	Maximum	34	36	39	36	35	37	51	38	9	26	33	39	47	29	35	47	38	31	31	32	38	40	43	33	37	38	47	45	48	57	60	38.4
	Minimum	23	22	25	28	23	14	23	2	-8	0	4	23	27	12	10	11	20	16	15	10	9	12	16	25	20	22	15	40	35	35	32	18.1
Maddock	Maximum	35	33	37	37	33	39	49	45	6	25	31	44	41	31	45	45	33	32	30	30	37	37	30	37	38	36	43	54	54	57	61	38.5
	Minimum	16	18	19	27	21	17	24	2	-10	-5	5	16	26	9	7	18	11	14	9	7	10	14	12	20	19	21	18	17	32	32	18	15.0
Marmarth	Maximum	41	42	41	30	25	41	49	32	17	32	41	50	45	39	51	55	41	33	36	32	40	37	40	48	47	47	56	65	56	58	59	42.8
	Minimum	26	21	21	21	17	3	27	10	-1	3	17	18	33	20	24	22	30	25	20	8	22	21	27	29	23	23	30	35	35	31	30	21.6
Minot	Maximum	36	36	41	40	33	39	48	38	11	24	33	47	44	31	47	48	35	34	34	35	35	37	42	42	47	47	54	61	60	62	63	41.4
	Minimum	21	22	26	28	17	6	14	1	-7	1	3	18	26	11	14	21	15	17	12	13	12	22	18	24	23	28	18	26	30	31	27	17.4
Mohall	Maximum	32	25	35	32	30	34	45	7	12	19	32	39	34	24	44	32	33	30	32	32	31	34	38	38	42	46	52	61	57	60	61	36.2
	Minimum	16	17	21	16	2	12	3	-8	-3	3	13	23	11	14	21	12	16	14	16	16	21	18	23	24	18	20	29	31	32	31	34	16.6
Mott	Maximum	37	40	45	38	31	33	54	18	15	32	46	55	45	33	46	47	36	38	41	35	38	42	46	35	40	44	54	60	55	60	60	41.9
	Minimum	26	29	33	27	22	21	15	-3	3	8	23	32	16	16	23	25	23	20	26	16	22	24	28	26	25	23	33	39	40	31	32	23.4
Napoleon §§	Maximum	32	40	42	40	32	40	56	20	11	34	35	62	48	30	51	47	38	34	33	33	40	40	48	34	40	41	44	55	53	60	68	41.3
	Minimum	25	21	24	28	29	19	20	9	-8	-4	1	18	28	13	6	21	16	19	9	3	2	8	10	24	24	23	14	30	37	36	27	17.2
New Salem	Maximum	31	34	39	38	30	35	52	38	22	26	33	56	39	30	49	44	35	32	30	33	34	38	38	37	35	39	51	60	57	58	61	39.8
	Minimum	26	22	22	30	20	9	22	8	-4	0	9	22	29	15	15	24	20	22	15	10	11	19	20	22	14	28	20	31	33	35	35	19.5
Oakes	Maximum	36	38	43	43	39	45	42	45	12	29	32	61	51	34	47	48	43	35	31	31	40	42	46	40	41	48	43	63	61	59	69	43.1
	Minimum	24	20	17	26	29	28	25	11	-5	-4	7	19	30	16	7	19	18	23	14	4	10	9	11	26	27	25	23	27	37	40	26	19.0
Pembina §§	Maximum	22	28	30	36	34	37	34	0	4	25	26	34	37	8	29	24	28	27	24	27	30	29	36	39	43	39	28	44	46	42	51	30.4
	Minimum	5	5	8	12	19	21	21	-2	-10	-10	0	5	15	0	-4	0	4	4	11	8	8	10	11	11	25	27	12	12	22	34	30	10.1
Sharon	Maximum	28	29	33	37	31	36	41	39	5	27	28	38	43	28	35	36	30	28	25	28	36	37	38	34	37	41	38	52	46	52	60	35.4
	Minimum	15	15	16	25	27	23	24	1	-9	-2	4	19	28	10	5	20	11	13	10	7	13	13	12	18	26	24	13	28	32	36	31	16.4
Steele	Maximum	35	36	40	38	32	40	51	33	8	30	31	57	45	28	47	42	35	32	30	30	36	39	43	38	36	40	47	55	53	59	64	39.7
	Minimum	25	22	25	29	25	26	22	2	-6	-1	5	20	28	14	10	20	18	19	12	7	5	15	14	26	24	26	17	31	37	38	28	18.8
Towner	Maximum	32	31	36	36	34	46	40	4	22	26	30	41	40	29	44	40	31	30	31	31	34	34	39	36	41	40	50	57	51	60	64	37.4
	Minimum	18	20	25	29	20	21	2	-9	-2	1	4	17	26	9	12	21	14	14	13	14	15	17	16	29	21	27	19	34	32	33	30	17.5
Valley City	Maximum	35	30	35	39	36	35	42	42	8	28	30	46	46	46	42	42	32	30	29	28	36	38	39	38	35	43	42	55	52	55	64	38.6
	Minimum	19	17	16	26	28	26	25	8	-6	-3	6	16	27	13	8	22	15	17	12	7	11	12	12	19	27	26	22	26	32	37	31	17.9
Wahpeton	Maximum	39	35	41	43	40	36	40	42	14	28	30	52	54	48	38	41	41	39	34	31	40	42	45	45	43	49	50	58	56	53	57	42.1
	Minimum	23	18	20	26	29	30	31	12	-4	-2	10	22	32	17	7	21	19	24	17	9	14	11	12	23	30	28	23	29	37	41	30	20.6
Westhope	Maximum	32	29	34	34	34	33	43	45	11	30	30	38	37	30	43	41	31	33	32	32	36	38	37	36	47	44	52	56	58	61	64	38.7
	Minimum	10	15	22	28	16	5	10	0	-11	-8	0	12	20	7	10	19	11	15	11	13	12	21	15	27	24	25	18	29	34	31	31	15.2
Williston	Maximum	36	37	44	37	25	42	51	14	15	22	44	55	40	34	52	44	32	31	34	40	34	37	40	39	48	38	56	69	57	59	57	40.7
	Minimum	29	27	31	20	12	16	14	-1	-3	5	9	26	27	18	24	24	26	23	26	23	27	29	29	29	26	27	27	37	43	30	37	23.1
Moorhead, Minn	Maximum	30	31	36	40	33	33	40	31	4	29	28	46	46	27	33	37	39	33	26	27	37	38	40	40	38	45	37	56	50	51	55	36.6
	Minimum	18	17	21	27	30	28	29	-1	-5	-2	10	22	27	11	7	24	18	21	15	9	15	16	16	25	30	26	18	30	38	34	32	19.5

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc

[WBO, Minneapolis, 5-2-33—1050

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XLII BISMARCK, N. D., APRIL, 1933 No. 4

GENERAL SUMMARY

Temperature conditions were somewhat changeable in all sections, the second decade being the warmest. Occasional frosts and freezing temperature were reported, but due to the backward condition of vegetation little damage resulted. Spring work on farms generally made good progress, though interrupted by showers on the 4th–5th, 9th–10th, 19th–20th, and 29th–30th. Early planted grains were up to good stand and color, and winter rye came through satisfactorily. Pastures and ranges improved rapidly and afforded ample feed for livestock.

TEMPERATURE

The mean temperature for the state was 40.0°, or 1.6° below the normal, and 4.1° lower than the mean for April, 1932. The highest mean reported was 44.3° at Wahpeton, Richland County; the lowest was 36.0° at Bottineau, Bottineau County. The highest temperature reported was 84° at McLeod, Ransom County on the 18th; the lowest was 2° at Willow City, Bottineau County on the 11th. The greatest monthly range of temperature was 73° at Parshall, Mountrail County; the least was 53° at Powers Lake, Burke County. The greatest daily range of temperature was 56° at Fort Yates, Sioux County on the 22d.

PRECIPITATION

The average precipitation for the state was 1.33 inches, or 0.06 inch below the normal, and 0.83 inch less than the average for April, 1932. The greatest monthly amount reported was 2.90 inches at Power, Richland County; the least was 0.13 inch at Maddock, Benson County. The greatest amount recorded in any 24 consecutive hours was 2.00 inches at Minot, Ward County on the 20th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 7.3 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Bismarck, 22d; Carson 15th; Crosby, 22d, 25th; Devils Lake, 15th, 16th, 20th, 22d; Dogden Butte, 16th, 17th, 23d; Drake, 20th, 22d; Eckman, 1st, 16th, 20th, 22d, 25th; Edmore, 21st; Fessenden, 22d, 26th; Foxholm, 1st, 2d, 14th, 16th, 20th, 21st, 22d, 23d, 26th; Grand Forks, 16th, 17th, 18th, 21st; Howard, 17th, 21st; Hannah 27th; Mohall, 30th; New England, Pettibone, 16th; Oakes, 15th, 16th; Parshall, 21st, 23d; Pembina, 7th, 15th, 16th, 19th, 20th, 22d, 23d; Petersburg, 15th, 27th; Rugby, 2d, 14th, 22d; Trotters, 14th; Willow City, 20th, 26th.

FOG: Garrison, 4th; Grand Forks, 7th; Howard, 5th, 18th; Moorhead, 9th; New England, 29th.

HALOS, lunar: Bismarck, 1st; Grand Forks, 3d; Oakes, 11th; Sharon 7th.

HALOS, solar: Ellendale, 2d, 3d; Grand Forks, 11th, 14th, 15th, 29th; Moorhead, 11th, 15th, 20th, 24th; Oakes, 7th; Petersburg, 15th; Rugby, 14th, 24th, 26th; Williston, 26th.

SLEET: Devils Lake, 1st, 2d, 9th, 10th; Eckman, 19th; Grand Forks, 1st; Pettibone, Towner, Velva, 2d; Trotters, 20th.

THUNDERSTORMS: Bowman, Ellendale, Fullerton, Oakes, 29th; Dogden Butte, Rugby, Velva, 19th; Foxholm, 19th, 20th; Marmarth, 20th, 27th; Power, 23d.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.93	30.60	21	29.47	3	11.4	30	se.	18	78	50	48	55
Devils Lake	29.96	30.66	21	29.49	27	12.7	31	n.	19	80	58	61	63
Ellendale	29.96	30.49	21	29.54	27	15.8	39	nw.	1	82	47	....	67
Grand Forks	29.93	30.60	21	29.47	27	......	35	nw.	28	78	....	58	....
Williston	29.96	30.69	21	29.33	3	10.9	27	n.	19	80	58	57	56
Moorhead, Minn	29.94	30.52	21	29.43	27	11.0	26	e.	29	76	55	60	58
Averages & ext's	29.95	30.69	21	29.33	3	12.4	39	nw.	1	79	54	57	60

† And other dates.

COMPARATIVE DATA FOR APRIL

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	37.6	−4.0	75	−2	2.65	+1.26	5.50	1.00	6.3	7	10	6	14
1893	34.3	−7.3	77	−8	1.73	+0.34	3.98	0.10	7.8	6	7	9	14
1894.	42.8	+1.2	92	12	3.06	+1.67	7.48	2.00	4.4	9	8	10	12
1895.	49.6	+8.0	87	10	2.23	+0.84	5.16	0.64	0.0	5	13	8	9
1896.	40.1	−1.5	92	2	4.37	+2.98	8.61	0.63	5.1	9	9	8	13
1897.	40.8	−0.8	93	7	1.01	−0.38	3.25	T.	1.1	5	12	8	10
1898.	41.9	+0.3	87	−4	1.38	−0.01	4.16	0.15	0.5	5	14	9	7
1899.	38.0	−3.6	86	−22	1.36	−0.03	4.20	0.40	6.3	6	12	10	8
1900.	49.3	+7.7	93	11	0.85	−0.54	2.28	T.	T.	3	20	6	4
1901.	44.5	+2.9	92	10	0.98	−0.41	2.89	T.	0.3	4	12	9	9
1902.	40.2	−1.4	87	−2	1.06	−0.33	3.84	T.	2.9	3	12	8	10
1903.	42.5	+0.9	83	8	1.23	−0.16	3.65	T.	2.7	5	16	6	8
1904.	37.4	−4.2	91	2	1.70	+0.31	4.62	0.13	8.1	5	13	5	12
1905.	40.2	−1.4	83	3	0.63	−0.76	1.97	0.00	3.7	3	15	8	7
1906.	46.7	+5.1	88	8	1.50	+0.11	3.51	0.42	1.3	5	14	7	9
1907.	31.9	−9.7	80	−6	0.57	−0.82	2.08	T.	4.2	4	10	9	11
1908.	43.9	+2.3	91	−19	1.47	+0.08	3.76	0.12	5.9	5	16	6	8
1909.	34.2	−7.4	80	3	0.81	−0.58	2.27	0.00	5.1	6	10	9	11
1910.	48.0	+6.4	96	4	1.30	−0.09	3.45	0.07	2.9	4	16	8	6
1911.	41.5	−0.1	90	−5	1.30	−0.09	3.14	T.	6.3	5	15	6	9
1912.	44.4	+2.8	88	2	2.34	+0.95	4.79	0.90	1.7	7	14	8	8
1913.	46.8	+5.2	94	11	0.71	−0.68	2.00	T.	2.4	4	16	6	8
1914.	40.9	−0.7	84	2	1.66	+0.27	4.10	0.20	2.8	6	9	10	11
1915.	50.3	+8.7	99	5	1.08	−0.31	2.41	0.29	T.	5	15	8	7
1916.	39.2	−2.4	79	−6	1.40	+0.01	3.35	T.	2.9	5	10	10	10
1917.	37.2	−4.4	73	5	1.68	+0.29	4.22	0.24	5.6	7	9	9	12
1918.	41.4	−0.2	81	0	2.15	+0.76	3.69	0.75	3.0	7	12	8	10
1919.	42.3	−0.7	79	6	1.50	+0.11	4.23	0.55	6.2	6	11	9	10
1920	32.1	−9.5	63	−11	0.83	−0.56	2.39	0.10	2.1	5	13	8	9
1921.	41.1	−0.5	91	1	1.81	+0.42	4.72	0.27	3.8	7	14	7	9
1922.	42.3	+0.7	89	−2	0.92	−0.47	3.15	T.	2.3	6	10	9	11
1923.	38.7	−2.9	89	−15	1.45	+0.06	3.82	T.	7.2	5	13	8	9
1924.	39.3	−2.3	84	6	2.55	+1.16	5.91	0.50	7.5	9	8	9	13
1925.	47.8	+6.2	85	10	1.64	+0.25	4.24	0.36	T.	6	11	10	9
1926.	42.8	+1.2	98	−4	0.28	−1.11	1.56	0.00	0.9	3	17	8	5
1927.	41.4	−0.2	95	7	1.70	+0.31	2.95	0.41	2.3	7	10	8	12
1928.	35.9	−5.7	84	−6	0.88	−0.51	2.30	0.08	5.0	5	12	10	8
1929.	41.5	−0.1	85	−9	1.31	−0.08	3.03	0.04	3.4	6	12	9	9
1930.	47.3	+5.7	86	8	1.25	−0.14	3.67	0.10	0.5	6	14	7	9
1931.	44.1	+2.5	87	3	0.43	−0.96	2.38	0.00	0.7	2	18	8	4
1932.	44.1	+2.5	79	0	2.16	+0.77	6.00	0.38	0.7	8	9	9	12
1933.	40.0	−1.6	84	2	1.33	−0.06	2.90	0.13	7.3	5	11	9	10
Per..	41.6	....	99	−22	1.39	....	8.61	0.00	3.2	6	12	8	10

Climatological Data for April, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	7	......	......	......	......	......	......	......	1.45	......	0.55	4.0	7	......	......	......	......	H. A. Bury.
Amenia	Cass	954	37	40.1	−1.9	78	23	13	11	44	1.67	−0.13	0.65	10.0	4	4	19	7	ne.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	39.7	−1.4	72	23	12	11	41	0.98	−0.49	0.45	7.0	6	11	10	9	ne.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	41.8	−0.8	75	16	17	11†	46	1.04	−0.88	0.48	7.0	3	19	5	6	nw.	H. D. Piper.
Beach	Golden Valley	2,759	27	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. C. Russell.
Berthold Agency††	McLean	2,082	40	41.2	−2.3	78	18	10	10	45	0.85	−0.24	0.48	6.0	3	18	3	9	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	42.5	+0.4	82	16	14	10	42	0.73	−0.79	0.53	6.7	4	9	8	13	ne.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	36.0	−3.1	71	18†	4	12	40	2.08	+1.19	0.86	5.0	7	10	17	3	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	40.2	−2.4	74	18	10	11	37	1.89	+0.76	0.55	6.0	10	12	10	8	se.	George Larsen.
Cando	Towner	1,488	32	39.4	−1.3	73	21	11	11	42	1.50	+0.42	0.56	5.0	6	7	8	15	nw.	A. J. Swanson.
Carrington	Foster	1,579	35	37.9	−1.7	75	23	9	11†	44	1.75	+0.52	1.00	17.8	4	13	9	8	s.	L. A. Swanson.
Carson	Grant	2,500	21	41.0	−1.7	80	16	13	10†	40	0.72	−0.76	0.60	7.2	3	14	7	9	nw.	J. W. Evens.
Cavalier	Pembina	894	23	......	......	......	......	......	......	......	0.38	−0.84	0.20	3.8	4	15	8	7	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	......	......	......	......	......	......	......	0.96	−0.60	0.48	6.0	3	20	2	8	ne.	Theo. Marquardt.
Corinth	Williams	2,180	5	......	......	......	......	......	.	......	1.01	......	0.30	5.5	9	8	12	10	ne.	W. A. Clem.
Courtenay	Stutsman	1,523	4	......	......	......	......	......	......	....	1.95	......	0.90	12.0	4	15	12	3	nw.	Geo. E. Berg.
Crosby	Divide	1,954	26	36.8	−3.4	69	22	14	12	43	1.18	+0.06	0.21	9.0	7	5	11	14	ne.	John Jensen.
Devils Lake	Ramsey	1,478	36	38.4	−0.4	73	23	11	11	34	0.62	−0.90	0.27	6.9	8	9	4	17	ne.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	39.5	−2.6	76	18	10	10	42	0.86	−0.37	0.22	4.7	10	12	7	11	nw.	Leroy Moomaw.
Dogden Butte††	McLean	1,880	7	39.8	......	74	23	12	11	41	0.95	......	0.53	15.5	3	11	10	9	nw.	R. L. Williams.
Drake	McHenry	1,634	4	38.1	......	72	18†	7	11	39	1.15	......	0.62	5.0	6	11	8	11	ne.	Peter Anton.
Dunn Center	Dunn	2,191	34	40.0	−1.8	76	18	12	10	42	1.53	+0.15	0.63	4.0	8	7	12	11	ne.	W. F. Moede.
Dunseith	Rolette	1,682	37	37.4	−2.5	71	18	10	10	40	0.98	+0.17	0.40	5.2	6	9	11	10	sw.	T. H. Tharalson.
Eckman	Bottineau	1,500	28	38.4	−2.2	75	18	7	12	43	2.07	+1.11	0.96	5.0	7	7	16	7	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	32	42.8	+0.1	77	22	15	11†	50	1.60	−0.17	0.97	6.3	4	6	15	9	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	38.4	......	72	23	15	10	33	0.80	......	0.25	6.3	8	12	9	9	n.	E. D. Warner.
Ellendale	Dickey	1,457	38	41.4	−2.2	77	18	17	26	49	2.34	+0.24	1.39	4.4	6	10	7	13	ne.	U. S. Weather Bureau
Energy ††	McLean	1,750	21	42.1	......	77	18	11	11	43	0.65	−0.48	0.60	8.5	2	7	18	5	nw.	H. S. Solenberger.
Epping	Williams	2,224	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	4	......	......	......	......	......	......	......	2.60	......	1.70	6.0	4	10	12	8	e.	F. R. Hecker.
Fessenden	Wells	1,610	21	38.2	−2.5	75	23	8	11	40	2.04	+0.53	1.02	12.0	4	13	10	7	se.	T. D. Monsen.
Forman	Sargent	1,249	40	......	......	......	......	......	......	......	1.64	−0.51	0.68	4.0	5	12	14	4	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	33	44.0	−0.9	78	19†	15	13	56	0.86	−0.73	0.41	2.0	3	12	7	11	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	38.1	......	74	18	9	11	38	2.74	+1.39	1.05	12.2	10	11	8	11	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	......	......	......	......	......	......	......	2.27	+0.94	0.87	10.0	7	8	11	11	ne.	Verne King.
Fullerton	Dickey	1,439	35	42.2	−0.6	78	18	17	26	48	2.54	+0.45	0.74	9.8	5	11	9	10	nw.	F. O. Alin.
Gackle	Logan	1,951	3	......	......	......	......	......	......	......	1.31	......	0.55	8.0	5	16	2	12	nw.	Geo. Hummel.
Garrison	McLean	1,901	56	40.7	−1.6	76	19	10	11	41	0.70	−0.52	0.60	7.0	2	13	12	5	ne.	W. F. Robinson.
Grafton	Walsh	827	41	40.9	+0.3	76	23	18	11	37	0.92	−0.48	0.37	2.5	3	14	7	9	nw.	A. R. T. Wylie.
Grand Forks ††	Grand Forks	830	42	40.0	−1.7	78	23	18	11	38	1.41	−0.43	0.44	11.4	8	9	12	9	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	39.4	−1.4	75	18	9	12	47	2.14	+1.09	1.04	13.0	6	14	6	10	se.	W. A. Christianson.
Hankinson	Richland	1,068	4	43.2	......	77	21	19	25	52	1.70	......	1.00	0.0	6	14	10	6	w.	R. G. Stock.
Hannah	Cavalier	1,568	41	39.2	......	69	23	15	11	35	0.56	−0.71	0.21	5.3	6	10	15	5	nw.	James Muir.
Hansboro	Towner	1,597	25	38.4	−0.5	70	18†	12	11	34	1.80	+0.31	0.65	10.0	7	14	8	8	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	26	42.0	−0.8	80	16	14	11	40	0.75	−0.25	0.32	4.3	7	14	5	11	nw.	C. H. Plath.
Hillsboro	Traill	901	27	41.2	−1.6	76	23	17	11	39	2.11	+0.26	0.96	10.0	3	15	5	10	nw.	G. Hovland.
Howard †† (near)	Williams	2,275	26	37.5	−1.6	68	23	8	11†	31	1.97	+0.67	1.23	14.6	6	10	6	14	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	38.9	−3.2	76	17	9	11	50	1.96	+0.23	0.65	15.8	5	14	8	8	se.	S. Calvelage.
Kenmare	Ward	1,799	2	38.3	......	71	19†	14	10	33	1.14	......	0.33	7.0	7	9	10	11	nw.	R. Costello.
Langdon	Cavalier	1,615	37	37.3	−0.5	76	23	15	11	42	0.80	−0.54	0.30	8.0	5	20	8	2	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	38.0	−2.4	77	23	12	11	42	1.21	−0.47	0.65	9.5	4	15	5	10	nw.	Mabel Walsh.
Linton	Emmons	1,711	16	42.4	−0.3	80	16	12	13	48	0.87	−0.65	0.45	4.0	5	9	14	7	nw.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	29	41.4	−1.0	76	23	18	11	48	1.90	+0.06	0.57	10.0	6	9	6	15	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	40.0	......	73	18†	8	11	41	1.25	−0.17	0.70	12.5	3	13	8	9	nw.	Edw. Tapley.
McLeod	Ransom	1,075	22	42.0	−2.2	84	18	18	26	51	1.65	−0.52	0.91	2.0	4	15	6	9	se.	J. G. Carlson.
Maddock	Benson	1,604	18	38.7	−2.3	72	23	4	11	40	0.13	−1.22	0.06	1.3	3	7	10	13	ne.	A. T. Felland.
Mandan	Morton	1,750	19	41.8	−0.9	81	16	11	10	45	0.86	−0.56	0.65	6.5	6	14	0	16	e.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	......	......	......	......	......	......	......	1.30	−0.05	0.59	9.0	5	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	24	41.9	−1.1	72	15	14	11	40	1.57	+0.53	0.68	7.6	7	6	12	12	......	S. P. Grane.
Mary	McKenzie	......	4	......	......	......	......	......	......	......	2.01	......	0.63	6.5	6	15	6	9	ne.	Fred Hartman.
Max	McLean	2,093	4	40.6	......	75	17†	10	4†	45	0.51	......	0.20	4.0	3	17	2	11	nw.	A. W. Rice.
Mayville	Traill	975	37	40.2	−2.8	77	23†	13	11	47	0.58	−1.12	0.24	2.4	6	8	8	14	ne.	H. B. Addicott.
Minot	Ward	1,557	37	38.4	−2.4	76	18	11	10†	42	2.56	+1.33	2.00	7.0	5	17	7	6	e.	Julia B. Rue.
Mohall	Renville	1,646	39	38.0	−2.5	75	18	12	10	40	1.60	+0.66	0.68	7.0	5	8	11	11	ne.	G. V. Davidson.
Mott	Hettinger	2,424	26	42.8	+1.0	81	16	13	12	42	0.82	−0.58	0.56	4.0	4	11	6	13	se.	O. H. Opland.
Napoleon	Logan	1,955	41	41.0	−0.4	78	16	15	11	46	1.00	−0.61	0.40	3.0	7	12	5	13	nw.	C. J. Hoof.
New England	Hettinger	2,400	39	41.1	−1.2	78	18	12	10	39	0.92	−0.11	0.36	3.5	7	5	12	13	se.	F. S. Sleight.
New Salem	Morton	2,163	29	40.6	−1.8	77	17	7	10	42	0.89	−0.33	0.70	10.0	5	13	8	9	nw.	J. Christiansen.
Oakes	Dickey	1,318	4	43.0	......	77	16	17	26	51	1.70	......	0.65	0.5	5	12	8	10	ne.	Eugene Naylor.
Park River	Walsh	998	29	38.0	−3.3	70	23	16	10	44	0.85	−0.47	0.51	7.5	4	10	7	13	nw.	C. B. Wright.
Parshall	Mountrail	1,929	18	38.8	......	79	19	6	11	38	1.36	+0.22	1.15	3.5	7	7	15	8	ne.	C. E. Shubert.
Pembina	Pembina	789	59	37.7	−0.9	74	23	16	11	40	0.26	−1.18	0.15	3.2	4	9	7	14	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	......	......	......	......	......	......	......	0.48	......	0.21	3.0	5	18	3	9	n.	T. M. Rykken.
Pettibone	Kidder	1,856	24	39.2	−1.7	76	22	5	11	40	1.25	−0.08	0.80	13.5	3	17	7	6	ne.	H. H. McCumber.
Portal	Burke	1,954	28	36.8	−4.6	74	18	10	10†	43	1.08	−0.04	0.35	9.0	5	15	3	12	nw.	R. G. Wegener.
Power††	Richland	1,020	39	......	......	......	......	......	......	......	2.90	+1.10	1.00	9.0	4	13	9	8	n.	Frank B. Power.
Powers Lake	Burke	2,205	28	36.3	......	71	18	18	11	35	1.93	+0.35	0.72	12.0	4	13	12	5	e.	Geo. B. Gee.
Richardton	Stark	2,467	17	39.6	−1.5	74	18	5	10	41	0.74	−0.74	0.37	3.2	5	4	16	10	nw.	John Muggli.
Rugby (near)	Pierce	1,562	4	......	......	......	......	......	......	......	0.74	......	0.32	8.0	9	11	10	9	e.	E. C. Erickson.
Ryder	Ward	2,108	4	......	......	......	......	......	......	......	1.25	......	0.97	......	5	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Geo. Buerkle.
Sharon	Steele	1,516	9	38.4	......	75	23	10	11	35	1.41	......	0.70	12.7	6	10	6	14	ne.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	......	......	......	......	......	......	......	0.66	......	0.56	8.0	2	12	9	9	nw.	J. H. Giffey.
Steele	Kidder	1,857	39	40.4	−2.8	76	15†	10	11	52	0.73	−0.47	0.35	8.0	5	10	6	14	nw.	V. A. Laney.
Stowers††	Adams	2,325	18	......	......	......	......	......	......	......	0.82	−0.34	0.60	7.0	3	14	5	11	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	....	......	......	......	......	......	......	1.72	......	0.76	9.0	5	14	9	7	ne.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	......	......	......	......	......	0.78	......	0.30	5.0	6	7	10	13	nw.	Anton Carlson.
Towner	McHenry	1,482	31	40.0	−1.9	73	18†	6	11	39	1.21	+0.11	0.56	12.1	7	13	8	9	ne.	Karl Weber.
Trotters	Golden Valley	......	7	......	......	......	......	......	......	......	1.35	......	0.50	7.5	6	4	15	11	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	......	......	......	......	......	......	......	0.48	−0.71	0.26	5.7	4	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	27	41.2	−1.4	74	23	12	7†	43	1.88	+0.36	0.93	8.5	5	16	5	9	nw.	I. C. Robertson.
Velva	McHenry	1,511	6	40.4	......	76	18	8	11	45	0.59	......	0.32	9.5	5	7	13	10	w.	Oscar Anderson.
Wahpeton	Richland	962	41	44.3	−0.1	78	28	15	26	45	2.31	+0.16	1.22	4.0	6	15	0	15	nw.	C. G Luick.
Washburn	McLean	1,731	32	42.2	−1.6	79	16	13	10†	43	0.53	−0.54	0.33	5.0	3	12	7	11	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	39.4	−0.5	76	18†	5	11	40	2.04	+1.13	1.13	3.0	8	14	12	4	ne.	C. M. Condit.
Williston	Williams	1,878	54	40.2	−1.8	70	23	16	11	35	1.20	0.00	0.47	7.0	6	12	10	8	ne.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	38.6	−1.0	73	18†	2	11	40	1.78	+0.78	0.64	10.5	6	13	13	4	ne.	O. M. Sanderson.
Wishek	McIntosh	2 010	4	39.8	−2.1	75	16	18	10†	44	1.23	+0.19	0.90	9.0	3	13	1	16	nw.	Gottlieb Herr.
Zap	Mercer	1,838	18	....	......	......	......	......	......	......	0.36	−1.69	0.24	2.5	2	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	52	41.4	+0.8	76	23	18	11	43	2.07	−0.11	1.13	6.7	7	11	6	13	n.	U. S. Weather Bureau.
Averages				40.0	−1.6	84	18	2	11	56	1.33	−0.06	2.00	7.3	5	11	9	10	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T Precipitation is less than 0.01 inch rain or melted snow.

††Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for April, 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.02	T.	.12			T.	T.	.23			T.						.17	.11	.55								.25				1.45
Amenia	Red		T.			.65				.12	.40		T.																		.50		1.67
Arnegard (near)	Missouri		T.	T.	.22				.18	.45	.05						T.			.04					.01								0.98
Ashley	Missouri				.48	T.																								.11	.45		1.04
Beach	Lit. Missouri																																
Berthold Agency	Missouri		T.	T.		T.			T.	.25										.12	.48												0.85
Bismarck ***	Missouri		T.	T.	.10	T.			.02	.53	T.	T.													T.	T.			T	T	.08		0.73
Bottineau	Mouse		.06	T.	.34	.26					.12	T.		T.			.28				.86							T.	T.	.16			2.08
Bowman	Grand		.04		.07	.16				.44	.07	.02									.45	.06								.55	.03		1.89
Cando	Devils Lake	.04			.56	.44			.04	.27	.15	T.	T.															T.					1.50
Carrington||	James				.20	.50			T.	1.00			.05																				1.75
Carson	Heart		T.		.10	.02				.60																							0.72
Cavalier	Red				.02	.15				.20																		.01					0.38
Cooperstown	Sheyenne						.48				.45	T.	.03																T.				0.96
Corinth	Missouri		.01	.10	.18		.05			.10	.30								.05	.04										.18			1.01
Courtenay	James	T.			.75					.90																			T.	.10	.20		1.95
Crosby	Mouse				.20	.20			.10	.07	.20		.20							T.	.21												1.18
Devils Lake ***	Devils Lake	.03	T.	.02	.27	.03			.03	.17	T.	T.	.06															.01	T.	T.			0.62
Dickinson||	Heart			T.	.08	.15	.01			.22	.07		.01	T.						.02	.17					.10		.03		T.			0.86
Dogden Butte	Mouse		T.		.27	.15				.53	T.		T				T.																0.95
Drake||	Mouse				.05	.24				.03	.18		.03				T.				.62												1.15
Dunn Center	Knife				.06	.26				.29	.10									.08	.63				.07	.04							1.53
Dunseith	Mouse			.40					.12			T.					.15			.15								.01		.15			0.98
Eckman	Mouse		T.	T.	.09	.03				.15			T.				.12			.55	.96									.17			2.07
Edgeley	James				.33	.02				.28																					.97		1.60
Edmore	Devils Lake	.03			.24	.11	.02		.10	.25	.03		.02															T.	T.				0.80
Ellendale***	James	T.	T.		.24	.02			T.	.20	T.	.01									T.								T.	.96	.91		2.34
Energy	Missouri		T.		.05					.60										T.													0.65
Epping	Missouri																																
Fairfield	Knife				.20					.40										1.70					.30								2.60
Fessenden||	James				.30	.70					1.02	.02																					2.04
Forman	Sheyenne				.12	.09				.25	T.																			.50	.68		1.64
Fort Yates	Missouri		T.	T.	.25	T.				.20															T.	T.				.41			0.86
Foxholm (near)	Mouse		.01	T.	.57	.02				.62	.01		.10				.02			.22	1.05								T.	.12			2.74
Fryburg	Heart				.15	.22			T.	.72		.20								.03		T.	.87				.08						2.27
Fullerton	James				.70	.07				.38	T.	T.	T.																	.65	.74		2.54
Gackle	James				.55	.04				.44																				.05	.23		1.31
Garrison	Missouri				T.	.10				.60	T.									T.	T												0.70
Grafton	Red	.37			T.	.25	T.		T.	.30		T.	T.																T.				0.92
Grand Forks ***	Red	.09	.03		.36	.20				.44		.04	.06				T.											T.			.19		1.41
Granville	Mouse			T.		1.04				.33			.10							.51	.12								T.	.04			2.14
Hankinson	Red		.02	T.	.15					.20		T.																	.28	1.00	.05		1.70
Hannah	Pembina	.10			T.	.21			.03	.13	.06		T.				.03											T.					0.56
Hansboro	Devils Lake	.20			.35	.25			.15	.65	T.		T.								.15							.05					1.80
Hettinger	Grand		T.	T.	.15	.03				.32			T.							.08					.06					.06	.05		0.75
Hillsboro	Red	T.			.55						.60																				.96		2.11
Howard (near)	Missouri		T.	T.	.20						1.23		.10				.02			.20								T.		.22			1.97
Jamestown	James				.10	.58				.65	.25																				.38		1.96
Kenmare	Mouse			T	.06	.33					.28		.05				.05				.32										.05		1.14
Langdon	Pembina					.20	.10		T.	.10	.30	.10																T.					0.80
Larimore	Red		.04			.65	T.				.43		.09																				1.21
Linton	Missouri		T.		.45					.21	T.		T.												.05	T.				.13	.03		0.87
Lisbon	Sheyenne				.02	.57				.48															.04					.26	.53		1.90
McClusky	Missouri		T.	T.	.50					.70	T.		.05																				1.25
McLeod	Sheyenne	T.				.21				.18	T.																			.35	.91		1.65
Maddock	Sheyenne	T.	T.		.04					.06			.03							T.								T.					0.13
Mandan||	Missouri		T.	.05	.04			.02	.65	T.	T.														.02					.08	T.		0.86
Manfred	James	T.			.45	.10			T.	.59			.02							.14													1.30
Marmarth	Lit. Missouri			.01	.05					.40	T.								T.	.02	.68							.27		.14			1.57
Mary	Lit. Missouri				.44					.40										.08	.63				.14	.32			T.				2.01
Max||	Missouri				T.	.20	.11			.20			T.																				0.51
Mayville	Red	.05			.01	.06	T.			.24	T.		.03	T.																T.	.19		0.58
Minot	Mouse					.20					.20		.03								2.00									.13			2.56
Mohall	Mouse				.33					.42		T.					.09			.68									.08				1.60
Mott	Cannon Ball			.11	T.					.56										.08					.07								0.82
Napoleon||	Missouri			.02	.20	.10	.01		.10	.40																					.17		1.00
New England	Cannon Ball			.07	.14				.36		.10									.09					.06				.10				0.92
New Salem	Heart		.01	T.	.01	.03				.70	T.														T.						.14		0.89
Oakes	James				.24	.07				.20			T.																	.48	.65		1.70
Park River	Red	.03			T.	.27	.04			.51																							0.85
Parshall	Missouri			T.	.01	.04			T.	.03	.10	T.								.02	1.15									.01			1.36
Pembina||	Red		.04	T.		.06	T.				.15	T.	T.	T.			.01												T.				0.26
Petersburg	Red	.01				.21			.02	.16			.08																				0.48
Pettibone	James		T.		.80	T.				.30	.15																				T.		1.25
Portal||	Mouse			.23	.30					.35						.10													.10				1.08
Power	Sheyenne				1.00					.75																				.40	.75		2.90
Powers Lake	Missouri				.41	.72				.52	.28																						1.93
Richardton	Heart			.02	.37	.01			T.	.32										.02					T.	T.							0.74
Rugby [near]	Mouse	.01	T.	.01	.32	.02				.17	T.	T.	.02							.14								.01	.04				0.74
Ryder	Missouri			.02	.08					.16	T.	T.				T.			.02	.97	T.												1.25
Sanish||	Missouri																																
Sharon	Red	.01			.38	.24	T		T.	.70			.03															T.		T.	.05		1.41
Stanton	Missouri		T.			.10				.56																							0.66
Steele	Missouri		.03		.35	.05				.20	T.																				.10		0.73
Stowers	Cannon Ball		T.		.08	T.				.60										T.										T	.14		0.82
Tagus	Mouse				.40					.40		.10					.06		.76														1.72
Tioga	Missouri			.02	.30				.12	.16							.08			.10													0.78
Towner	Mouse	.02	T.		.23	.06				.30	.01	T.	.03				T.			T.	.56							T.		T.			1.21
Trotters	Lit. Missouri	T.			.40					.50	T									.14	.12				.16			.03					1.35
Turtle Lake	Missouri		.02		.18	T.				.26	T.		.02																				0.48
Valley City	Sheyenne	T.			.93	.12	T.			.40																				.02	.41		1.88
Velva	Mouse		.06		.15	.05				.32	.01		T.				T.			T.	T.												0.59
Wahpeton	Red		.03		.30	.11				.25																				.40	1.22		2.31
Washburn	Missouri				T.	.10			T.	.10	.33																						0.53
Westhope	Mouse				.28	.04				.21	.07						.19	.02		.10	1.13												2.04
Williston ***	Missouri		T.	.37	.12				.15	.43	T.					T.			T.	.12					T.				.01				1.20
Willow City	Mouse	.05	T.	T.	.50					.50							.04			.05	.64												1.78
Wishek||	Missouri				.26					.90																					.07		1.23
Zap	Knife									.24										.12													0.36
Moorhead, Minn ***	Red	T.	.01	T.	.40	.01	T.			.41	T.		.03	T.														T.	T.	.08	1.13		2.07

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. || Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for April, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	55	46	40	37	36	36	44	40	35	32	39	33	38	45	68	74	73	75	74	59	58	65	78	57	49	44	64	63	56	46	..	52.0
	Minimum ...	36	31	27	28	28	26	19	22	30	20	13	15	20	32	26	30	38	36	39	35	31	24	35	35	23	18	22	31	39	36	..	28.2
Arnegard (near)	Maximum...	50	48	51	41	36	49	47	37	33	36	34	32	41	52	63	54	62	67	55	45	50	68	72	57	57	58	67	52	63	61	..	51.3
	Minimum ...	31	31	21	28	24	20	30	28	22	15	12	15	13	18	35	34	33	40	33	29	24	27	40	40	30	30	39	39	33	30	..	28.1
Ashley	Maximum...	62	45	44	41	32	40	50	42	38	31	38	35	39	55	73	75	72	70	74	68	56	67	72	72	52	52	67	67	62	41	..	54.4
	Minimum ...	34	27	23	30	27	26	22	30	26	18	17	24	19	22	27	40	40	42	40	32	30	26	41	37	22	17	27	38	40	36	..	29.3
Beach	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Berthold Agency	Maximum...	52	50	48	45	45	48	50	50	34	30	32	35	42	55	68	70	72	78	62	42	53	70	74	58	52	68	55	68	60	60	..	54.2
	Minimum ...	24	25	20	26	26	18	27	30	24	10	16	14	15	25	32	40	35	45	38	32	28	27	40	35	30	23	40	36	35	30	..	28.2
Bismarck	Maximum...	50	45	46	40	37	48	50	44	33	30	35	32	38	53	71	82	76	77	72	47	55	68	76	56	53	54	70	59	50	49	..	53.2
	Minimum ...	35	30	24	31	29	26	27	32	19	14	19	25	18	26	34	41	53	51	40	31	30	26	41	37	29	23	36	43	43	38	..	31.8
Bottineau §§	Maximum...	44	45	35	34	38	42	41	38	26	25	30	31	38	45	58	59	69	71	59	41	50	65	71	47	46	45	59	55	57	56	..	47.3
	Minimum ...	31	25	22	24	25	18	22	28	25	15	5	4	12	15	29	30	35	33	43	29	22	25	32	31	20	19	21	31	34	35	..	24.7
Cando	Maximum...	59	54	48	38	35	43	42	41	39	35	31	32	38	41	59	62	69	70	71	65	73	62	47	45	62	60	61	58	60	54	..	50.5
	Minimum ...	32	30	24	29	26	23	25	30	19	13	11	17	16	27	29	34	36	42	45	29	31	25	21	19	31	31	39	41	36	39	..	28.3
Carrington §§	Maximum...	56	46	40	33	34	36	37	52	36	27	33	28	34	42	61	72	68	72	69	46	51	66	75	53	46	46	67	62	47	46	..	49.4
	Minimum ...	29	30	23	24	28	23	22	19	27	18	9	9	15	16	21	33	40	41	42	33	27	27	31	34	23	19	25	33	38	32	..	26.4
Crosby §§	Maximum...	50	45	39	33	34	47	42	37	27	29	35	33	44	53	51	57	47	59	42	48	52	69	67	55	50	50	62	50	48	60	..	47.2
	Minimum ...	33	31	24	30	20	19	20	29	26	17	17	14	15	15	33	33	35	34	34	28	22	26	29	32	25	24	31	40	34	25	..	26.5
Devils Lake	Maximum...	40	45	38	33	33	39	41	36	31	27	32	31	36	39	58	69	70	71	67	44	50	64	73	48	42	42	62	55	57	50	..	47.4
	Minimum ...	34	30	25	29	28	25	25	30	26	16	11	14	18	29	30	38	48	44	37	31	28	30	44	30	23	19	31	34	41	37	..	29.5
Dickinson §§	Maximum...	50	47	56	39	32	52	52	39	28	28	33	31	39	53	68	67	74	76	49	37	53	68	71	55	53	59	67	65	56	56	..	51.8
	Minimum ...	31	30	21	24	23	17	19	29	24	10	13	14	16	16	27	36	34	35	44	30	26	26	31	38	32	31	31	37	35	37	..	27.2
Dunn Center §§	Maximum...	50	46	51	41	36	39	48	42	34	29	35	31	40	52	66	64	70	76	60	44	67	51	67	71	55	58	67	56	59	57	..	52.1
	Minimum ...	30	30	22	27	25	19	24	31	24	12	15	18	15	20	32	40	35	34	44	30	27	35	25	35	38	28	32	36	37	36	..	28.5
Dunseith	Maximum...	45	35	34	36	44	41	40	36	26	30	30	50	36	41	54	58	58	71	70	55	50	64	70	69	44	44	59	54	57	58	..	48.6
	Minimum ...	28	20	28	25	18	23	29	21	12	10	15	29	16	16	26	35	33	41	40	26	22	30	37	29	20	21	31	35	37	32	..	26.2
Edgeley	Maximum...	64	54	45	42	33	40	41	42	41	35	40	42	55	75	75	74	76	74	70	57	69	77	68	50	50	50	69	69	58	67	..	56.7
	Minimum ...	36	25	25	32	29	29	25	25	24	19	15	21	27	25	40	37	36	40	33	33	23	42	36	21	15	21	21	38	40	37	..	29.0
Ellendale	Maximum...	51	47	41	39	33	40	48	46	37	31	41	39	41	56	73	75	73	77	75	58	57	65	74	58	50	49	68	62	47	40	..	53.1
	Minimum ...	33	29	23	32	30	24	22	32	28	22	22	23	22	21	24	32	35	43	42	35	33	27	37	33	22	17	24	43	40	37	..	29.6
Fessenden §§	Maximum...	45	45	40	34	35	39	38	36	31	30	31	32	38	41	63	72	70	73	68	46	52	66	75	51	45	47	67	57	52	49	..	48.9
	Minimum ...	33	30	24	26	27	22	18	23	26	14	8	14	15	22	30	36	42	44	44	31	27	26	35	33	24	21	27	36	36	35	..	27.6
Foxholm (near)	Maximum...	50	44	39	34	33	40	44	41	33	30	33	33	38	47	58	62	67	74	70	44	49	66	71	65	47	51	64	54	58	57	..	49.9
	Minimum ...	31	26	20	28	24	17	23	28	21	10	9	13	15	28	31	36	31	46	35	27	22	28	43	30	20	19	30	36	35	28	..	26.3
Fullerton	Maximum...	56	48	47	42	33	37	47	44	38	32	39	38	40	54	72	75	75	78	75	67	58	68	75	66	50	50	68	61	52	42	..	51.2
	Minimum ...	37	28	22	32	30	27	24	33	30	20	21	24	22	23	24	30	37	42	42	34	32	25	36	38	21	17	33	41	41	38	..	30.1
Garrison	Maximum...	50	45	44	42	38	47	48	41	33	30	35	33	40	55	63	67	73	72	76	43	52	70	72	73	60	55	68	55	58	58	..	53.2
	Minimum ...	31	29	20	30	27	22	27	30	22	11	10	18	12	23	37	39	38	37	35	32	26	26	32	34	27	22	37	39	38	34	..	28.2
Grafton	Maximum...	53	41	39	37	38	42	44	44	40	34	33	33	39	39	61	68	68	71	70	69	55	62	76	70	47	44	60	59	61	57	..	51.8
	Minimum ...	35	31	26	30	31	26	27	30	29	19	18	23	23	31	28	38	42	37	43	33	28	29	39	34	24	20	28	32	29	37	..	30.0
Grand Forks	Maximum...	47	37	35	40	35	40	43	41	34	34	33	32	38	40	61	70	68	72	70	51	55	61	78	52	44	42	62	60	55	46	..	49.2
	Minimum ...	35	32	27	31	29	29	25	32	30	20	18	22	19	27	28	35	42	41	42	35	30	32	40	31	24	20	29	31	43	41	..	30.7
Granville	Maximum...	52	47	40	35	35	42	45	41	31	29	29	34	39	48	63	65	74	75	60	45	52	73	73	53	53	50	67	56	62	58	..	50.9
	Minimum ...	27	21	23	31	27	19	24	30	22	12	10	9	17	28	33	38	39	48	38	32	24	26	39	37	24	19	29	38	38	33	..	27.8
Hansboro	Maximum...	50	44	40	35	35	40	45	38	33	30	32	30	37	40	54	58	68	70	65	40	48	62	70	57	45	45	60	58	60	60	..	48.3
	Minimum ...	34	30	25	28	26	20	26	30	24	22	12	15	17	27	30	36	34	43	40	28	25	38	40	29	20	18	33	34	36	33	..	28.4
Hettinger	Maximum...	50	48	56	46	32	51	51	44	38	29	36	31	39	54	70	80	74	75	66	40	54	65	71	62	55	55	69	67	57	47	..	53.7
	Minimum ...	32	29	22	31	24	15	29	28	24	15	14	26	19	25	36	46	37	48	37	32	29	25	38	38	31	29	39	37	39	35	..	30.3
Hillsboro	Maximum...	50	43	40	38	34	34	42	42	42	34	34	38	36	40	46	69	66	71	70	69	57	61	76	73	60	50	63	63	59	51	..	51.7
	Minimum ...	38	31	36	28	26	22	30	33	30	21	17	19	20	20	28	36	42	38	45	35	30	28	38	34	28	20	26	44	41	36	..	30.7
Howard (near)	Maximum...	48	45	47	40	34	47	38	34	36	28	32	28	38	45	58	52	49	60	50	47	52	62	68	58	53	58	58	45	55	59	..	47.5
	Minimum ...	30	32	28	26	19	17	30	24	20	15	8	9	8	24	38	40	32	33	35	27	22	31	38	37	26	35	35	35	35	36	..	27.5
Jamestown §§	Maximum...	47	42	33	33	35	39	38	35	28	34	32	35	44	70	73	71	76	73	49	54	68	75	57	48	47	68	56	48	43	59	..	50.3
	Minimum ...	35	28	23	24	28	24	18	24	26	17	9	14	16	20	27	31	41	40	43	32	30	28	35	36	22	18	25	33	41	38	..	27.5
Langdon §§	Maximum...	40	40	40	34	32	40	44	37	31	32	31	31	35	40	60	64	68	60	64	42	50	64	76	46	43	44	60	60	60	56	..	47.5
	Minimum ...	30	30	23	25	28	20	30	30	26	20	15	18	18	20	22	32	37	40	42	30	25	28	34	29	20	17	29	29	34	33	..	27.1
Larimore §§	Maximum...	45	43	38	33	32	38	40	37	32	34	33	32	37	38	60	69	68	71	70	45	52	62	77	50	43	43	63	59	55	45	..	48.1
	Minimum ...	35	32	25	26	30	23	20	28	28	18	12	18	19	21	27	31	37	38	41	32	28	28	35	32	24	20	25	32	39	37	..	28.0
Linton	Maximum...	56	47	48	47	34	49	50	44	35	31	36	35	40	56	74	80	77	76	75	70	58	70	75	73	55	54	70	65	64	43	..	56.2
	Minimum ...	22	20	30	32	18	25	25	27	24	18	19	25	12	19	29	40	45	45	46	32	31	22	34	38	25	19	31	34	40	32	..	28.6
Lisbon §§	Maximum...	53	50	45	34	34	34	42	43	35	33	38	37	39	50	74	75	74	75	73	63	59	68	76	57	48	47	67	60	48	42	..	52.4
	Minimum ...	37	28	27	32	30	28	19	33	30	19	18	25	23	24	26	33	39	41	45	36	22	28	45	39	25	19	23	36	41	38	..	30.3
McClusky	Maximum...	53	44	42	39	34	40	46	39	32	28	35	32	37	47	63	72	71	73	70	66	51	67	73	71	48	52	62	53	56	51	..	51.6
	Minimum ...	34	26	22	23	25	20	25	29	24	10	8	18	17	24	32	39	46	47	42	30	25	26	39	33	22	39	30	24	37	34	..	28.3
Maddock	Maximum...	60	41	41	38	33	37	39	36	34	28	32	32	35	38	58	69	70	71	70	63	50	65	72	71	47	45	64	55	55	56	..	50.2
	Minimum ...	30	28	23	28	25	18	17	29	25	16	4	12	13	25	28	35	42	42	42	30	26	26	41	31	23	20	30	33	39	35	..	27.2
Marmarth	Maximum...	50	50	60	41	35	57	47	47	35	35	40	35	44	58	72	69	70	68	55	38	50	56	71	54	58	57	59	70	60	52	..	53.1
	Minimum ...	31	33	25	29	25	17	31	31	22	19	14	25	23	26	32	34	40	44	37	30	30	28	37	37	33	32	38	40	37	40	..	30.7
Minot §§	Maximum...	48	45	41	34	36	43	47	40	27	29	35	34	40	52	62	65	72	76	55	55	51	69	72	50	48	53	67	54	60	57	..	50.6
	Minimum ...	32	24	19	24	25	18	22	29	23	11	11	14	16	21	31	32	33	36	44	29	24	27	37	32	23	20	27	36	31	31	..	26.1
Mohall	Maximum...	49	35	39	32	36	43	43	40	26	30	35	34	40	46	59	59	59	75	50	46	52	68	72	49	45	53	62	55	50	57	..	48.0
	Minimum ...	28	23	30	25	17	24	28	23	15	12	15	15	26	32	39	35	38	44	30	24	27	45	32	23	22	30	36	38	31	31	..	27.9
Mott	Maximum...	56	53	45	41	39	43	47	51	41	32	34	33	37	55	64	81	77	75	60	46	65	68	74	57	53	58	68	60	58	57	..	54.3
	Minimum ...	33	25	32	28	27	26	25	33	30	18	22	13	26	33	33	39	36	45	38	30	40	37	34	31	30	33	40	37	35	33	..	31.4
Napoleon §§	Maximum...	50	47	45	36	32	42	47	44	37	28	36	35	39	55	74	78	73	76	75	50	57	70	76	59	52	55	70	62	50	40	..	53.0
	Minimum ...	30	24	21	30	26	26	23	29	24	16	15	24	17	23	29	36	47	45	44	32	29	24	40	36	21	16	29	37	39	35	..	28.9
New Salem	Maximum...	51	54	43	45	31	45	44	42	35	31	32	29	34	47	72	66	77	75	70	50	50	66	75	66	50	50	72	65	52	45	..	52.1
	Minimum ...	32	32	23	31	23	21	23	30	21	7	15	21	14	24	40	33	38	49	43	32	27	25	40	34	29	23	30	40	37	35	..	29.1
Oakes	Maximum...	66	54	46	41	33	37	47	46	42	37	43	41	42	58	76	77	75	76	74	68	59	67	71	60	51	50	69	67	56	45	..	55.8
	Minimum ...	29	32	22	32	30	27	20	32	30	21	21	24	21	22	25	35	42	44	44	35	32	27	35	38	23	17	25	38	43	38	..	30.1
Pembina §§	Maximum...	41	32	32	37	34	41	44	39	32	28	29	29	38	34	56	61	68	72	70	44	52	61	74	47	40	40	54	57	59	56	..	46.7
	Minimum ...	31	30	24	24	32	28	29	31	30	27	16	17	19	23	27	30	36	42	44	32	28	29	34	31	22	19	22	32	36	36	..	28.7
Sharon	Maximum...	48	45	40	33	33	37	39	37	32	30	32	29	33	40	59	69	67	69	68	54	51	61	75	59	44	45	63	59	50	45	..	48.2
	Minimum ...	34	31	25	30	29	23	22	30	28	16	10	18	15	25	27	36	43	40	41	31	28	29	42	31	23	19	28	30	40	36	..	28.7
Steele	Maximum...	53	45	42	38	32	37	45	40	38	30	34	30	50	69	76	71	75	73	67	51	55	67	76	68	50	53	61	59	51	45	..	52.7
	Minimum ...	13	22	20	31	30	25	24	30	26	15	10	20	22	30	38	48	50	45	34	18	28	20	24	38	23	18	28	38	35	38	..	28.0
Towner	Maximum...	62	47	43	39	38	40	40	43	37	30	33	33	37	40	61	64	71	73	71	45	50	66	73	68	49	48	65	55	61	60	..	51.4
	Minimum ...	31	28	22	30	26	18	25	31	24	13	6	9	17	27	31	39	39	47	44	31	25	27	41	33	23	21	39	38	39	33	..	28.6
Valley City	Maximum...	62	51	47	41	40	36	36	37	37	36	35	34	34	41	66	72	72	72	69	69	54	64	74	70	57	53	64	65	65	45	..	53.3
	Minimum ...	35	30	27	30	27	25	12	30	35	19	12	21	17	24	24	36	39	44	43	32	30	27	40	35	24	21	21	36	42	37	..	29.2
Wahpeton	Maximum...	57	46	43	40	35	34	47	46	45	35	41	42	42	55	71	75	75	77	75	73	68	65	78	77	65	50	65	66	62	47	..	56.6
	Minimum ...	41	32	30	32	32	18	23	33	32	25	21	26	23	23	26	39	40	44	47	40	38	30	40	40	25	15	26	35	44	40	..	32.0
Westhope	Maximum...	51	50	41	37	40	45	45	42	37	32	34	35	40	46	59	56	54	76	73	43	55	68	76	72	49	51	63	57	59	59	..	51.5
	Minimum ...	33	29	23	30	25	15	18	31	22	11	5	9	15	26	32	39	34	45	37	30	26	29	41	32	24	22	36	34	39	31	..	27.4
Williston	Maximum...	50	47	49	36	36	51	42	36	31	28	34	33	42	53	61	59	57	65	47	48	53	68	70	60	53	58	61	48	58	59	..	49.8
	Minimum ...	33	30	26	28	26	25	29	31	18	18	16	18	17	29	39	42	36	39	34	32	27	33	42	43	32	33	39	37	35	35	..	30.7
Moorhead, Minn	Maximum...	51	40	38	35	34	34	42	43	35	34	36	34	37	44	71	73	71	73	71	64	60	63	76	57	46	44	65	59	49	43	..	50.7
	Minimum ...	37	31	28	32	29	28	27	32	31	22	18	28	24	28	28	35	41	44	47	36	35	33	39	36	25	22	26	38	41	38	..	32.0

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 5-26-33—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

Vol. XLII BISMARCK, N. D., MAY, 1933 No. 5

GENERAL SUMMARY

The temperature for the state averaged above normal and only a few scattered stations reported readings below freezing after the 12th. Precipitation also averaged somewhat above normal. In the north-central and western parts of the state precipitation was more than an inch above normal generally, but it was below normal in the southeastern, south-central and extreme northeastern counties. General, beneficial showers occurred on the 8-9th and 22d-24th. Crops were somewhat backward at the beginning of the month, but at the close both crops and soil moisture conditions were mostly very good. A tornado occurred near New Leipzig, Grant County on the 22d. Four persons were killed, eight others were injured and widespread property damage was reported. F.J.B.

TEMPERATURE

The mean temperature for the state was 54.8°, or 2.0° above the normal, and 1.1° lower than the mean for May, 1932. The highest mean reported was 58.2° at Wahpeton, Richland County; the lowest was 51.6° at Bowman, Bowman County. The highest temperature reported was 98° at Max, McLean County on the 31st; the lowest was 19° at Dunseith, Rolette County on the 3d and 10th. The greatest monthly range of temperature was 70° at Berthold Agency, McLean County; the least was 48° at Mott, Hettinger County. The greatest daily range of temperature was 53° at Fort Yates, Sioux County on the 29th.

PRECIPITATION

The average precipitation for the state was 3.15 inches, or 0.75 inch above the normal, and 1.01 inches more than the average for May, 1932. The greatest monthly amount reported was 5.41 inches at Mohall, Renville County; the least was 1.43 inches at Edmore, Ramsey County. The greatest amount recorded in any 24 consecutive hours was 2.90 inches at Beach, Golden Valley County on the 23d. The average number of days with 0.01 inch or more of precipitation was 9. The average snowfall was a trace.

MISCELLANEOUS PHENOMENA

AURORAS: Bismarck, Crosby, 14th; Bottineau, New England, Stanton, Velva, 30th; Carson, 28th; Devils Lake, 1st; Dogden Butte, 14th, 21st; Eckman, 12th; Foxholm, 14th, 18th, 20th, 21st, 29th, 30th; Grand Forks, 1st, 2d, 12th, 13th, 19th, 29th, 30th, 31st; Minot, Towner, 31st; Mohall, 17th, 31st; Oakes, 14th, 30th, 31st; Parshall, 20th, 31st; Pembina, 12th, 14th, 15th, 19th, 27th, 30th, 31st; Petersburg, 12th, 29th; Pettibone, 30th, 31st; Sharon, 29th; Trotters, 17th, 29th, 30th.

FOG: Bismarck, 27th; Bottineau, 23d; New England, 7th; Petersburg, 26th; Williston, 20th; Willow City, 18th.

HALOS, lunar: Devils Lake, Grand Forks, 3d; Oakes, 6th; Petersburg, 5th, 21st.

HALOS, solar: Devils Lake, 3d, 6th, 10th, 17th, 28th, 30th; Grand Forks, 3d, 8th, 10th, 17th, 21st, 27th, 28th; Oakes, 3d; Moorhead, 3d, 5th, 10th, 16th, 17th, 18th, 21st; Rugby, 5th; Sharon, 13th, 18th; Trotters, 1st, 9th, 10th; Williston, 3d, 11th.

HAIL: Bismarck, 22d, 23d; Edmore, Stowers, Towner, 22d; Marmarth, Sharon, Valley City, 22d; Trotters, 20th.

SLEET: New England, 17th.

THUNDERSTORMS: On the 7th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22d, 23d, and 24th, with the greatest number reported on the 22d and 23d.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck........	29.85	30.20	20	29.20	23	10.1	28	w.	24	76	48	48	45
Devils Lake.....	29.84	30.23	20	29.19	23	10.1	31	e.	8	76	45	47	60
Ellendale........	.....	.....	....	.....	....	......	......	......	....	....	....	....	....
Grand Forks....	29.84	30.21	20	29.16	23	......	31	se.	23	73	....	45	....
Williston........	29.86	30.21	20	29.27	23	9.6	31	nw.	23	77	48	52	55
Moorhead, Minn	29.81	30.24	20	29.15	23	9.2	26	e.	22	77	48	50	51
Averages & ext's	29.84	30.24	20	29.15	23	9.8	31	e.	8†	76	47	48	53

† And other dates.

COMPARATIVE DATA FOR MAY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	46.6	−6.2	96	13	2.21	−0.19	5.86	0.35	3.9	12	6	8	17
1893	52.2	−0.6	97	19	1.61	−0.79	4.79	0.40	0.2	6	11	8	12
1894	54.6	+1.8	98	23	1.51	−0.89	3.15	0.24	0.0	5	16	9	6
1895.	54.4	+1.6	101	15	2.48	+0.08	4.22	0.90	0.0	8	10	11	10
1896.	56.9	+4.1	103	22	4.89	+2.49	8.61	1.98	0.0	13	6	14	11
1897	55.4	+2.6	97	16	0.71	−1.69	1.84	T.	T.	4	16	10	5
1898.	52.7	−0.1	92	14	1.98	−0.42	4.56	0.01	0.0	5	15	9	7
1899.	50.6	−2.2	91	16	3.49	+1.09	7.79	1.26	0.4	8	9	9	13
1900	59.2	+6.4	106	15	0.69	−1.71	2.27	0.05	0.0	3	18	8	5
1901.	60.0	+7.2	99	19	0.31	−2.09	0.98	T.	T.	2	21	4	6
1902.	55.9	+3.1	94	24	3.57	+1.17	4.98	0.78	0.4	10	13	6	12
1903.	54.3	+1.5	96	11	3.12	+0.72	7.83	1.17	T.	4	14	8	9
1904.	54.2	+1.4	93	20	1.76	−0.64	3.42	0.11	T.	6	14	9	8
1905.	50.1	−2.7	88	10	3.05	+0.65	7.24	1.12	4.0	8	12	8	11
1906	50.8	−2.0	99	11	4.63	+2.23	8.08	2.35	0.4	12	9	8	14
1907.	44.0	−8.8	84	6	1.11	−1.29	3.81	T.	3.1	6	12	10	9
1908.	50.8	−2.0	88	9	2.97	+0.57	5.35	0.56	0.9	8	13	7	11
1909.	51.0	−1.8	98	5	4.29	+1.89	8.60	2.30	0.1	10	12	9	10
1910.	50.7	−2.1	94	10	0.96	−1.44	2.21	0.15	0.1	6	12	11	8
1911	55.0	+2.2	99	6	2.88	+0.48	7.54	0.43	T.	8	14	9	8
1912.	54.2	+1.4	90	16	4.52	+2.12	9.13	2.29	0.7	11	10	10	11
1913.	51.2	−1.6	100	11	1.68	−0.72	4.00	0.50	0.2	9	10	10	11
1914.	55.2	+2.4	95	16	2.12	−0.28	4.21	0.86	1.0	8	16	8	7
1915.	51.1	−1.7	98	15	3.16	+0.76	5.00	1.14	0.4	9	10	10	11
1916.	51.0	−1.8	95	7	2.22	−0.18	5.16	0.45	0.3	8	11	11	9
1917.	51.2	−1.6	98	15	0.30	−2.10	2.08	0.00	0.1	2	20	7	4
1918.	51.7	−1.1	99	6	2.30	−0.10	4.63	0.30	0.5	9	10	11	10
1919.	55.5	+2.7	101	16	3.25	+0.85	7.74	0.66	0.4	9	16	8	7
1920.	53.9	+1.1	89	20	1.74	−0.66	3.78	0.56	0.1	7	13	10	8
1921.	53.8	+1.0	90	21	2.46	+0.06	5.62	1.03	T.	9	13	10	8
1922.	56.3	+3.5	93	24	3.11	+0.71	6.82	1.23	0.1	12	10	11	10
1923.	54.1	+1.3	100	13	1.77	−0.63	4.63	0.03	0.2	6	15	10	6
1924.	46.9	−5.9	84	15	0.79	−1.61	3.32	0.02	0.0	5	12	10	9
1925.	53.6	+0.8	111	10	1.44	−0.96	4.85	0.38	T.	4	17	9	5
1926.	58.5	+5.7	105	10	2.18	−0.22	4.02	0.43	0.0	7	13	11	7
1927.	48.0	−4.8	87	13	5.62	+3.22	9.30	2.60	3.2	14	6	8	17
1928.	58.2	+5.4	107	16	1.15	−1.25	3.34	0.22	0.0	5	18	7	6
1929.	49.1	−3.7	92	8	2.99	+0.59	7.29	0.65	0.4	7	16	9	6
1930.	50.8	−2.0	98	18	2.62	+0.22	5.99	0.96	0.7	9	12	8	11
1931.	53.1	+0.3	100	10	1.41	−0.99	3.40	T.	0.3	6	16	7	8
1932.	55.9	+3.1	98	25	2.14	−0.26	4.50	0.21	2.2	6	13	9	9
1933.	54.8	+2.0	98	19	3.15	+0.75	5.41	1.43	T.	9	9	10	12
Per..	52.8	....	111	5	2.40	....	9.30	0.00	0.5	8	13	9	9

Climatological Data for May, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	....	7	....	....	....	....	....	....	....	5.26	....	2.62	0	10	....	....	....	....	H. A. Bury.
Amenia	Cass	954	37	56.0	+2.0	87	17	29	2	44	4.81	+1.96	1.75	0	7	2	21	8	se.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	54.6	+1.9	92	31	29	2†	43	3.68	+1.62	1.85	0	9	12	11	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	53.6	+0.1	86	31	28	2†	40	1.81	−0.59	0.53	0	10	9	11	11	se.	H. D. Piper.
Beach	Golden Valley	2,759	27	52.9	+1.5	91	31	26	1	41	4.02	+1.44	2.90	T.	12	8	10	13	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	55.4	+1.3	92	31	22	10	42	1.71	−0.73	0.70	0	8	14	5	12	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	55.6	+1.1	91	31	30	2	38	2.38	+0.06	0.91	0	8	4	13	14	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	54.2	+2.9	88	31	28	10	43	2.30	+0.21	1.15	0	6	9	19	3	se.	N. D. School of Forestry.
Bowman	Bowman	2.961	19	51.6	−0.6	90	31	31	9†	42	3.50	+1.08	1.20	T.	16	18	3	10	se.	George Larsen.
Cando	Towner	1,488	32	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	A. J. Swanson.
Carrington	Foster	1,579	35	53.2	+0.7	86	31	26	2	41	3.26	+0.63	1.59	0	6	9	3	19	se.	L. A. Swanson.
Carson	Grant	2,500	21	52.6	−0.5	90	31	26	1	39	2.59	+0.30	1.50	0	5	7	16	8	se.	J. W. Evens.
Cavalier	Pembina	894	23	....	....	....	....	....	....	....	3.36	+0.65	1.55	0	6	19	6	6	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	....	....	....	....	....	....	....	2.33	−0.05	0.65	0	8	15	2	14	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	....	....	....	....	....	....	....	1.55	....	0.50	0	8	17	10	4	w.	W. A. Clem.
Courtenay	Stutsman	1,523	4	....	....	....	....	....	....	....	2.55	....	0.97	0	7	10	10	11	se.	Geo. E. Berg.
Crosby	Divide	1,954	26	54.0	+2.8	89	31	29	9†	44	4.46	+2.45	2.08	0	9	5	14	12	se.	John Jensen.
Devils Lake	Ramsey	1,478	36	55.0	+2.4	85	31	29	9	38	2.22	+0.19	0.68	0	10	7	9	15	se.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	52.4	+0.2	90	31	30	1	38	2.56	+0.20	1.56	0.1	12	5	10	16	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	54.6	....	88	31	25	9	45	3.68	....	1.85	0	8	10	12	9	se.	R. L. Williams.
Drake	McHenry	1.634	4	55.0	....	88	31	29	9	37	2.96	....	0.65	0	10	7	11	13	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	53.8	+1.1	88	31	28	10	40	3.93	+1.41	2.02	0	12	7	11	13	e.	W. F. Moede.
Dunseith	Rolette	1,682	37	54.7	+2.6	88	31	19	3†	46	3.24	+1.40	1.50	0	10	3	13	15	e.	T. H. Tharalson.
Eckman	Bottineau	1,500	28	54.3	+2.9	88	31	22	10	47	4.25	+2.14	1.60	0	11	7	15	9	se.	C. E. Strock.
Edgeley	LaMoure	1,568	32	55.0	+1.3	92	31	28	6	47	1.80	−0.86	0.69	0	6	2	22	7	se.	O. A. Thompson.
Edmore	Ramsey	1,524	9	53.6	....	84	31	21	9	45	1.43	....	0.70	0	8	5	15	11	e.	E. D. Warner.
Ellendale	Dickey	1,457	38	55.2	−0.5	87	31	31	9	44	1.61	−1.47	0.95	0	9	....	....	....	....	U. S. Weather Bureau
Energy‡‡	McLean	1,750	21	55.6	....	90	31	29	1†	42	3.13	+0.91	1.10	0	8	5	17	9	se.	H. S. Solenberger.
Epping	Williams	2,224	25	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	A. O. Wang.
Fairfield	Billings	....	4	....	....	....	....	....	....	....	3.47	....	2.00	0	7	10	8	13	se.	F. R. Hecker.
Fessenden	Wells	1,610	21	54.3	+2.3	87	31	29	9†	49	3.31	+0.93	1.25	0	8	7	15	9	se.	T. D. Monsen.
Forman	Sargent	1,249	40	....	....	....	....	....	....	....	2.04	−0.83	1.00	0	7	14	4	13	sw.	Helge Dyste.
Fort Yates	Sioux	1,670	33	55.4	−0.7	94	30	26	2	53	1.70	−0.27	0.56	0	5	14	5	12	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	54.0	....	91	31	26	9	39	4.04	+2.07	1.97	0	9	5	13	13	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	....	....	....	....	....	....	....	3.65	+1.41	2.83	T.	6	7	11	13	e.	Verne King.
Fullerton	Dickey	1,439	35	56.2	+2.2	88	31	32	6†	44	2.56	−0.64	1.24	0	7	12	7	12	s.	F. O. Alin.
Gackle	Logan	1,951	3	....	....	....	....	....	....	....	3.05	....	0.93	0	8	8	11	12	se.	Geo. Hummel.
Garrison	McLean	1,901	56	55.5	+2.8	94	31	32	1†	49	3.16	+0.93	1.47	0	9	5	17	9	se.	W. F. Robinson.
Grafton	Walsh	827	41	56.9	+3.6	85	31	29	9†	44	2.79	+0.60	0.80	0	9	10	7	14	e.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	42	57.1	+3.4	88	17	28	2	44	2.81	+0.20	0.71	0	9	3	13	15	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	55.3	+3.7	85	16†	27	9†	47	3.81	+1.88	1.60	0	9	10	11	10	se.	W. A. Christianson.
Hankinson	Richland	1,068	4	58.1	....	92	31	30	8	38	2.76	....	0.80	0	6	11	7	13	e.	R. G. Stock.
Hannah	Cavalier	1,568	41	55.2	....	86	15	23	9	46	4.12	+1.99	2.60	0	6	7	19	5	se.	James Muir.
Hansboro	Towner	1,597	25	54.5	+3.8	85	31	24	9	41	5.02	+2.71	2.75	0	11	10	11	10	se.	C. E. Blackorby.
Hettinger	Adams	2,675	26	52.2	−1.4	89	31	30	1	40	2.57	+0.22	0.95	0.5	10	10	9	12	se.	C. H. Plath.
Hillsboro	Traill	901	27	55.4	+1.5	....	....	....	....	....	2.92	−0.27	....	....	....	....	....	....	....	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	52.9	+3.1	88	31	29	1†	36	3.65	+1.27	1.00	0	9	8	9	14	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	54.4	+0.9	84	17	30	2†	39	3.34	+0.56	0.91	0	11	8	13	10	w.	S. Calvelage.
Kenmare	Ward	1,799	2	54.6	....	82	17	30	2†	36	3.49	....	1.50	0	8	10	6	15	se.	R. Costello.
Langdon	Cavalier	1,615	37	55.4	+4.5	89	15†	30	11†	48	2.76	+0.55	1.43	0	5	20	3	8	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	55.9	+3.3	89	17	29	2†	45	4.09	+1.33	1.52	0	11	7	13	11	ne.	Mabel Walsh.
Linton	Emmons	1,711	16	54.1	−0.1	90	31	24	2	44	1.92	−0.36	0.70	T.	10	3	13	15	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	29	56.1	+2.2	85	16†	30	2	41	3.06	+0.03	1.11	0	7	4	7	20	....	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	54.2	....	87	31	25	2	42	4.71	+2.06	1.65	C	7	11	11	9	se.	Edw. Tapley.
McLeod	Ransom	1,075	22	56.1	+1.6	89	17†	32	10	42	2.44	−0.88	0.95	0	9	11	8	12	nw.	J. G. Carlson.
Maddock	Benson	1,604	18	54.4	+1.7	87	31	29	9†	48	3.61	+1.41	1.23	0	8	2	19	10	se.	A. T. Felland.
Mandan	Morton	1,750	19	55.6	+1.7	91	31	29	10	39	1.83	−0.59	0.51	0	13	3	3	25	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	....	....	....	....	....	....	....	3.07	+0.72	1.11	0	10	....	....	....	....	P. B. Anderson.
Marmarth	Slope	2,714	24	52.5	+1.3	88	31	28	1	40	4.03	+1.56	2.60	0	16	10	4	17	....	S. P. Grane.
Mary	McKenzie	....	4	....	....	....	....	....	....	....	4.12	....	2.20	0	12	11	7	13	se.	Fred Hartman.
Max	McLean	2,093	4	55.2	....	98	31	30	10	45	4.61	....	1.65	0	8	12	3	16	se.	A. W. Rice.
Mayville	Traill	975	37	56.2	+4.9	90	17	26	9	47	3.46	+0.44	1.20	0	8	5	13	13	e.	H. B. Addicott.
Minot	Ward	1,557	37	54.5	+2.3	93	31	26	10	44	4.13	+2.09	1.25	0	11	12	10	9	w.	W. H. Johnson.
Mohall	Renville	1,646	39	56.0	+3.7	93	31	30	8†	39	5.41	+3.40	2.10	0	8	9	11	11	se.	G. V. Davidson.
Mott	Hettinger	2,424	26	53.6	+0.1	80	16	32	1	37	3.72	+1.34	1.34	0	8	8	7	16	nw.	O. H. Opland.
Napoleon	Logan	1,955	41	53.8	+1.4	86	17	25	2	44	2.16	−0.20	0.55	0	9	8	9	14	w.	C. J. Hoof.
New England	Hettinger	2.400	39	54.2	+2.2	85	16	28	1	43	1.89	−0.18	0.68	T.	10	5	12	14	se.	F. S. Sleight.
New Salem	Morton	2,163	29	53.5	+1.1	87	31	27	10	39	3.78	+1.53	1.70	0	12	12	8	11	se.	J. Christiansen.
Oakes	Dickey	1,318	4	56.2	....	89	17†	31	9†	44	2.40	....	1.21	0	9	7	11	13	ne.	Eugene Naylor.
Park River	Walsh	998	29	57.0	+4.0	86	18	25	9	46	2.13	−0.24	0.92	0	5	9	14	8	se.	C. B. Wright.
Parshall	Mountrail	1.929	18	53.3	....	82	17	27	10	41	2.63	+0.52	0.70	0	14	7	18	6	nw.	C. E. Shubert.
Pembina	Pembina	789	59	55.6	+2.8	87	16	28	9†	48	2.10	−0.33	1.25	0	7	3	13	15	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	....	....	....	....	....	....	....	3.22	....	1.29	T.	9	11	12	8	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	24	54.4	+2.6	88	31	29	2†	45	3.59	+0.97	1.34	T.	6	13	10	8	se.	H. H. McCumber.
Portal	Burke	1,954	28	54.4	+3.9	91	30	26	1	43	3.98	+1.81	0.95	0	9	8	7	16	se.	R. G. Wegener.
Power‡‡	Richland	1,020	39	....	....	....	....	....	....	....	2.25	−0.46	1.10	0	5	13	7	11	s.	Frank B. Power.
Powers Lake	Burke	2,205	28	54.0	....	91	31	29	8	45	4.61	+2.44	1.42	0	8	12	11	8	e.	Geo. B. Gee.
Richardton	Stark	2,467	17	52.4	−0.2	91	31	29	1†	41	3.10	+0.61	1.53	0	9	3	13	15	se.	John Muggli.
Rugby (near)	Pierce	1,562	4	....	....	....	....	....	....	....	2.91	....	1.26	0	8	5	15	11	nw.	E. C. Erickson.
Ryder	Ward	2,108	4	....	....	....	....	....	....	....	2.90	....	0.85	0	10	....	....	....	....	S. C. Schellenbaum.
Sanish	Mountrail	1,835	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Geo. Buerkle.
Sharon	Steele	1,516	9	54.8	....	85	17	29	9	42	4.25	....	1.63	T.	10	6	10	15	ne.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	....	....	....	....	....	....	....	2.30	....	1.08	0	7	9	11	11	se.	J. H. Giffey.
Steele	Kidder	1,857	39	54.1	+1.0	87	16†	25	2	44	4.89	+2.31	2.00	0	8	6	14	11	se.	V. A. Laney.
Stowers‡‡	Adams	2,325	18	....	....	....	....	....	....	....	2.68	+0.30	1.31	T.	9	17	2	12	....	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	....	....	....	....	....	....	....	3.28	....	1.55	0	10	12	8	11	nw.	J. C. Abbott.
Tioga	Williams	2,279	4	....	....	....	....	....	....	....	3.60	....	1.25	0	9	6	14	11	se.	Anton Carlson.
Towner	McHenry	1,482	31	55.5	+2.3	87	16†	26	10	46	3.05	+0.84	1.58	0	8	12	9	10	nw.	Karl Weber.
Trotters	Golden Valley	....	7	....	....	....	....	....	....	....	4.04	....	2.57	0	8	7	9	15	se.	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	....	....	....	....	....	....	....	3.96	+1.64	2.71	0	8	....	....	....	....	M. A. Slettum.
Valley City	Barnes	1,245	27	54.7	+1.2	83	16†	28	2	42	2.99	+0.08	1.45	0	7	8	11	12	e.	I. C. Robertson.
Velva	McHenry	1,511	6	55.7	....	91	31	27	2	44	4.15	....	2.19	0	9	5	14	12	nw.	Oscar Anderson.
Wahpeton	Richland	962	41	58.2	+2.6	88	17	32	10	39	3.11	+0.43	1.00	0	10	16	0	15	se.	C. G Luick.
Washburn	McLean	1,731	32	55.6	+1.8	88	31	31	10	39	2.64	+0.57	0.80	0	7	10	13	8	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	57.2	+5.4	94	31	26	9	43	2.16	+0.22	0.86	0	8	12	14	5	se.	C. M. Condit.
Williston	Williams	1,878	54	55.2	+1.2	93	31	31	10	33	3.52	+1.46	1.60	0	11	11	11	9	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	54.3	+2.8	90	31	26	9	46	2.95	+1.03	1.83	0	7	13	11	7	se.	O. M. Sanderson.
Wishek	McIntosh	2 010	4	51.8	+1.1	82	31	27	1	34	1.93	−0.95	0.77	0	7	8	1	22	se.	Gottlieb Herr.
Zap	Mercer	1,838	18	....	....	....	....	....	....	....	2.18	−0.21	0.75	0	5	....	....	....	....	R. A. Norton.
Moorhead, Minn.	Clay	935	52	56.8	+1.7	87	17	32	9	39	1.93	−0.96	0.98	0	9	7	6	18	s.	U. S. Weather Bureau.
Averages	....	....	....	54.8	+2.0	98	31	19	3†	53	3.15	+0.75	2.90	T.	9	9	10	12	se.	....

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for May, 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri			T.	T.	T.	.10	.11	.15	.33	.11								T.	.09	.19		1.15	2.62				.11	T.				5.26
Amenia	Red	.80							1.05	.42							.05							1.75	.69						.05		4.81
Arnegard (near)	Missouri						T.	.15	.58	.05								.15	T.	.16			T.	1.85	.65	.07			.02				3.68
Ashley	Missouri							.53	.12	.04			.06			.02		.03	.11				.51	.32	.07								1.81
Beach	Lit. Missouri					.01	.04	.27	.12	.13		.02							.14	.09	.05			2.90	.16			.09					4.02
Berthold Agency	Missouri					T.		T.	.70			T.					.20	.03	.10					.03	.42	.03		.20					1.71
Bismarck ***	Missouri			T.	T.	T.	T.	.53	.06			T.		T.		T.	T.	T.			.12	T.	.64	.71	.25	.01		.06	T.				2.38
Bottineau	Mouse								.12	T.						T.		T	.10				T.	1.15	.48	.40	.05						2.30
Bowman	Grand	.01				.12	.01	.13	.07	.28	.16	.06	.01	.08	.06					.05				.93	1.20			.01	.02				3.50
Cando	Devils Lake																																.....
Carrington‖	James							T.	.50														.45	.34	1.59	.32	.06						3.26
Carson	Heart							.20	.42	.25						.22								1.50									2.59
Cavalier	Red								.22														.90	1.55	.10	.08				.51			3.36
Cooperstown	Sheyenne	.10							.65	.07									.20				.41	.25	.45	.20		T.					2.33
Corinth	Missouri					.01		.18												.40		.20		.50	.10			.15			.01		1.55
Courtenay	James							.97	.03														.60	.74	.15	.03				.03			2.55
Crosby	Mouse							.04	.37	.05									.02		.05		T.	2.08	.88	.70	T.		.27				4.46
Devils Lake ***	Devils Lake							.37	.10					T.	T.	T.	.01	T.	.01			T.	.68	.51	.40	.03		.07		.04			2.22
Dickinson‖	Heart				T.	.02	T.	.10	.53	.12	.01	.01	.01	T.		T.		T.	T.	T.	.02		T.	1.56	.05	T.	T.	.01	.09	T.			2.56
Dogden Butte	Mouse							.18	.13							T.		.03	T.				.10	.80	1.85	.18		.11					3.68
Drake‖	Mouse								.39	.02						.01	T	T.					.65	.48	.63	.59	.07		.11	.01			2.96
Dunn Center	Knife							.12	.61	.20									.10	.06	.07	.22		2.02	.20	.10	.03		.20				3.93
Dunseith	Mouse								.11							.01		.04	.09				.25	1.50	.75	.47	.01	.01					3.24
Eckman	Mouse							.45	.30							.06			.36		.02		.28	.81	1.60	.20		.15	.02				4.25
Edgeley	James	.08							.60					.08									.69	.31	.04								1.80
Edmore	Devils Lake							.01	.23					T.	T.	T.	T.	.02	T.				.37	.70	.08	.01	.01			T.			1.43
Ellendale***	James	T.						.32	.02	T.	.03	T.	.09	.02		.08		T.		T.		T.	.95	.09		T.		.01	T.	T.			1.61
Energy	Missouri				T.	T.		T	.63								T.	.11			.23	.16	.02	1.10	.80			.08					3.13
Epping	Missouri																																.....
Fairfield	Knife					.10	.14	.35	.21											.32				2.00				.35					3.47
Fessenden‖	James								.67	.08								.18					.12	.58	1.25	.40	.03						3.31
Forman	Sheyenne	.05						.27	.53	T.			.09	.07				T.					1.00	T.	T.	T.				.03			2.04
Fort Yates	Missouri							.56		.17			.12					T.			T.		.30	.55				T.					1.70
Foxholm (near)	Mouse				T.	T.		.12	.38				T.		T.	T.			.19		.12		.11	1.00	1.97	.13		.02					4.04
Fryburg	Heart			T.		T.	T.	.05	.33			T.	T.		T.		T.		.08	.28	.08		T.	2.83	T.	T.			T				3.65
Fullerton	James	.07						.42	.15									.16		T.			1.24	.40		.12							2.56
Gackle	James							.24	.61								.03						.67	.52	.93	.02		.03					3.05
Garrison	Missouri							.20	.59								.05	.14					.06	1.47	.52	.02		.11					3.16
Grafton	Red							T.	.45									.45					.13	.49	.40	.01	.03		.80	T.	.03		2.79
Grand Forks ***	Red							.28	.66					T.	T.			.03	T.				.71	.26	.03	.02			.16	.66			2.81
Granville	Mouse							.16	.37						T.	T.	.09	T.			.03		.24	1.06	1.60	.14		.12					3.81
Hankinson	Red							.58	.18				.45					.30					.80						.45				2.76
Hannah	Pembina							T.	T.						T.	T.	T.	T.	.20				.18	2.60	1.05	.05	T.		.04	T.			4.12
Hansboro	Devils Lake							T							T.	.25	.05	.03	.16				.08	2.75	1.10	.30		.05	.20	.05			5.02
Hettinger	Grand					.05	T.	.51	.16	.19	.02	.05	.14									.41		.95					.06				2.57
Hillsboro	Red																																2.92
Howard (near)	Missouri				T.	T.	T.	.18	.71			T.	T.		T.			.06		.25			.36	1.60	.12	.15		.22	T.	T.			3.65
Jamestown	James	.27						.03	.88	.03							T.	T.	T.			.03	.91	.72	.39	.02	.02			.04			3.34
Kenmare	Mouse						T.		.20	.63				.02					T.		.25				.44	1.50	.43		.02	T.			3.49
Langdon	Pembina								.10									T.						1.43	1.08	.10			T.	T.	.05		2.76
Larimore	Red	.02							1.32	.18							.02						T.	1.52	.71	.09	.02		.02	.07	.12		4.09
Linton	Missouri							.70	.21	.04			.04					.02					.10	.50	.28	.01		.02	T.				1.92
Lisbon	Sheyenne	.19							1.11	.23				.07					.03				1.07	.36									3.06
McClusky	Missouri							.70	.40									.30					.42	1.09	1.65	.15		T.					4.71
McLeod	Sheyenne	.03							.80				.07					.08	.02				.95	.06			.04		T.	.39			2.44
Maddock	Sheyenne							.32	.41								T.	T.					.53	.85	1.23	.13	.02	T.	.12				3.61
Mandan‖	Missouri					.01	.02	.51	.05	T.	T.	.04				.01		.03			.18	.09	.42	.25	.20	T.		.02					1.83
Manfred	James							.25	.33								T.	.04	.02				.26	1.11	.90	.12		.03		.01			3.07
Marmarth	Lit. Missouri			T.	T	.02	.06	.41	.01	.15	.15	.17	.01	.02					T.	.09	.08		.10	2.65	.04			.02	.05				4.03
Mary	Lit. Missouri						T.	.36	.34	.03		.02						.33	.13	.04	T.			2.20	.32	.16		.17	.02				4.12
Max‖	Missouri					T.		T.	.57	.02						T.		T.	T.				.10	1.44	1.65	.76	.01		.06				4.61
Mayville	Red	.22						.26	1.20														.61	.86	.21	.01	T.		T.	.09			3.46
Minot	Mouse								.54	.06						.10		.04	.02	.05			.03	.90	1.10	1.25		.04					4.13
Mohall	Mouse						.20	.60							T.	T.	T.	T.		.10		.78	.65	2.10	.95	.03		T	T.				5.41
Mott	Cannon Ball							.46	.38	.32											.05	.06	1.00	1.34				.11					3.72
Napoleon‖	Missouri							.55		.01				.06			.03		T.				.13	.43	.50	.40			.05				2.16
New England	Cannon Ball				.08		.20	.24	.26	.12	.08		.12						.06		.05		.68										1.89
New Salem	Heart					.06		.16	.37	.02		T.				.01					.17	.27	.53	1.70	.45	.02		.02					3.78
Oakes	James	.05					.57	.10	.01				.08						.29		T.		1.21	.08	.01								2.40
Park River	Red								.61						T.		T.	T.	T.				.35	.92	.11				T.	.14			2.13
Parshall	Missouri					T.	.01	.03	.50	.28			.01					.02	.04	.02	.11			.40	.70	.47	.02		.02	T.			2.63
Pembina‖	Red								T.							T		T.	T.					1.25	.47	.12	.03		.01	.13	.09		2.10
Petersburg	Red							.06	1.29								.03	.05	.02				1.06	.36	.25	T.				.10			3.22
Pettibone	James							.31	.38				T			T.	.02	T.	T.			T.	.40	1.34	1.11	T.	T.	T.					3.59
Portal‖	Mouse					T.	.10	.50	.09								.05	.35		.20			.82	.95	.92								3.98
Power	Sheyenne	T.						.40	.35													.15	1.10	T.	T.					.25			2.25
Powers Lake	Missouri						.21	.77												.31	.50		.42	.61	1.42	.37							4.61
Richardton	Heart							.26	.57	.16		.07								.19				1.53	.14	.02		.16					3.10
Rugby [near]	Mouse							.17	.19							T.	T.	T.	T.				.34	1.26	.71	.21		.01		.02			2.91
Ryder	Missouri				T.	T.	T.	.50	.03		.02				.07			.05		.04		T.	.52	.78	.85	T.		.04	T.				2.90
Sanish‖	Missouri																																.....
Sharon	Red							.76	1.63				T.			.01		.19	T.				1.35	.08	.06	.01	.01			.15			4.25
Stanton	Missouri							.30	.13									T.				.08		1.08	.30	.18		.23					2.30
Steele	Missouri							.40	.35			T.	T.			T.	T.					.08	.45	1.45	2.00	.13		.03	T.				4.89
Stowers	Cannon Ball			T.	T.	.04	T.	.19	.25	.19	T.	.02	.13	T.								.38	.17	1.31									2.68
Tagus	Mouse							.15	.48				.04					.15	.04	.07			.23	.53	1.55	.04							3.28
Tioga	Missouri							.10	.60								.05	.01		.29				.75	1.25	.30		.25					3.60
Towner	Mouse							.13	.32						T.		.03		.03				.27	1.58	.61	.08	T.	T.		T.			3.05
Trotters	Lit. Missouri						.22		.18			.02							.08	.20	.27			2.57				.50	T.				4.04
Turtle Lake	Missouri							.36	.11						T.	T.						.04	.02	.54	2.71	.14		.04	T.				3.96
Valley City	Sheyenne							.18	1.10									T.					1.45	.10	.10	.03				.03			2.99
Velva	Mouse				T.			.01	.40						.20	.01	T.	T.	T.		T.		.31	.61	2.19	.21		.21					4.15
Wahpeton	Red	.06						.13	.73					.52			.02	.05	.10				1.00						.40	.10			3.11
Washburn	Missouri								.52													.09	.14	.80	.42	.42			.25				2.64
Westhope	Mouse							.22	.14										.22				.01	.50	.86	.18		T.		.03			2.16
Williston ***	Missouri				T.	.01	.07	.17	.46			T.	T.					.12		.50			.13	1.52	.14	.05		.35	T.				3.52
Willow City	Mouse							.03							T.	T.	.04	.02					.20	1.83	.81	.02							2.95
Wishek‖	Missouri							.54					.09										.35	.14	.77	.03			.01				1.93
Zap	Knife								.75												.22		.73		.26			.22					2.18
Moorhead, Minn ***	Red	T.						.49	.49				.02			T		T.	.05			T.	.68	.08	.03	T.	T.		.05	.04			1.93

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for May, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	59	63	60	57	59	68	52	45	58	62	64	67	70	78	84	85	87	83	65	78	83	73	78	66	64	70	75	63	71	67	81	68.9
	Minimum ...	36	29	35	37	35	31	40	35	30	32	42	43	42	34	43	44	49	54	43	35	42	58	59	58	55	52	53	54	50	44	43	43.1
Arnegard (near)	Maximum...	64	63	63	55	51	62	50	43	54	60	60	65	69	79	82	80	78	62	64	73	78	85	76	57	68	72	66	66	66	82	92	67.3
	Minimum ...	30	29	43	45	42	37	40	35	30	30	33	37	42	48	49	45	47	43	33	42	45	52	55	50	50	29	47	43	48	42	55	41.8
Ashley	Maximum...	52	60	61	59	62	66	59	44	42	54	54	54	65	73	76	82	83	77	67	75	74	79	75	63	62	66	72	66	64	74	86	66.0
	Minimum ...	34	28	32	37	39	28	40	35	30	28	37	42	38	36	48	43	46	48	42	36	49	56	56	52	48	50	42	47	45	42	46	41.3
Beach	Maximum...	62	61	55	53	52	54	48	43	41	50	53	61	65	75	78	76	78	63	66	74	74	85	67	63	59	71	68	65	68	87	91	64.7
	Minimum ...	26	30	44	43	41	39	43	35	32	34	34	32	39	41	41	42	45	42	38	39	47	54	52	48	43	38	48	44	40	46	53	41.1
Berthold Agency	Maximum...	63	64	65	60	54	62	58	42	52	62	58	65	68	80	84	84	76	62	64	74	74	80	82	70	70	80	66	65	65	80	92	68.4
	Minimum ...	32	32	45	45	42	38	42	37	30	22	34	38	45	38	50	42	40	48	44	38	46	52	58	50	50	50	45	45	46	38	56	42.5
Bismarck	Maximum...	62	63	61	58	60	65	53	45	50	56	56	59	68	77	76	83	84	71	63	72	72	80	69	59	58	71	67	66	64	76	91	66.3
	Minimum ...	35	30	44	42	43	38	42	39	34	32	40	41	45	41	53	48	46	48	43	40	51	60	56	52	52	53	46	48	49	44	56	44.9
Bottineau §§	Maximum...	61	64	60	61	60	65	51	53	57	63	61	68	66	78	83	82	76	62	63	74	75	75	72	58	56	70	72	60	64	69	88	66.7
	Minimum ...	32	38	39	41	38	32	37	39	32	28	37	37	40	41	40	48	47	45	38	39	40	52	53	48	50	48	48	45	45	44	48	41.6
Cando	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Carrington §§	Maximum...	62	62	58	57	57	44	40	45	51	58	60	63	68	77	82	85	84	73	61	71	75	67	71	59	59	66	73	65	68	71	86	65.1
	Minimum ...	32	26	29	36	38	30	30	30	29	30	31	36	43	36	49	49	51	51	43	38	42	48	59	56	51	49	49	49	48	44	49	41.3
Crosby §§	Maximum...	63	65	65	60	53	65	45	42	42	62	60	63	69	79	81	78	72	55	67	72	78	82	78	54	60	71	62	62	62	79	89	65.6
	Minimum ...	38	34	44	44	42	42	41	37	29	29	31	37	43	43	46	44	42	46	36	37	34	54	55	51	49	45	48	45	47	45	54	42.3
Devils Lake	Maximum...	62	64	60	59	56	66	48	50	55	62	61	66	65	75	82	83	84	70	60	72	77	68	74	63	60	63	72	62	66	68	85	66.4
	Minimum ...	34	33	38	41	39	31	43	36	29	31	39	42	41	37	47	52	51	49	41	37	49	57	58	54	52	52	49	49	50	45	50	43.7
Dickinson §§	Maximum...	62	59	60	54	51	57	45	40	45	51	49	57	66	76	78	78	80	62	64	73	73	82	69	61	56	69	65	65	65	79	90	63.9
	Minimum ...	30	32	37	42	40	38	39	36	33	32	33	33	36	39	43	40	42	44	40	37	45	52	54	50	46	48	47	43	48	40	53	41.0
Dunn Center §§	Maximum...	59	61	63	63	67	62	44	42	51	55	56	64	67	77	80	81	77	61	64	73	73	80	73	58	55	69	63	62	62	77	88	65.4
	Minimum ...	36	32	29	42	43	41	42	39	33	28	32	34	40	37	45	43	43	46	38	37	51	55	57	53	52	51	48	45	48	40	52	42.3
Dunseith	Maximum...	60	63	61	59	58	65	60	54	58	65	63	67	65	76	84	83	82	73	64	71	76	74	68	70	56	69	73	63	64	66	88	67.7
	Minimum ...	32	45	19	37	38	43	43	35	28	19	36	37	45	47	45	52	51	49	36	36	34	50	56	50	49	49	46	48	46	43	50	41.7
Edgeley	Maximum...	55	60	60	60	59	65	64	60	47	47	58	59	71	77	80	82	85	81	66	76	75	75	71	65	65	69	73	69	67	74	92	68.0
	Minimum ...	37	29	36	37	38	28	48	38	32	30	35	42	40	36	48	48	45	47	43	36	45	55	56	43	50	53	45	49	45	42	45	42.0
Ellendale	Maximum...	50	59	60	62	62	65	49	45	46	53	55	58	68	74	77	82	85	78	68	76	76	76	72	66	65	65	74	68	67	72	87	66.5
	Minimum ...	37	33	36	43	37	33	44	35	31	32	41	45	42	38	48	43	49	52	46	38	46	61	57	54	52	53	46	50	46	48	43	43.8
Fessenden §§	Maximum...	63	63	62	59	61	65	45	44	53	63	61	65	67	80	83	86	83	72	62	75	77	69	65	59	60	67	76	65	66	79	87	67.3
	Minimum ...	32	30	34	39	38	31	40	36	29	29	36	39	41	31	43	47	45	47	44	33	45	54	56	53	50	51	46	45	49	44	43	41.3
Foxholm (near)	Maximum...	61	63	63	61	60	65	59	43	54	61	60	65	66	77	81	82	75	72	59	71	75	74	73	58	57	70	70	67	61	74	91	66.7
	Minimum ...	27	30	38	38	38	35	39	35	26	29	33	35	42	40	48	43	42	49	41	39	40	51	53	52	49	49	50	45	44	42	55	41.2
Fullerton	Maximum...	52	59	61	59	62	66	58	45	48	55	58	69	74	77	81	86	85	79	67	77	76	74	72	69	65	65	75	67	68	78	88	68.2
	Minimum ...	37	33	35	41	39	32	43	38	32	32	38	43	45	38	47	42	48	51	44	38	48	59	58	58	51	51	47	52	46	46	56	44.1
Garrison	Maximum...	62	64	63	66	61	63	57	45	53	53	54	62	68	80	84	84	79	69	63	74	73	73	73	62	59	72	67	65	66	81	94	67.4
	Minimum ...	32	32	36	42	40	37	41	36	32	38	37	40	51	39	50	51	67	46	37	37	47	57	57	37	50	52	48	45	44	50	45	43.6
Grafton	Maximum...	67	66	64	61	59	69	68	60	60	68	67	71	68	74	82	81	81	71	70	76	79	79	81	75	67	63	76	73	70	70	85	71.0
	Minimum ...	40	34	35	34	32	40	46	38	29	29	34	43	38	30	43	41	53	51	40	33	46	53	59	55	56	52	44	54	51	48	45	42.8
Grand Forks	Maximum...	63	64	63	59	58	67	57	55	58	63	67	68	66	78	84	85	88	83	63	74	79	68	79	70	63	64	75	67	71	63	82	69.2
	Minimum ...	40	28	39	39	42	40	44	39	31	30	40	44	40	34	48	50	58	51	40	33	53	59	60	58	53	52	50	54	52	48	47	45.0
Granville	Maximum...	63	65	65	61	60	67	58	45	57	63	61	68	67	81	81	85	85	65	64	75	83	74	75	60	58	71	73	65	65	74	85	68.4
	Minimum ...	30	28	39	41	39	37	42	38	27	27	34	40	45	34	48	46	44	47	42	37	41	53	58	55	50	50	48	48	49	40	52	42.2
Hansboro	Maximum...	62	64	62	60	58	65	62	60	60	65	62	70	65	76	80	84	80	70	60	70	78	76	73	65	62	67	74	65	66	72	85	68.3
	Minimum ...	28	28	36	37	38	34	43	35	24	26	28	32	45	35	40	46	46	44	34	38	40	52	57	57	51	50	48	50	47	44	50	40.7
Hettinger	Maximum...	60	50	51	51	50	52	50	42	38	44	45	49	63	72	76	78	80	70	61	72	69	78	72	62	63	70	65	63	67	79	89	62.3
	Minimum ...	30	31	41	43	41	38	42	36	32	38	35	38	39	39	40	43	47	40	44	39	52	58	54	50	45	45	49	45	43	39	53	42.2
Hillsboro	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	67.5
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	43.4
Howard (near)	Maximum...	61	62	62	60	52	63	49	40	50	59	59	63	65	78	80	77	72	59	64	70	75	80	64	58	58	68	62	63	64	80	88	64.7
	Minimum ...	29	33	35	35	38	38	39	33	32	29	31	32	41	45	48	43	46	45	33	38	41	60	53	50	47	40	50	42	47	44	56	41.1
Jamestown §§	Maximum...	59	61	59	58	61	65	46	42	51	57	60	61	68	71	82	82	84	74	63	77	74	67	72	59	61	64	75	67	67	72	81	65.8
	Minimum ...	36	30	35	40	40	32	39	37	33	30	35	41	41	33	46	45	45	49	42	47	49	57	58	55	53	52	45	50	45	47	49	43.1
Langdon §§	Maximum...	61	67	65	61	60	70	56	65	60	69	74	72	65	73	89	88	85	75	60	80	81	72	76	69	60	66	65	68	64	65	89	69.7
	Minimum ...	34	34	35	38	36	32	35	34	35	32	30	37	34	30	44	52	50	53	34	32	40	51	53	55	52	50	45	49	46	45	45	41.0
Larimore §§	Maximum...	64	65	62	59	62	68	53	52	57	62	65	68	67	77	82	85	89	80	65	76	78	68	77	70	63	64	73	62	70	65	83	65.7
	Minimum ...	39	29	37	35	38	34	44	37	29	30	37	38	44	32	48	48	51	52	40	33	47	55	58	55	54	52	42	53	51	48	46	43.1
Linton	Maximum...	63	62	62	58	61	66	62	44	45	54	54	55	69	74	80	84	85	76	70	79	82	81	79	61	59	70	71	68	65	77	90	67.9
	Minimum ...	31	24	40	41	43	35	40	37	30	28	38	42	37	30	37	44	42	40	43	35	50	50	52	47	48	50	39	44	44	36	53	40.3
Lisbon §§	Maximum...	51	61	59	60	59	66	48	41	54	59	60	61	65	77	80	85	85	79	66	77	76	71	75	64	65	65	74	66	69	72	85	66.9
	Minimum ...	36	30	37	41	38	36	44	40	33	32	41	45	44	45	50	44	45	54	45	39	51	58	60	58	55	54	52	56	48	48	44	45.3
McClusky	Maximum...	61	65	64	58	65	65	62	43	54	61	61	64	66	78	80	84	82	69	65	75	70	70	73	61	57	70	73	64	64	74	87	67.3
	Minimum ...	32	25	41	36	37	35	40	35	29	29	34	35	40	36	49	46	41	46	39	37	43	45	56	53	50	50	47	46	45	41	53	41.0
Maddock	Maximum...	63	64	63	60	57	66	65	46	53	62	60	66	68	78	82	84	85	69	74	77	77	74	71	63	58	65	72	65	67	68	87	68.4
	Minimum ...	31	28	33	35	36	30	40	35	29	29	36	39	40	30	42	43	45	43	32	31	42	53	57	55	50	50	45	47	48	42	49	40.5
Marmarth	Maximum...	58	57	50	52	50	53	50	45	40	44	47	50	59	74	79	76	76	69	63	72	74	82	70	65	63	71	65	64	68	82	88	63.1
	Minimum ...	28	36	44	44	42	42	44	38	32	34	34	35	38	39	39	41	46	45	46	39	45	55	53	55	44	38	50	42	42	40	50	41.9
Minot §§	Maximum...	62	64	64	61	62	65	46	43	55	63	61	67	67	79	83	85	72	65	63	75	72	76	75	57	59	72	72	65	63	76	93	67.2
	Minimum ...	30	29	39	41	39	38	43	37	27	26	34	38	42	35	47	44	41	49	43	45	40	50	56	54	49	49	45	46	45	39	56	41.8
Mohall	Maximum...	62	64	64	62	58	65	48	45	56	64	62	68	72	80	82	85	75	63	65	73	77	75	74	57	61	72	76	63	66	75	93	67.8
	Minimum ...	33	41	41	41	39	45	39	30	30	34	36	39	48	48	47	46	45	40	40	43	53	58	55	51	48	50	47	48	43	55	56	44.2
Mott	Maximum...	66	62	63	60	55	56	59	45	48	52	57	60	66	77	78	80	78	68	64	66	72	70	68	60	57	70	71	76	68	74	77	65.3
	Minimum ...	32	40	44	41	38	35	39	34	33	35	38	38	39	42	45	43	44	41	38	44	45	45	52	47	50	48	46	45	47	48	46	42.0
Napoleon §§	Maximum...	62	63	63	60	64	68	45	40	50	55	57	59	69	78	81	85	86	75	65	78	72	78	68	58	59	65	71	66	64	77	78	66.4
	Minimum ...	31	25	38	36	39	28	42	38	30	26	36	40	38	37	45	49	45	44	41	34	47	58	57	52	49	50	44	46	45	39	50	41.3
New Salem	Maximum...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	64.9
	Minimum ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	42.1
Oakes	Maximum...	50	60	62	61	62	67	61	46	49	54	57	60	71	78	80	86	89	79	69	77	74	73	73	68	68	65	75	70	69	75	89	68.3
	Minimum ...	36	32	38	42	39	35	44	37	31	31	40	45	42	36	48	42	50	53	45	39	45	59	60	57	52	53	47	53	45	47	47	44.2
Pembina §§	Maximum...	63	65	66	62	58	68	60	58	59	66	67	69	61	75	85	87	86	76	54	69	78	69	76	67	62	63	75	68	70	61	84	68.6
	Minimum ...	35	36	38	42	42	41	42	42	28	28	30	35	38	32	37	46	52	53	37	31	41	51	57	55	55	51	46	52	52	46	46	42.5
Sharon	Maximum...	62	62	59	56	57	65	54	44	53	59	63	66	66	78	81	83	85	76	64	75	75	66	73	66	61	63	74	65	70	68	82	66.8
	Minimum ...	36	33	35	35	35	31	41	32	29	35	38	44	39	36	46	48	49	51	39	35	52	54	59	55	52	50	45	50	50	46	49	42.9
Steele	Maximum...	62	63	61	59	62	65	47	43	49	57	60	61	69	79	81	87	85	74	66	79	78	74	70	62	59	67	72	65	64	75	87	67.2
	Minimum ...	32	25	40	39	40	34	29	37	29	26	36	42	37	35	45	47	50	44	41	37	47	59	58	52	50	52	47	46	45	40	53	41.7
Towner	Maximum...	64	66	66	61	59	62	64	46	64	61	61	70	74	82	85	87	81	67	64	74	79	75	73	63	57	71	72	64	65	71	87	68.9
	Minimum ...	31	27	39	41	39	35	43	37	27	26	35	38	43	36	48	48	45	49	43	38	42	52	56	52	51	47	45	48	49	41	52	42.1
Valley City	Maximum...	55	59	59	55	57	64	63	48	52	56	59	62	66	76	80	83	83	81	71	73	73	73	70	69	68	61	71	66	62	69	82	66.6
	Minimum ...	36	28	36	37	36	32	40	35	32	29	42	46	42	34	46	42	45	52	41	35	51	57	58	55	52	51	46	51	48	46	45	42.8
Wahpeton	Maximum...	47	62	61	61	62	65	63	50	55	58	65	64	71	77	80	84	88	82	77	75	81	75	77	70	69	65	75	74	73	71	81	69.6
	Minimum ...	36	31	36	42	36	42	46	37	34	32	43	48	45	38	50	48	54	58	47	40	62	60	62	58	54	54	56	54	50	50	48	46.9
Westhope	Maximum...	62	68	67	64	63	69	66	54	61	66	69	70	79	82	83	87	77	75	65	76	83	79	73	68	57	75	74	64	63	76	94	71.3
	Minimum ...	31	34	41	41	42	41	45	40	26	30	36	36	42	39	47	45	45	45	40	39	40	53	59	54	51	48	47	48	48	44	55	43.0
Williston	Maximum...	62	61	61	59	52	62	51	41	52	58	59	63	66	77	79	77	75	57	64	72	75	83	70	59	59	71	64	65	66	82	93	65.6
	Minimum ...	32	42	47	48	45	44	38	37	34	41	35	34	45	44	51	48	46	42	35	42	46	57	53	53	51	46	53	46	50	50	61	44.7
Moorhead, Minn	Maximum...	54	62	59	58	57	65	53	45	57	60	64	65	68	78	79	83	87	80	64	76	77	68	77	63	62	65	76	64	71	64	81	67.2
	Minimum ...	37	34	38	42	37	40	45	38	32	32	45	47	43	39	47	48	54	58	44	40	54	60	60	57	57	52	57	53	52	50	44	46.3

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 7-5-33—1050]

51.05
NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

ORRIS W. ROBERTS, Meteorologist

VOL. XLII BISMARCK, N. D., JUNE, 1933 No. 6

GENERAL SUMMARY

Decidedly unfavorable weather conditions prevailed throughout North Dakota during June. The mean temperature was by far the highest of record for that month, and the average precipitation was but slightly more than one-half of the normal. As a result of the combined drought and high temperatures crops deteriorated in all sections, and particularly in the southeast portion where there was a shortage of moisture during 1932. Small grains generally headed short, while in some sections fields were abandoned, being used for pasture or summer fallowed. Ranges and pastures were short, with greatly decreased hay crop. Corn and potatoes, however, were generally good to excellent in nearly all sections.

TEMPERATURE

The mean temperature for the state was 70.7°, or 8.2° above the normal, and 3.7° higher than the mean for June, 1932. The highest mean reported was 76.0° at Fort Yates, Sioux County; the lowest was 65.6° at Howard, Williams County. The highest temperature reported was 110° at Fort Yates, Sioux County on the 18th; the lowest was 33° at Eckman, Bottineau County on the 12th. The greatest monthly range of temperature was 71° at Edgeley, LaMoure County; the least was 53° at Williston, Williams County. The greatest daily range of temperature was 52° at Fort Yates, Sioux County on the 16th.

PRECIPITATION

The average precipitation for the state was 1.75 inches, or 1.70 inches below the normal, and 2.08 inches less than the average for JUNE, 1932. The greatest monthly amount reported was 4.49 inches at Valley City, Barnes County; the least was 0.38 inch at Hettinger, Adams County. The greatest amount recorded in any 24 consecutive hours was 2.92 inches at Valley City, Barnes County on the 29th. The average number of days with 0.01 inch or more of precipitation was 7.

MISCELLANEOUS PHENOMENA

AURORAS: Bismarck, 19th, 20th, 27th; Bottineau, Drake, Hettinger, Howard, 19th; Devils Lake, 19th, 20th; Dogden Butte, 28th; Eckman, 12th, 15th, 18th, 23d, 25th, 26th, 29th; Foxholm, 1st; Grand Forks, 12th, 20th, 23d, 27th; Oakes, 12th; Pembina, 19th, 20th, 26th; Petersburg, 12th; Pettibone, 13th, 21st; Sharon, 27th.

FOG: Dogden Butte, 24th; Rugby, 8th.

HALOS, solar: Bismarck, 23d, 26th; Devils Lake, Dogden Butte, 5th; Moorhead, 11th, 23d.

HAIL: Ashley, Gackle, 7th; Bismarck, 19th; Devils Lake, Drake, Edmore, Foxholm, 5th; Dogden Butte, 28th; Grand Forks, 25th; Linton, 22d; McLeod, Sharon, 6th; Pembina, 1st; Moorhead, Pettibone, 4th; Stowers, 3d; Towner, 27th.

THUNDERSTORMS: On the 1st, 2d, 3d, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 17th, 18th, 19th, 20th, 22d, 23d, 24th, 25th, 26th, 27th, 28th, 29th, 30th, with the greatest number reported on the 3d, 5th, 22d, 25th, 26th, and 28th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.84	30.55	12	29.49	17†	8.4	29	w.	18	73	40	37	76
Devils Lake	29.86	30.55	12	29.55	17	8.5	30	nw.	5	72	43	44	78
Grand Forks	29.82	30.50	12	29.53	7	......	43	ne.	29	73	....	47	....
Williston	29.83	30.51	12	29.46	17	7.3	32	e.	28	73	41	37	78
Moorhead, Minn	29.85	30.51	12	29.43	7	8.2	29	nw.	28	71	44	42	83
Averages & ext's	29.84	30.55	12	29.43	7	8.1	43	ne.	29	72	42	41	79

† And other dates.

COMPARATIVE DATA FOR JUNE

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	60.5	−2.0	94	28	3.35	−0.10	7.44	1.62	0	8	11	9	10
1893	67.4	+4.9	103	33	3.38	−0.07	5.54	0.86	0	9	13	10	7
1894	68.8	+6.3	103	25	3.44	−0.01	7.70	1.07	0	7	17	6	7
1895	59.7	−2.8	97	29	4.67	+1.22	6.74	2.44	0	12	8	13	9
1896	65.6	+3.1	97	37	3.80	+0.35	7.08	0.94	0	9	16	9	5
1897	61.7	−0.8	109	20	3.75	+0.30	10.40	0.20	0	9	11	10	9
1898	62.6	+0.1	105	26	3.19	−0.26	6.80	0.68	0	9	10	10	10
1899	62.2	−0.3	105	30	3.81	+0.36	9.02	1.40	0	10	12	11	7
1900	66.9	+4.4	109	27	1.39	−2.06	3.45	0.27	0	5	15	11	4
1901	61.6	−0.9	95	22	6.14	+2.69	9.71	2.94	0	15	10	11	9
1902	58.0	−4.5	97	28	3.65	+0.20	6.30	1.00	0	11	12	9	9
1903	62.4	−0.1	96	27	1.44	−2.01	3.13	0.04	0	4	17	8	5
1904	61.4	−1.1	100	30	5.77	+2.32	9.84	2.01	0	11	13	8	9
1905	59.7	−2.8	97	32	4.52	+1.07	8.17	2.38	0	12	10	7	13
1906	62.0	−0.5	95	32	4.06	+0.61	8.81	0.70	0	11	13	8	9
1907	61.9	−0.6	95	25	2.85	−0.60	5.58	1.34	0	10	12	10	8
1908	60.4	−2.1	93	27	3.37	−0.08	7.15	1.30	0	10	12	9	9
1909	62.9	+0.4	98	28	3.21	−0.24	7.65	1.10	0	10	12	11	7
1910	67.3	+4.8	111	19	1.83	−1.62	5.35	0.00	0	6	16	9	5
1911	66.9	+4.4	108	25	3.12	−0.33	7.47	0.70	0	9	13	10	7
1912	61.8	−0.7	104	28	2.06	−1.39	4.53	0.14	0	6	16	8	6
1913	65.8	+3.3	101	27	2.35	−1.10	6.95	0.81	0	8	16	9	5
1914	62.2	−0.3	93	29	6.26	+2.81	13.28	2.43	0	13	9	11	10
1915	56.7	−5.8	94	20	5.00	+1.55	10.56	1.01	0	12	9	12	9
1916	58.0	−4.5	92	29	3.89	+0.44	6.78	1.50	0	11	10	11	9
1917	59.7	−2.8	103	19	2.09	−1.36	6.20	0.80	0	8	13	11	6
1918	63.3	+0.8	102	27	1.63	−1.82	3.92	0.09	0	7	14	11	5
1919	67.2	+4.7	108	22	2.31	−1.14	8.70	0.52	0	5	15	10	5
1920	62.2	−0.3	98	26	3.62	+0.17	7.42	0.50	0	11	12	12	6
1921	68.2	+5.7	108	30	3.51	+0.06	7.65	0.75	0	9	14	10	6
1922	63.5	+1.0	108	30	3.78	+0.33	7.54	0.64	0	9	15	8	7
1923	66.1	+3.6	100	30	3.82	+0.37	10.27	0.91	0	8	13	12	5
1924	58.6	−3.9	89	26	4.17	+0.72	7.57	1.85	0	11	10	12	8
1925	61.5	−1.0	98	30	6.07	+2.62	12.97	3.16	0	14	11	10	9
1926	60.7	−1.8	104	22	2.65	−0.80	5.66	0.66	0	9	13	9	8
1927	61.2	−1.3	99	22	2.84	−0.61	6.69	1.03	0	9	11	13	6
1928	58.2	−4.3	92	24	5.07	+1.62	10.61	1.88	0	12	10	10	10
1929	61.4	−1.1	98	21	1.44	−2.01	7.99	0.15	0	7	16	9	5
1930	63.3	+0.8	96	30	3.09	−0.36	6.71	0.13	0	10	13	11	6
1931	68.4	+5.9	110	27	2.35	−1.10	9.27	0.11	0	8	14	10	6
1932	67.0	+4.5	98	34	3.83	+0.38	8.22	1.11	0	10	14	10	6
1933	70.7	+8.2	110	33	1.75	−1.70	4.49	0.38	0	7	18	10	2
Per.	62.5	....	111	19	3.45	....	13.28	0.00	0.0	9	12	10	8

Climatological Data for June, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	7	...	...	...	...	...	...	...	1.84	...	0.53	0	9	...	...	...	...	H. A. Bury.
Amenia	Cass	954	37	71.2	+ 7.8	102	18	39	13	42	3.30	−0.49	2.00	0	8	14	16	0	s.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	69.1	+ 7.4	103	17	41	12	46	1.32	−1.84	0.57	0	6	24	4	2	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	72.8	+10.4	102	16†	38	13	44	3.44	−0.10	1.55	0	6	26	3	1	nw.	H. D. Piper.
Beach	Golden Valley	2,759	27	69.0	+ 7.3	100	17	44	8†	41	1.85	−2.04	0.58	0	7	17	8	5	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	69.8	+ 7.0	104	18	38	12	49	1.73	−2.15	0.85	0	5	22	5	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	73.2	+ 9.5	106	18	46	13	43	1.95	−1.40	0.91	0	11	11	17	2	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	67.7	+ 6.4	102	18	40	12	47	1.61	−1.70	0.66	0	7	7	23	0	se.	N. D. School of Forestry.
Bowman	Bowman	2.961	19	69.7	+ 7.2	99	17	40	8	40	2.14	−1.35	1.39	0	7	27	3	0	se.	George Larsen.
Cando	Towner	1,488	32	69.8	+ 8.3	99	17†	40	12	39	1.14	−2.46	0.61	0	7	9	16	5	w.	A. J. Swanson.
Carrington	Foster	1,579	35	70.6	+ 7.6	106	18	40	11	42	1.73	−1.78	0.57	0	5	18	9	3	...	L. A. Swanson.
Carson	Grant	2,500	21	74.2	+11.8	108	18	43	8	41	0.88	−3.19	0.52	0	3	20	10	0	s.	J. W. Evens.
Cavalier	Pembina	894	23	...	...	...	...	...	...	...	0.92	−2.00	0.36	0	5	20	9	1	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	...	...	...	...	...	...	...	2.51	−1.05	1.15	0	6	21	5	4	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	...	...	...	...	...	...	...	1.66	...	0.80	0	6	15	10	5	w.	W. A. Clem.
Courtenay	Stutsman	1,523	4	...	...	...	...	...	...	...	1.31	...	0.81	0	6	21	7	2	se.	Geo. E. Berg.
Crosby	Divide	1,954	26	67.8	+ 6.7	99	16†	39	12	37	1.45	−1.71	0.76	0	7	8	18	4	sw.	John Jensen.
Devils Lake	Ramsey	1,478	36	70.2	+ 8.3	103	18	42	12	39	0.96	−2.60	0.26	0	10	13	12	5	s.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	69.8	+ 8.1	102	17	44	8	47	1.26	−1.93	0.46	0	11	24	4	2	s.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	69.4	...	99	17†	39	12	38	1.50	...	0.88	0	6	19	10	1	nw.	R. L. Williams.
Drake	McHenry	1.634	4	69.6	...	103	18	40	12	40	0.93	...	0.43	0	7	17	8	5	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	69.6	+ 7.6	99	16†	44	12†	44	0.94	−3.07	0.38	0	6	24	5	1	n.	W. F. Moede.
Dunseith	Rolette	1,682	37	69.2	+ 8.3	102	18	38	12	37	1.26	−1.82	0.50	0	5	10	13	7	sw.	T. H. Tharalson
Eckman	Bottineau	1,500	28	67.6	+ 6.0	101	17	33	12	45	1.70	−1.24	0.75	0	7	16	12	2	sw.	C. E. Strock.
Edgeley	LaMoure	1,568	32	72.1	+ 9.2	106	18	35	13	48	3.79	+0.10	1.82	0	8	8	22	0	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	68.2	...	101	18	35	12	43	0.92	...	0.32	0	9	17	10	3	sw.	E. D. Warner.
Ellendale	Dickey	1,457	38	74.4	+ 8.4	105	18†	38	13	47	2.08	−2.51	0.79	0	6	22	6	2	s.	J. E. Demmer.
Energy‡‡	McLean	1,750	21	72.5	...	106	18	40	12	45	1.48	−2.00	0.50	0	7	18	11	1	se.	H. S. Solenberger.
Epping	Williams	2,224	25	70.2^{b}	...	103^{b}	17	40^{b}	10	55^{b}	1.02	−1.29	0.34	0	6	...	...	...	...	A. O. Wang.
Fairfield	Billings	...	4	...	...	...	...	...	...	...	1.69	...	0.65	0	5	21	8	1	se.	F. R. Hecker.
Fessenden	Wells	1,610	21	70.0	+ 8.3	105	18	36	13	42	1.37	−2.46	0.40	0	6	18	10	2	sw.	T. D. Monsen.
Forman	Sargent	1,249	40	...	...	...	...	...	...	...	2.69	−0.80	0.68	0	8	27	3	0	s.	Helge Dyste.
Fort Yates	Sioux	1,670	33	76.0	+ 9.8	110	18	45	12	52	1.53	−1.97	0.50	0	6	17	10	3	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	67.8	...	99	17	39	12	36	1.45	−1.64	0.56	0	7	14	13	3	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	...	...	...	...	...	...	...	2.02	−1.37	0.82	0	6	27	2	1	se.	Verne King.
Fullerton	Dickey	1,439	35	74.4	+11.0	107	18†	38	13	46	3.10	−0.65	2.20	0	3	19	11	0	s.	F. O. Alin.
Gackle	Logan	1,951	3	...	...	...	...	...	...	...	3.61	...	1.00	0	8	17	9	4	nw.	Geo. Hummel.
Garrison	McLean	1,901	56	71.1	+ 8.9	104	17	45	12†	42	1.18	−2.24	0.60	0	5	17	12	1	nw.	W. F. Robinson.
Grafton	Walsh	827	41	71.1	+ 8.3	104	19	38	13	43	1.66	−1.70	0.63	0	9	18	10	2	nw.	A. R. T. Wylie.
Grand Forks‡‡	Grand Forks	830	42	71.1	+ 8.1	105	18	40	12†	39	2.01	−1.41	0.80	0	8	7	17	6	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	69.6	+ 7.4	104	18	38	12	45	2.24	−0.65	0.97	0	6	17	12	1	se.	W. A. Christianson.
Hankinson	Richland	1,068	4	74.4	...	104	15†	41	12	41	1.21	...	0.67	0	7	23	7	0	nw.	R. G. Stock.
Hannah	Cavalier	1,568	41	69.2	...	100	17	38	12	38	1.37	−2.03	0.35	0	8	13	16	1	nw.	James Muir.
Hansboro	Towner	1,597	25	66.9	+ 6.5	103	18	35	12	45	1.87	−1.22	0.48	0	8	15	14	1	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	26	71.4	+ 8.5	103	18	41	8	45	0.38	−3.22	0.16	0	4	24	6	0	se.	C. H. Plath.
Hillsboro	Traill	901	27	72.6	+ 8.2	105	18	39	13	41	2.86	−0.23	1.03	0	7	20	10	0	nw.	G. Hovland.
Howard‡‡ (near)	Williams	2,275	26	65.6	+ 5.4	98	17	35	20	46	1.35	−1.43	0.64	0	7	21	7	2	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	71.5	+ 8.3	107	18	37	13	47	1.75	−2.05	0.66	0	5	13	14	3	s.	S. Calvelage.
Kenmare	Ward	1,799	2	70.6	...	100	18†	39	13	37	2.38	...	1.01	0	7	18	8	4	se.	R. Costello.
Langdon	Cavalier	1,615	37	69.0	+ 9.1	106	18	36	12	48	0.91	−2.50	0.56	0	5	22	8	0	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	70.2	+ 7.8	104	18	38	13	40	1.87	−2.07	0.59	0	10	24	3	3	sw.	Mabel Walsh.
Linton	Emmons	1,711	16	72.8	+ 8.5	106	18	42	22	50	1.85	−0.71	0.69	0	8	18	12	0	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	29	73.4	+ 9.9	105	20	37	13	44	3.24	−0.72	1.18	0	8	13	11	6	...	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	69.6	...	102	18	40	12	42	1.61	−1.54	0.90	0	6	21	8	1	se.	Edw. Tapley.
McLeod	Ransom	1,075	22	73.6	+ 9.1	105	16	36	13	43	0.68	−3.44	0.22	0	7	21	7	2	nw.	J. G. Carlson.
Maddock	Benson	1,604	18	69.4	+ 8.3	104	18	36	13	44	2.27	−1.11	0.73	0	11	13	14	3	nw.	A. T. Felland.
Mandan	Morton	1,750	19	72.3	+ 9.0	106	18	43	13	44	2.18	−1.15	0.58	0	11	21	0	9	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	...	...	...	...	...	...	...	1.46	−2.16	0.35	0	6	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	24	69.7	+ 7.7	99	17	42	1†	44	1.39	−1.87	0.61	0	6	15	12	3	...	S. P. Grane.
Mary	McKenzie	...	4	...	...	...	...	...	...	...	1.26	...	0.69	0	4	25	5	0	se	Fred Hartman.
Max	McLean	2,093	4	69.8	...	105	17	41	8	44	1.05	...	0.60	0	5	...	...	...	...	A. W. Rice.
Mayville	Traill	975	37	71.9	+ 7.9	105	18	37	13	46	2.78	−0.63	1.25	0	9	18	9	3	sw.	H. B. Addicott.
Minot	Ward	1,557	37	68.8	+ 6.5	103	17	40	12	47	1.43	−1.79	0.64	0	7	17	10	3	w.	W. H. Johnson.
Mohall	Renville	1,646	39	68.0	+ 6.9	99	17	39	11	44	2.87	−0.43	1.30	0	9	17	10	3	sw.	G. V. Davidson.
Mott	Hettinger	2,424	26	72.2	+ 7.8	103	18	46	7†	40	1.38	−2.16	0.37	0	6	13	8	9	se.	O. H. Opland.
Napoleon	Logan	1,955	41	72.4	+10.0	108	18	38	13	48	1.75	−1.78	0.92	0	9	19	5	6	se.	C. J. Hoof.
New England	Hettinger	2,400	39	73.0^{m}	+10.4	102^{m}	12†	43^{m}	7	47^{m}	3.51	+0.61	1.32	0	6	...	...	...	...	F. S. Sleight.
New Salem	Morton	2,163	29	71.1	+ 8.2	104	18	41	13	38	1.32	−2.11	0.38	0	9	21	8	1	se.	J. Christiansen.
Oakes	Dickey	1,318	4	75.1	...	106	16†	37	13	46	2.32	...	1.17	0	8	12	16	2	ne.	Eugene Naylor.
Park River	Walsh	998	29	69.7	+ 6.8	104	18	39	13	45	1.09	−2.39	0.40	0	7	17	9	4	nw.	C. B. Wright.
Parshall	Mountrail	1,929	18	68.4	...	101	17†	36	12	43	1.25	−1.84	0.46	0	9	13	15	2	se.	C. E. Shubert.
Pembina	Pembina	789	59	68.2	+ 5.5	102	18	39	12	44	1.33	−2.27	0.37	0	8	5	18	7	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	...	...	...	...	...	...	...	0.91	...	0.23	0	10	18	6	6	s.	T. M. Rykken.
Pettibone	Kidder	1,856	24	72.0	+10.5	106	18	41	13	42	2.13	−1.03	1.04	0	6	24	6	0	se.	H. H. McCumber.
Portal	Burke	1,954	28	67.0	+ 7.8	100	16	36	10	37	2.15	−1.20	1.10	0	7	20	5	5	w.	R. G. Wegener.
Power‡‡	Richland	1,020	39	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Frank B. Power.
Powers Lake	Burke	2,205	28	68.6	...	100	16†	40	11	44	2.91	−0.64	1.55	0	4	21	8	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	17	71.0	+ 8.4	105	18	43	8†	43	1.54	−1.91	0.52	0	6	19	11	0	se.	John Muggli.
Rugby (near)	Pierce	1,562	4	...	...	...	...	...	...	...	1.34	...	0.84	0	7	17	11	2	se.	E. C. Erickson.
Ryder	Ward	2,108	4	...	...	...	...	...	...	...	1.48	...	0.55	0	7	...	...	...	...	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Geo. Buerkle.
Sharon	Steele	1,516	9	70.2	...	103	18	41	12†	35	2.52	...	0.62	0	9	17	10	3	sw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	...	...	...	...	...	...	...	2.66	...	0.97	0	8	25	4	1	se.	J. H. Giffey.
Steele	Kidder	1,857	39	73.0	+10.5	109	18	40	12	44	1.90	−1.60	0.70	0	8	19	11	0	se.	V. A. Laney.
Stowers‡‡	Adams	2,325	18	...	...	...	...	...	...	...	0.42	−3.03	0.20	0	3	26	3	1	...	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	...	...	...	...	...	...	...	0.73	...	0.26	0	6	19	10	1	nw.	J. C. Abbott.
Tioga	Williams	2,279	4	...	...	...	...	...	...	...	1.52	...	0.56	0	10	20	8	2	nw.	Anton Carlson.
Towner	McHenry	1,482	31	69.2	+ 6.4	103	18	39	12	44	1.41	−1.49	0.69	0	7	22	7	1	nw.	Karl Weber.
Trotters	Golden Valley	...	7	...	...	...	...	...	...	...	1.50	...	0.62	0	6	21	8	1	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	...	...	...	...	...	...	...	1.63	−2.35	0.50	0	6	...	...	...	...	M. A. Slettum.
Valley City	Barnes	1,245	27	72.4	+ 9.3	104	19	36	12	45	4.49	+1.16	2.92	0	8	22	7	1	sw.	I. C. Robertson.
Velva	McHenry	1,511	6	69.8	...	105	18	41	12	45	1.93	...	0.76	0	9	12	16	2	sw.	Oscar Anderson.
Wahpeton	Richland	962	41	75.4	+10.3	106	19	39	13	46	0.92	−2.94	0.43	0	7	25	0	5	se.	C. G Luick.
Washburn	McLean	1,731	32	71.6	+ 7.5	101	17†	46	12	37	2.39	−0.92	0.68	0	7	13	17	0	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	70.4	+ 8.4	104	16†	38	12	41	0.70	−2.31	0.30	0	4	21	8	1	ne.	C. M. Condit.
Williston	Williams	1,878	54	70.4	+ 7.7	100	17	47	11	37	1.60	−1.83	0.64	0	8	18	9	3	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	68.1	+ 7.1	104	18	38	13	47	1.05	−2.06	0.52	0	4	22	8	0	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	4	70.5	+ 8.2	105	18	36	14	42	1.88	−1.04	1.08	0	7	17	2	11	se.	Gottlieb Herr.
Zap	Mercer	1,838	18	...	...	...	...	...	...	...	1.44	−2.33	0.65	0	4	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	52	72.8	+ 8.4	104	18	44	13	42	2.13	−1.92	1.59	0	9	13	13	4	s.	U. S. Weather Bureau.
Averages	...	...	...	70.7	+ 8.2	110	18	33	12	52	1.75	−1.70	2.92	0	7	18	10	2	se.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ^{a}, ^{b}, ^{c}, appearing in the table indicate number of days missing; for example, ^{b} represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for June, 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri		.13	.29	.01			.31	.02												.18							T.	.20	.17	.53		1.84
Amenia	Red		.02			.20			.65			.03									.15			.20			T.			2.00	.05		3.30
Arnegard (near)	Missouri			.29		.02		.57		.02										T.	.26						.16	T.					1.32
Ashley	Missouri		.31	.10				.50				.04											.94							1.55	T.		3.44
Beach	Lit. Missouri		.50				.04	.22				.07									.58		.39								.05		1.85
Berthold Agency	Missouri			.35	.10			.38													.05		T.						.85				1.73
Bismarck ***	Missouri		.02	.44	.05	T.		.08		.04		.07							T.	.85	.06		.06					T.	.17		.11		1.95
Bottineau	Mouse				.12		.30		.66	.02	.10									T.						.31	.10						1.61
Bowman	Grand		.17	.10	1.39		.10	.18	.08		T.											.12	T.								T.		2.14
Cando	Devils Lake						.09	.61	.20		.02									T.			T.			T.	.11	.05		.06			1.14
Carrington‖	James							.45															.55					.57		.04	.12		1.73
Carson	Heart			.20																.52											.16		0.88
Cavalier	Red		.17	.13				.25																			.01			.36			0.92
Cooperstown	Sheyenne								1.15															.08			.55	.10		.45	.18		2.51
Corinth	Missouri		.18					.50							.15											.80	.02		.01				1.66
Courtenay	James			.20	T.		.02	.06												.10								.12	.81		T.		1.31
Crosby	Mouse				T			.17	.33	.02					.08							.02				.76	.07			T.			1.45
Devils Lake ***	Devils Lake	.16	T.	.05	T.	.03		.26		.01										T.			.08			.17	.07	.05	.08				0.96
Dickinson‖	Heart		T.	.36	.02			.05	.09		.01	.08									T.	.46	.03	.11				.03		T.	.02		1.26
Dogden Butte	Mouse			.27				.88													.04		.17				.03	T.	.11				1.50
Drake‖	Mouse			.20			.04		.43												.01		T.	.18			T.	.04		.03			0.93
Dunn Center	Knife			.37					.38													.06		.03				.06			.04		0.94
Dunseith	Mouse			.15				.50			.09															.20	.32						1.26
Eckman	Mouse						.10	.38	.03		.15										T.					.75	.18			.11			1.70
Edgeley	James		.23	.38		.44		.26				.05												.56						1.82	.05		3.79
Edmore	Devils Lake		.04	.02	T.	.19	.06	.32			.01									T.			T.				.06	.08	.14				0.92
Ellendale	James		.12	.02				T				.08									T.		.76						.31	.79			2.08
Energy	Missouri			.40	.02			.30			.10										.02		.14					.50			T.		1.48
Epping	Missouri					.02		.54		.06											.12							T.	.17		.11		1.02
Fairfield	Knife			.13				.38													.43		.10								.65		1.69
Fessenden‖	James			.40					.09												.12			.38				.15		.23			1.37
Forman	Sheyenne		.34	T.	T.	T.		.20	.17			.10											T.	.68		.65	.37		.18				2.69
Fort Yates	Missouri	.16	.20		.12	T.						T.									T.	T.	.50		T				.15	T.	.40		1.53
Foxholm (near)	Mouse			.07	T.		.16	.47			.03							T.			T.		T.			.56	.13	T.	T.	.03			1.45
Fryburg	Heart		T.	.70				.23				.07								T.	.82	.10								T.	.10		2.02
Fullerton	James			.08																			T.	.82		T.				2.20			3.10
Gackle	James		.20	.41				.70				.03											1.00		T.	.03			.93		.31		3.61
Garrison	Missouri			.33		.02		.60													T.		.17					.06					1.18
Grafton	Red	.08		T.	.63		.33		.23		.03									T.				.02			.18	.02		.14			1.66
Grand Forks ***	Red			T.	T.	.11	.06	.28												T.			.05			.28	T	.33	.80	.10	T.		2.01
Granville	Mouse			.11		T.		.71			.07												T.			.97	.26	.12	T.		T.		2.24
Hankinson	Red		T.	.08	T.	T.	.02	.67			.04									.10			.10			.20				T.			1.21
Hannah	Pembina		T.	.12			.15	.27	.05	T.								T.		T.				.22		.18	.03			.35			1.37
Hansboro	Devils Lake			.15			.05	.37												.12			.45			.48	.10		.15				1.87
Hettinger	Grand		.16	.07				T.				.10																			.05		0.38
Hillsboro	Red								.56												.61			.05		.46	.10	.05		1.03			2.86
Howard (near)	Missouri	T.		.25		T.		.64		.02	T.					T.			T.	T.	.17					.22	.02	.03	T.	T.	T		1.35
Jamestown	James								.26			.08												.36		T.			.66		.39		1.75
Kenmare	Mouse			.03		.29			.46													T.	T.	.02			1.01	.05			.52		2.38
Langdon	Pembina		.05		T.		.06		.56		.06													.18				T.	T.				0.91
Larimore	Red				.10		.50		.42												.01			.05			.04	.10	.30	.22	.04		1.87
Linton	Missouri		.05	.20	T.			T.				.02								.03			.44		.02				.69		.40		1.85
Lisbon	Sheyenne		.23		.06				.32			.06												.64			.70			1.18	.05		3.24
McClusky	Missouri										.15									.11	.06		.27					.90	.12				1.61
McLeod	Sheyenne		.15	.02	.01		.04		.06															.22			T.			.18			0.68
Maddock	Sheyenne		.12	.20			.06	.34	.11		.03									T.			.73			.44	.11	.09		.04			2.27
Mandan‖	Missouri		.46	.06				.03		.03	.08								.07	.58	.02		.13						.57		.15		2.18
Manfred	James		.29					.30												.03			.35					.15	.34		T.		1.46
Marmarth	Lit. Missouri		.24	.04	.61		T.	.25													.05								T.		.20		1.39
Mary	Lit. Missouri			.29		T.		.69													.24									.04			1.26
Max‖	Missouri			.26					.60															.10			.05	.04					1.05
Mayville	Red			.01			.11		.43												.15			.08		1.25	.01	.08		.66	T.		2.78
Minot	Mouse	.10		.06			T.		.64		.10												T.			.24	.24	.05	T.				1.43
Mohall	Mouse	T.		.05	1.30	.02		.54	.02	.01											T.					.85	.06	T.	.02				2.87
Mott	Cannon Ball	.35	.26	.11				T.												.37	.13										.16		1.38
Napoleon ‖	Missouri		.11	.26	.18	.01			.06			.13												.92		.01				.07			1.75
New England	Cannon Ball		.50	1.32			.06	.14							.27	1.22																	3.51
New Salem	Heart		.05	.38	.04			.10				.11								.31	.24		.05						T.		.04		1.32
Oakes	James		.08	.09		.03			.03			.11											.08	.73						1.17			2.32
Park River	Red			.09		.17	.40		.13		.02									T.				.07		T.	T.	T.		.21			1.09
Parshall	Missouri			.30				.01	.46													.04			T.	.08	.14	.04	.03	.15			1.25
Pembina ***	Red		.20		.12	.37	.04		.29		.01													T.		T.		.01		.29			1.33
Petersburg	Red		.04	.23			.15	.09												T.			T.	.03		.05	.07	.14	.02	.09			0.91
Pettibone	James			.42	1.04		.18	T.												T.			.29				T.	.07			.13		2.13
Portal‖	Mouse				.20			.60	.06					.07						.05						1.10	.07						2.15
Power	Sheyenne																																......
Powers Lake	Missouri					.19		.73																			1.55	.44					2.91
Richardton	Heart			.52				.32				.13									.27		.14								.16		1.54
Rugby [near]	Mouse			.07		.04		.84			.03												T.			.15	.12	.09					1.34
Ryder	Missouri		.27		.01			.55										.05								.13	.46	.01					1.48
Sanish‖	Missouri																																......
Sharon	Red			.01			.01	.34												.04			.29			.52		.33	.36	.62	T.		2.52
Stanton	Missouri			.35	.03			.23		.03											.05		.97				.92				.08		2.66
Steele	Missouri			.70	.02				T.			.20								.30	.02		.20						.20		.26		1.90
Stowers	Cannon Ball		.12	.20								T.																			.10		0.42
Tagus	Mouse		.17					.06		.03											.02					.26	.19						0.73
Tioga	Missouri		.27		.24		.16	.56	.02	.03				.03							.05				.06	.10							1.52
Towner	Mouse				T.	.17	.01	.69	T.		.07							T.	T.	T.	T.		T.	T.		.19	.18	.10	T.	T.			1.41
Trotters	Lit. Missouri			.32	.02			.62													.39								.07		.08		1.50
Turtle Lake	Missouri			.39			.50	.19												T.	T.		.15					.36	.04		T.		1.63
Valley City	Sheyenne		.03	.40			.03		.65											T.			.27				.05			2.92	.14		4.49
Velva	Mouse			.08	T.	.10		.76	.13		.14										T.		.11			.28	.29	.04					1.93
Wahpeton	Red		.02					.08	.43			.05									.05		.02							.27			0.92
Washburn	Missouri			.39	T.		.02		.23													.11		.56				.68		T.	.40		2.39
Westhope	Mouse								.30																	.29	.04			.07			0.70
Williston ***	Missouri	T.		.26	T.	T.	.01	.63	T.	.01											.33		T.			.06	.29		.01				1.60
Willow City	Mouse			.07		T.		.52		T.	T.							T.		T.			T.			.28	.18	T.	T.				1.05
Wishek‖	Missouri		.22	.24	.10				.06															1.08						.18			1.88
Zap	Knife		.33					.26															.20					.65					1.44
Moorhead, Minn ***	Red		.03	.02	.07	T.		.27				T.			T.					T.			.06		T.	.03		T.	1.03	.56	.06		2.13

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for June, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum...	93	80	88	86	93	80	80	74	85	90	77	67	72	86	95	101	99	102	100	86	85	77	90	87	89	100	90	96	85	72	....	86.8
	Minimum ...	51	61	60	54	56	60	56	51	52	60	55	43	39	45	55	61	60	61	63	59	54	53	55	58	58	59	55	58	60	54	....	55.5
Arnegard (near)	Maximum...	82	80	84	78	86	78	73	77	83	77	77	72	83	96	99	99	103	95	85	78	82	78	85	92	95	82	87	84	74	81	....	84.2
	Minimum ...	60	50	55	53	52	47	53	45	52	55	46	41	48	59	53	54	62	62	57	58	49	58	59	57	63	60	52	57	55	49	....	54.0
Ashley	Maximum...	92	85	84	87	93	91	84	78	90	88	78	70	74	90	98	102	100	102	102	84	84	85	84	80	94	98	91	89	89	86	....	88.4
	Minimum ...	61	59	56	53	58	56	54	53	53	58	54	47	38	46	63	63	65	70	72	58	50	55	54	59	59	67	59	62	62	53	....	57.2
Beach	Maximum...	82	81	82	82	85	77	66	77	85	80	66	75	84	91	95	97	100	92	86	74	80	82	81	86	91	86	85	89	77	78	....	83.1
	Minimum ...	58	54	60	60	51	48	55	44	52	54	50	44	50	55	57	56	65	59	59	58	48	60	53	56	60	62	57	58	54	52	....	55.0
Berthold Agency	Maximum...	88	80	84	85	90	78	70	76	77	85	78	70	80	93	99	100	103	104	85	80	84	90	94	90	94	88	87	87	81	77	....	85.9
	Minimum ...	58	56	56	58	58	48	55	43	45	54	54	38	46	55	50	54	70	60	64	54	43	60	50	50	62	54	53	50	45	65	....	53.6
Bismarck	Maximum...	92	81	83	85	91	78	77	77	89	82	70	69	79	93	99	102	102	106	97	78	82	78	86	86	97	92	90	92	87	74	....	86.5
	Minimum ...	65	62	58	62	60	58	57	51	57	60	55	48	46	55	62	59	73	75	65	60	52	63	60	61	65	66	63	63	63	57	....	60.0
Bottineau §§	Maximum...	85	78	80	79	87	73	61	74	82	76	70	67	64	93	96	95	101	102	81	71	82	78	77	81	81	84	86	79	84	71	....	80.8
	Minimum ...	54	55	58	59	58	50	54	45	50	58	41	40	47	51	58	61	70	69	61	50	48	57	54	50	60	61	54	55	59	52	....	54.6
Cando	Maximum...	90	88	80	86	89	85	74	73	82	82	80	79	73	85	95	96	99	99	82	86	83	82	80	81	86	86	83	84	84	84	....	84.5
	Minimum ...	58	57	58	59	55	54	50	50	55	60	56	40	42	49	57	63	63	64	64	52	47	53	52	53	60	59	54	53	60	52	....	55.0
Carrington §§	Maximum...	94	81	82	85	92	79	79	76	84	75	82	67	75	90	98	102	103	106	85	80	84	70	81	81	86	92	84	85	87	72	....	84.6
	Minimum ...	54	59	61	57	63	58	52	54	53	63	40	50	43	49	58	68	63	66	72	53	47	55	58	56	57	60	58	58	63	52	....	56.7
Crosby §§	Maximum...	79	80	83	82	84	75	62	75	81	74	71	72	81	91	97	99	99	93	80	78	85	85	76	88	86	88	85	70	78	71	....	81.6
	Minimum ...	62	43	58	61	57	50	53	46	53	57	41	39	50	56	61	63	67	64	54	51	48	52	56	51	61	53	55	53	53	51	....	54.0
Devils Lake	Maximum...	94	77	78	82	89	76	71	74	84	80	74	66	74	89	98	100	102	103	80	78	82	76	83	80	88	88	85	87	87	72	....	83.2
	Minimum ...	64	59	57	57	61	57	54	53	57	58	50	42	45	52	59	68	68	69	63	54	48	56	57	56	61	61	57	56	60	54	....	57.1
Dickinson §§	Maximum...	83	80	82	83	88	76	66	78	85	78	65	73	82	91	97	101	102	101	84	75	82	88	85	89	94	87	89	95	81	75	....	84.5
	Minimum ...	56	56	55	57	54	48	55	44	51	53	52	45	48	51	54	54	66	59	63	61	46	59	52	55	60	66	58	62	56	54	....	55.0
Dunn Center §§	Maximum...	84	81	82	83	86	76	63	76	84	76	72	71	81	91	96	99	99	98	83	75	80	84	84	82	92	87	87	88	80	76	....	83.2
	Minimum ...	58	57	58	59	55	51	56	45	51	56	55	44	44	51	55	55	66	59	64	60	44	59	54	57	67	68	60	56	59	54	....	55.9
Dunseith	Maximum...	78	87	78	81	88	80	71	74	82	81	73	71	74	88	96	97	100	102	91	75	82	81	77	85	86	85	84	84	82	81	....	83.1
	Minimum ...	65	54	55	57	58	51	48	43	54	59	44	38	44	51	60	63	65	68	64	64	52	56	52	55	59	62	53	56	56	52	....	55.3
Edgeley	Maximum...	93	92	85	86	91	85	86	80	90	87	75	72	75	91	101	104	103	106	105	87	87	80	87	89	98	91	93	96	86	85	....	89.5
	Minimum ...	57	65	53	51	59	50	56	50	47	60	50	49	35	48	61	61	58	58	67	57	52	50	55	56	50	60	55	55	61	55	....	54.7
Ellendale	Maximum...	94	86	89	88	95	85	86	79	93	93	81	73	75	92	101	103	102	105	105	87	86	86	86	81	97	104	93	101	88	81	....	90.5
	Minimum ...	58	67	61	58	60	59	60	57	54	60	57	46	38	45	56	62	59	71	68	61	55	57	60	53	62	67	61	62	65	54	....	58.4
Fessenden §§	Maximum...	92	82	81	82	90	78	77	76	86	82	75	74	77	91	98	100	103	105	83	77	84	73	83	83	90	93	87	87	87	75	....	85.0
	Minimum ...	58	59	55	55	59	57	51	54	53	54	47	38	36	51	56	63	61	72	69	54	45	55	57	54	56	60	54	56	62	51	....	55.1
Foxholm (near)	Maximum...	85	77	80	80	86	76	70	73	80	75	71	68	76	89	94	96	99	96	90	77	81	80	75	81	82	81	82	80	79	72	....	81.0
	Minimum ...	63	51	57	59	57	49	48	44	56	58	45	39	46	55	58	67	65	65	60	51	48	53	53	55	58	62	55	54	52	51	....	54.5
Fullerton	Maximum...	94	85	88	90	92	84	88	78	91	93	81	71	79	95	102	105	105	107	107	89	88	84	86	80	98	101	92	98	88	78	....	90.6
	Minimum ...	59	60	54	57	62	58	59	56	57	59	54	45	38	62	57	60	59	70	68	59	52	52	59	59	65	67	58	61	63	57	....	58.2
Garrison	Maximum...	86	82	85	85	87	78	67	85	87	80	76	74	79	95	97	95	104	103	82	76	85	80	86	89	94	88	90	86	85	81	....	85.6
	Minimum ...	62	58	58	60	59	52	56	47	58	60	53	45	45	55	55	58	69	65	64	57	46	60	52	57	60	59	56	60	58	53	....	56.6
Grafton	Maximum...	94	92	81	87	90	84	77	76	87	85	74	73	73	90	94	97	101	103	104	85	85	83	86	72	83	89	89	84	90	89	....	86.6
	Minimum ...	60	59	51	49	58	58	55	53	54	62	53	40	38	47	58	66	65	65	67	55	54	50	57	60	52	56	53	53	63	57	....	55.6
Grand Forks	Maximum...	93	79	80	86	93	80	76	74	88	85	76	69	72	89	95	100	100	105	91	86	83	83	90	75	77	94	85	88	88	72	....	85.1
	Minimum ...	62	59	53	51	59	60	54	55	54	59	51	40	40	50	58	66	67	66	67	58	54	58	59	59	54	63	57	56	65	56	....	57.1
Granville	Maximum...	86	85	83	80	87	76	64	75	84	78	74	75	77	93	99	100	103	104	87	86	87	78	80	84	88	84	85	83	86	75	....	84.2
	Minimum ...	58	59	59	59	57	52	49	47	58	57	45	38	43	56	57	63	61	69	63	52	42	57	50	53	61	63	57	54	57	53	....	55.0
Hansboro	Maximum...	88	80	78	80	88	80	74	74	82	78	75	73	72	89	97	97	101	103	83	70	82	80	70	76	85	80	80	80	84	75	....	81.8
	Minimum ...	56	53	52	57	57	55	48	47	57	54	41	35	42	48	52	52	60	60	60	48	44	48	48	56	59	55	54	50	58	54	....	52.0
Hettinger	Maximum...	87	78	86	85	90	78	71	78	78	82	73	74	82	92	96	99	100	103	84	83	85	95	89	89	99	92	92	95	90	77	....	86.7
	Minimum ...	61	57	58	61	50	53	55	41	52	58	54	49	50	52	54	56	67	58	65	59	44	65	52	60	60	57	60	62	55	55	....	56.0
Hillsboro	Maximum...	93	91	81	86	96	93	79	80	87	91	83	74	70	87	95	99	101	105	104	90	83	82	84	85	81	93	91	89	88	89	....	88.3
	Minimum ...	60	59	52	55	57	52	52	54	53	62	50	42	39	46	55	66	61	68	66	65	54	56	58	59	69	63	59	57	63	56	....	56.9
Howard (near)	Maximum...	78	80	80	85	84	75	68	74	83	75	71	69	82	92	97	95	98	90	78	71	80	84	76	73	90	80	84	72	68	72	....	80.1
	Minimum ...	56	45	40	49	56	45	51	57	50	52	42	38	36	46	61	61	62	63	55	35	50	56	55	57	51	62	55	50	49	49	....	51.1
Jamestown §§	Maximum...	93	83	83	86	92	81	81	75	88	85	75	68	76	92	100	103	103	107	97	84	85	71	89	81	90	96	88	94	89	69	....	86.8
	Minimum ...	58	62	55	55	58	57	47	55	51	59	55	43	37	45	56	59	61	69	68	57	53	59	56	55	58	62	58	58	65	55	....	56.2
Langdon §§	Maximum...	85	84	77	82	96	79	73	74	90	84	74	68	78	93	101	100	102	106	80	75	81	81	84	79	94	93	90	85	93	71	....	85.1
	Minimum ...	53	54	56	52	54	55	49	45	54	49	42	36	40	45	61	60	65	68	68	50	45	52	56	52	55	60	54	50	58	53	....	53.0
Larimore §§	Maximum...	92	81	82	83	93	78	74	74	87	87	76	70	73	88	96	100	99	104	89	85	85	78	88	78	82	94	84	86	86	72	....	84.8
	Minimum ...	55	58	56	53	60	58	53	53	53	62	52	40	38	49	56	65	64	67	62	56	53	53	54	59	54	58	55	55	63	55	....	55.6
Linton	Maximum...	94	88	84	83	90	91	76	76	93	84	82	68	75	95	102	104	104	106	102	82	84	85	86	85	97	97	91	88	85	84	....	88.7
	Minimum ...	64	56	56	55	50	54	55	50	55	56	56	48	45	54	53	54	68	74	65	57	54	42	55	60	65	69	60	59	65	50	....	56.8
Lisbon §§	Maximum...	85	95	82	85	86	92	83	82	76	91	89	75	70	79	90	100	103	101	104	105	86	85	74	86	81	95	93	90	94	88	....	88.2
	Minimum ...	63	61	53	55	58	59	60	58	53	61	56	46	37	45	59	62	70	71	73	61	58	52	58	61	58	64	59	62	65	56	....	58.5
McClusky	Maximum...	90	80	82	85	88	83	73	74	84	83	75	68	75	88	96	100	100	102	85	76	85	76	83	85	91	91	86	85	84	80	....	84.4
	Minimum ...	60	57	54	56	56	53	57	48	52	51	48	40	48	50	58	59	65	65	63	52	43	57	54	53	61	62	55	56	60	51	....	54.8
Maddock	Maximum...	91	86	80	81	88	88	75	74	84	83	78	71	75	88	96	101	100	104	98	78	83	81	81	79	87	85	82	84	86	84	....	85.0
	Minimum ...	65	56	56	52	58	54	51	53	53	53	48	39	36	47	52	62	61	61	62	49	44	52	55	54	57	60	53	54	63	52	....	53.7
Marmarth	Maximum...	86	80	78	83	83	75	70	72	85	80	70	70	80	89	94	96	99	93	88	89	87	88	85	89	93	86	87	90	88	78	....	84.4
	Minimum ...	42	54	52	50	52	51	54	42	52	55	56	52	50	53	56	60	63	60	67	59	49	54	56	53	59	62	67	66	53	51	....	55.0
Minot §§	Maximum...	85	82	84	81	88	72	61	77	86	79	75	68	78	94	100	98	103	102	84	75	85	80	79	84	88	84	87	81	83	75	....	83.3
	Minimum ...	62	54	58	57	57	49	50	45	57	58	49	40	45	55	53	60	67	62	67	52	45	58	50	56	59	62	45	50	56	52	....	54.3
Mohall	Maximum...	82	83	85	80	86	75	64	74	82	76	72	70	76	94	97	96	99	96	90	77	81	80	77	84	83	79	84	81	78	74	....	81.8
	Minimum ...	52	59	57	59	52	50	47	57	57	41	39	45	45	59	53	64	65	65	60	51	48	53	57	57	64	57	54	54	54	51	....	54.2
Mott	Maximum...	88	81	89	82	92	78	75	80	84	78	80	72	83	92	98	100	102	103	84	77	83	87	86	92	96	90	89	86	84	75	....	86.2
	Minimum ...	60	56	67	58	56	57	46	55	56	46	47	50	54	60	58	66	72	73	60	50	61	58	60	63	65	61	63	57	58	56	....	58.3
Napoleon §§	Maximum...	92	83	81	87	91	78	84	80	91	84	74	71	78	93	102	105	105	108	100	87	90	78	85	83	99	94	91	94	92	70	....	88.3
	Minimum ...	64	58	55	55	58	55	52	52	53	60	52	42	38	54	58	57	68	72	71	56	45	60	52	58	61	63	58	58	63	49	....	56.6
New Salem	Maximum...	88	86	80	84	80	86	78	77	84	88	76	68	75	89	95	99	98	104	91	74	78	77	85	85	92	90	86	87	84	73	....	84.6
	Minimum ...	63	54	57	60	58	51	53	46	58	67	61	48	41	51	62	63	72	70	67	55	47	60	59	57	60	62	58	58	58	53	....	57.6
Oakes	Maximum...	95	89	88	88	95	85	86	80	95	94	83	69	77	93	103	106	103	106	106	90	87	85	90	81	99	105	93	98	91	87	....	91.6
	Minimum ...	64	62	53	57	59	58	59	56	54	63	56	45	37	48	57	60	63	73	72	61	53	58	60	60	62	64	59	65	64	56	....	58.6
Pembina §§	Maximum...	95	76	79	85	89	76	71	75	89	80	72	65	73	84	92	90	98	102	80	79	80	81	79	71	86	89	85	81	88	71	....	82.0
	Minimum ...	51	59	52	50	59	58	50	51	54	57	49	39	40	47	55	62	68	69	68	51	51	50	60	59	50	58	52	53	52	58	....	54.4
Sharon	Maximum...	90	78	81	82	90	78	74	73	84	85	75	69	71	86	86	98	98	103	88	84	84	76	85	79	84	91	84	84	84	70	....	83.5
	Minimum ...	62	58	58	53	59	58	53	52	56	64	51	41	41	51	61	63	64	71	71	56	53	54	55	58	57	58	57	58	63	53	....	57.0
Steele	Maximum...	94	85	83	88	84	91	78	81	80	82	75	70	80	94	101	104	105	109	90	82	86	75	85	83	99	93	91	92	89	84	....	87.8
	Minimum ...	65	60	70	58	55	60	58	54	52	58	53	40	43	54	62	60	68	72	67	57	47	61	55	56	62	63	60	58	64	51	....	58.1
Towner	Maximum...	88	82	81	84	87	76	75	73	82	82	81	72	76	89	98	98	102	103	86	76	87	82	81	81	85	85	86	84	85	76	....	84.1
	Minimum ...	61	55	58	58	56	52	51	50	58	58	45	39	41	45	56	60	66	65	64	50	44	58	49	54	60	61	56	52	58	52	....	54.4
Valley City	Maximum...	89	89	83	83	91	87	87	85	84	84	84	77	70	90	96	101	98	100	104	103	86	84	78	88	87	94	92	92	90	85	....	88.7
	Minimum ...	60	60	52	53	55	57	58	54	52	58	54	36	44	45	51	67	59	71	70	58	52	55	53	58	58	61	56	57	62	54	....	56.0
Wahpeton	Maximum...	92	91	84	83	93	91	83	81	88	96	87	73	73	88	100	105	103	104	106	104	87	85	92	90	97	104	98	99	96	82	....	91.8
	Minimum ...	60	63	63	54	56	62	59	59	57	62	56	46	39	50	56	59	64	67	71	64	54	55	61	58	60	68	58	63	67	57	....	58.9
Westhope	Maximum...	81	83	87	86	90	78	67	76	85	79	77	73	82	96	101	104	104	101	96	74	89	84	80	89	90	89	87	81	80	76	....	85.5
	Minimum ...	58	51	58	57	55	52	50	59	60	46	41	38	45	56	61	71	67	63	62	48	48	58	53	58	60	65	57	52	55	53	....	55.2
Williston	Maximum...	81	82	84	85	84	77	64	78	84	75	74	73	82	94	98	99	100	93	81	76	81	85	79	87	93	81	85	82	72	74	....	82.8
	Minimum ...	59	51	59	64	61	53	54	50	57	53	47	48	54	64	62	62	71	69	59	59	53	65	59	60	64	62	59	61	55	55	....	58.1
Moorhead, Minn	Maximum...	93	80	84	86	92	82	80	72	88	88	75	66	72	88	98	100	100	104	101	85	82	77	87	81	87	96	89	92	88	72	....	86.2
	Minimum ...	62	62	53	56	60	62	58	57	55	63	56	48	44	50	56	63	66	67	71	63	56	58	60	60	61	63	61	64	64	60	....	59.3

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 7-31-33—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

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CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

28

O. W. ROBERTS

VOL. XLII   BISMARCK, N. D., JULY, 1933   No. 7

GENERAL SUMMARY

Moderate scattered showers occurred during the opening days of the month, which slightly improved conditions in a few sections, but as a rule small grains deteriorated generally; winter rye and early planted small grains headed short, considerable being cut for hay or used for pasturage. Showers again on the 9th relieved conditions somewhat, but except for light scattered showers on the 22d and 24th all crops, including corn, continued to deteriorate. Rye harvest was completed and threshing of this crop was well advanced during the month with disappointing yields. Harvest of small grains made good headway and some threshing of early planted spring wheat, barley and oats was done. Pastures, ranges and meadows were short in nearly all sections and livestock deteriorated somewhat.

TEMPERATURE

The mean temperature for the state was 71.9°, or 3.5° above the normal, and 1.9° higher than the mean for July, 1932. The highest mean reported was 78.0° at New England, Hettinger County; the lowest was 68.4° at Hansboro, Towner County. The highest temperature reported was 109° at Bottineau, Bottineau County on the 28th; the lowest was 36° at Powers Lake, Burke County on the 31st. The greatest monthly range of temperature was 69° at Berthold Agency, McLean County; the least was 46° at Pembina, Pembina County. The greatest daily range of temperature was 53° at Garrison, McLean County on the 24th.

PRECIPITATION

The average precipitation for the state was 2.00 inches, or 0.42 inch below the normal, and 0.01 inch less than the average for July, 1932. The greatest monthly amount reported was 4.95 inches at Parshall, Mountrail County; the least was 0.39 inch at Alpha, Golden Valley County. The greatest amount recorded in any 24 consecutive hours was 2.38 inches at Parshall, Mountrail County on the 6th. The average number of days with 0.01 inch or more of precipitation was 7.

MISCELLANEOUS PHENOMENA

AURORAS: Carson, Devils Lake, Edmore, Grand Forks, 23d; Dogden Butte, Parshall, 24th; Eckman, 1st, 2d, 13th, 16th, 18th, 20th, 22d, 23d, 31st; Foxholm, 14th, 18th; Hannah, Tagus, Trotters, 26th; Pembina, 23d, 24th; Petersburg, 17th, 20th, 23d; Sharon, 17th; Velva, 9th, 23d, 25th, 26th.

FOG: Bismarck, 2d, 23d; Bowman, Garrison, Minot, Mohall, 7th; Devils Lake, Edmore, 30th; Grand Forks, 8th, 10th; Pembina, 10th; Rugby, 26th.

HALOS, solar: Devils Lake, 1st; Petersburg, 17th; Moorhead, 1st, 19th.

HAIL: Beach, Bismarck, 22d; Berthold Agency, 10th; Dickinson, 4th; Eckman, Foxholm, Westhope, 17th; Ellendale, 12th; Sharon, Washburn, 11th; Williston, 3d; Willow City, 18th.

THUNDERSTORMS: On all days except the 14th, 15th, 16th, 21st, 24th, and 31st; with the greatest number reported on the 4th, 6th, 9th, 10th, 12th, 18th, 20th, 22d, and 30th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a m.	12 noon	7 p. m.	
Bismarck	29.91	30.27	23	29.57	20	8.9	38	s.	26	76	45	36	72
Devils Lake	29.93	30.26	23	29.58	30	8.8	25	e.	30	78	44	44	81
Grand Forks	29.89	30.21	24	29.56	28	......	26	se.	4	78	....	44	....
Williston	29.88	30.26	5	29.56	19	7.7	32	nw.	19	66	38	31	86
Moorhead, Minn	29.92	30.28	24	29.56	30	7.5	26	n.	10	73	46	45	82
Averages & ext's	29.91	30.28	24	29.56	19†	8.2	38	s.	26	74	43	40	80

† And other dates.

COMPARATIVE DATA FOR JULY

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	68.7	+0.3	108	31	3.23	+0.81	5.23	1.17	0	8	19	8	4
1893.	69.5	+1.1	112	35	2.04	−0.38	4.59	0.53	0	7	17	10	4
1894	71.7	+3.3	107	38	0.63	−1.79	2.58	T.	0	3	20	8	3
1895.	66.1	−2.3	102	29	2.90	+0.48	6.36	0.95	0	8	14	11	6
1896.	67.5	−0.9	107	31	1.59	−0.83	4.78	0.47	0	6	15	10	6
1897	68.9	+0.5	109	38	4.43	+2.01	8.94	0.15	0	9	13	11	7
1898	67.6	−0.8	106	28	2.49	+0.07	6.30	0.25	0	7	15	11	5
1899.	68.3	−0.1	109	32	2.34	−0.08	6.12	0.45	0	6	18	9	4
1900.	67.9	−0.5	107	33	2.25	−0.17	4.83	0.37	0	6	16	10	5
1901.	70.8	+2.4	110	40	4.28	+1.86	8.14	1.13	0	6	18	7	6
1902.	67.6	−0.8	106	34	2.15	−0.27	5.20	0.08	0	5	20	7	4
1903.	66.7	−1.7	109	26	2.23	−0.19	5.72	T.	0	7	17	8	6
1904.	64.4	−4.0	102	34	2.49	+0.07	7.65	0.10	0	6	17	8	6
1905	65.6	−2.8	100	32	3.90	+1.48	6.91	0.68	0	8	17	9	5
1906.	66.9	−1.5	102	34	1.97	−0.45	5.92	0.13	0	11	13	8	10
1907.	65.8	−2.6	103	31	3.14	+0.72	6.00	1.11	0	9	16	11	4
1908.	68.6	+0.2	103	31	2.10	−0.32	5.00	0.33	0	6	19	9	3
1909.	67.1	−1.3	99	34	2.89	+0.47	6.82	0.41	0	8	15	9	7
1910.	70.0	+1.6	114	33	1.60	−0.82	3.70	T.	0	5	18	9	4
1911.	65.1	−3.3	107	23	1.82	−0.60	3.70	0.26	0	6	18	10	3
1912.	66.0	−2.4	106	30	3.54	+1.12	8.87	0.49	0	10	12	13	6
1913.	65.6	−2.8	103	35	2.30	−0.12	4.96	0.89	0	8	17	8	6
1914.	72.1	+8.7	109	36	2.31	−0.11	5.50	0.41	0	6	19	9	3
1915.	62.3	−6.1	97	30	3.01	+0.59	7.55	0.67	0	11	12	11	8
1916.	73.1	+4.7	105	33	3.16	+0.74	10.10	0.24	0	7	19	9	3
1917.	70.9	+2.5	114	27	1.66	−0.76	3.66	0.14	0	7	17	11	3
1918.	65.5	−2.9	102	34	2.71	+0.29	6.08	0.53	0	7	14	10	7
1919.	71.2	+2.8	105	37	1.81	−0.61	6.10	0.11	0	5	18	10	3
1920.	68.3	−0.1	103	31	2.16	−0.26	4.89	0.78	0	7	18	11	2
1921.	71.4	+3.0	110	35	3.07	+0.65	10.00	0.37	0	7	17	10	4
1922.	65.6	−2.8	100	30	2.43	+0.01	6.15	0.60	0	8	16	11	4
1923.	71.2	+2.8	103	35	3.14	+0.72	6.16	0.70	0	8	16	11	4
1924.	65.5	−2.9	99	32	1.95	−0.47	3.97	0.57	0	6	18	9	4
1925.	66.7	−1.7	106	29	1.34	−1.08	4.35	0.33	0	6	18	9	4
1926.	70.3	+1.9	108	32	2.00	−0.42	5.10	0.31	0	7	18	8	5
1927.	65.4	−3.0	97	28	2.85	+0.43	6.99	0.70	0	9	15	10	6
1928.	67.4	−1.0	96	38	5.05	+2.63	12.22	1.77	0	10	16	10	5
1929.	70.6	+2.2	109	34	1.27	−1.15	3.62	0.00	0	5	21	8	2
1930.	72.3	+3.9	107	34	1.04	−1.38	4.37	0.02	0	5	21	8	2
1931.	70.6	+2.2	111	37	3.03	+0.61	5.36	0.18	0	8	17	8	6
1932.	70.0	+1.6	108	36	2.01	−0.41	5.95	0.68	0	7	19	8	4
1933.	71.9	+3.5	109	36	2.00	−0.42	4.95	0.39	0	7	19	9	3
Per..	68.4	....	114	23	2.42	....	12.22	0.00	0	7	17	9	5

Climatological Data for July, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	7	...	...	...	...	...	...	...	0.39	...	0.34	0	2	...	...	...	...	H. A. Bury.
Amenia	Cass	954	37	70.6	+1.9	99	28	47	21	43	2.77	−0.12	0.90	0	7	18	12	1	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	73.2	+3.9	102	25	42	20	45	2.82	+1.06	1.05	0	8	26	5	0	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	72.2	+3.5	103	28	43	21	49	3.23	+0.40	1.18	0	7	26	2	3	se.	H. D. Piper.
Beach	Golden Valley	2,759	27	72.8	+4.3	104	26	43	23	45	1.11	−0.71	0.40	0	8	...	...	...	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	72.0	+2.8	107	26	38	23	51	2.57	+0.40	1.10	0	7	21	10	0	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	73.9	+4.1	102	28	48	21	39	1.61	−0.63	0.54	0	9	17	10	4	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	71.4	+4.8	109	28	45	15†	39	1.60	−0.70	0.40	0	7	20	10	1	se.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	74.2	+4.8	104	26	39	23	48	1.24	−1.13	0.35	0	8	26	5	0	ne.	George Larsen.
Cando	Towner	1,488	32	71.2	+4.4	97	29	46	15†	41	2.21	−0.31	0.76	0	7	14	12	5	nw.	A. J. Swanson.
Carrington	Foster	1,579	35	70.7	+2.0	103	28	42	22	46	1.14	−1.40	0.45	0	6	21	8	2	w.	L. A. Swanson.
Carson	Grant	2,500	21	74.3	+5.5	106	27	40	23	44	2.25	+0.31	0.84	0	6	25	5	1	s.	J. W. Evens.
Cavalier	Pembina	894	23	...	...	...	...	...	...	...	0.68	−2.05	0.46	0	3	20	7	4	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	...	...	...	...	...	...	...	1.50	−1.05	0.56	0	5	24	2	5	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	...	...	...	...	...	...	...	1.43	...	0.58	0	5	22	2	7	s.	W. A. Clem.
Courtenay	Stutsman	1,523	4	...	...	...	...	...	...	...	3.33	...	0.68	0	10	20	10	1	nw.	Geo. E. Berg.
Crosby	Divide	1,954	26	70.0	+3.2	101	26†	44	23	45	1.19	−0.96	0.61	0	4	14	13	4	se.	John Jensen.
Devils Lake	Ramsey	1,478	36	70.8	+3.4	98	26	49	23	39	2.58	+0.01	1.61	0	14	12	16	3	s.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	72.4	+4.2	104	26	42	15†	46	2.63	+0.38	0.90	0	10	24	7	0	s.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	70.8	...	99	26†	43	21	38	2.93	...	1.23	0	7	20	9	2	s.	R. L. Williams.
Drake	McHenry	1,634	4	71.0	...	101	28	47	21	40	2.59	...	1.01	0	11	15	14	2	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	71.2	+3.2	104	26	40	23†	51	1.19	−0.99	0.43	0	4	26	3	2	s.	W. F. Moede.
Dunseith	Rolette	1,682	37	70.8	+4.9	101	28	49	21	40	1.01	−1.43	0.32	0	6	9	10	12	sw.	T. H. Tharalson
Eckman	Bottineau	1,500	28	70.3	+3.5	101	28	43	21	44	2.13	−0.14	0.47	0	8	13	15	3	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	32	71.3	+2.5	103	28	45	21	41	2.40	−0.34	0.88	0	8	10	19	2	se.	O. A. Thompson.
Edmore	Ramsey	1,524	9	69.2	...	97	4	41	21	43	1.88	...	0.80	0	11	16	12	3	nw.	E. D. Warner.
Ellendale	Dickey	1,457	38	72.7	+2.0	102	28	51	15†	42	3.69	+0.54	1.22	0	8	21	8	2	ne.	J. E. Demmer.
Energy ‡‡	McLean	1,750	21	73.5	...	106	28	42	23	46	1.72	−0.54	0.53	0	6	19	12	0	n.	H. S. Solenberger.
Epping	Williams	2,224	25	73.3	...	104	26	42	16	48	2.32	+0.31	...	0	7	18	11	2	...	A. O. Wang.
Fairfield	Billings	...	4	...	...	...	...	...	...	...	1.76	...	0.67	0	4	26	5	0	se.	F. R. Hecker.
Fessenden	Wells	1,610	21	70.8	+2.8	105	28	43	21	45	2.03	−0.09	0.65	0	7	24	5	2	se.	T. D. Monsen.
Forman	Sargent	1,249	40	...	...	...	...	...	...	...	2.49	−0.46	0.60	0	7	25	2	4	s.	Helge Dyste.
Fort Yates	Sioux	1,670	33	74.4	+2.7	104	28	44	22	43	2.62	+0.20	1.11	0	4	21	8	2	e.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	69.9	...	99	26	46	15	41	2.01	−0.22	0.56	0	8	13	14	4	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	...	...	...	...	...	...	...	1.66	−0.34	0.55	0	7	29	2	0	s.	Verne King.
Fullerton	Dickey	1,439	35	73.2	+4.1	101	28	50	15†	42	3.90	+0.71	1.05	0	6	17	13	1	ne.	F. O. Alin.
Gackle	Logan	1,951	3	...	...	...	...	...	...	...	3.34	...	0.98	0	8	21	4	6	nw.	Geo. Hummel.
Garrison	McLean	1,901	56	72.6	+4.4	103	19†	44	24	53	1.96	−0.24	0.98	0	6	16	14	1	se.	W. F. Robinson.
Grafton	Walsh	827	41	72.4	+4.7	97	27†	45	21	44	1.41	−1.08	0.67	0	4	17	10	4	nw.	A. R. T. Wylie.
Grand Forks ‡‡	Grand Forks	830	42	71.8	+4.3	99	28	46	21	43	1.35	−1.38	0.57	0	8	7	20	4	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	72.0	+4.5	102	28	47	16	41	2.11	+0.01	0.61	0	8	23	6	2	se.	W. A. Christianson.
Hankinson	Richland	1,068	4	73.6	...	104	28	50	22†	41	1.14	...	0.56	0	4	23	7	1	se.	R. G. Stock.
Hannah	Cavalier	1,568	41	70.7	...	98	28	43	21	44	0.78	−1.65	0.20	0	7	10	17	4	sw.	James Muir.
Hansboro	Towner	1,597	25	68.4	+3.2	99	26	44	21	44	1.70	−0.74	0.43	0	12	23	6	2	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	26	75.6	+5.5	104	28	40	23	48	1.18	−1.37	0.91	0	6	26	3	2	se.	C. H. Plath.
Hillsboro	Traill	901	27	72.3	+2.7	101	28	45	17	45	1.83	−0.60	0.40	0	7	19	8	4	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	70.6	+4.6	103	26	40	21	50	0.79	−0.99	0.36	0	5	17	11	3	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	71.3	+2.8	103	28	47	21	46	3.26	+0.54	1.56	0	7	12	16	3	s.	S. Calvelage.
Kenmare	Ward	1,799	2	71.2	...	100	29	42	17	42	1.74	...	0.68	0	5	20	6	5	se.	R. Costello.
Langdon	Cavalier	1,615	37	72.0	+7.4	103	26	43	15	45	0.98	−1.49	0.80	0	3	26	4	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	71.0	+4.0	101	29	42	21	41	1.47	−1.76	0.50	0	9	23	4	4	nw.	Mabel Walsh.
Linton	Emmons	1,711	16	73.8	+2.5	106	28	42	15	45	1.89	−0.17	0.77	0	6	17	13	1	se.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	29	72.1	+2.8	102	28	48	21	46	2.20	−1.10	1.01	0	7	12	16	3	...	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	70.9	...	103	28	42	21†	49	1.17	−1.15	0.45	0	4	25	2	4	se.	Edw. Tapley.
McLeod	Ransom	1,075	22	73.4	+3.2	104	28	45	31	40	2.85	−0.08	1.39	0	8	21	5	5	sw.	J. G. Carlson.
Maddock	Benson	1,604	18	70.4	+2.8	100	26†	43	21	47	1.63	−0.77	0.67	0	7	12	13	6	nw.	A. T. Felland.
Mandan	Morton	1,750	19	73.4	+2.8	103	26†	43	21†	45	1.80	−0.85	0.51	0	12	20	1	10	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	...	...	...	...	...	...	...	1.62	−0.52	0.43	0	7	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	24	75.0	+5.6	104	26	45	23	49	1.32	−0.52	0.67	0	4	25	5	1	...	S. P. Grane.
Mary	McKenzie	...	4	...	...	...	...	...	...	...	1.48	...	0.74	0	4	28	3	0	se.	Fred Hartman.
Max	McLean	2,093	4	69.6	...	101	28	40	23	50	3.81	...	2.10	0	6	22	5	4	...	A. W. Rice.
Mayville	Traill	975	37	72.4	+0.9	102	29	45	21	48	1.53	−1.26	0.38	0	10	14	11	6	s.	H. B. Addicott.
Minot	Ward	1,557	37	70.0	+2.1	102	26	42	21	45	2.16	+0.29	0.63	0	9	11	18	2	nw.	W. H. Johnson.
Mohall	Renville	1,646	39	70.3	+4.0	101	28	41	31	44	2.36	+0.13	0.46	0	9	14	13	4	nw.	G. V. Davidson.
Mott	Hettinger	2,424	26	73.8	+3.5	105	26	41	22	42	1.95	−0.64	0.68	0	11	20	5	6	s.	O. H. Opland.
Napoleon	Logan	1,955	41	72.4	+3.8	106	28	42	21	46	2.80	+0.30	0.73	0	10	21	7	3	s.	C. J. Hoof.
New England	Hettinger	2,400	39	78.0	+9.2	107	19	42	22	51	1.91	−0.04	1.43	0	4	20	8	3	se.	F. S. Sleight.
New Salem	Morton	2,163	29	72.8	+2.9	100	19†	45	23	42	2.61	+0.58	0.89	0	8	24	6	1	se.	J. Christiansen.
Oakes	Dickey	1,318	4	73.4	...	104	28	47	21	48	3.80	...	0.95	0	10	9	18	4	ne.	Eugene Naylor.
Park River	Walsh	998	29	72.8	+4.9	99	27	45	31	44	1.37	−1.14	1.06	0	5	18	10	3	nw.	C. B. Wright.
Parshall	Mountrail	1,929	18	70.1	...	102	27	42	23	44	4.95	+3.14	2.38	0	9	11	16	4	se.	C. E. Shubert.
Pembina	Pembina	789	59	68.6	+1.1	94	10	48	24†	43	1.17	−1.29	0.72	0	8	5	21	5	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	...	...	...	...	...	...	...	1.12	...	0.57	0	9	20	9	2	n.	T. M. Rykken.
Pettibone	Kidder	1,856	24	71.4	+3.4	101	28	46	2†	42	2.23	−0.47	0.67	0	6	24	4	3	se.	H. H. McCumber.
Portal	Burke	1,954	28	69.9	+3.7	100	25	45	17	46	0.76	−1.14	0.38	0	5	26	4	1	s.	R. G. Wegener.
Power‡‡	Richland	1,020	39	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Frank B. Power.
Powers Lake	Burke	2,205	28	70.4	...	101	26	36	31	46	1.73	−0.49	0.74	0	4	23	7	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	17	72.1	+2.0	104	27	43	23	44	2.54	+0.50	1.09	0	7	20	8	3	ne.	John Muggli.
Rugby (near)	Pierce	1,562	4	...	...	...	...	...	...	...	2.06	...	0.64	0	9	13	15	3	se.	E. C. Erickson.
Ryder	Ward	2,108	4	...	...	...	...	...	...	...	3.35	...	1.85	0	5	...	...	...	...	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	72.1^{a}	...	107^{a}	26	43^{a}	21†	50^{a}	2.55	...	1.10	0	8	22	3	6	...	Geo. Buerkle.
Sharon	Steele	1,516	9	70.8	...	100	28	47	23	39	1.48	...	0.50	0	8	15	11	5	ne.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	...	...	...	...	...	...	...	0.99	...	0.44	0	5	23	7	1	se.	J. H. Giffey.
Steele	Kidder	1,857	39	71.6	+2.2	101	28	44	15	39	3.49	+0.59	1.90	0	7	16	13	2	se.	V. A. Laney.
Stowers‡‡	Adams	2,325	18	...	...	...	...	...	...	...	0.60	−1.13	0.22	0	5	26	1	4	...	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	...	...	...	...	...	...	...	2.87	...	0.74	0	7	20	10	1	se.	J. C. Abbott.
Tioga	Williams	2,279	4	...	...	...	...	...	...	...	1.92	...	0.75	0	6	18	12	1	se.	Anton Carlson.
Towner	McHenry	1,482	31	72.2	+4.2	102	28	43	21	45	2.59	+0.33	0.79	0	7	21	7	3	se.	Karl Weber.
Trotters	Golden Valley	...	7	...	...	...	...	...	...	...	1.74	...	0.82	0	8	25	5	1	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	...	...	...	...	...	...	...	1.11	−1.79	0.38	0	8	...	...	...	...	M. A. Slettum.
Valley City	Barnes	1,245	27	71.0	+2.3	103	28	45	21	50	3.07	+0.28	0.78	0	9	25	3	3	e.	I. C. Robertson.
Velva	McHenry	1,511	6	71.6	...	99	26†	43	21	43	3.24	...	1.73	0	8	11	17	3	nw.	Oscar Anderson.
Wahpeton	Richland	962	41	76.4	+6.6	105	28†	50	1†	48	1.68	−1.78	0.63	0	7	20	0	11	se.	C. G. Luick.
Washburn	McLean	1,731	32	72.8	+3.3	101	28	47	23	35	1.87	−0.32	0.54	0	9	19	11	1	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	72.6	+5.8	104	28	46	15	45	1.70	−0.53	0.44	0	8	20	10	1	nw.	C. M. Condit.
Williston	Williams	1,878	54	73.2	+4.3	103	26	48	15	37	2.57	+0.68	0.89	0	10	21	10	0	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	70.6	+4.9	102	28	44	16	47	1.87	−0.22	0.48	0	8	22	7	2	se.	O. M. Sanderson.
Wishek	McIntosh	2,010	4	69.6	+1.0	100	28	42	21†	48	1.90	−0.72	0.55	0	8	24	0	7	se.	Gottlieb Herr.
Zap	Mercer	1,838	18	...	...	...	...	...	...	...	1.72	−0.24	0.60	0	6	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	52	73.7	+5.6	102	28	52	17	40	1.44	−1.99	0.44	0	7	16	12	3	s.	U. S. Weather Bureau.
Averages	...	...	...	71.9	+3.5	109	28	36	31	53	2.00	−0.42	2.38	0	7	19	9	3	se.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ‡‡Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for July, 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri									.34	T.																					.05	0.39
Amenia	Red	T	T.		.45			.90			.20	.20		.45							.15			.12									2.77
Arnegard (near)	Missouri			.18		.29	.68	.04		.30						.03				.25		1.05											2.82
Ashley	Missouri	1.18					.75			.18			.20						.15				.65					.12					3.23
Beach	Lit. Missouri	.18					.40			.02	.10				.09						.03		.14									.15	1.11
Berthold Agency	Missouri	.42					.60			1.10	.21					.04					T.		.05									.15	2.57
Bismarck ***	Missouri	.21		T.			.13			.54	.03		.02						.20		.12	T.	.35				.01		T.		T	T.	1.61
Bottineau	Mouse	T.	.02		.34		.40			.15		T.	T.						.36				.29							.04			1.60
Bowman	Grand	.03	.35			.30	.01	.12		.35										.05							.03	T.					1.24
Cando	Devils Lake				T.	.63	.76				T.		.26	.13							.04		.33					T.			.06	T.	2.21
Carrington‖‖	James						.32			.45	.15								.06		.14		.02										1.14
Carson	Heart	.32					.16			.84			.68								.01		.24										2.25
Cavalier	Red				.15		.16																.07										0.68
Cooperstown	Sheyenne						T.	.56		.20		.16									T.				.45					.13			1.50
Corinth	Missouri			.40		.15	.20		.58														.10										1.43
Courtenay	James	.03	.68		.07			.42		.66		.47	.40						.05		.25		.30								T.		3.33
Crosby	Mouse				.61	T.	.20	.04		.34																							1.19
Devils Lake ***	Devils Lake	T.		.03	.02	.01	1.61	.02		.07	.03		.06			T.			.05		.10		.25			T.	.18	.14	T.	T.	.01	T.	2.58
Dickinson‖‖	Heart	.81	.18			.90		.03		.09		.05			T.		T.				.17			.27			.09			T.		.04	2.63
Dogden Butte	Mouse				.01	T.	1.23			.93	.51		T.						T		.04		.19						T.			.02	2.93
Drake‖‖	Mouse		.02				1.01	.11		.39		.50		.21					.08		.06			.13						.03		.05	2.59
Dunn Center	Knife		.40				.26			.43											.10												1.19
Dunseith	Mouse				.19	.08	.32			.23											.17										.02		1.01
Eckman	Mouse				.28	.04	.40			.35								T.	.47		.09		.41							.09	T.		2.13
Edgeley	James	.44								.88		.13	.24						.05				.53	.11							.02		2.40
Edmore	Devils Lake				.05	.11	.80			.01	T.	.02	.46			T.			.07		.06		.23						T.	.06	.01	T.	1.88
Ellendale	James	.33					.88			1.22		.02	.73						.05				.37								.09		3.69
Energy	Missouri	.08					.45			.53	.51		.10						.05		T.		T.						T.		T	T.	1.72
Epping	Missouri			.38		.29	.68	.04		.30										.03			.60										2.32
Fairfield	Knife						.56			.67	.15												.38										1.76
Fessenden‖‖	James						.12	.26		.28		.65							.44					.23							.05		2.03
Forman	Sheyenne		.23			.03	.60	.31		.54		T.	.48						T.				.30						T.				2.49
Fort Yates	Missouri	.48					.28						.75										1.11										2.62
Foxholm (near)	Mouse	T.			.21	.02	.43			.44									.22	T.	.12		.56							T.	.01		2.01
Fryburg	Heart	.32					T.			.55	.10						.04				.08		.49							T.		.08	1.66
Fullerton	James	.46					1.05			.85		.17	.72										.65								T.		3.90
Gackle	James	.53			.06		.06			.85	T.	.50	.20						.16				.98										3.34
Garrison	Missouri				.10		.58			.98	.11					T.			T.		.09		.10										1.96
Grafton	Red				.45		.67			T.		T.		T.							.08		.26								T.		1.41
Grand Forks ***	Red			.11	.08		.57			T.	.06	.15	T.			T.			T.		.14		.21					.03			T.		1.35
Granville	Mouse	T.				.14	.64	.04		.45	.04								.22				.53								.05		2.11
Hankinson	Red					T	.15			.41			.56	.02													T.						1.14
Hannah	Pembina				.17		.19	.01		.04			.20								.06		.11						T.	T.	T.		0.78
Hansboro	Devils Lake	.05		.03	.43	.10	.15			.15	.08								.05		.20		.26							.15	.05		1.70
Hettinger	Grand	.03		T.	.02		.18			.91													.02			.02	T.						1.18
Hillsboro	Red				.36		.40	.40				.15		.20							.03			.29									1.83
Howard (near)	Missouri	T.		.20		.02	.20	T.		.36						T.			T.	T.		T.	T.							.01	T.		0.79
Jamestown	James			.16	T.		.28			.12	1.56	.10	T.								.65		.39				T.						3.26
Kenmare	Mouse					.39	.09	.15			.43													.68									1.74
Langdon	Pembina				.10		.80				T.	T.		.08																			0.98
Larimore	Red				.11		.27	.50				.07		.12					.02		.07			.27				.04					1.47
Linton	Missouri	.77		T.			.21			.04	T.		.29						.31				.27					T.				T.	1.89
Lisbon	Sheyenne		.23		.02			.39		.13		.04		.38										1.01									2.20
McClusky	Missouri						.45			.34													.27								.11		1.17
McLeod	Sheyenne	.06					.32	.04		.28	.12	.60						T.				T.	1.39					.04					2.85
Maddock	Sheyenne	T.				T.	.67	.02		.16		T.	.12			T.			.35		.06		.25							T.		T.	1.63
Mandan‖‖	Missouri	.15		.12		T.	.12	T.	.51		.06			.04		.02		.08		.16		.05	.43					.06					1.80
Manfred	James	.07					.24			.32	.35								.43				.20						T.		.01		1.62
Marmarth	Lit. Missouri	.56				T.	.07	.02	.67											T.	T.										T.		1.32
Mary	Lit. Missouri	.04					.65			.05													.74										1.48
Max‖‖	Missouri					.34	.95	.05			2.10	.20												.17									3.81
Mayville	Red	T.			.25		.32	.38	.02	.09	T.	.03							.01		.15		.06	.22									1.53
Minot	Mouse				.29	.20	.63	.05		.49		.02									.08		.12	.28									2.16
Mohall	Mouse			.43		.12	.29	.05		.36									.35	T.	.20		.46							.10			2.36
Mott	Cannon Ball	.15	.16	.05	.56		.13			.68					.02			.05			.03	T.	.02		T.	T.	T.					.10	1.95
Napoleon‖‖	Missouri	.50	.50					.17		.38		.15		.08					.26		.01			.73								.02	2.80
New England	Cannon Ball					T.	.09		.21						T.					.18						1.43							1.91
New Salem	Heart	.24					.41			.89		.17	.27								.12		.38				.13						2.61
Oakes	James	.47	.04			.16	.51			.95	.77	.03		.42					.04				.41					T.					3.80
Park River	Red				.07		1.06						.03								.03		.18							T.			1.37
Parshall	Missouri				.24		2.38	.10		1.36							.14				.10		.02	.60						.01			4.95
Pembina ***	Red	T.			.72	.01	.29	.06			T.						.01		T.		.02		T.	.05			T.	T.	T.		T.	.01	1.17
Petersburg	Red				.05		.57			.02		.05	.03								.06		.28					.04			.02		1.12
Pettibone	James	.25	T.				.49			.67	T.		T.						.22		.32		.28								T.	T.	2.23
Portal‖‖	Mouse			.15		.38	.07			.08																				.08			0.76
Power	Sheyenne																																
Powers Lake	Missouri			.37			.41		.21														.74										1.73
Richardton	Heart	1.09			.51		.03			.28		.02								.30			.31										2.54
Rugby [near]	Mouse	T.			.05	.42	.64	.03		.28	T.								.20		.10		.32				.02				T.		2.06
Ryder	Missouri			.07		1.85	T.		1.07				T.							.06			.30		T.			T.					3.35
Sanish‖‖	Missouri				.10	.02	1.10	.06			.45										.13		.05	.64							T.		2.55
Sharon	Red	T.			.02		.50			.13	T.	.35	T.						.03		.08		.27					.10			T.	T.	1.48
Stanton	Missouri	.16			.06		.10		.44		.23																						0.99
Steele	Missouri	.70					.17			1.90		.07	T.						.10		.35		.20								T.	T.	3.49
Stowers	Cannon Ball	.14					.22										.04				.07		.13										0.60
Tagus	Mouse	.30		.74		.11	.56	.36												.15			.65										2.87
Tioga	Missouri				.48		.24	.06	.30							.09							.75										1.92
Towner	Mouse	.05				.66	.79	.02		.44	T.					T.	T.		T.		.15		.48						T.	T.	T.		2.59
Trotters	Lit. Missouri	.06				.05	.50		.10						.05	.01					.15		.82										1.74
Turtle Lake	Missouri				.04		.36			.38	.02		.09								.12		.09								.01		1.11
Valley City	Sheyenne	.10					.44			.51	.78		.40								.25		.20	.38							.01		3.07
Velva	Mouse					.36	1.73	.16		.56	.09										.06		.26								.02		3.24
Wahpeton	Red							.10		.13		.05		.50							.02		.25	.63									1.68
Washburn	Missouri	.38				.05	.15	.11		.54		.25							.11		.04			.24									1.87
Westhope	Mouse				.44	.23	.18			.21								.06	.34				.20							.04			1.70
Williston ***	Missouri			.44		.40	.13	.03	.52	.37	T.					.03				.03		.01	.61				T.			T.			2.57
Willow City	Mouse				.05	.32	.46	.01		.14	T.					T.		T.	.32	T.	.09	T.	.48					T.	T	T.	T.		1.87
Wishek‖‖	Missouri	.24	.55				.05	.40		.02				.13					.22					.29									1.90
Zap	Knife	.35			.60		.20		.30														.25									.02	1.72
Moorhead, Minn ***	Red	T.			T.		.35			.09	.37		.17		T.	T.			T.		.01	T.	.44					T.			.01		1.44

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for July, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	80	92	90	88	89	68	78	83	80	94	90	92	87	75	77	81	88	87	90	80	80	70	78	85	87	93	93	99	95	98	82	85.1
	Minimum	50	50	54	66	64	60	61	58	60	64	66	58	60	52	51	50	50	54	54	62	47	51	50	50	54	54	61	56	60	55	54	56.0
Arnegard (near)	Maximum	87	97	100	98	75	78	82	82	87	98	96	92	83	76	84	86	98	94	94	85	72	75	82	96	102	100	100	96	95	77	75	88.5
	Minimum	52	49	64	53	50	50	55	60	63	58	63	62	63	60	50	50	66	61	59	42	52	49	67	59	59	64	69	69	61	59	54	57.8
Ashley	Maximum	83	83	86	92	91	81	80	85	93	93	89	93	91	82	77	83	85	90	94	90	84	72	79	85	93	97	98	103	100	95	82	88.0
	Minimum	53	47	62	67	66	56	60	55	64	62	66	56	58	55	45	51	49	60	51	63	43	47	46	53	58	63	67	54	64	60	50	56.5
Beach	Maximum	78	93	98	96	81	79	86	87	91	97	86	92	81	74	79	84	94	91	98	85	84	73	82	92	100	104	100	98	100	79	75	88.3
	Minimum	52	53	63	54	59	52	58	62	61	59	55	60	60	53	46	52	66	57	69	49	47	54	43	47	63	62	60	70	68	68	52	57.2
Berthold Agency	Maximum	87	90	88	98	82	72	82	83	91	97	90	95	88	80	86	83	93	90	102	80	85	70	85	100	101	107	100	103	95	85	78	89.2
	Minimum	52	51	53	58	58	56	62	70	61	51	53	57	53	53	45	43	64	55	58	55	43	55	38	58	55	56	56	62	58	56	53	54.8
Bismarck	Maximum	73	86	92	96	84	72	78	86	92	97	88	91	83	75	78	84	89	90	100	84	79	64	80	91	96	101	99	102	97	86	78	86.8
	Minimum	57	53	67	69	66	59	64	61	66	63	67	63	61	58	49	56	62	66	61	58	48	54	48	58	64	69	66	68	70	62	57	61.0
Bottineau §§	Maximum	84	90	94	92	71	73	80	84	88	92	85	93	78	70	78	82	89	87	95	94	84	77	78	93	86	100	98	109	101	82	72	86.4
	Minimum	51	54	56	54	58	51	54	61	62	61	58	56	56	48	45	48	58	60	58	55	45	52	57	56	56	65	70	70	67	61	49	56.5
Cando	Maximum	78	86	90	94	93	78	78	81	86	89	88	87	83	78	76	79	87	87	94	92	83	81	88	88	95	93	95	96	97	81	76	86.4
	Minimum	52	50	56	65	58	52	55	58	60	62	61	57	69	50	46	48	47	62	53	60	46	55	47	51	62	61	63	58	59	62	49	55.9
Carrington §§	Maximum	77	85	94	97	84	66	81	82	86	92	88	90	87	76	78	83	90	91	98	76	79	80	79	88	92	100	100	103	94	89	82	86.7
	Minimum	53	50	61	54	63	57	57	56	52	66	65	61	60	50	48	47	58	64	57	61	46	42	52	45	46	56	58	65	48	49	49	54.7
Crosby §§	Maximum	83	94	98	89	67	71	79	85	87	91	82	89	78	71	77	83	95	88	95	75	77	74	83	96	91	101	101	99	75	79	72	84.7
	Minimum	52	52	63	58	51	51	57	60	65	61	59	60	57	53	46	46	46	56	63	50	48	49	44	57	57	61	62	68	54	56	49	55.2
Devils Lake	Maximum	77	87	90	97	81	66	78	73	85	93	88	88	80	71	76	81	89	84	96	78	84	64	78	89	87	98	95	95	85	80	76	83.8
	Minimum	52	53	62	68	62	53	55	60	63	67	64	59	59	55	52	51	54	62	57	59	49	55	49	54	54	63	66	64	59	60	52	57.8
Dickinson §§	Maximum	78	92	97	95	79	74	82	87	91	99	87	95	85	75	80	85	95	93	101	75	85	66	81	94	100	104	100	102	100	84	76	88.3
	Minimum	51	51	65	58	58	58	58	61	64	57	56	56	54	54	42	49	53	59	66	53	42	55	42	55	60	58	56	72	65	66	53	56.4
Dunn Center §§	Maximum	79	91	96	95	80	75	80	88	88	99	85	92	81	73	79	82	91	89	96	74	82	80	81	91	97	104	98	100	96	75	78	86.9
	Minimum	55	48	46	59	61	56	60	61	65	57	56	57	55	54	44	48	56	61	60	54	44	53	40	40	60	55	62	71	61	66	57	55.5
Dunseith	Maximum	80	90	92	94	71	71	81	75	84	88	92	93	80	76	78	80	86	87	96	80	84	77	78	91	90	98	97	101	99	76	75	85.2
	Minimum	50	50	64	64	56	53	52	54	56	54	56	56	58	51	60	54	50	60	60	60	49	52	57	56	56	60	66	64	60	58	52	56.4
Edgeley	Maximum	79	89	87	85	92	79	81	79	89	91	87	92	87	79	78	80	84	88	92	87	80	73	80	84	90	90	98	103	94	90	80	86.0
	Minimum	50	68	50	52	60	57	61	54	64	64	65	58	60	51	48	49	51	60	51	58	45	46	56	50	59	59	69	69	59	67	53	56.6
Ellendale	Maximum	80	81	89	94	92	83	77	84	90	91	87	93	90	75	76	80	83	90	92	84	81	71	77	85	92	96	96	102	94	91	81	86.5
	Minimum	55	54	65	71	71	60	62	59	59	63	69	61	61	57	51	55	53	61	56	56	53	52	51	52	55	54	69	61	65	61	54	58.9
Fessenden §§	Maximum	74	87	91	98	83	68	81	86	95	93	87	92	84	74	79	84	92	85	95	75	82	81	82	91	94	98	98	105	92	83	77	86.6
	Minimum	50	46	57	66	61	54	56	53	63	62	59	55	58	52	49	45	49	63	53	60	43	54	46	52	53	60	62	60	58	60	48	55.1
Foxholm (near)	Maximum	81	90	94	88	80	67	75	83	86	88	82	90	80	75	77	80	91	86	94	91	84	71	76	89	87	99	94	98	92	79	76	84.6
	Minimum	50	50	60	61	51	52	53	58	63	59	59	57	58	52	46	47	53	59	60	52	47	50	47	55	52	58	62	71	56	58	52	55.2
Fullerton	Maximum	81	86	88	89	91	88	79	82	89	91	88	90	91	79	78	82	86	92	96	87	81	76	78	86	93	96	98	101	95	91	80	87.4
	Minimum	54	52	64	69	70	72	58	58	65	64	67	60	60	54	50	52	50	61	54	68	47	51	50	50	53	64	68	69	62	60	51	58.9
Garrison	Maximum	82	81	83	100	80	71	78	88	90	89	88	94	81	75	80	87	91	90	103	82	83	71	84	97	97	103	99	103	92	84	77	87.2
	Minimum	56	58	60	58	59	56	58	62	65	62	60	60	59	57	50	49	59	64	59	55	46	55	48	44	58	64	64	72	64	62	55	58.0
Grafton	Maximum	81	85	92	92	91	78	80	80	79	95	93	91	86	85	81	86	91	88	95	95	88	85	81	90	90	96	97	97	95	81	79	87.8
	Minimum	50	50	61	68	68	56	58	57	57	66	68	55	60	54	50	51	49	65	51	67	45	56	53	47	53	52	70	57	62	58	56	57.1
Grand Forks	Maximum	80	85	89	90	84	68	79	83	81	93	93	90	86	76	80	84	88	93	94	81	84	72	80	88	87	95	96	99	86	91	81	85.7
	Minimum	53	57	64	68	64	57	61	59	60	66	68	58	60	53	50	51	53	64	54	57	46	53	50	53	54	52	70	58	65	62	54	57.9
Granville	Maximum	82	91	95	95	77	68	80	87	89	90	84	94	81	73	79	85	93	86	94	82	88	65	80	93	90	101	97	102	89	82	75	86.0
	Minimum	57	50	54	63	57	54	59	62	65	60	59	58	56	53	48	47	54	60	64	56	58	58	53	64	60	71	70	71	50	52	52	57.9
Hansboro	Maximum	80	84	94	94	80	75	82	84	82	92	86	90	75	73	75	80	85	80	95	78	75	65	80	92	83	99	95	98	80	76	73	83.2
	Minimum	46	48	62	62	57	52	51	55	63	60	60	54	54	51	48	47	48	60	51	49	44	54	47	52	47	60	58	59	56	56	50	53.6
Hettinger	Maximum	81	92	100	100	91	82	85	86	92	101	94	97	89	78	82	87	93	94	101	90	86	77	80	95	95	103	102	104	103	96	80	91.5
	Minimum	54	44	69	60	62	57	60	61	60	63	67	64	59	51	49	56	66	64	68	57	54	52	40	57	64	57	62	78	74	68	57	59.8
Hillsboro	Maximum	72	85	86	88	86	84	77	83	82	94	94	93	87	84	75	81	89	92	94	94	83	80	80	85	88	95	97	101	89	89	87	86.9
	Minimum	51	57	55	56	54	62	60	57	60	65	69	57	60	53	50	49	45	62	54	68	67	56	50	51	56	54	66	56	63	67	60	57.7
Howard (near)	Maximum	82	95	97	92	67	77	78	87	85	94	83	87	89	71	81	80	94	95	85	88	88	90	94	95	96	103	102	100	93	80	82	88.1
	Minimum	50	50	54	50	50	53	55	60	60	54	55	58	55	50	50	50	50	50	49	55	40	57	50	45	60	62	61	51	55	50	53	53.0
Jamestown §§	Maximum	76	85	86	93	87	70	78	85	86	91	88	90	88	74	76	85	89	89	95	76	80	63	79	87	94	97	96	103	94	90	79	85.5
	Minimum	52	50	62	66	64	60	60	55	61	64	63	59	58	52	51	49	49	67	54	64	47	51	48	51	53	60	65	57	64	61	53	57.1
Langdon §§	Maximum	85	95	95	99	80	72	84	86	86	100	94	95	85	83	80	88	92	88	99	80	94	75	85	95	88	103	95	98	75	80	79	88.2
	Minimum	49	50	51	65	61	52	52	58	62	56	62	54	56	58	43	45	51	64	55	61	55	55	50	55	50	58	67	63	55	59	58	55.8
Larimore §§	Maximum	72	79	86	91	91	85	64	79	83	80	94	94	96	87	74	80	86	89	91	95	81	87	69	81	88	87	96	96	101	86	86	85.6
	Minimum	50	52	61	62	65	56	58	56	60	64	66	55	59	54	50	52	52	52	50	65	42	54	50	52	54	52	69	58	64	60	56	56.5
Linton	Maximum	69	82	90	94	87	85	92	87	90	99	95	98	90	83	81	87	89	93	99	92	86	82	80	94	96	101	100	106	102	90	86	90.5
	Minimum	54	47	49	70	66	57	61	59	67	58	64	53	57	48	42	48	60	60	57	62	43	54	46	53	57	66	61	67	65	64	51	57.0
Lisbon §§	Maximum	79	88	96	90	89	68	80	84	85	94	88	93	88	74	78	82	87	90	95	80	81	60	79	84	89	94	93	102	94	93	79	85.7
	Minimum	53	54	63	60	71	63	62	61	62	63	67	59	60	52	55	54	50	61	56	61	48	50	51	55	60	62	65	56	61	63	57	58.5
McClusky	Maximum	72	85	83	95	89	80	80	84	89	90	92	90	91	73	72	84	89	86	84	98	91	72	86	89	95	98	97	103	92	90	75	86.9
	Minimum	55	48	61	62	56	54	57	56	62	60	52	53	55	51	47	45	54	62	45	60	42	58	42	55	53	61	62	64	59	59	52	54.9
Maddock	Maximum	76	86	90	90	92	75	78	84	86	93	87	89	84	79	77	82	91	85	97	92	85	80	78	90	90	100	98	100	99	84	80	87.0
	Minimum	54	44	60	61	58	52	52	54	62	60	62	51	53	51	48	45	48	63	50	59	43	53	45	48	53	61	60	60	52	58	49	53.8
Marmarth	Maximum	78	93	86	95	86	80	87	86	93	94	97	95	89	74	76	86	93	94	99	93	93	97	82	94	101	104	100	100	99	93	78	91.1
	Minimum	54	57	66	56	61	61	53	67	64	63	60	59	57	54	47	52	65	59	69	55	52	49	45	53	61	55	55	74	73	69	57	58.8
Minot §§	Maximum	80	93	94	93	71	67	78	85	90	88	84	92	80	74	78	85	91	87	99	77	87	62	81	95	90	102	97	101	88	81	75	85.3
	Minimum	51	49	63	61	55	53	53	58	63	57	57	56	56	54	45	45	53	58	60	53	42	53	45	56	54	60	61	62	54	57	52	54.7
Mohall	Maximum	85	92	95	91	69	67	79	85	89	91	83	94	80	71	86	84	94	87	97	80	81	72	78	93	88	100	98	101	77	79	73	85.1
	Minimum	51	58	61	56	54	57	60	64	60	56	58	60	51	47	53	58	53	56	56	54	47	48	52	55	59	65	66	57	58	50	41	55.5
Mott	Maximum	82	80	93	99	83	75	82	89	90	102	90	96	86	76	86	85	91	91	101	80	76	65	81	95	98	105	99	103	102	90	85	88.9
	Minimum	56	54	53	65	56	62	61	59	61	67	61	59	58	47	46	56	60	60	64	45	46	41	57	57	61	81	57	71	71	65	59	58.6
Napoleon §§	Maximum	78	87	86	97	87	71	82	86	93	95	88	96	88	75	80	85	92	91	98	79	87	64	80	89	99	100	99	106	100	89	79	87.9
	Minimum	51	48	60	71	64	58	60	55	65	63	64	54	62	46	43	47	55	61	55	62	42	52	44	55	57	63	69	60	65	60	50	56.8
New Salem	Maximum	71	87	92	95	88	80	75	84	93	94	90	87	84	75	80	80	86	87	100	85	76	65	75	88	94	100	95	99	95	95	78	86.2
	Minimum	55	53	65	67	62	57	61	57	60	61	61	58	68	62	62	50	59	61	58	58	48	53	45	60	63	61	61	66	67	63	55	59.3
Oakes	Maximum	81	87	91	93	90	85	80	87	91	96	92	94	91	79	78	82	86	92	96	87	81	76	78	86	93	97	97	104	94	97	79	88.4
	Minimum	54	54	63	70	69	61	63	59	65	63	68	60	60	54	50	52	50	61	54	68	47	51	50	50	53	60	70	56	64	62	52	58.5
Pembina §§	Maximum	78	89	91	92	78	68	81	84	82	94	90	90	77	71	76	82	88	85	92	75	86	67	79	91	81	89	91	93	73	79	75	82.8
	Minimum	50	52	53	56	66	57	56	57	49	53	68	52	61	57	52	51	55	57	56	60	50	55	53	48	48	48	54	56	54	50	54	54.5
Sharon	Maximum	78	82	86	88	84	69	78	81	79	92	90	88	84	74	79	83	87	90	92	80	83	66	81	85	86	94	95	100	88	88	79	84.2
	Minimum	52	53	62	65	63	56	58	60	58	65	63	60	58	49	52	48	52	62	59	65	51	53	47	51	54	55	66	62	67	60	53	57.4
Steele	Maximum	80	85	83	96	85	76	81	86	91	90	88	91	84	72	76	83	89	87	96	79	78	62	78	88	91	98	96	101	95	87	78	85.5
	Minimum	53	50	62	69	65	60	61	57	64	62	64	60	59	50	44	53	56	62	58	57	46	51	46	53	57	63	65	62	67	60	58	57.7
Towner	Maximum	83	83	95	97	95	70	80	84	89	89	85	93	91	72	77	84	90	86	98	95	85	76	79	94	93	99	100	102	100	87	92	88.5
	Minimum	51	51	62	59	59	53	57	60	64	60	59	57	57	52	46	45	51	64	57	57	43	54	46	52	54	63	63	69	55	60	53	55.9
Valley City	Maximum	66	82	85	91	90	83	77	82	82	92	91	89	87	85	77	81	86	88	92	90	86	68	77	80	91	93	93	103	98	92	86	85.9
	Minimum	50	50	60	67	63	60	59	56	61	61	62	58	58	52	52	54	49	60	51	63	45	51	52	48	55	58	65	53	53	61	53	56.1
Wahpeton	Maximum	85	90	92	91	95	91	88	88	84	100	100	98	96	90	80	86	92	93	96	95	85	86	81	87	94	97	102	105	102	105	103	92.8
	Minimum	50	55	65	68	70	60	65	60	65	68	70	59	64	54	52	54	52	60	54	68	50	54	54	53	55	60	70	57	65	68	60	60.0
Westhope	Maximum	87	97	98	96	94	71	85	89	90	95	93	95	92	81	80	88	97	89	96	79	84	77	81	95	90	103	101	104	74	83	77	89.1
	Minimum	52	52	63	63	55	55	60	60	65	60	57	58	57	50	46	47	54	58	55	55	48	53	49	52	53	63	68	66	56	60	50	56.1
Williston	Maximum	83	95	99	94	70	77	80	88	88	97	85	90	80	73	81	83	96	91	97	76	81	70	84	93	98	103	98	99	95	80	73	87.0
	Minimum	56	58	65	58	57	56	59	66	63	62	59	60	61	58	48	48	64	59	68	51	55	53	49	62	63	66	64	71	61	65	55	59.4
Moorhead, Minn	Maximum	79	86	89	88	87	73	79	83	80	96	90	94	87	74	77	82	89	90	95	82	82	71	78	85	90	95	95	102	96	96	79	86.1
	Minimum	54	60	66	68	68	63	64	61	64	67	70	65	64	59	54	56	52	62	59	62	56	56	54	53	57	59	69	62	70	66	59	61.3

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 8-28-33-1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLII Bismarck, N. D., August, 1933 No. 8

GENERAL SUMMARY

The weather of the month was favorable for harvesting and threshing and excellent progress was made, though with generally disappointing yields. Due to unseasonably high temperatures and to lack of precipitation corn, potatoes, late flax, pastures and ranges deteriorated considerably. Due to lack of soil moisture little fall plowing or seeding of winter rye was accomplished. With the exception of the period, 22–24th, when moderate showers occurred, the precipitation of the month was confined to widely scattered light showers.

TEMPERATURE

The mean temperature for the state was 68.5°, or 2.3° above the normal, and 0.2° higher than the mean for August, 1932. The highest mean reported was 71.0° at Wahpeton, Richland County; the lowest was 65.8° at Wishek, McIntosh County. The highest temperature reported was 104° at Carrington, Foster County on the 20th; the lowest was 31° at Edmore, Ramsey County on the 28th. The greatest monthly range of temperature was 67° at Carrington, Foster County; the least was 49° at Richardton, Stark County. The greatest daily range of temperature was 60° at Epping, Williams County on the 7th.

PRECIPITATION

The average precipitation for the state was 0.73 inch, or 1.31 inches below the normal, and 1.09 inches less than the average for August, 1932. The greatest monthly amount reported was 2.37 inches at Hankinson, Richland County; the least was 0.06 inch at Gackle, Logan County. The greatest amount recorded in any 24 consecutive hours was 1.61 inches at Hankinson, Richland County on the 22d. The average number of days with 0.01 inch or more of precipitation was 5.

MISCELLANEOUS PHENOMENA

Auroras: Bismarck, 13th, 24th; Carson, 29th; Crosby, 17th; Devils Lake, Minot, 16th; Edmore, Velva, 13th; Fessenden, 21st, 27th; Foxholm, 13th, 14th, 16th, 18th; Pembina, 12th, 13th, 18th, 19th, 20th; Rugby, 4th, 13th.

Fog: Bismarck, Moorhead, 23d; Bottineau, 31st; Dogden Butte, 6th; Edmore, Gackle, Sharon, 21st.

Halos, lunar: Petersburg, 11th.

Halos, solar: Devils Lake, 25th; Edmore, Foxholm, 8th; Moorhead, 1st, 3d, 22d; Rugby, 18th; Williston, 19th.

Hail: Edmore, 28th; Howard, 31st; Westhope, 24th.

Thunderstorms: On the 5th, 6th, 7th, 8th, 9th, 11th, 15th, 16th, 20th, 21st, 22d, 23d, 24th, and 31st; with the greatest number reported on the 6th, 8th, 9th, 15th, 16th, and 22d.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.96	30.31	28	29.58	31	8.6	28	se	31	75	40	37	67
Devils Lake	29.97	30.34	28	29.56	6	8.5	24	se.	31	74	37	36	79
Grand Forks	29.93	30.29	28	29.55	31	......	30	se.	30	72	....	37	....
Williston	29.92	30.31	2	29.49	5	7.0	36	w.	31	69	39	37	75
Moorhead, Minn	29.97	30.29	3	29.60	31	8.3	24	s.	31	73	41	37	80
Averages & ext's	29.95	30.34	28	29.49	5	8.1	36	w.	31	73	39	37	75

† And other dates.

COMPARATIVE DATA FOR AUGUST

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	67.3	+1.1	105	24	2.39	+0.35	4.14	0.36	0	8	15	10	6
1893.	66.7	+0.5	109	29	1.31	−0.73	3.27	0.10	0	3	20	7	4
1894.	68.8	+2.6	102	30	1.14	−0.90	2.71	0.20	0	4	17	10	4
1895.	64.5	−1.7	104	24	1.57	−0.47	3.65	0.36	0	5	17	11	3
1896.	64.7	−1.5	107	21	1.39	−0.65	4.55	T.	0	5	17	10	4
1897.	64.1	−2.1	106	29	1.18	−0.86	3.48	0.16	0	5	15	10	6
1898.	65.4	−0.8	104	24	1.69	−0.35	4.05	T.	0	5	15	11	5
1899.	65.2	−1.0	97	32	2.83	+0.79	7.80	0.24	0	6	15	11	5
1900.	70.4	+4.2	114	33	5.06	+3.02	9.48	2.17	0	10	14	11	6
1901.	66.9	+0.7	100	32	1.77	−0.27	4.75	0.15	0	6	18	8	5
1902.	64.3	−1.9	96	26	2.30	+0.26	5.21	0.36	0	8	16	9	6
1903.	63.7	−2.5	103	35	4.68	+2.64	6.75	2.74	0	10	13	7	11
1904.	63.3	−2.9	102	31	1.67	−0.37	5.37	0.20	0	6	17	7	7
1905.	67.5	+1.3	107	34	2.62	+0.58	6.82	0.74	0	7	17	8	6
1906.	66.3	+0.1	105	31	1.90	−0.14	3.30	0.34	0	7	17	6	8
1907.	64.5	−1.7	104	26	1.89	−0.15	6.59	0.20	0	6	18	9	4
1908.	63.2	−3.0	104	25	2.28	+0.24	4.86	0.54	0	7	17	8	6
1909.	69.8	+3.6	109	27	2.25	+0.21	5.79	T.	0	6	18	9	4
1910.	63.1	−3.1	109	24	1.41	−0.63	3.31	0.34	0	5	14	8	9
1911.	62.2	−4.0	98	23	3.55	+1.51	6.72	1.21	0	8	12	11	8
1912.	63.4	−2.8	118	32	2.95	+0.91	6.13	1.08	0	10	11	10	10
1913.	68.9	+2.7	106	30	2.62	+0.58	5.80	0.61	0	6	16	10	5
1914.	64.2	−2.0	101	26	2.18	+0.14	5.06	0.64	0	7	13	11	7
1915.	64.4	−1.8	100	19	1.18	−0.86	3.53	0.07	0	4	19	8	4
1916.	66.0	0.2	100	26	2.75	+0.71	5.38	0.67	0	8	16	10	5
1917.	65.2	−1.0	105	25	0.82	−1.22	3.40	0.00	0	4	17	10	4
1918.	66.5	+0.3	102	34	3.35	+1.31	9.30	0.87	0	8	15	11	5
1919.	67.9	+1.7	101	30	1.62	−0.42	5.65	0.04	0	5	18	10	3
1920.	68.8	+2.6	108	28	1.56	−0.48	4.83	0.14	0	5	22	6	3
1921.	67.2	+1.0	108	31	1.99	−0.05	6.64	0.03	0	6	18	10	3
1922.	69.8	+3.6	115	33	1.36	−0.68	4.70	0.14	0	6	18	9	4
1923.	63.0	−3.2	97	28	1.90	−0.14	4.98	0.24	0	8	14	12	5
1924.	63.8	−2.4	102	28	1.65	−0.39	3.96	0.07	0	6	17	9	5
1925.	67.9	+1.7	110	29	1.07	−0.97	3.40	0.05	0	5	20	8	3
1926.	65.6	−0.6	105	36	2.43	+0.39	9.76	0.80	0	7	14	8	9
1927.	63.4	−2.8	96	28	3.23	+1.19	6.60	1.25	0	8	18	8	5
1928.	64.8	−1.4	105	25	3.30	+1.26	9.17	0.20	0	8	17	9	5
1929.	68.5	+2.3	106	26	0.77	−1.27	2.06	T.	0	4	20	9	2
1930.	70.4	+4.2	104	32	1.45	−0.59	5.01	T.	0	6	15	9	7
1931.	67.0	+0.8	105	30	2.09	+0.05	4.95	0.36	0	6	16	9	6
1932.	68.3	+2.1	100	28	1.82	−0.22	4.46	0.35	0	7	16	10	5
1933.	68.5	+2.3	104	31	0.73	−1.31	2.37	0.06	0	5	17	9	5
Per..	66.2	....	118	19	2.04	....	9.76	0.00	0	6	16	9	6

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Climatological Data for August, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	7	......	......	......	......	......	......	......	0.86	......	0.31	0	7	......	......	......	......	H. A. Bury.
Amenia	Cass	954	37	67.8	+1.3	98	6†	41	28	45	1.63	−0.92	1.53	0	3	12	16	3	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	67.8	+0.5	100	19	40	28	49	0.48	−0.97	0.22	0	7	20	5	6	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	68.6	+2.1	98	11	38	29	41	1.20	−1.24	0.57	0	6	20	6	5	se.	H. D. Piper.
Beach	Golden Valley	2,759	27	67.6	+1.2	99	5	45	29	41	1.37	−0.40	0.34	0	6	......	......	......	se.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	68.7	+1.0	101	5	38	30	56	0.60	−1.13	0.25	0	4	23	2	6	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	69.3	+2.0	96	9	40	28	39	0.48	−1.34	0.21	0	7	17	8	6	se.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	69.2	+5.1	97	20	43	1	44	1.63	−0.56	1.10	0	5	18	10	3	se.	N. D. School of Forestry.
Bowman	Bowman	2.961	19	66.9	−0.8	101	5	44	18	45	1.00	−0.36	0.32	0	8	23	4	4	se.	George Larsen.
Cando	Towner	1,488	32	68.6	+3.7	96	8	40	28	38	0.20	−1.93	0.09	0	5	14	11	6	......	A. J. Swanson.
Carrington	Foster	1,579	35	67.6	+0.8	104	20	37	29	53	0.10	−2.02	0.08	0	2	18	10	3	sw.	L. A. Swanson.
Carson	Grant	2,500	21	67.6	−0.3	97	9	37	29	49	1.04	−0.48	0.30	0	8	18	12	1	s.	J. W. Evens.
Cavalier	Pembina	894	23	......	......	......	......	......	......	......	0.80	−1.46	0.40	0	6	21	7	3	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	......	......	......	......	......	......	......	0.13	−2.13	0.13	0	1	25	1	5	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	......	......	......	......	......	......	......	0.72	......	0.65	0	2	10	14	7	se.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	4	......	......	......	......	......	......	......	0.26	......	0.13	0	4	19	10	2	se.	Geo. E. Berg.
Crosby	Divide	1,954	26	66.5	+1.9	99	19	41	1	51	0.32	−1.60	0.10	0	5	7	19	5	se.	John Jensen.
Devils Lake	Ramsey	1,478	36	68.2	+3.4	96	8	40	28	38	0.27	−2.21	0.13	0	7	14	11	6	s.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	67.2	+0.9	101	5	44	18	46	0.72	−1.07	0.32	0	7	19	8	4	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	68.8	......	97	5	42	1	38	1.13	......	0.63	0	7	19	8	4	nw.	R. L. Williams.
Drake	McHenry	1.634	4	68.8	......	98	5	43	28	46	0.42	......	0.25	0	5	12	14	5	s.	Peter Anton.
Dunn Center	Dunn	2,191	34	68.0	+1.8	99	5	40	27	45	1.04	−0.37	0.50	0	5	13	11	7	s.	W. F. Moede.
Dunseith	Rolette	1,682	37	68.1	+4.2	96	5†	41	28	43	1.90	−0.48	0.60	0	5	8	15	8	n.	L. F. Wetsch.
Eckman	Bottineau	1,500	28	68.4	+4.2	98	19	36	1†	46	0.32	−1.75	0.26	0	5	11	18	2	nw.	C. E. Strock.
Edgeley	LaMoure	1,568	32	69.0	+2.1	99	8	36	28	51	0.45	−1.81	0.20	0	5	11	16	4	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	66.0	......	95	8	31	28	46	0.13	......	0.08	0	3	16	10	5	nw.	E. D. Warner.
Ellendale	Dickey	1,457	38	69.9	+1.1	96	6†	40	29	41	1.23	−1.85	0.76	0	8	22	5	4	s.	J. E. Demmer.
Energy ‡‡	McLean	1,750	21	69.1	......	98	5	38	28	42	0.78	−1.07	0.30	0	4	13	16	2	nw.	H. S. Solenberger.
Epping	Williams	2,224	25	66.2	......	99	7	37	28	60	0.37	−1.33	0.11	0	5	13	8	10	sw.	A. O. Wang.
Fairfield	Billings	......	4	......	......	......	......	......	......	......	0.26	......	0.26	0	1	21	8	2	se.	F. R. Hecker.
Fessenden	Wells	1,610	21	68.6	+2.7	98	5	36	28	48	0.39	−1.78	0.18	0	4	18	11	2	nw.	T. D. Monsen.
Forman	Sargent	1,249	40	......	......	......	......	......	......	......	1.39	−1.35	0.64	0	4	27	4	0	s.	Helge Dyste.
Fort Yates	Sioux	1,670	33	69.6	+0.3	100	5	41	29	45	0.20	−1.80	0.20	0	1	18	8	5	s.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	68.4	......	97	5	41	28	45	0.69	−1.05	0.32	0	7	13	9	9	sw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	......	......	......	......	......	......	......	0.31	−1.15	0.16	0	3	22	7	2	se.	Verne King.
Fullerton	Dickey	1,439	35	69.1	+2.0	98	9	38	28	42	1.07	−1.51	0.38	0	5	20	9	2	s.	F. O. Alin.
Gackle	Logan	1,951	3	......	......	......	......	......	......	......	0.06	......	0.01	0	2	19	5	7	nw.	Geo. Hummel.
Garrison	McLean	1,901	56	69.7	+3.6	98	5	42	29	42	0.86	−1.16	0.50	0	5	16	10	5	se.	W. F. Robinson.
Grafton	Walsh	827	41	69.3	+4.1	98	8	38	29	46	0.76	−1.71	0.29	0	5	13	13	5	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	42	69.5	+4.1	97	6†	39	28	42	0.46	−2.02	0.44	0	2	7	19	5	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	69.2	+4.3	101	5	36	28	43	0.74	−1.11	0.33	0	6	20	9	2	nw.	W. A. Christianson.
Hankinson	Richland	1,068	4	68.4	......	95	9	42	28	47	2.37	......	1.61	0	4	21	6	4	se.	R. G. Stock.
Hannah	Cavalier	1,568	41	70.5	......	96	8	39	28	44	0.88	−0.94	0.31	0	5	12	15	4	nw.	James Muir.
Hansboro	Towner	1,597	25	67.3	+4.9	96	5	41	28	45	1.95	−0.25	1.00	0	3	20	6	5	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	26	68.0	−0.8	98	5	40	18	49	1.26	−0.04	0 59	0	7	17	10	4	se.	C. H. Plath.
Hillsboro	Traill	901	27	69.2	−1.7	97	6†	43	14	46	1.23	−1.26	1.03	0	[illegible]	17	7	7	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	66.5	+1.6	98	19	38	17	46	1.06	−0.45	0.60	0	5	20	6	5	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	67.9	+1.5	97	8	39	29	45	0.68	−1.85	0.35	0	6	17	11	3	se.	S. Calvelage.
Kenmare	Ward	1,799	2	69.0	......	96	5†	43	2	39	0.24	......	0.12	0	6	17	5	9	se.	R. Costello.
Langdon	Cavalier	1,615	37	68.6	+6.1	102	9	36	28†	52	0.13	−2.34	0.07	0	2	26	4	1	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	70.0	+5.0	98	9	41	28	46	0.47	−2.17	0.30	0	5	17	12	2	nw.	Mabel Walsh.
Linton	Emmons	1,711	16	70.0	+0.8	100	9	44	18	47	0.28	−1.73	0.18	0	2	14	14	3	se.	Rev. E J Olberding.
Lisbon	Ransom	1,091	29	68.8	+1.8	97	8	40	29	44	0.74	−1.60	0.35	0	4	11	15	5	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	67.8	......	98	14	39	12	52	0.73	−1.02	0.45	0	4	23	4	4	se.	Edw. Tapley.
McLeod	Ransom	1,075	22	68.5	+0.6	100	6	40	28	50	0.66	−1.49	0.36	0	7	21	4	6	ne.	J. G. Carlson.
Maddock	Benson	1,604	18	67.8	+2.1	97	5†	34	28	50	0.20	−2.01	0.11	0	3	11	13	7	sw.	A. T. Felland.
Mandan	Morton	1,750	19	69.6	+1.5	98	5	41	28	42	0.41	−1.09	0.22	0	5	15	2	14	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	......	......	......	......	......	......	......	0.49	−1.86	0.30	0	6	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	24	67.8	+0.5	94	5	43	18	47	0.65	−1.09	0.26	0	5	12	8	11	e.	S. P. Grane.
Mary	McKenzie	......	4	......	......	......	......	......	......	......	1.70	......	0.72	0	6	23	4	4	se.	Fred Hartman.
Max	McLean	2,093	4	67.8	......	98	5	40	1	45	0.49	......	0.13	0	6	15	5	11	......	A. W. Rice.
Mayville	Traill	975	37	70.0	+3.0	96	9†	41	29	43	0.94	−1.68	0.75	0	6	17	9	5	s.	H. B. Addicott.
Minot	Ward	1,557	37	69.0	+4.0	99	9	38	1	44	0.63	−1.38	0.29	0	6	13	16	2	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	39	68.8	+4.9	99	19	41	27	46	0.73	−1.08	0.63	0	3	10	17	4	nw.	G. V. Davidson.
Mott	Hettinger	2,424	26	68.0	+0.9	100	9	43	1	42	1.54	−0.23	0.80	0	6	14	8	9	e.	O. H. Opland.
Napoleon	Logan	1,955	41	68.8	+2.4	99	9	39	28	47	0.20	−2.13	0.09	0	5	22	4	5	se.	C. J. Hoef.
New England	Hettinger	2,400	39	70.3	+3.4	101	10	42	15	48	0.53	−1.06	0.29	0	3	11	14	6	se.	F. S. Sleight.
New Salem	Morton	2,163	29	67.2	0.0	95	5	39	28	34	0.74	−0.84	0.28	0	5	21	6	4	nw.	J. Christiansen.
Oakes	Dickey	1,318	4	70.0	......	100	9	41	28	48	0.72	......	0.23	0	8	14	14	3	ne.	Eugene Naylor.
Park River	Walsh	998	29	70.0	+3.8	100	9	39	28	49	0.23	−2.05	0.14	0	3	19	9	3	s.	C. B. Wright.
Parshall	Mountrail	1,929	18	66.5	......	98	5	38	1	48	0.42	−1.41	0.10	0	5	12	16	3	se.	C. E. Shubert.
Pembina	Pembina	789	59	67.2	+2.9	95	8	38	1	43	1.29	−0.97	0.88	0	6	13	10	8	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	......	......	......	......	......	......	......	0.97	......	0.07	0	6	21	8	2	s.	T. M. Rykken.
Pettibone	Kidder	1,856	24	68.0	−0.3	98	9	40	29	44	0.40	−2.03	0.12	0	5	22	3	6	nw.	H. H. McCumber.
Portal	Burke	1,954	28	67.3	+3.1	98	4†	40	26†	52	0.56	−1.37	0.25	0	5	23	1	7	s.	R. G. Wegener.
Power‡‡	Richland	1,020	39	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Frank B. Power.
Powers Lake	Burke	2,205	28	66.3	......	95	5	40	15	47	0.97	−0.52	0.78	0	2	23	7	1	e.	Geo. B. Gee.
Richardton	Stark	2,467	17	68.0	−0.1	95	9	46	1†	40	1.77	+0.20	0.62	0	6	16	9	6	se.	John Muggli.
Rugby (near)	Pierce	1,562	4	......	......	......	......	......	......	......	0.25	......	0.16	0	3	17	9	5	se.	E. C. Erickson.
Ryder	Ward	2,108	4	......	......	......	......	......	......	......	0.91	......	0.73	0	4	......	......	......	......	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	67.8	......	100	19	36	22	46	0.54	......	0.21	0	8	......	......	......	......	Geo. Buerkle.
Sharon	Steele	1,516	9	68.9	......	96	9	40	1	41	0.37	......	0.18	0	4	16	8	7	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	......	......	......	......	......	......	......	0.55	......	0.36	0	3	16	13	2	se.	J. H. Giffey.
Steele	Kidder	1,857	39	68.8	+2.1	98	9	41	28	41	0.39	−1.98	0.15	0	6	14	12	5	nw.	V. A. Laney.
Stowers‡‡	Adams	2,325	18	......	......	......	......	......	......	......	0.81	−0.50	0.59	0	5	22	4	5	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	......	......	......	......	......	......	......	0.80	......	0.45	0	4	23	2	6	se.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	......	......	......	......	......	0.44	......	0.20	0	3	23	4	4	nw.	Anton Carlson.
Towner	McHenry	1,482	31	69.6	+4.2	101	10	36	28	48	0.15	−1.74	0.11	0	2	18	9	4	nw.	Karl Weber.
Trotters	Golden Valley	......	7	......	......	......	......	......	......	......	1.14	......	0.50	0	8	20	5	6	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	......	......	......	......	......	......	......	0.41	−1.94	0.21	0	7	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	27	68.4	+1.6	96	8	37	29	47	0.26	−1.81	0.18	0	4	20	7	4	w.	I. C. Robertson.
Velva	McHenry	1,511	6	69.6	......	99	9	37	28	42	0.40	......	0.12	0	6	12	13	6	sw.	Oscar Anderson.
Wahpeton	Richland	962	41	71.0	+3.1	100	6†	44	3†	45	1.76	−0.99	0.81	0	3	24	0	7	se.	C. G Luick.
Washburn	McLean	1,731	32	67.3	−0.1	94	5	42	17	37	1.15	−0.19	0.76	0	3	12	13	6	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	69.8	+5.1	100	5†	40	28	47	.51	−1.53	0.44	0	2	18	13	0	se.	C. M. Condit.
Williston	Williams	1,878	54	69.6	+3.5	99	5	44	1	39	41	−1.06	0.17	0	7	18	7	6	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	67.8	+4.2	98	5	37	28	46	0.81	−1.19	0.29	0	6	17	12	2	se.	O. M. Sanderson.
Wishek	McIntosh	2 010	4	65.8	0.0	94	11	35	29	43	0.32	−1.79	0.20	0	7	24	1	6	se.	Gottlieb Herr.
Zap	Mercer	1,838	18	......	......	......	......	......	......	......	0.56	−1.26	0.27	0	3	......	......	......	......	R. A. Norton.
Moorhead, Minn	Clay	935	52	69.5	+3.4	97	8	45	28	39	1.34	−1.55	1.13	0	9	12	13	6	s.	U. S. Weather Bureau.
Averages	......	......	......	68.5	+2 3	104	20	31	28	60	0.73	−1.31	1.61	0	5	17	9	5	se.	......

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for August, 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri	.05							.24						.14							.04		.06	T.	.02		.31					0.86
Amenia	Red							T.										T.					T.	1.53	.05			.05					1.63
Arnegard (near)	Missouri	T.	.02		.08	T.											.07		T.		.03		.03	T.	.03							.22	0.48
Ashley	Missouri	.03							.36	.08						.57							.07	.09									1.20
Beach	Lit. Missouri	.14														.21					.34		.16	.28								.24	1.37
Berthold Agency	Missouri	.20	.05																				.25	.10									0.60
Bismarck ***	Missouri	.21	T.		T.	.02			T.	.01		T.		T.		.02			T.			.02	.16	T.								.04	0.48
Bottineau	Mouse						T.															.15	.07	.30	1.10		.01						1.63
Bowman	Grand		.32								T.						.04	T.					.11	.02		.02	.23	.08	.18			T.	1.00
Cando	Devils Lake	.02				T.	.09															T.	.01	.06	.02		T.						0.20
Carrington‖	James															.02								.08									0.10
Carson	Heart	.12	.03			.12			.12							.30					.03		.27	.05									1.04
Cavalier	Red						.06			.40							.01							.25	.06		.02						0.80
Cooperstown	Sheyenne		T.																			T.	T.	.13	T.								0.13
Corinth	Missouri	T.	T.													T.						T.		.65	.07	T.	T.				T.		0.72
Courtenay	James						T.		T.	T.						.03	.02					.13		.08	T.								0.26
Crosby	Mouse															T.	.03					.06	.03		.10		.10						0.32
Devils Lake ***	Devils Lake	.01	T.			T.	.01		.03							.13						T.	.01	.06	.02		T.						0.27
Dickinson‖	Heart	T.	.18	T.			.06			.03	T.					T.	.02	.01					.32		.10								0.72
Dogden Butte	Mouse	.05	.01				.63					T.							T.			.02	.25	T.	T.			.15				.02	1.13
Drake‖	Mouse		.04				.25																.03	.08	T.	.02		T.					0.42
Dunn Center	Knife		.15		.05																	.33		.01								.50	1.04
Dunseith	Mouse						.40															.60	.13	.50	.27								1.90
Eckman	Mouse									.02						T.						.01		.01	.26		.02					T.	0.32
Edgeley	James		.04							.01						.11						.09	.20										0.45
Edmore	Devils Lake		T.		T.	T.	T.		.01							T.	.04					T.	T.	.08	T.	T.						T.	0.13
Ellendale	James	.04	T.						T.	.13						.76						.05	.08	.02	.12			.03					1.23
Energy	Missouri	.30			T.	.20										T.						T.	.25									.03	0.78
Epping	Missouri	.09																				.10	.01	.11							.06		0.37
Fairfield	Knife				.26																												0.26
Fessenden‖	James						.13										T.					T.		.18	.03			.05					0.39
Forman	Sheyenne								T.							.20						.33		.64	.22								1.39
Fort Yates	Missouri	T.																		T.		T.	.20					T.					0.20
Foxholm (near)	Mouse	T.	T.		T.	T.	.01					T.				T.			.02			.09	.08	.05	.32		.12						0.69
Fryburg	Heart	.08	T.						.16							T.						T.	T.	.07	T.								0.31
Fullerton	James	T.							.38							.33						.11	.05	.20				T.					1.07
Gackle	James			.04												T.						T.		.02									0.06
Garrison	Missouri	.25	.05																			.02	.50				.04						0.86
Grafton	Red						.02			.29							.03							.23	.19								0.76
Grand Forks ***	Red	T.														T.	T.						T.	.44	.02			T.					0.46
Granville	Mouse	.03	T.			.33					T.								T.			.05	.06	.11	.16			T.				T.	0.74
Hankinson	Red															.50	.05						1.61	.21									2.37
Hannah	Pembina				T.		.30					T.				T.	.10					T.	T.	.10	.31		.07						0.88
Hansboro	Devils Lake						.40															1.00	.55										1.95
Hettinger	Grand	.18	.08			.03			T.							.07							.59	T.		.24		.07					1.26
Hillsboro	Red									.02							.16							1.03	.02								1.23
Howard (near)	Missouri	T.		T.		T.							T.			T.					T.	T.	.42	.60	.01	.02	T.					.01	1.06
Jamestown	James	.05														.35						.20	.03	.04			.01						0.68
Kenmare	Mouse							.03															.03	T.	.12		.03	.01				.02	0.24
Langdon	Pembina																							.07	T.		.06						0.13
Larimore	Red		.02				.02										T.					.06		.30	.07								0.47
Linton	Missouri								T.	T.						.18						T.	.10									T.	0.28
Lisbon	Sheyenne																.02					.24		.35	.13								0.74
McClusky	Missouri	.19					.45			.04												.05	T.										0.73
McLeod	Sheyenne									.08							.05						.05	.36	.06	.04		.02					0.66
Maddock	Sheyenne						.11										.06					T.	T.	T.	.03		T.						0.20
Mandan‖	Missouri	.22	T.			T.				T.						T.					.02	.03	.13	T.							.01		0.41
Manfred	James	.03					.30															.10	.02	.03				.01				T.	0.49
Marmarth	Lit. Missouri								.26							.03	T.				T.	T.		.10		.13		.13					0.65
Mary	Lit. Missouri	.01				.53										.09	T.				T.	.72		.12							.23		1.70
Max‖	Missouri		.09														.04						.09	.13	.12						.02		0.49
Mayville	Red		.01							.06							.07	T.				T.		.75	.01			.04					0.94
Minot	Mouse		.06	T.	T.		.05													.06		T.	.11	.06	.29			T.		T.			0.63
Mohall	Mouse		.01	T.		T.						T.				T.						T.	T.	.63	T.	.09							0.73
Mott	Cannon Ball	.13	.07			T.	T.									.26		T.				T.	.80	T.			.19	.09					1.54
Napoleon‖	Missouri		.05							.09												.04	.01	.01									0.20
New England	Cannon Ball	.19													.05							.29											0.53
New Salem	Heart	.27	.12						T.													.03	.28	.04									0.74
Oakes	James		.02							.08						.13	.06					.11		.08	.23			.01					0.72
Park River	Red																.03							.14	.06								0.23
Parshall	Missouri		.08		.04		T.							T.		T.						T.	.10	.10	.10								0.42
Pembina ***	Red							.05		.12			T.				.01	T.				T.	T.	.88	.21	.02	T.						1.29
Petersburg	Red		.03				.67			T.							.01							.19	.02			.05					0.97
Pettibone	James	T.	.07						.07	T.							T.					.07	T.	.12								.07	0.40
Portal‖	Mouse					.25									T.									.10		.10					.03	.08	0.56
Power	Sheyenne																																.....
Powers Lake	Missouri																								.78		.19						0.97
Richardton	Heart	.19	.06			.62																.20	.50	.20									1.77
Rugby [near]	Mouse						.07															T.	.02	.16	T.								0.25
Ryder	Missouri	.03																				.05	.10	.73									0.91
Sanish‖	Missouri	.06		.01		.11									.05	.04					T.	.21	T.	.05							.01		0.54
Sharon	Red		.03							.14		T.				T.	T.					T	.02	.18	T.		T.	T.				T.	0.37
Stanton	Missouri	.36				.10																	.09										0.55
Steele	Missouri	.03				.06			.02	T.						T.			T.			.05	.08	.15	T.								0.39
Stowers	Cannon Ball	.04	.06												T.							T.	.59			.04		.08					0.81
Tagus	Mouse		.04			.05																.26		.45									0.80
Tioga	Missouri	.10																			.14			.20									0.44
Towner	Mouse	T.	T.				T.									T.						T.	.04	.11			T.						0.15
Trotters	Lit. Missouri	.03			.50	.02										.02	.08				.12			.21							.16		1.14
Turtle Lake	Missouri	.21			T.	.04																.45	.04	.02	.03		.02					T.	0.41
Valley City	Sheyenne											.02										T.		.18	.01			.05					.26
Velva	Mouse	.05										T.				T			.02			.03	.09	.12	.09			T.					0.40
Wahpeton	Red																.28							.67	.81								1.76
Washburn	Missouri	.27					.76															T.		.12									1.15
Westhope	Mouse																							.07	.44								0.51
Williston ***	Missouri	.11	.04				.01						T.			T.	T.		T.		.02	.01		.17		T.	T.				T	.05	0.41
Willow City	Mouse				T.	T.	.17									T.						.05	.17	.29	.10	T.	.03						0.81
Wishek‖	Missouri		.02							.20				.01								.05	.01	.02	.01								0.32
Zap	Knife		.27																			.25	.04										0.56
Moorhead, Minn ***	Red	T.	T.				.01		.02	.05		T.				.01	.07			T.		T.	.04	1.09	.02	T.		.03				T.	1.34

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for August, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	79	76	82	85	92	98	88	98	95	84	94	76	84	86	94	83	77	85	90	91	79	84	83	75	73	79	74	72	80	85	87	84.1
	Minimum	44	56	43	42	57	63	49	54	57	61	51	48	44	46	49	51	52	45	48	57	65	66	63	53	50	52	57	41	42	46	49	51.6
Arnegard (near)	Maximum	67	62	69	82	88	85	87	88	93	90	90	87	91	93	91	85	81	89	100	96	86	81	76	73	69	79	80	79	80	95	75	83.5
	Minimum	41	50	49	58	67	60	52	55	50	49	56	47	59	56	63	57	45	46	51	47	57	52	47	49	54	48	50	40	52	50	55	52.0
Ashley	Maximum	77	71	82	85	92	93	93	96	97	91	98	92	88	90	90	85	84	83	89	86	72	71	77	77	77	78	79	77	82	88	88	84.8
	Minimum	44	52	46	50	59	65	50	53	61	60	54	51	47	47	53	56	45	45	54	58	60	64	57	47	44	46	57	40	38	53	65	52.3
Beach	Maximum	63	70	73	92	99	80	90	88	93	89	92	82	85	90	79	84	76	91	93	87	72	74	64	75	67	73	73	74	81	91	80	81.3
	Minimum	51	51	53	59	63	59	52	59	55	50	55	50	52	56	61	54	49	50	59	59	60	51	48	48	55	52	56	46	45	55	57	53.9
Berthold Agency	Maximum	68	72	80	90	101	84	90	94	100	88	94	85	88	90	92	88	82	90	99	96	80	74	70	74	78	80	80	88	92	94	78	85.8
	Minimum	40	52	48	58	64	60	48	56	48	50	50	48	57	46	62	53	42	46	56	55	64	57	45	54	48	50	55	48	42	38	60	51.6
Bismarck	Maximum	69	69	80	88	95	87	90	93	96	85	93	81	88	88	87	85	76	85	92	89	70	72	74	78	72	78	78	77	81	90	76	82.6
	Minimum	48	52	48	60	66	66	55	63	61	59	62	55	58	51	64	58	52	46	63	67	64	56	54	52	49	51	54	40	48	60	55	56.0
Bottineau §§	Maximum	71	73	78	85	93	92	87	93	95	93	88	81	80	88	89	87	77	81	96	97	92	78	79	82	74	73	70	83	81	87	73	83.7
	Minimum	43	55	44	59	63	67	47	62	58	54	58	48	53	50	45	57	49	52	59	66	64	65	57	54	49	50	48	54	48	57	64	54.8
Cando	Maximum	74	73	80	84	95	87	85	96	95	80	91	75	82	86	90	82	73	83	92	91	74	81	79	74	75	74	74	74	83	87	80	82.2
	Minimum	41	52	51	55	63	69	53	60	63	58	60	50	45	48	65	57	46	50	59	66	64	66	58	51	48	64	49	40	47	54	56	55.1
Carrington §§	Maximum	72	74	78	84	99	101	87	99	101	84	103	97	96	87	94	93	75	83	90	104	77	66	61	61	64	77	78	76	84	90	70	84.0
	Minimum	43	40	42	55	63	64	54	63	63	53	52	45	50	52	56	56	44	45	52	51	50	63	59	50	44	50	54	38	37	43	55	51.2
Crosby §§	Maximum	64	75	79	91	98	78	89	92	95	86	85	84	89	92	81	76	77	87	99	92	77	76	67	76	59	68	73	79	81	89	70	81.4
	Minimum	41	45	45	47	47	63	50	60	55	51	54	51	52	58	58	56	46	47	49	57	57	58	51	54	52	51	43	46	50	51	54	51.6
Devils Lake	Maximum	67	73	80	84	95	87	85	96	95	80	91	75	82	86	90	82	73	83	92	91	74	81	79	74	75	74	74	74	83	87	80	82.0
	Minimum	42	55	51	55	63	59	53	60	63	58	60	50	45	48	61	57	46	50	59	66	64	66	58	51	48	54	49	40	47	54	56	54.5
Dickinson §§	Maximum	64	67	80	92	101	82	90	89	95	89	92	84	88	90	88	85	78	90	95	91	82	75	69	76	65	76	76	77	82	92	72	83.0
	Minimum	46	51	48	50	61	59	49	57	50	48	55	51	50	48	55	58	47	44	53	52	59	50	47	48	51	48	51	45	49	52	57	51.3
Dunn Center §§	Maximum	65	69	79	90	99	81	87	91	96	86	90	82	85	90	88	85	77	89	96	92	83	74	70	76	70	79	79	77	82	69	91	82.8
	Minimum	45	52	51	58	65	62	62	59	51	51	57	49	51	57	51	44	45	55	59	62	53	52	55	50	52	53	40	45	51	52	60	53.2
Dunseith	Maximum	71	76	80	83	96	95	85	94	94	94	87	82	81	88	88	88	78	83	96	95	90	80	81	74	73	73	73	75	83	88	86	84.2
	Minimum	43	52	45	54	60	64	54	57	54	51	57	46	46	50	60	56	46	44	55	62	61	63	54	54	43	45	43	41	42	53	58	52.0
Edgeley	Maximum	76	74	78	84	94	90	88	99	98	87	94	85	89	95	95	89	82	83	90	89	80	75	79	80	79	80	80	76	81	87	92	85.4
	Minimum	64	53	44	49	59	67	51	67	57	64	63	49	45	44	47	67	47	44	47	60	63	55	60	50	41	45	55	36	39	45	55	52.7
Ellendale	Maximum	76	72	80	83	91	96	90	95	96	85	96	83	85	86	93	85	76	79	88	87	73	82	82	78	77	79	78	74	80	86	92	84.0
	Minimum	48	56	50	52	61	69	68	58	61	67	56	54	49	52	52	61	52	49	54	61	63	68	61	52	50	49	60	42	40	50	64	55.8
Fessenden §§	Maximum	70	74	82	87	98	88	89	96	97	83	96	87	90	89	88	85	75	83	95	93	79	78	80	78	78	80	77	77	85	95	77	84.8
	Minimum	40	53	41	53	63	67	50	55	60	57	55	47	47	49	52	55	43	43	53	67	62	63	54	51	44	54	55	36	37	54	60	52.3
Foxholm (near)	Maximum	68	74	79	86	97	86	86	93	95	91	89	79	82	88	89	84	75	80	96	95	81	81	75	76	70	72	72	75	82	91	83	82.9
	Minimum	42	52	48	58	64	59	53	60	56	51	61	47	53	53	65	56	44	47	51	68	60	59	55	55	48	52	48	41	46	56	62	53.9
Fullerton	Maximum	76	73	79	84	93	94	90	95	98	85	97	78	85	87	95	84	75	80	89	88	73	77	78	77	77	79	80	75	79	87	91	83.8
	Minimum	46	58	48	52	59	65	53	55	64	65	55	60	48	50	55	60	49	48	53	62	63	66	56	51	48	44	59	38	41	50	65	54.4
Garrison	Maximum	67	69	80	89	98	84	91	90	97	86	92	80	86	91	93	83	86	88	95	92	82	75	72	77	73	78	76	80	83	94	85	84.3
	Minimum	44	53	48	60	65	64	54	61	66	54	61	50	54	51	62	57	47	46	57	67	64	58	49	54	49	55	47	50	42	59	60	55.1
Grafton	Maximum	72	78	83	87	94	93	89	98	96	95	89	86	72	88	95	92	81	84	90	91	91	88	82	82	76	77	76	72	81	86	84	85.7
	Minimum	46	51	43	44	48	69	56	52	64	62	55	51	43	46	54	60	54	48	44	56	65	68	63	55	54	48	50	43	38	49	60	52.9
Grand Forks	Maximum	74	76	82	84	92	97	89	96	97	84	89	76	82	86	95	88	74	83	88	91	81	85	83	76	75	78	75	72	80	85	83	83.7
	Minimum	45	56	46	54	62	62	57	55	65	62	56	48	44	48	53	62	52	49	57	66	68	70	64	56	57	50	53	39	45	52	61	55.3
Granville	Maximum	68	75	83	90	101	84	87	95	98	84	92	79	84	91	91	85	76	82	97	95	76	83	80	77	72	75	75	77	85	92	92	84.5
	Minimum	40	55	43	61	68	70	51	64	55	52	62	46	50	49	62	58	45	44	59	69	64	63	57	57	50	53	49	36	43	55	55	54.0
Hansboro	Maximum	73	76	80	82	96	85	86	95	94	83	86	75	80	88	88	88	78	83	95	95	90	80	81	74	73	73	70	75	83	88	86	83.2
	Minimum	42	51	44	47	58	64	60	51	61	51	58	46	42	50	60	56	46	44	50	50	61	63	54	54	43	45	47	41	42	53	58	51.4
Hettinger	Maximum	72	70	77	90	98	86	91	87	96	91	93	85	90	90	85	85	79	89	93	85	78	71	70	77	69	64	72	73	78	88	77	82.2
	Minimum	52	50	49	57	66	62	48	60	53	53	52	55	50	49	64	56	54	40	57	53	57	50	53	49	52	53	55	49	51	57	61	53.8
Hillsboro	Maximum	70	80	78	82	92	97	93	97	95	93	93	85	72	86	92	83	76	80	87	90	87	89	83	80	80	70	70	73	79	80	85	84.1
	Minimum	47	56	44	48	46	61	54	55	65	65	55	50	46	43	50	60	51	49	51	59	63	72	61	63	60	58	49	44	51	50	56	54.3
Howard (near)	Maximum	59	71	79	92	96	86	90	93	96	86	86	85	84	94	87	85	78	92	98	88	88	74	64	72	60	72	74	79	85	88	75	82.5
	Minimum	40	51	46	47	61	43	50	55	50	47	56	48	51	55	55	53	38	48	52	60	55	53	50	50	50	51	48	45	50	56	52	50.5
Jamestown §§	Maximum	76	75	78	85	93	92	89	97	96	83	94	78	84	86	90	83	74	81	89	89	74	73	78	79	76	76	77	73	82	87	87	83.0
	Minimum	45	52	45	53	59	65	54	52	61	64	51	51	49	52	52	60	49	46	49	60	63	63	59	51	49	50	51	41	39	45	56	52.8
Langdon §§	Maximum	70	80	88	85	96	90	90	99	102	81	88	75	84	93	100	86	89	90	98	96	78	90	90	72	73	76	72	80	88	90	84	86.2
	Minimum	40	48	45	53	60	65	50	50	62	60	57	46	40	46	53	56	46	51	56	64	46	63	60	50	47	43	48	36	36	48	55	51.0
Larimore §§	Maximum	76	78	83	84	94	95	91	97	98	93	93	85	85	90	96	89	79	85	92	92	86	83	84	76	78	79	77	74	82	86	85	86.0
	Minimum	42	53	45	49	60	70	54	54	64	63	54	51	42	44	55	62	52	43	58	65	63	63	63	53	50	52	55	41	44	50	58	53.9
Linton	Maximum	76	67	77	86	97	91	93	94	100	89	98	89	93	93	90	87	79	89	93	87	80	74	76	80	78	81	81	80	84	93	83	85.7
	Minimum	48	50	54	57	63	61	47	63	53	58	57	50	51	48	61	53	49	44	62	60	62	60	55	45	49	51	59	49	49	57	61	54.4
Lisbon §§	Maximum	77	76	79	84	93	95	88	97	93	84	94	78	82	84	94	86	75	80	89	88	76	79	81	76	75	77	75	72	80	86	88	83.3
	Minimum	47	68	43	49	56	66	62	53	61	63	50	53	47	47	52	56	53	45	52	60	63	64	63	52	50	51	57	43	40	59	56	54.2
McClusky	Maximum	70	72	80	86	97	90	87	93	95	82	91	80	86	98	90	84	82	80	93	91	89	78	74	78	77	77	80	80	82	91	85	84.5
	Minimum	40	51	44	57	65	64	43	56	55	52	54	39	51	46	54	54	44	42	56	62	61	58	48	50	45	53	50	40	43	50	60	51.2
Maddock	Maximum	75	73	82	86	97	96	86	97	95	94	97	84	83	88	88	88	83	83	95	94	87	78	79	78	77	75	76	75	85	90	89	85.6
	Minimum	38	52	39	51	62	65	50	52	53	54	55	43	43	43	51	53	43	41	49	65	63	64	53	52	40	53	49	34	35	50	58	50.1
Marmarth	Maximum	72	70	78	92	94	91	90	85	92	90	88	85	90	90	84	83	89	90	93	88	78	74	70	77	75	67	70	73	80	91	81	82.9
	Minimum	53	55	54	60	69	62	46	54	50	50	49	50	50	49	64	51	52	43	50	54	62	45	48	44	45	44	55	50	60	59	59	52.8
Minot §§	Maximum	67	73	80	87	98	83	89	92	99	83	90	80	84	91	94	84	76	81	97	95	73	83	77	78	71	75	76	78	84	93	76	83.5
	Minimum	38	52	42	56	64	62	51	61	56	54	60	48	58	49	66	57	45	46	53	69	62	61	57	57	49	53	50	43	48	55	64	54.4
Mohall	Maximum	67	75	81	97	97	80	88	94	97	83	88	81	83	92	89	83	76	82	99	96	76	82	75	76	64	73	73	78	84	91	79	83.2
	Minimum	54	45	61	60	62	60	53	55	51	62	48	53	51	62	57	46	47	50	62	62	62	55	57	51	54	47	41	44	55	65	51	54.3
Mott	Maximum	64	69	83	90	97	85	91	87	100	90	95	87	88	90	82	84	77	87	90	86	88	76	71	74	69	70	73	72	78	90	75	82.5
	Minimum	43	50	48	60	65	63	56	56	58	51	55	55	52	52	56	53	50	47	63	58	60	52	50	50	49	52	46	45	56	57	52	53.5
Napoleon §§	Maximum	78	74	84	88	96	92	92	98	99	85	98	82	92	93	91	85	77	85	92	90	68	73	76	71	79	83	82	80	85	91	84	85.6
	Minimum	44	50	48	50	62	60	51	59	60	54	52	49	45	46	58	54	43	41	59	63	62	60	58	49	45	45	53	39	41	55	60	52.1
New Salem	Maximum	67	69	68	85	95	83	86	91	94	84	93	81	87	85	85	83	77	83	90	87	76	67	69	75	68	77	75	73	77	87	75	80.4
	Minimum	44	45	49	59	65	65	55	58	60	55	60	51	55	52	60	59	47	51	61	63	62	55	51	51	49	49	51	39	45	57	50	54.0
Oakes	Maximum	79	75	81	86	92	99	92	98	100	90	98	88	88	89	96	88	81	83	91	89	78	77	83	77	77	80	79	75	83	87	90	86.1
	Minimum	45	57	44	52	59	70	52	53	61	66	50	50	47	49	56	58	49	46	53	63	63	65	63	51	47	48	59	41	44	52	62	54.0
Pembina §§	Maximum	68	74	82	85	93	85	85	95	93	78	83	72	77	85	93	83	71	81	89	92	83	84	82	67	72	75	70	73	82	85	82	81.3
	Minimum	38	44	44	45	59	67	56	57	57	59	54	51	48	47	52	60	54	50	53	49	67	67	65	59	54	49	52	40	42	50	57	53.1
Sharon	Maximum	76	76	80	82	92	95	91	95	96	84	93	80	84	88	93	90	78	83	89	89	78	81	82	76	77	78	77	73	81	85	85	84.1
	Minimum	40	54	46	55	58	69	50	55	63	61	52	46	44	52	58	60	48	47	59	62	62	65	60	51	47	54	56	43	42	53	54	53.7
Steele	Maximum	72	69	79	85	96	89	88	96	98	84	94	84	87	87	86	86	76	80	92	90	83	70	74	76	74	80	75	81	81	90	86	83.3
	Minimum	42	52	47	56	67	70	50	62	57	58	55	52	46	58	56	55	45	47	60	65	63	58	56	46	44	49	54	41	48	68	59	54.4
Towner	Maximum	83	74	81	88	100	99	91	93	97	101	96	88	81	90	90	86	80	82	98	96	92	79	80	80	75	72	74	75	84	91	87	86.5
	Minimum	37	54	42	59	65	65	51	51	55	53	57	45	51	47	60	53	41	43	54	62	64	65	54	56	45	54	58	36	43	57	61	52.8
Valley City	Maximum	77	75	78	83	93	95	87	96	94	92	93	92	84	87	92	86	84	83	91	91	76	79	81	78	77	78	78	76	82	87	89	85.0
	Minimum	42	53	42	52	58	69	50	49	62	64	48	49	43	45	48	57	50	42	51	60	62	65	61	49	48	49	54	39	37	49	56	51.7
Wahpeton	Maximum	83	80	82	85	91	100	93	100	95	95	97	91	85	87	95	86	82	83	88	88	88	82	82	82	75	79	78	75	80	83	87	86.5
	Minimum	48	60	44	54	61	71	52	57	71	68	52	50	44	46	55	61	52	46	56	61	66	65	65	59	53	51	60	45	47	49	50	55.5
Westhope	Maximum	68	81	84	92	100	83	91	95	100	89	90	82	85	95	92	86	81	88	100	100	74	87	82	78	64	76	76	72	82	96	78	85.9
	Minimum	41	55	46	59	64	64	51	55	53	52	58	46	48	49	61	54	46	47	57	66	63	65	59	58	50	54	46	40	43	56	61	53.8
Williston	Maximum	64	70	78	91	99	80	89	88	94	88	87	84	85	91	87	84	79	89	98	90	81	75	63	76	67	77	76	79	85	93	72	82.5
	Minimum	44	53	54	63	71	59	54	68	55	52	60	54	57	60	69	57	45	54	59	62	61	56	55	53	56	52	53	50	58	58	59	56.8
Moorhead, Minn	Maximum	76	75	80	83	90	95	87	97	94	83	92	74	80	85	92	81	73	81	87	87	80	81	82	74	72	76	74	71	78	83	86	82.2
	Minimum	51	58	48	55	61	70	55	58	66	66	55	53	50	51	53	63	56	49	57	63	66	66	64	57	56	53	55	45	48	51	61	56.8

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 9-29-33—1050]

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U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLII BISMARCK, N. D., SEPTEMBER, 1933 No. 9

GENERAL SUMMARY

The weather during the month was characterized by unseasonably high temperature and extreme dryness, the average temperature being the fourth highest, and the average precipitation being the seventh lowest of record in the climatological history of the State, covering a period of forty-two years. As a result of these conditions, excellent progress was made in late harvesting and threshing, though the yields were disappointing. Fall plowing and the seeding of winter rye, due to dry soil, made slow progress. At the close of the month rain was needed in all sections for pastures and ranges.

TEMPERATURE

The mean temperature for the State was 60.9°, or 4.5° above the normal, and 4.1° higher than the mean for September 1932. The highest mean reported was 66.0° at Wahpeton, Richland County; the lowest was 56.6° at Portal, Burke County. The highest temperature reported was 101° at Fort Yates, Sioux County and New England, Hettinger County on the 18th; the lowest was 22° at Willow City, Bottineau County on the 26th. The greatest monthly range of temperature was 77° at Sanish, Mountrail County; the least was 50° at Pembina, Pembina County. The greatest daily range of temperature was 62° at Sanish, Mountrail County on the 3d.

PRECIPITATION

The average precipitation for the State was 0.79 inch, or 0.86 inch below the normal, and 0.15 inches more than the average for September 1932. The greatest monthly amount reported was 2.71 inches at Hillsboro, Traill County; the least was 0.20 inch at Ellendale, Dickey County, and Energy, McLean County. The greatest amount recorded in any 24 consecutive hours was 1.40 inches at Hillsboro, Traill County on the 25th. The average number of days with 0.01 inch or more of precipitation was 4.

MISCELLANEOUS PHENOMENA

AURORAS: Arnegard, Moorhead, New England, Stanton, 17th; Bismarck, 11th, 14th, 16th, 17th; Bottineau, Minot, 11th, 16th, 17th; Carson, Stowers, 16th, 17th; Crosby, 3d; Devils Lake, 8th, 14th, 16th, 19th, 26th; Dogden Butte, 12th; Drake, 11th, 17th; Eckman, 9th; Edmore, 8th, 9th, 11th, 14th, 17th, 19th; Fessenden, 9th, 10th, 11th, 17th, 19th; Fort Yates, 22d; Foxholm, 11th, 13th, 14th, 16th, 17th, 19th, 20th, 21st, 25th, 26th; Grand Forks, 17th, 27th, 28th; Hannah, 8th, 9th, 16th; Howard, 11th, 14th, 16th, 18th, 19th, 20th; Napoleon, Oakes, Sharon, 8th, 17th; Parshall, 12th, 18th; Pembina, 9th, 12th, 14th, 24th; Petersburg, 9th, 11th, 14th, 17th, 20th; Pettibone, 19th; Rugby, 16th; Tagus, 11th, 14th, 17th; Trotters, 11th, 13th, 14th, 16th, 17th; Velva, 17th, 20th; Williston, 11th, 14th, 16th, 17th, 19th, 23d; Willow City, 11th, 16th.

FOG: Bismarck, 3d, 10th, 11th, 13th; Bottineau, Fullerton, Marmarth, Trotters, Williston, 11th; Devils Lake, Sharon, 5th, 14th; Ellendale, 13th; Foxholm, Stanton, 6th; Garrison, 10th, 11th, 13th; Grand Forks, 13th, 14th; Granville, 11th, 12th; Howard, 8th, 12th, 24th; Minot, New Salem, Parshall, 11th, 13th; Moorhead, 6th, 11th, ; Petersburg, 5th; Pettibone, 11th, 12th, 13th, 14th.

HALOS, solar: Moorhead, 12th; Williston, 27th, 28th.

HAIL: Pembina, 7th; Pettibone, 25th.

THUNDERSTORMS: Bismarck, 18th, 21st, 25th; Devils Lake, Edmore, 18th; Eckman, Hankinson, 15th; Grand Forks, 12th, 15th; Hannah, 7th, 18th; McLeod, 2d, 6th, 7th, 16th, 19th; Moorhead, 4th, 5th, 7th, 8th, 15th, 25th; Oakes, 7th, 15th; Pembina, 7th, 18th, 25th; Pettibone, 19th, 25th; Willow City, 7th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	29.80	30.19	13	29.30	18	9.7	35	nw.	18	71	40	38	64
Devils Lake	29.81	30.20	13	29.29	18	10.6	41	nw.	19	73	40	44	63
Grand Forks	29.78	30.16	14	29.35	18	......	40	se.	18	81	...	52	....
Williston	29.80	30.17	8	29.32	18	10.1	38	nw.	18	75	39	40	70
Moorhead, Minn	29.81	30.21	14	29.32	18	9.4	30	nw.	19	76	44	50	68
Averages & ext's	29.80	30.21	14	29.29	18	10.0	41	nw.	19	75	41	45	66

† And other dates.

COMPARATIVE DATA FOR SEPTEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	59.2	+2.8	101	24	0.84	−0.81	2.23	0.11	0	4	16	7	7
1893	57.1	+0.7	102	8	0.81	−0.84	2.01	T.	0.1	4	18	7	5
1894	58.2	+1.8	104	18	1.38	−0.27	5.47	0.07	0	5	15	7	8
1895	56.6	+0.2	100	12	0.77	−0.88	1.81	T.	0	4	12	12	6
1896	53.0	−3.4	98	11	1.83	+0.18	3.59	0.12	0	6	12	8	10
1897	64.1	+7.7	109	18	0.28	−1.37	0.92	0.00	0	2	20	7	3
1898	56.8	+0.4	98	10	1.25	−0.40	3.40	0.15	0	4	14	9	7
1899	55.0	−1.4	101	11	0.58	−1.07	1.76	0.01	T.	3	17	9	4
1900	54.6	−1.8	98	17	4.95	+3.30	9.72	1.41	T.	8	12	7	11
1901	53.6	−2.8	100	12	2.01	+0.36	5.66	0.53	T.	7	10	8	12
1902	53.6	−2.8	95	15	0.73	−0.92	2.08	T.	0	4	16	8	6
1903	51.6	−4.8	90	18	2.99	+1.34	5.61	1.56	0.7	7	12	6	12
1904	54.7	−1.7	96	18	1.65	0.00	6.44	T.	0	5	14	7	9
1905	59.8	+3.4	104	23	1.63	−0.02	7.17	0.22	0	5	16	8	6
1906	62.8	+6.4	109	20	1.20	−0.45	3.19	0.01	0	4	19	6	5
1907	52.1	−4.3	96	9	1.39	−0.26	4.02	0.28	T.	6	14	8	8
1908	60.7	+4.3	104	16	1.11	−0.54	2.76	0.19	0.2	4	17	7	6
1909	59.0	+2.6	93	24	0.86	−0.79	2.04	0.00	0	4	16	8	6
1910	55.3	−1.1	99	18	1.96	+0.31	4.48	0.03	0.1	4	14	7	9
1911	54.9	−1.5	95	21	2.49	+0.84	4.98	0.89	T.	8	12	8	10
1912	51.5	−4.9	124	18	2.68	+1.03	7.67	0.89	0	10	11	6	13
1913	57.2	+0.8	108	8	1.75	+0.10	4.98	0.64	0.4	6	16	8	6
1914	59.3	+2.9	98	25	1.06	−0.59	3.14	0.28	0	5	16	8	6
1915	54.6	−1.8	104	23	2.39	+0.74	5.03	1.27	0	9	10	8	12
1916	55.1	−1.3	99	15	1.62	−0.03	5.64	0.03	T.	6	14	9	7
1917	56.4	0.0	97	16	1.08	−0.57	3.79	0.05	0	5	12	9	9
1918	51.9	−4.5	93	11	0.39	−1.26	1.43	0.00	T.	3	15	9	6
1919	58.6	+2.2	100	20	0.92	−0.73	3.18	0.06	0.3	5	12	10	8
1920	59.0	+2.6	99	19	2.26	+0.61	7.38	0.46	T.	8	15	9	6
1921	57.0	+0.6	101	25	3.30	+1.65	6.83	1.37	T.	12	12	10	8
1922	59.8	+3.4	104	23	2.16	+0.51	6.94	0.15	0	6	16	8	6
1923	60.1	+3.7	99	15	2.39	+0.74	5.80	0.23	0	6	14	8	8
1924	55.0	−1.4	98	20	2.31	+0.66	5.12	T.	T.	7	15	7	8
1925	58.1	+1.7	103	20	2.74	+1.09	7.26	0.46	T.	8	12	8	10
1926	52.3	−4.1	95	9	2.42	+0.77	5.00	0.39	0.5	9	11	9	10
1927	56.8	+0.4	101	10	0.93	−0.72	4.46	0.00	T.	3	16	9	5
1928	53.9	−2.5	95	12	0.93	−0.72	4.89	T.	T.	5	17	7	6
1929	52.7	−3.7	105	12	1.65	0.00	4.31	0.21	0	5	11	9	10
1930	56.2	−0.2	98	10	1.02	−0.63	3.18	0.00	0	4	16	9	5
1931	61.4	+5.0	107	27	2.14	+0.49	4.63	0.35	T.	6	18	7	5
1932	56.8	+0.4	102	22	0.64	−1.01	2.26	T.	0	3	18	8	4
1933	60.9	+4.5	101	22	0.79	−0.86	2.71	0.20	0	4	16	8	6
Per..	56.4	......	124	8	1.65	....	9.72	0.00	0.1	6	14	8	8

Climatological Data for September, 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	...	7	...	...	...	...	...	...	...	0.36	...	0.17	0	3	...	...	...	...	H. A. Bury.
Amenia	Cass	954	37	62.1	+4.8	89	2	28	26	45	1.30	−0.81	0.48	0	7	13	15	2	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	59.3	+3.0	97	4	27	26	51	0.72	−0.71	0.45	0	4	22	3	5	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	64.3	+7.0	97	4†	27	26	50	0.42	−1.03	0.28	0	2	25	2	3	se.	H. D. Piper.
Beach	Golden Valley	2,759	27	60.1	+3.7	95	4	32	26	48	0.95	−0.37	0.32	0	4	...	...	...	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	60.0	+3.1	98	4†	25	25	56	0.58	−0.88	0.50	0	2	24	4	2	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	62.9	+4.8	97	18	30	26	45	0.37	−0.86	0.25	0	6	16	8	6	w.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	58.2	+3.3	88	4†	24	28	37	1.07	−0.55	0.93	0	4	14	11	5	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	60.0	+3.2	97	4	28	26	54	0.95	−0.25	0.43	0	5	22	2	6	nw.	George Larsen.
Cando	Towner	1,488	32	59.5	+3.3	90	19	27	28	45	1.07	−0.55	0.86	0	2	6	11	13	nw.	A. J. Swanson.
Carrington	Foster	1,579	35	62.2	+5.6	94	4†	32	26	57	0.63	−0.91	0.35	0	3	14	10	6	se.	L. A. Swanson.
Carson	Grant	2,500	21	62.8	+6.4	98	4	26	26	47	0.54	−1.20	0.40	0	4	23	4	3	nw.	J. W. Evens.
Cavalier	Pembina	894	23	...	...	...	...	...	...	...	0.86	−1.08	0.58	0	5	18	4	8	s.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	...	...	...	...	...	...	...	0.79	−1.00	0.26	0	5	17	1	12	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	...	...	...	...	...	...	...	0.51	...	0.29	0	2	10	11	9	w.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	4	...	...	...	...	...	...	...	1.10	...	0.35	0	5	18	10	2	nw.	Geo. E. Berg.
Crosby	Divide	1,954	26	57.0	+2.9	94	4	30	26	47	0.87	−0.53	0.59	0	3	8	17	5	nw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	36	60.6	+4.7	93	18	31	28	42	0.60	−1.03	0.46	0	5	12	9	9	w.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	58.6	+2.6	99	4	28	26	57	0.49	−0.70	0.27	0	7	7	18	5	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	61.2	...	93	4†	32	20†	44	0.51	...	0.30	0	3	17	9	4	sw.	R. L. Williams.
Drake	McHenry	1,634	4	61.0	...	95	4	31	26	44	0.75	...	0.64	0	2	15	9	6	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	59.0	+2.8	96	4	29	26	53	0.70	−0.63	0.59	0	2	21	4	5	w.	W. F. Moede.
Dunseith	Rolette	1,682	37	58.5	+4.1	91	18	24	26	41	0.67	−1.04	0.56	0	3	9	14	7	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	28	59.6	+4.4	93	4	28	28	44	1.27	−0.13	0.78	0	5	11	18	1	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	32	62.8	+5.2	96	7	26	26	52	0.51	−1.31	0.25	0	5	7	21	2	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	58.3	...	88	18	27	28	43	1.23	...	0.92	0	5	12	10	8	w.	E. D. Warner.
Ellendale	Dickey	1,457	38	64.6	+6.2	95	18	28	26	44	0.20	−1.82	0.10	0	3	18	7	5	nw.	J. E. Demmer.
Energy ‡‡	McLean	1,750	21	62.2	...	97	4†	28	28	48	0.20	−1.27	0.10	0	2	15	13	2	w.	H. S. Solenberger.
Epping	Williams	2,224	25	58.8	...	97	4	27	28	58	0.53	−1.08	0.47	0	3	11	13	3	nw.	A. O. Wang.
Fairfield	Billings	...	4	...	...	...	...	...	...	...	1.16	...	0.56	0	3	22	3	5	nw.	F. R. Hecker.
Fessenden	Wells	1,610	21	61.0	+5.3	96	4	28	28	51	0.59	−1.20	0.38	0	3	14	9	7	nw.	T. D. Monsen.
Forman	Sargent	1,249	40	...	...	...	...	...	...	...	0.58	−1.36	0.33	0	4	23	5	2	s.	Helge Dyste.
Fort Yates	Sioux	1,670	33	64.6	+4.8	101	18	30	20†	50	0.67	−0.48	0.26	0	4	18	7	5	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	58.2	...	93	4	30	26	50	0.86	−0.64	0.68	0	2	14	7	9	se.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	...	...	...	...	...	...	...	0.55	−1.14	0.25	0	3	22	5	3	nw.	Verne King.
Fullerton	Dickey	1,439	35	63.6	+6.4	95	18	28	26	45	0.46	−1.70	0.28	0	3	15	11	4	nw.	F. O. Alin.
Gackle	Logan	1,951	3	...	...	...	...	...	...	...	0.45	...	0.30	0	4	21	3	6	sw.	Geo. Hummel.
Garrison	McLean	1,901	56	62.4	+7.5	97	18	30	26	43	0.92	−0.52	0.51	0	5	17	7	6	nw.	W. F. Robinson.
Grafton	Walsh	827	41	61.6	+5.3	87	4	34	26†	39	0.85	−1.21	0.51	0	5	13	7	10	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	42	61.6	+5.2	86	1†	32	26	37	1.80	−0.05	0.55	0	9	7	12	11	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	60.6	+5.8	95	5†	29	26†	54	0.94	−0.55	0.49	0	7	16	11	3	nw.	W. A. Christianson.
Hankinson	Richland	1,068	4	63.0	...	89	4	33	25	42	0.50	...	0.25	0	2	20	6	4	nw.	R. G. Stock.
Hannah	Cavalier	1,568	41	60.4	...	90	4	29	26	44	1.57	−0.64	1.15	0	5	7	14	9	nw.	James Muir.
Hansboro	Towner	1,597	25	62.1	+8.6	96	4	30	24†	45	1.40	−0.60	1.25	0	2	15	7	8	nw.	C. F. Blackorby.
Hettinger	Adams	2,675	26	62.2	+4.6	96	18	29	26	45	0.59	−0.91	0.41	0	5	16	9	5	nw.	C. H. Plath.
Hillsboro	Traill	901	27	62.0	+3.4	89	6	33	24	41	2.71	+0.49	1.40	0	6	14	10	6	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	56.8	+2.5	94	4	29	26†	44	0.65	−0.89	0.63	0	2	18	5	7	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	61.8	+5.3	95	18	25	26	48	0.33	−1.40	0.33	0	1	15	12	3	s.	S. Calvelage.
Kenmare	Ward	1,799	2	59.0	...	93	4	33	26	47	0.81	...	0.80	0	2	14	8	8	se.	R. Costello.
Langdon	Cavalier	1,615	37	58.0	+5.7	90	4	29	26	48	1.71	−0.58	0.83	0	7	16	8	6	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	62.2	+6.9	89	4	32	26	44	1.27	−0.81	0.47	0	5	14	4	12	nw	Mabel Walsh.
Linton	Emmons	1,711	16	64.2	+5.7	100	18	24	26	50	1.11	−0.67	0.37	0	5	14	12	4	se.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	29	62.0	+4.5	92	18	28	26	48	0.78	−1.39	0.37	0	5	8	19	3	...	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	61.0	...	95	4	27	26	45	0.49	−0.82	0.49	0	1	23	6	1	nw.	Edw. Tapley.
McLeod	Ransom	1,075	22	61.2	+2.2	91	4	26	26	47	0.97	−1.39	0.30	0	4	15	9	6	se.	J. G. Carlson.
Maddock	Benson	1,604	18	61.8	+6.1	94	4	24	28	50	0.62	−1.41	0.53	0	2	12	10	8	nw.	A. T. Felland.
Mandan	Morton	1,750	19	63.0	+5.6	97	18	30	26	46	0.27	−1.19	0.20	0	3	19	0	11	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	...	...	...	...	...	...	...	0.58	−0.99	0.23	0	5	...	...	...	...	P. B. Anderson.
Marmarth	Slope	2,714	24	60.1	+3.6	95	18	25	26	48	0.70	−0.65	0.26	0	4	14	8	8	...	S. P. Grane.
Mary	McKenzie	...	4	...	...	...	...	...	...	...	1.02	...	0.83	0	2	18	6	6	nw.	Fred Hartman.
Max	McLean	2,093	4	60.0	...	99	17	25	25	56	0.47	...	0.47	0	1	17	4	9	nw.	A. W. Rice.
Mayville	Traill	975	37	62.8	+5.4	90	5	33	26	39	1.49	−0.71	0.44	0	7	9	12	9	w.	H. B. Addicott.
Minot	Ward	1,557	37	59.2	+3.3	96	18	29	26†	54	0.54	−1.07	0.41	0	4	14	15	1	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	39	58.9	+4.9	94	4	29	25†	46	1.10	−0.45	0.88	0	3	15	7	8	nw.	G. V. Davidson.
Mott	Hettinger	2,424	26	62.0	+5.4	97	4	27	25	47	0.35	−1.13	0.22	0	3	17	5	8	se.	O. H. Opland.
Napoleon	Logan	1,955	41	62.8	+6.1	100	4	27	26	50	0.75	−0.69	0.29	0	8	17	9	4	nw.	C. J Hoof.
New England	Hettinger	2,400	39	63.0	+6.6	101	18	27	30	52	0.54	−0.74	0.39	0	2	12	14	4	nw.	F. S. Sleight.
New Salem	Morton	2,163	29	61.2	+3.7	98	18	30	26	43	0.22	−1.15	0.14	0	4	18	9	3	nw.	J. Christiansen.
Oakes	Dickey	1,318	4	64.8.	...	95	4†	27	26	47	0.59	...	0.21	0	6	9	15	6	nw.	Eugene Naylor.
Park River	Walsh	998	29	63.4	+6.8	91	2†	31	26	43	0.77	−1.22	0.45	0	5	10	13	7	w.	C. B. Wright.
Parshall	Mountrail	1,929	18	58.0	...	96	4	23	26	55	0.71	−0.85	0.64	0	3	12	13	5	se.	C. E. Shubert.
Pembina	Pembina	789	59	57.6	+3.5	82	18	32	24†	39	1.21	−0.79	0.48	0	8	11	7	12	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	...	...	...	...	...	...	...	1.38	...	0.42	0	8	13	12	5	sw.	T. M. Rykken.
Pettibone	Kidder	1,856	24	61.6	+6.4	97	9	25	26†	54	0.75	−0.81	0.40	0	5	24	3	3	se.	H. H. McCumber.
Portal	Burke	1,954	28	56.6	+2.2	94	3	28	25†	54	0.74	−0.73	0.55	0	3	20	2	8	w.	R. G. Wegener.
Power‡‡	Richland	1,020	39	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Frank B. Power.
Powers Lake	Burke	2,205	28	58.0	...	91	18	30	29	50	0.74	−0.53	0.74	0	1	20	9	1	se.	Geo. B. Gee.
Richardton	Stark	2,467	17	59.7	+2.9	97	4	27	26	47	0.45	−0.90	0.31	0	2	13	11	6	nw.	John Muggli.
Rugby (near)	Pierce	1,562	4	...	...	...	...	...	...	...	0.88	...	0.67	0	3	...	...	...	...	E. C. Erickson.
Ryder	Ward	2,108	4	...	...	...	...	...	...	...	1.05	...	0.96	0	2	...	...	...	...	S. C. Schellenbaum.
Sanish	Mountrail	1,835	...	58.7	...	100	4	23	26	62	0.91	...	0.75	0	4	...	...	...	...	H. J. Bugge.
Sharon	Steele	1,516	9	60.7	...	89	18	29	26†	40	1.27	...	0.52	0	7	13	9	8	w.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	...	...	...	...	...	...	...	0.30	...	0.26	0	2	17	10	3	nw.	J. H. Giffey.
Steele	Kidder	1,857	39	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	V. A. Laney.
Stowers‡‡	Adams	2,325	18	...	...	...	...	...	...	...	0.56	−0.73	0.42	0	2	28	0	2	...	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	...	...	...	...	...	...	...	0.57	...	0.52	0	2	20	8	2	sw.	J. C. Abbott.
Tioga	Williams	2,279	4	...	...	...	...	...	...	...	0.70	...	0.70	0	1	13	7	10	nw.	Anton Carlson.
Towner	McHenry	1,482	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Karl Weber.
Trotters	Golden Valley	...	7	...	...	...	...	...	...	...	0.74	...	0.49	0	3	20	3	7	...	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	...	...	...	...	...	...	...	0.24	−1.06	0.16	0	3	...	...	...	...	M. A. Slettum.
Valley City	Barnes	1,245	27	63.7	+5.5	94	3†	28	26	54	0.95	−1.00	0.36	0	4	16	8	6	nw.	I. C. Robertson.
Velva	McHenry	1,511	6	61.1	...	95	4	30	27	54	0.77	...	0.47	0	4	10	13	7	w.	Oscar Anderson.
Wahpeton	Richland	962	41	66.0	+6.8	90	1†	31	26	41	0.92	−1.34	0.26	0	7	18	0	12	se.	C. G Luick.
Washburn	McLean	1,731	32	62.0	+3.5	96	18	30	26	42	0.31	−0.86	0.31	0	1	16	10	4	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	60.0	+5.1	94	4	30	28	45	1.38	+0.03	1.11	0	4	15	13	2	nw.	C. M. Condit.
Williston	Williams	1,878	54	59.8	+3.2	96	4	32	26	44	0.93	−0.16	0.91	0	2	17	8	5	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	58.6	+4.4	91	4†	22	26	51	0.68	−1.04	0.44	0	3	19	8	3	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	4	61.6	+6.0	99	3	25	26	54	0.97	−0.38	0.35	0	5	25	0	5	se.	Gottlieb Herr.
Zap	Mercer	1,838	18	...	...	...	...	...	...	...	0.21	−1.02	0.13	0	3	...	...	...	...	R. A. Norton.
Moorhead, Minn.	Clay	935	52	63.2	+5.0	87	1	32	26	39	1.11	−1.11	0.51	0	7	10	13	7	s.	U. S. Weather Bureau.
Averages	...	...	...	60.9	+4.5	101	18	22	26	62	0.79	−0.86	1.40	0	4	16	8	6	nw.	...

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for September, 1933

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri									.04						.17	T								T.	.15							0.36
Amenia	Red				.24			.02	.01					.25			.48									.29	T.				.01		1.30
Arnegard (near)	Missouri								.02							.45	.15									.10							0.72
Ashley	Missouri									.14						T.	.28																0.42
Beach	Lit. Missouri									.32						.28	.16									.19							0.95
Berthold Agency	Missouri																.50		T							.08							0.58
Bismarck ***	Missouri							T	.04	.05						.24	.01		T.							.02					.01		0.37
Bottineau	Mouse								T.		T.	.06			.01	T	.93									.07					T.		1.07
Bowman	Grand										.25	.01					.23			.03						.43							0.95
Cando	Devils Lake								T.		T.	T.			T.		.86									.21							1.07
Carrington‖	James															.35									.15	.13							0.63
Carson	Heart								.04	.40						.04	.06																0.54
Cavalier	Red							.01					.06		.01		.58									.20							0.86
Cooperstown	Sheyenne						T.		.04	.07		T.					.26							.20		.22					T.		0.79
Corinth	Missouri							T.					T.			.29	.22								T.								0.51
Courtenay	James					T.		.09							.35									.24		.30					.12		1.10
Crosby	Mouse	.07										.59					.21																0.87
Devils Lake ***	Devils Lake					T.		T.			T.	.01		T.	.02	.30	.16		T.	T.				T.	T.	.11		T.		T.	T.		0.60
Dickinson‖‖	Heart								.02	T.	.01	.04					.27			T						.01	.11				.03		0.49
Dogden Butte	Mouse								T.							.05	.30			T.						.16							0.51
Drake‖‖	Mouse																.64										.11						0.75
Dunn Center	Knife								.11								.59																0.70
Dunseith	Mouse														.02		.56									.09							0.67
Eckman	Mouse							T.				.02	.01		.03	.43	.78																1.27
Edgeley	James							.07	.01	.25	.01						.17																0.51
Edmore	Devils Lake					T.						T.			T.	.01	.92	.06	T.	.01						.23				T.	T.		1.23
Ellendale	James									.08			T.			.10	.02																0.20
Energy	Missouri															.10										.10							0.20
Epping	Missouri										.05	.01				.47																	0.53
Fairfield	Knife								.40							.56										.20							1.16
Fessenden‖‖	James						T.										.38										.03				.18		0.59
Forman	Sheyenne							.02		.20						.33	.03																0.58
Fort Yates	Missouri		T.	.13					T.	.26						.23										.05							0.67
Foxholm (near)	Mouse							T.			T.	T.				.18	.68									T.							0.86
Fryburg	Heart								T.							.25	.23		T.							.07				T.			0.55
Fullerton	James		T.			T.			.03	.28						.15																	0.46
Gackle	James								.04		.06						.30									.05							0.45
Garrison	Missouri							.02								.13	.51			.17						.09							0.92
Grafton	Red											T.	.13			T.	.51	.07								.10					.04		0.85
Grand Forks ***	Red				.13	.01					T.	.04	.32			.23	.33							.12		.55					.07		1.80
Granville	Mouse							.16			.14				.06	.02	.49			.02						.05							0.94
Hankinson	Red					T.		T.		.25						.25																	0.50
Hannah	Pembina					T.		T.	.05						T.	T.	1.15	.05		.25				T.		.07					T.		1.57
Hansboro	Devils Lake															1.25										.15							1.40
Hettinger	Grand								.07	.41						.05	.04			.02													0.59
Hillsboro	Red							.26	T.				.77	.20									.05			1.40					.03		2.71
Howard (near)	Missouri							T.			.02					.63																	0.65
Jamestown	James							T.	T.	T.						.33															T.		0.33
Kenmare	Mouse							T.	T.								.80									.01							0.81
Langdon	Pembina					.05		.15	.05							.05	.53	.83								.05							1.71
Larimore	Red												.47				.40	.11						.12		.17							1.27
Linton	Missouri							.15	.05	.24						.37				T.						.30							1.11
Lisbon	Sheyenne							.03	.07			.23					.37									.08							0.78
McClusky	Missouri															.49										T.							0.49
McLeod	Sheyenne		.28			.23	T.	T.	T.	.16							.30			T.													0.97
Maddock	Sheyenne					T.		T.								T.	.53		T.							.09					T.		0.62
Mandan‖‖	Missouri							.04		.03*	T.					.20			T.						T.					T.			0.27
Manfred	James					.02										.20	.23									.10					.03		0.58
Marmarth	Lit. Missouri									.14						.26	.18									.12							0.70
Mary	Lit. Missouri															.83										.19							1.02
Max‖‖	Missouri															.47																	0.47
Mayville	Red		T.						.33					.16	.02		.37							.13		.04	.44						1.49
Minot	Mouse								.01	T		.08	T.	T.			.41			T.							.04	T.					0.54
Mohall	Mouse						T.				T.	T.		.12		.88										.10							1.10
Mott	Cannon Ball							.07		.06						.22									T.								0.35
Napoleon‖‖	Missouri							.07	.02	.01	.25	.01					.29									.02	.08						0.75
New England	Cannon Ball															.39										.15							0.54
New Salem	Heart								T.	T.						.05	.14			.01						.02							0.22
Oakes	James		T.					.07		.21	.02					.15	.12									.02							0.59
Park River	Red																																.....
Parshall	Missouri																.64									.06	.01						0.71
Pembina ***	Red	T.				.01		T.	.07						T.		.31	.43		.21	.07			T.		.06	.05						1.21
Petersburg	Red			T.		.06							.10	T.		.18	.42	.05	.28					T.		.16					.13		1.38
Pettibone	James								T.							.12	.19		T.	.02		T.				.40					.02		0.75
Portal‖‖	Mouse	.05									.14					.55																	0.74
Power	Sheyenne																																.....
Powers Lake	Missouri															.74																	0.74
Richardton	Heart								T.							.31										.14							0.45
Rugby [near]	Mouse											.05				.67				.16													0.88
Ryder	Missouri																.96								.09								1.05
Sanish‖‖	Missouri										.13					.75									.01	.02							0.91
Sharon	Red			T.		T.		T.	.03					.01		.24	.17			T.				.11		.52					.19		1.27
Stanton	Missouri								T.								.26									.04							0.30
Steele	Missouri																																.....
Stowers	Cannon Ball							T.	.14	.42																							0.56
Tagus	Mouse															.52										.05							0.57
Tioga	Missouri															.70																	0.70
Towner	Mouse																																.....
Trotters	Lit. Missouri								T.	.12						.49											.13						0.74
Turtle Lake	Missouri										T.					.16										.06					.02		0.24
Valley City	Sheyenne								.01				.25			.33				T.				T.		.36							0.95
Velva	Mouse							.07							T.	.11	.47			T.						.12							0.77
Wahpeton	Red		.25	.02			.05	.17			.15						.26			.02													0.92
Washburn	Missouri																.31			T.													0.31
Westhope	Mouse														.08	.16	1.11									.03							1.38
Williston ***	Missouri								.02		T.					.91									T.					T.			0.93
Willow City	Mouse				T.			T.		T.					.15	.44										.09							0.68
Wishek‖‖	Missouri							.26	.02	.01	.33						.35																0.97
Zap	Knife															.13										.05					.03		0.21
Moorhead, Minn ***	Red		.01		.35	.02		.19	.03				T.	T.		.48	.03			T.				T.		T.					T.		1.11

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for September, 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	87	89	83	86	86	85	82	81	78	76	80	82	81	69	75	64	80	81	86	68	70	74	79	70	76	63	67	73	70	88	..	77.6
	Minimum	57	44	43	58	59	53	54	62	54	56	52	54	52	50	51	50	51	48	55	38	40	39	40	32	37	28	29	32	33	48	..	46.6
Arnegard (near)	Maximum	74	79	90	97	85	75	62	70	75	73	77	77	76	72	61	64	82	94	65	78	72	79	65	58	58	60	63	72	72	60	..	72.8
	Minimum	52	60	39	65	49	53	52	50	55	51	45	43	45	48	53	45	45	49	48	33	48	49	37	38	39	27	34	34	53	34	..	45.8
Ashley	Maximum	85	82	92	97	89	87	97	90	78	75	85	86	78	75	71	73	85	96	85	74	84	80	70	81	76	70	68	72	87	80	..	81.6
	Minimum	46	43	42	52	55	52	64	60	55	50	55	54	43	52	50	45	45	50	51	33	50	42	45	36	45	27	38	37	50	44	..	47.0
Beach	Maximum	73	74	85	95	84	87	79	65	67	73	77	77	80	78	62	69	89	91	66	76	70	76	67	64	57	57	61	74	74	63	..	73.7
	Minimum	52	48	46	47	55	56	57	52	53	58	47	42	46	52	53	45	45	59	46	37	41	40	44	41	38	32	37	36	50	39	..	46.5
Berthold Agency	Maximum	78	82	87	98	87	85	85	70	72	85	85	80	80	84	65	72	85	98	75	75	80	80	80	74	80	68	65	70	80	62	..	78.9
	Minimum	38	37	36	42	44	48	52	56	54	50	47	45	42	40	54	43	38	54	40	30	40	38	32	38	25	35	26	26	52	35	..	41.2
Bismarck	Maximum	78	79	88	96	84	85	90	76	66	76	82	81	78	79	61	72	86	97	68	74	78	78	65	80	55	61	68	72	81	60	..	76.6
	Minimum	54	48	43	56	56	54	68	60	58	56	59	50	50	53	53	53	46	61	48	35	54	44	44	41	31	30	38	37	52	43	..	49.2
Bottineau §§	Maximum	62	69	72	88	84	72	77	72	82	78	81	79	83	72	62	69	72	88	79	68	70	74	72	72	61	57	60	61	70	69	..	72.5
	Minimum	48	42	37	56	58	51	55	52	45	59	50	43	46	45	48	50	42	56	47	35	45	37	38	35	41	26	26	24	40	39	..	43.9
Cando	Maximum	76	74	79	86	88	78	78	76	82	80	80	80	69	70	72	62	89	88	90	69	74	76	74	75	75	58	61	62	73	71	..	75.5
	Minimum	48	45	42	41	55	49	53	52	46	49	55	48	51	42	48	50	55	45	46	34	41	38	36	34	32	28	32	27	44	40	..	43.5
Carrington §§	Maximum	86	80	85	94	85	83	89	77	76	80	86	85	77	87	70	76	82	94	70	82	84	92	70	81	50	63	73	69	92	73	..	79.7
	Minimum	51	47	36	46	54	45	48	58	55	51	52	51	46	47	51	49	38	53	51	35	36	41	39	38	45	32	35	34	35	42	..	44.7
Crosby §§	Maximum	68	71	80	94	79	72	70	65	78	71	75	68	69	82	61	69	80	86	64	71	74	77	66	61	50	57	59	68	74	65	..	70.8
	Minimum	55	42	41	47	46	45	50	51	46	50	49	49	40	42	50	49	37	61	45	39	38	38	39	34	38	30	33	32	40	36	..	43.1
Devils Lake	Maximum	79	76	81	91	83	79	82	75	82	82	82	80	67	75	63	64	77	93	64	69	76	76	66	73	59	60	64	62	79	64	..	74.1
	Minimum	53	50	44	56	54	48	57	55	51	57	60	55	49	45	52	53	47	51	49	37	46	42	46	36	35	33	36	31	45	44	..	47.2
Dickinson §§	Maximum	73	77	86	99	86	86	82	61	70	66	80	79	78	80	65	70	81	95	67	77	74	78	65	74	49	58	65	74	76	60	..	74.4
	Minimum	48	42	40	42	52	50	52	57	51	53	51	41	42	46	51	44	45	47	48	32	34	35	36	37	42	28	32	35	36	39	..	42.9
Dunn Center §§	Maximum	75	74	83	96	82	84	82	67	71	67	79	76	74	80	69	79	84	93	66	75	74	77	66	71	47	58	63	72	74	60	..	73.9
	Minimum	48	43	39	43	49	47	54	58	54	55	50	42	48	48	54	48	42	55	49	32	36	39	41	41	42	29	30	32	36	39	..	44.1
Dunseith	Maximum	74	71	78	89	88	74	72	73	82	78	83	74	67	73	73	57	76	91	85	67	72	76	72	74	69	55	62	61	71	66	..	73.4
	Minimum	47	45	38	54	56	48	43	49	43	55	47	50	47	45	47	47	44	55	45	35	41	42	39	33	41	24	28	33	40	44	..	43.6
Edgeley	Maximum	87	82	89	95	79	79	96	84	71	74	83	81	77	71	65	75	85	95	91	79	77	80	71	78	77	69	75	75	82	70	..	79.7
	Minimum	46	45	41	50	54	50	60	60	50	58	51	56	44	47	52	47	46	43	53	36	39	41	48	34	47	26	32	35	42	45	..	45.9
Ellendale	Maximum	87	81	90	93	87	86	92	85	73	74	79	78	76	74	66	73	86	95	84	72	84	79	71	79	71	67	73	74	87	73	..	79.6
	Minimum	50	54	48	55	57	54	64	63	52	59	59	57	49	47	55	48	50	51	50	40	41	46	51	41	48	28	34	43	43	49	..	49.5
Fessenden §§	Maximum	83	82	82	96	85	83	90	78	76	85	86	84	73	81	66	82	70	95	65	74	80	81	70	72	78	63	69	67	82	58	..	77.9
	Minimum	55	43	42	50	54	46	56	55	52	54	45	48	50	47	50	50	50	41	50	34	37	37	41	32	36	29	31	28	37	40	..	44.1
Foxholm (near)	Maximum	74	72	77	93	86	79	80	70	78	74	80	76	67	83	73	67	78	92	81	71	68	76	66	61	60	50	50	57	66	65	..	72.3
	Minimum	50	44	39	43	52	43	50	52	50	56	50	50	44	46	52	49	44	49	45	35	38	42	39	36	40	30	32	34	54	38	..	44.2
Fullerton	Maximum	86	79	87	92	86	85	92	85	73	75	76	79	75	74	64	75	85	95	80	70	83	78	70	79	67	65	72	71	84	75	..	78.6
	Minimum	50	48	44	55	56	53	63	62	52	60	56	55	48	48	56	48	47	50	55	38	47	43	48	35	48	28	35	38	43	48	..	48.6
Garrison	Maximum	80	78	85	95	88	83	86	76	72	74	84	80	74	81	69	70	86	97	85	73	78	78	71	76	65	60	64	70	78	68	..	77.5
	Minimum	48	46	42	52	57	51	55	57	57	56	52	49	45	52	55	50	45	54	56	34	49	39	44	46	44	30	33	33	52	37	..	47.3
Grafton	Maximum	83	77	81	87	86	80	80	75	86	82	82	81	67	72	79	64	77	84	79	68	71	75	75	73	71	63	61	62	79	79	..	76.0
	Minimum	50	48	42	48	58	50	54	54	49	49	55	57	56	44	51	55	52	46	50	39	45	45	46	37	42	34	36	34	44	47	..	47.2
Grand Forks	Maximum	86	80	82	86	85	79	79	75	86	81	82	85	65	73	64	72	78	85	72	68	71	75	68	73	63	64	64	64	73	64	..	74.7
	Minimum	52	50	45	58	59	50	60	57	50	50	56	59	56	52	54	54	52	48	54	39	45	43	46	37	42	32	36	34	46	43	..	48.6
Granville	Maximum	79	77	83	92	95	82	85	77	80	76	83	84	67	84	70	68	81	95	88	72	73	79	68	75	62	60	66	68	77	65	..	77.0
	Minimum	50	47	40	41	41	44	55	57	54	56	45	41	47	48	52	52	44	52	47	33	43	40	39	35	38	29	33	29	52	40	..	44.1
Hansboro	Maximum	81	79	88	96	84	85	90	76	76	81	81	79	80	79	68	74	60	89	83	67	71	72	67	72	67	59	59	60	74	66	..	75.4
	Minimum	67	48	43	56	56	54	68	60	68	67	71	57	59	56	54	34	54	50	58	48	36	41	33	30	33	30	32	33	35	33	..	48.8
Hettinger	Maximum	77	80	88	95	95	88	83	72	63	64	78	80	80	75	70	72	85	96	67	73	75	79	70	81	61	61	68	75	81	68	..	76.7
	Minimum	50	51	44	50	63	57	61	58	57	59	57	46	47	52	51	47	42	60	49	32	40	36	42	44	39	29	38	35	51	41	..	47.6
Hillsboro	Maximum	87	84	86	87	88	89	83	81	78	78	79	76	65	72	66	71	72	86	82	74	78	73	68	65	65	68	67	63	70	68	..	75.6
	Minimum	51	52	50	49	60	54	62	56	54	56	54	55	56	54	50	49	47	45	44	38	47	52	38	33	47	40	34	36	43	45	..	48.4
Howard (near)	Maximum	65	70	81	94	78	79	70	62	75	67	77	69	74	82	67	67	81	82	76	72	72	77	68	64	56	52	60	70	60	71	..	71.3
	Minimum	46	40	42	50	54	49	48	50	46	50	46	44	42	55	42	51	42	50	45	38	35	38	34	32	33	29	34	29	42	32	..	42.3
Jamestown §§	Maximum	83	80	88	92	81	81	88	77	77	76	81	85	76	77	62	74	82	95	68	70	82	79	68	76	60	65	71	69	85	61	..	77.0
	Minimum	51	44	43	48	57	51	54	60	57	57	52	55	49	52	54	51	49	52	55	38	40	40	43	33	40	25	29	36	37	43	..	46.5
Langdon §§	Maximum	82	79	86	90	81	78	77	72	88	82	72	71	74	65	60	60	75	88	65	70	72	80	87	72	50	62	60	61	64	78	..	73.4
	Minimum	48	46	38	48	48	45	48	51	44	46	57	48	50	40	48	48	46	48	53	35	45	40	40	32	40	29	30	30	30	30	..	42.7
Larimore §§	Maximum	85	81	85	89	86	80	81	77	85	82	83	86	68	74	68	72	79	86	79	70	73	78	71	73	68	65	71	67	75	68	..	76.8
	Minimum	49	44	41	55	56	49	52	55	52	54	56	57	55	50	51	53	50	50	54	42	41	42	50	35	48	32	35	35	45	44	..	47.7
Linton	Maximum	85	84	92	97	94	89	95	90	74	77	85	86	82	78	65	74	88	100	87	75	81	80	73	83	75	65	70	75	86	74	..	82.0
	Minimum	43	40	46	52	50	51	65	59	54	60	54	49	47	53	53	47	38	61	39	29	53	36	44	33	43	24	35	29	53	50	..	46.3
Lisbon §§	Maximum	87	81	85	90	84	82	88	74	72	76	78	74	72	73	62	69	83	92	70	70	77	78	73	77	60	67	72	71	85	67	..	76.3
	Minimum	49	49	44	47	55	55	55	63	52	51	55	53	48	47	57	49	50	50	57	40	41	43	48	34	55	28	33	36	37	50	..	47.7
McClusky	Maximum	78	77	85	95	83	83	89	78	72	81	82	83	81	80	67	70	82	94	71	74	75	78	68	77	72	60	65	68	79	70	..	77.2
	Minimum	56	45	42	50	54	46	56	55	55	52	45	48	47	49	48	49	41	51	49	32	46	43	37	36	41	27	32	29	45	41	..	44.9
Maddock	Maximum	78	78	83	94	91	82	83	84	79	82	84	82	80	80	77	65	78	93	92	70	77	78	77	78	75	60	65	64	80	74	..	78.8
	Minimum	48	45	36	50	52	47	55	54	49	55	55	48	51	43	49	50	45	50	55	32	44	40	44	28	43	28	33	24	47	42	..	44.7
Marmarth	Maximum	75	78	86	88	92	90	85	70	67	71	78	80	82	79	70	70	86	95	76	78	73	78	64	70	56	60	67	76	82	65	..	76.2
	Minimum	49	41	41	43	51	59	58	57	56	61	44	42	39	50	52	41	41	53	43	30	38	34	40	38	38	25	37	32	45	42	..	44.0
Minot §§	Maximum	76	75	81	94	79	80	83	73	80	75	83	78	68	83	61	69	83	96	66	73	76	78	68	77	52	59	65	69	76	68	..	74.8
	Minimum	51	46	39	40	41	46	50	50	56	51	50	46	48	48	54	52	43	50	50	31	31	39	43	35	43	29	29	29	43	41	..	43.5
Mohall	Maximum	73	73	81	94	78	79	77	72	79	79	81	75	66	82	60	69	79	92	72	72	76	79	66	74	54	57	62	67	73	56	..	73.2
	Minimum	49	49	45	48	49	51	53	48	52	50	47	46	48	51	51	44	54	50	35	42	42	43	34	43	29	30	29	52	41	33	..	44.6
Mott	Maximum	72	80	87	97	94	88	86	80	68	73	76	80	77	81	66	82	87	96	73	76	77	78	78	76	50	60	68	73	79	78	..	77.9
	Minimum	56	45	42	50	52	50	63	58	52	53	52	49	52	53	50	45	44	53	35	40	38	42	40	39	27	34	36	44	42	43	..	46.0
Napoleon §§	Maximum	85	82	93	100	90	88	97	77	68	82	86	86	80	78	61	74	85	98	69	78	82	83	70	80	49	66	70	72	85	62	..	79.2
	Minimum	47	44	48	54	52	50	55	59	52	54	54	53	45	51	52	47	45	54	50	28	51	39	42	38	44	27	36	35	49	41	..	46.5
New Salem	Maximum	75	75	83	92	81	81	85	75	75	70	74	79	73	74	70	67	81	98	81	79	73	74	74	75	67	65	63	68	76	67	..	75.7
	Minimum	52	47	47	51	58	50	63	55	65	52	51	47	48	50	52	46	45	55	49	38	36	35	38	37	41	30	36	36	52	38	..	46.7
Oakes	Maximum	90	83	90	95	85	86	93	85	75	75	83	80	76	75	65	75	86	95	88	72	87	82	73	81	71	69	74	75	90	79	..	81.1
	Minimum	49	48	46	57	55	52	63	62	52	59	58	57	47	48	57	49	47	51	55	37	47	42	51	34	50	27	30	37	44	44	..	48.5
Pembina §§	Maximum	80	76	77	81	77	75	74	68	78	79	80	68	60	70	63	58	73	82	57	63	71	74	63	71	54	59	55	57	74	55	..	69.1
	Minimum	50	47	42	47	50	50	51	52	47	47	48	57	56	52	50	52	52	48	55	43	42	45	47	32	37	32	34	35	38	48	..	46.2
Sharon	Maximum	84	79	84	87	83	79	82	80	82	78	81	87	70	73	62	70	80	89	78	68	74	77	68	72	61	61	68	65	76	61	..	75.3
	Minimum	47	46	41	54	55	50	51	56	51	55	52	57	53	48	49	50	47	57	54	34	35	37	47	34	44	29	29	30	46	42	..	46.1
Steele	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Towner	Maximum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
	Minimum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	......
Valley City	Maximum	88	91	94	92	86	82	87	87	77	80	81	80	73	74	71	76	87	94	91	73	77	80	76	77	72	65	71	69	84	73	..	80.3
	Minimum	45	45	40	58	55	52	62	60	51	57	51	56	48	51	55	49	49	47	55	37	43	42	50	30	46	28	32	32	41	45	..	47.1
Wahpeton	Maximum	90	81	87	90	89	84	83	84	80	74	79	77	80	74	71	75	84	87	85	72	73	80	76	75	75	68	75	74	89	84	..	79.8
	Minimum	53	53	50	63	70	56	66	64	53	60	58	57	53	51	57	50	54	54	58	42	45	43	57	39	55	31	36	39	48	52	..	52.2
Westhope	Maximum	74	74	83	94	79	78	79	75	83	79	85	78	67	82	78	60	80	91	67	73	76	83	68	77	54	59	66	65	72	69	..	74.9
	Minimum	49	49	39	52	49	49	51	53	47	55	47	50	46	48	51	50	44	53	48	35	42	40	43	32	44	31	33	30	47	42	..	45.0
Williston	Maximum	71	72	85	96	83	82	76	60	73	69	80	75	79	82	65	70	84	91	66	76	72	77	63	65	52	57	62	69	70	59	..	72.7
	Minimum	54	47	41	55	51	54	56	52	55	56	48	47	44	53	55	50	46	55	46	38	46	43	41	38	39	32	38	34	50	40	..	46.8
Moorhead, Minn	Maximum	87	80	82	83	84	81	82	71	75	76	77	76	74	72	62	73	80	85	75	68	72	77	70	74	66	65	70	68	84	70	..	75.3
	Minimum	53	57	51	57	66	56	64	61	56	58	57	58	54	52	56	52	54	52	53	43	46	46	48	37	43	32	38	36	44	49	..	51.0

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc

[WBO, Minneapolis, 10-24-33—1050]

NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLII	Bismarck, N. D., October 1933	No. 10

GENERAL SUMMARY

Variable temperatures with only light precipitation characterized the opening of the month, a condition that obtained until the 15th. During the latter part of the month the weather was generally cold and cloudy and during the period practically all of the precipitation occurred. Frosts and freezing temperatures early in the month damaged late garden truck. Due to the dryness of the soil from continued drought, pastures, ranges, meadows, and harvested fields yielded less than the usual feed for livestock and considerable yard feeding was necessary.

TEMPERATURE

The mean temperature for the State was 41.5°, or 2.0° below the normal, and 3.2° higher than the mean for October 1932. The highest mean reported was 47.2° at New England, Hettinger County; the lowest was 35.6° at Portal, Burke County. The highest temperature reported was 88° at Oakes, Dickey County on the 14th; the lowest was 5° at Edmore, Ramsey County on the 25th, and at Hansboro, Towner County on the 28th. The greatest monthly range of temperature was 74° at Oakes, Dickey County; the least was 57° at Mott, Hettinger County. The greatest daily range of temperature was 67° at Powers Lake, Burke County on the 11th.

PRECIPITATION

The average precipitation for the State was 0.53 inch, or 0.51 inch below the normal, and 1.78 inches less than the average for October 1932. The greatest monthly amount reported was 1.33 inches at Grand Forks, Grand Forks County; there was none at Hankinson, Richland County. The greatest amount recorded in any 24 consecutive hours was 0.89 inch at McClusky, Sheridan County on the 19th. The average number of days with 0.01 inch or more of precipitation was 4. The average snowfall was 1.7 inches.

MISCELLANEOUS PHENOMENA

Auroras: Arnegard, 5th; Bismarck, Crosby, Tagus, Willow City, 17th; Dogden Butte, Sharon, 18th; Eckman, 6th, 7th, 8th, 12th, 25th; Fessenden, 18th, 21st; Foxholm, 6th, 7th, 8th, 11th, 17th; Gackle, 6th; Grand Forks, 7th; Howard, 5th, 9th; Oakes, 8th; Parshall, 12th; Williston, 17th, 18th.

Fog: Devils Lake, 8th, 29th; Dogden Butte, Foxholm, Howard, Kenmare, Parshall, Pembina, Petersburg, 29th; Pettibone, Willow City, 10th; Valley City, 31st.

Hail: Marmarth, 15th.

Halos, lunar: Bismarck, 12th; Devils Lake, Edmore, 2d; Foxholm, 2d, 30th; Grand Forks, Petersburg, 27th; Moorhead, 31st; Williston, 12th, 30th.

Halos, solar: Devils Lake, 10th, 18th, 27th; Dogden Butte, 18th, 19th; Edmore, 30th, 31st; Foxholm, 9th; Moorhead, 1st, 20th; Oakes, 16th; Petersburg, 27th.

Sleet: Ashley, Devils Lake, Edmore, Grand Forks, Larimore, Mayville, Sharon, Velva, 28th; Bismarck, 23; Garrison, Linton, Marmarth, Mary, Parshall, Williston, 27th; Howard, 27th, 31st; Mohall, 31st; New England, 26th.

Thunderstorms: Marmarth, 15th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.03	30.60	24	29.40	20	9.6	35	w.	20	76	50	50	56
Devils Lake	30.04	30.65	24	29.47	21	10.3	30	w.	21	80	52	57	52
Grand Forks	30.01	30.57	24	29.51	21	......	40	w.	21	79	...	58	....
Williston	30.03	30.58	24	29.46	20	8.4	38	w.	20	77	55	58	53
Moorhead, Minn	30.03	30.60	24	29.54	20	10.0	30	w.	21	73	49	52	61
Averages & ext's	30.03	30.65	24	29.40	20	9.6	40	w.	21	77	52	55	56

† And other dates.

COMPARATIVE DATA FOR OCTOBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892	47.2	+3.6	95	7	0.58	−0.50	2.89	0.06	T.	3	15	8	8
1893	40.6	−3.0	79	0	1.05	−0.03	1.70	0.37	0.9	5	11	11	9
1894	43.0	−0.6	77	16	1.66	+0.58	3.17	0.35	0.0	6	14	8	9
1895	40.5	−3.1	85	−12	0.25	−0.83	0.65	T.	0.0	2	16	8	7
1896	40.2	−3.4	88	5	0.78	−0.30	2.73	T.	0.0	3	14	8	9
1897	45.9	+2.3	93	6	0.77	−0.31	2.50	0.00	0.8	4	13	9	9
1898	38.8	−4.8	84	8	2.23	+1.15	6.20	0.30	4.7	6	8	8	15
1899	42.1	−1.5	86	7	1.18	+0.10	2.30	T.	1.3	5	11	8	12
1900	48.2	+4.6	87	14	1.54	+0.46	3.03	0.26	T.	6	15	4	12
1901	47.5	+3.9	88	11	1.61	+0.53	3.83	T.	T.	5	17	7	7
1902	43.7	+0.1	87	10	1.28	+0.20	5.17	0.10	0.7	4	16	6	9
1903	47.0	+3.4	81	11	0.94	−0.14	3.66	T.	0.2	3	19	5	7
1904	46.6	+3.0	87	10	1.03	−0.05	2.81	T.	T.	5	12	7	12
1905	40.3	−3.3	93	0	0.44	−0.64	1.57	T.	1.2	5	8	12	11
1906	45.0	+1.4	89	0	0.57	−0.51	1.67	0.06	1.4	4	14	9	8
1907	44.4	+0.8	88	4	0.70	−0.38	2.27	0.00	0.2	3	21	5	5
1908	43.0	−0.6	86	8	1.58	+0.50	4.01	0.33	0.7	6	11	7	13
1909	43.1	−0.5	97	0	0.64	−0.44	1.98	T.	0.9	3	14	8	9
1910	48.2	+4.6	95	0	0.54	−0.54	1.55	T.	0.1	3	16	8	7
1911	42.5	−1.1	86	−10	1.32	+0.24	2.48	T.	0.5	6	11	8	12
1912	44.4	+0.8	90	0	0.94	−0.14	3.45	T.	3.5	4	16	6	9
1913	39.3	−4.3	90	−2	1.63	+0.55	3.95	0.52	0.7	4	12	9	10
1914	50.0	+6.4	97	0	0.98	−0.10	2.05	0.07	T.	4	16	8	7
1915	46.6	+3.0	87	10	1.04	−0.04	3.63	T.	0.2	4	17	8	6
1916	40.0	−3.6	85	−2	0.69	−0.39	2.06	T.	2.0	4	12	8	11
1917	34.7	−8.9	82	−4	0.77	−0.31	2.15	0.04	6.4	5	8	11	12
1918	46.2	+2.6	90	4	0.54	−0.54	1.91	0.00	0.8	4	14	8	9
1919	33.5	−10.1	84	−18	1.08	0.00	3.63	0.15	9.3	6	11	9	11
1920	49.3	+5.7	95	6	0.46	−0.62	1.51	0.00	0.1	3	16	8	7
1921	47.3	+3.7	88	16	0.73	−0.35	2.75	0.00	T.	4	16	8	7
1922	45.7	+2.1	98	8	0.57	−0.51	1.78	0.00	2.3	3	15	7	9
1923	44.0	+0.4	84	−8	0.88	−0.20	2.70	T.	0.5	4	14	7	10
1924	50.3	+6.7	86	19	2.43	+1.35	5.74	0.97	0.3	7	17	5	9
1925	33.3	−10.3	66	−16	0.78	−0.30	2.53	0.05	3.7	6	8	9	14
1926	42.6	−1.0	85	4	1.49	+0.41	5.06	T.	1.0	6	10	10	11
1927	47.0	+3.4	88	12	1.39	+0.31	3.30	0.09	1.0	5	14	8	9
1928	43.5	−0.1	85	3	0.41	−0.67	1.89	0.00	0.6	2	15	8	8
1929	46.8	+3.2	88	10	1.85	+0.77	4.75	0.28	5.1	6	17	5	9
1930	40.8	−2.8	86	0	1.81	+0.73	3.49	0.40	0.3	7	10	9	12
1931	47.7	+4.1	90	10	1.39	+0.31	3.94	T.	0.2	6	15	6	10
1932	38.3	−5.3	90	−3	2.31	+1.23	4.11	0.66	9.1	8	9	7	15
1933	41.5	−2.1	88	5	0.53	−0.55	1.33	0.00	1.7	4	14	8	9
Per.	43.6	....	98	−18	1.08	....	6.20	0.00	1.5	4	14	8	9

Climatological Data for October 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	7	......	......	...	...	...	...	......	0.96	......	0.70	......	3	......	......	......	......	H. A. Bury.
Amenia	Cass	954	37	40.9	−3.7	85	14	14	27†	56	0.43	−0.94	0.43	T.	1	11	15	5	nw.	J. Idso.
Arnegard (near)	McKenzie	2,238	20	41.8	−1.1	80	4	15	16†	48	0.66	−0.29	0.30	3.2	7	16	7	8	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	43.1	+0.3	83	14	12	12†	48	0.07	−1.12	0.05	1.0	2	21	7	3	nw.	H. D. Piper.
Beach	Golden Valley	2,759	27	45.2	+1.6	82	4	18	22	44	0.89	−0.09	0.60	T.	4	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	42.2	−2.4	78	4†	16	12†	50	0.29	−0.57	0.20	1.0	3	21	2	8	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	43.4	−1.5	78	13	17	12	43	0.44	−0.50	0.22	3.1	5	10	12	9	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	38.4	−2.6	74	13	11	27	44	0.45	−0.58	0.28	1.4	5	18	5	8	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	43.8	−0.2	80	4	16	22	47	1.06	+0.08	0.75	0.2	7	19	10	2	nw.	George Larsen.
Cando	Towner	1,488	32	39.6	−4.1	74	14	9	26	45	0.15	−0.71	0.11	0.2	3	12	3	16	nw.	A. J. Swanson.
Carrington	Foster	1,579	35	39.7	−4.1	79	5	13	27†	56	0.76	−0.21	0.45	2.0	3	21	3	7	w.	L. A. Swanson.
Carson	Grant	2,500	21	45.2	+1.9	80	3	10	22	45	0.37	−0.63	0.20	2.0	3	16	10	5	nw.	J. W. Evens.
Cavalier	Pembina	894	23	......	......	...	...	...	...	......	0.41	−0.68	0.35	4.1	3	11	5	15	w.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	......	......	...	...	...	...	......	T.	−1.06	T.	T.	0	16	7	8	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	......	......	...	...	...	...	......	0.52	......	0.35	2.5	3	9	10	12	w.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	4	......	......	...	...	...	...	......	0.42	......	0.35	0.5	2	21	3	7	se.	Geo. E. Berg.
Crosby	Divide	1,954	26	39.2	−2.6	80	4	15	20†	44	0.38	−0.50	0.15	1.5	4	10	6	15	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	36	38.2	−4.2	75	14	9	27	38	0.62	−0.63	0.22	2.4	6	8	9	14	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	42.3	−1.3	80	4	17	22	51	0.55	−0.32	0.25	1.7	5	12	12	7	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	41.4	......	74	13	16	27	43	0.86	......	0.43	1.8	5	17	3	11	nw.	R. L. Williams.
Drake	McHenry	1,634	4	39.7	......	75	13	14	27	56	0.48	......	0.40	0.3	5	10	12	9	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	42.5	−1.9	80	4	17	22	47	0.61	−0.14	0.25	1.0	3	14	6	11	w.	W. F. Moede.
Dunseith	Rolette	1,682	37	38.4	−3.0	...	...	...	...	......	0.18	−0.73	......	......	......	......	......	......	......	L. F. Wetsch.
Eckman	Bottineau	1,500	28	39.4	−2.4	77	13	12	12†	44	0.44	−0.49	0.18	4.0	4	15	9	7	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	32	44.5	−0.8	81	14	11	12†	62	0.18	−0.85	0.09	0.9	2	7	19	5	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	36.4	......	75	14	5	25†	49	0.68	......	0.30	4.6	7	7	15	9	nw.	E. D. Warner.
Ellendale	Dickey	1,457	38	45.7	+0.1	85	14	14	25	52	0.12	−1.05	0.12	0.4	1	19	5	7	nw.	J. F. Demmer.
Energy ‡‡	McLean	1,750	21	43.6	......	76	13	12	12	46	0.62	−0.20	0.40	1.5	3	13	9	9	nw.	H. S. Solenberger.
Epping	Williams	2,224	25	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	4	......	......	...	...	...	...	......	0.69	......	0.25	2.0	3	19	1	11	nw.	F. R. Hecker.
Fessenden	Wells	1,610	21	39.5	−3.5	75	14	11	28	51	0.84	−0.07	0.56	2.2	3	12	15	4	nw.	T. D. Monsen.
Forman	Sargent	1,249	40	......	......	...	...	...	...	......	T.	−1.40	T.	T.	0	24	5	2	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	33	45.6	−0.8	82	13	13	12	50	0.10	−0.81	0.10	1.0	1	16	8	7	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	38.8	......	74	13	13	27	41	0.75	−0.35	0.25	3.0	5	8	9	14	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	......	......	...	...	...	...	......	1.29	+0.10	0.72	2.5	5	13	13	5	sw.	Verne King.
Fullerton	Dickey	1,439	35	44.4	−0.4	83	14	14	25	49	0.12	−1.30	0.12	1.2	1	17	6	8	nw.	F. O. Alin.
Gackle	Logan	1,951	3	......	......	...	...	...	...	......	0.36	......	0.21	2.0	2	18	2	11	nw.	Geo. Hummel.
Garrison	McLean	1,901	56	43.0	+0.3	76	3†	15	12	44	0.73	−0.17	0.52	1.5	3	15	8	8	nw.	W. F. Robinson.
Grafton	Walsh	827	41	41.4	−0.7	79	14	12	27	48	0.25	−0.76	0.16	T.	3	15	8	8	s.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	42	39.4	−4.2	82	14	11	24	49	1.33	+0.06	0.60	4.4	6	4	13	14	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	40.4	−2.9	77	13	8	12	51	0.53	−0.42	0.31	1.0	4	15	7	9	nw.	W. A. Christianson.
Hankinson	Richland	1,068	4	43.8	......	77	14	10	24	43	0.00	......	0.00	0.0	0	18	9	4	nw.	R. G. Stock.
Hannah	Cavalier	1,568	41	36.8	......	75	14	7	27	43	0.33	−0.74	0.13	2.3	4	11	15	5	nw.	James Muir.
Hansboro	Towner	1,597	25	40.4	−0.3	72	13	5	28	45	0.35	−0.82	0.25	8.0	2	19	8	4	nw.	C. F. Blackorby.
Hettinger	Adams	2,675	26	45.4	−0.2	78	4	17	22	43	0.59	−0.22	0.31	2.0	5	10	9	12	nw.	C. H. Plath.
Hillsboro	Traill	901	27	42.0	−3.2	81	14	13	27	45	0.48	−0.72	0.26	2.6	2	11	9	11	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	39.0	−2.6	82	4	12	20†	44	0.95	+0.05	0.35	4.3	4	9	10	12	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	42.1	−2.4	79	13	13	27	58	0.66	−0.46	0.51	1.5	2	13	8	10	nw.	S. Calvelage.
Kenmare	Ward	1,799	2	40.0	......	74	7	12	28	47	0.61	......	0.27	......	5	13	2	16	nw.	R. Costello.
Langdon	Cavalier	1,615	37	35.9	−5.0	70	9†	70	27	51	0.25	−0.78	0.20	2.5	2	11	16	4	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	41.2	−2.7	81	14	10	27	45	1.10	−0.27	0.40	5.7	3	10	10	11	nw.	Mabel Walsh.
Linton	Emmons	1,711	16	43.8	−0.9	84	14	11	11	61	0.07	−0.97	0.04	1.0	3	13	17	1	se.	Rev. E. J Oiberding.
Lisbon	Ransom	1,091	29	44.0	+0.2	84	14	14	27	48	0.20	−0.95	0.12	1.0	2	10	9	12	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	40.3	......	79	4	10	12	52	1.09	+0.10	0.89	1.0	3	17	8	6	nw.	Edw. Tapley.
McLeod	Ransom	1,075	22	43.8	−2.4	85	14	12	27	43	0.13	−1.27	0.08	0.8	2	14	5	12	nw.	J. G. Carlson.
Maddock	Benson	1,604	18	39.4	−3.5	75	14	10	27†	51	0.22	−0.71	0.21	T.	2	9	9	13	nw.	A. T. Felland.
Mandan	Morton	1,750	19	42.8	−1.2	78	13	16	12	52	0.55	−0.29	0.22	2.5	4	12	2	17	nw.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	......	......	...	...	...	...	......	0.60	−0.37	0.21	1.2	5	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	24	45.5	0.0	86	4	19	12	53	1.09	+0.25	0.66	1.5	5	13	5	13	......	S. P. Grane.
Mary	McKenzie	......	4	......	......	...	...	...	...	......	0.49	......	0.27	1.0	4	14	7	10	se.	Fred Hartman.
Max	McLean	2,093	4	38.2	......	72	4	10	12	50	0.25	......	0.13	1.2	4	......	......	......	nw.	A. W. Rice.
Mayville	Traill	975	37	40.6	−5.3	82	15	11	29	42	0.62	−0.58	0.30	3.0	4	13	9	9	nw.	H. B. Addicott.
Minot	Ward	1,557	37	41.2	−2.1	76	13	12	12	42	0.79	−0.19	0.21	2.5	5	9	15	7	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	39	39.6	−2.1	75	13	12	11	42	0.47	−0.57	0.20	1.0	5	8	12	11	nw.	G. V. Davidson.
Mott	Hettinger	2,424	26	44.2	+0.9	77	13	20	11†	41	0.50	−0.57	0.28	2.0	2	10	9	12	se.	O. H. Opland.
Napoleon	Logan	1,955	41	41.8	−1.9	80	14	10	12†	48	0.28	−0.75	0.12	1.5	4	19	5	7	nw.	C. J Hoof.
New England	Hettinger	2,400	39	47.2	+3.8	84	3	16	23	56	0.98	+0.28	0.40	2.0	4	12	10	9	se.	F. S. Sleight.
New Salem	Morton	2,163	29	42.0	−2.8	78	13	11	23	46	0.33	−0.63	0.15	2.0	4	16	9	6	se.	J Christiansen.
Oakes	Dickey	1,318	4	44.8	......	88	14	14	25	54	0.13	......	0.11	1.0	2	8	17	6	nw.	Eugene Naylor.
Park River	Walsh	998	29	43.2	−0.6	81	9†	7	27	52	0.50	−0.64	0.40	5.0	2	6	24	1	sw.	C. B. Wright.
Parshall	Mountrail	1,929	18	40.2	......	76	4	8	12	47	0.75	+0.06	0.26	0.5	6	6	16	9	nw.	C. E. Shubert.
Pembina	Pembina	789	59	36.4	−5.0	76	14	14	27†	48	0.29	−1.14	0.12	2.0	7	2	11	18	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	......	......	...	...	...	...	......	0.49	......	0.20	3.0	5	12	9	10	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	24	40.5	−1.3	77	14	12	12	48	0.80	−0.18	0.54	0.4	3	17	4	10	nw.	H. H. McCumber.
Portal	Burke	1,954	28	35.8	−5.6	79	3†	8	21	60	0.22	−0.53	0.22	2.0	1	16	2	13	w.	R. G. Wegener.
Power‡‡	Richland	1,020	39	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	Frank B. Power.
Powers Lake	Burke	2,205	28	40.0	......	81	11	14	11†	67	0.50	−0.73	0.30	5.0	2	16	6	9	e.	Geo. B. Gee.
Richardton	Stark	2,467	17	42.9	−0.5	76	4	14	22	44	0.66	−0.08	0.48	0.0	2	16	8	7	nw.	John Muggli.
Rugby (near)	Pierce	1,562	4	......	......	...	...	...	...	......	......	......	......	......	......	......	......	......	......	E. C. Erickson.
Ryder	Ward	2,108	4	......	......	...	...	...	...	......	0.57	......	0.38	......	2	......	......	......	......	S. C. Schellenbaum
Sanish	Mountrail	1,835	...	39.6	......	81	4	16	12†	49	1.28	......	0.45	5.0	6	......	......	......	......	H. J. Bugge.
Sharon	Steele	1,516	9	39.4	......	78	14	9	27	43	0.67	......	0.34	1.9	5	8	9	14	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	......	......	...	...	...	...	......	0.71	......	0.39	1.5	3	14	8	9	nw.	J. H. Giffey.
Steele	Kidder	1,857	39	44.6	+0.8	77	14	18	12†	40	0.41	−0.66	0.29	1.2	3	11	10	10	nw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	18	......	......	...	...	...	...	......	0.10	−1.01	0.10	T.	1	21	5	5	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	......	......	...	...	...	...	......	0.32	......	0.16	0.4	3	13	7	11	sw.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	...	...	...	...	......	0.73	......	0.31	1.5	4	15	6	10	nw.	Anton Carlson.
Towner	McHenry	1,482	31	41.3	−2.1	76	11†	10	12	49	0.47	−0.52	0.23	1.5	3	13	11	7	w.	Karl Weber.
Trotters	Golden Valley	......	7	......	......	...	...	...	...	......	0.91	......	0.50	1.0	6	13	6	12	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	......	......	...	...	...	...	......	0.82	+0.11	0.59	2.2	4	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	27	42.6	−2.0	81	14	14	27	51	0.52	−0.46	0.48	0.1	3	20	4	7	nw.	I. C. Robertson.
Velva	McHenry	1,511	6	41.0	......	77	13	10	12	43	0.73	......	0.20	2.0	5	11	8	12	w.	Oscar Anderson.
Wahpeton	Richland	962	41	46.0	−0.6	86	14	14	25	48	0.05	−1.42	0.03	0.3	2	21	0	10	nw.	C. G Luick.
Washburn	McLean	1,731	32	42.7	−1.8	76	13	17	12	43	0.68	−0.18	0.51	1.3	3	18	3	10	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	39.8	−2.3	76	13	13	12†	46	0.53	−0.30	0.38	T.	5	13	6	12	se.	C. M. Condit.
Williston	Williams	1,878	54	41.8	−1.6	82	4	18	22	39	1.05	+0.19	0.34	4.1	7	14	6	11	se.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	37.2	−4.2	76	13	11	12	46	0.43	−0.41	0.12	2.0	4	9	16	6	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	4	40.2	−3.7	73	13	9	22	51	0.09	−0.88	0.04	0.5	3	20	0	11	nw.	Gottlieb Herr.
Zap	Mercer	1,838	18	......	......	...	...	...	...	......	0.46	−0.61	0.21	1.0	3	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	52	42.6	−1.9	83	14	15	27	47	0.45	−1.24	0.39	0.6	5	6	14	11	n.	U. S. Weather Bureau.
Averages				41.5	−2.1	88	14	5	25†	67	0.53	−0.55	0.89	1.7	4	14	8	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for October 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri															.70			T.		.06						T.		T.			T.	0.96
Amenia	Red																			.43					T.			T.	T.				0.43
Arnegard (near)	Missouri															T.	.05		.30	.05	.15			.02			.02	.07					0.66
Ashley	Missouri																			T.								.02	.05				0.07
Beach	Lit. Missouri															.60			.04		.03			T.	T.	T.		.22					0.89
Berthold Agency	Missouri															T.			.04		.20				T.			.05					0.29
Bismarck ***	Missouri									T		T.				.08			.11	.02	T			T			T.	.22	.01				0.44
Bottineau	Mouse	.01										T.							T.	T	.28	.02		.09	T.		T.		.05			T	0.45
Bowman	Grand									T.						.75	.02		T.	.12				.03	.02		.03	.09					1.06
Cando	Devils Lake											.02								.11	T	T.		T.				.02					0.15
Carrington‖‖	James																		.45		.08								.23				0.76
Carson	Heart															.10				.07								.20					0.37
Cavalier	Red																							.01	.05				.35				0.41
Cooperstown	Sheyenne											T.					T.	T.						T.					T	T			T.
Corinth	Missouri															T.			T.	.07	.35		T.			T.		.10					0.52
Courtenay	James																			.35				T.				.07					0.42
Crosby	Mouse																		.10		.15			.10			T	.03					0.38
Devils Lake ***	Devils Lake			T.						T.	T.	T.				T.	T.	T.	.17	.04	.06	T.		.13	T.	T	T.	.03	.19				0.62
Dickinson‖‖	Heart															.08	.25			.05		T.		T.	T.			.12	.05				0.55
Dogden Butte	Mouse															T.			.14	.43	.09			.03				T.	.17				0.86
Drake‖‖	Mouse	T.															T.			.40	.03	.02			.01			.02					0.48
Dunn Center	Knife															.16			.20									.25					0.61
Dunseith	Mouse																				.18	T.											0.18
Eckman	Mouse										T.								T.	.08	.18			.03			T.		.15				0.44
Edgeley	James																			.09									.09				0.18
Edmore	Devils Lake			T.							T.					T.	T.	T.	.18		.03	.04	T.	.30	.02	T.	.01	T.	.10	T.			0.68
Ellendale	James																		T										.12				0.12
Energy	Missouri									T.						.07			.40		T.							.15					0.62
Epping	Missouri																																
Fairfield	Knife															.25			.24									.20					0.69
Fessenden‖‖	James																			.56	.06								.22				0.84
Forman	Sheyenne																			T.									T.				T.
Fort Yates	Missouri									T.									T.								.10						0.10
Foxholm (near)	Mouse																		.25	.02	.23	T.		.20				T.	.05			T.	0.75
Fryburg	Heart															.72	.12		.04	T.	.06							.35				T.	1.29
Fullerton	James																		T.									.12					0.12
Gackle	James																			.21										.15			0.36
Garrison	Missouri															T.			.52		.05							.16					0.73
Grafton	Red											T.	.04				T.			.05	T.	T.		.16	T.		T.						0.25
Grand Forks ***	Red			T.							T.	T.					T.		.10	.10	.02	T.		.50	.01		T.	T.	.60				1.33
Granville	Mouse										T.								T.	.31	.07			.10			T.	T.	.05				0.53
Hankinson	Red																																0.00
Hannah	Pembina											T.				T.	T.				T.	.10		.07	.03	T.	T.		.13				0.33
Hansboro	Devils Lake																				.25			.10									0.35
Hettinger	Grand															.31	.02		.05					.01				.20					0.59
Hillsboro	Red																			.22								.26					0.48
Howard (near)	Missouri					T.					T.			T.	T.	T.		.20	T.	.35	T.			.20		T.		.20					0.95
Jamestown	James																		.51										.15				0.66
Kenmare	Mouse																			.18	.07	.27		.08	T.			.01					0.61
Langdon	Pembina	T.																			T.		.05		.20								0.25
Larimore	Red																			.35				.35			T.		.40				1.10
Linton	Missouri																			.04								.02	.01				0.07
Lisbon	Sheyenne																			.12									.08				0.20
McClusky	Missouri																			.89								.10	.10				1.09
McLeod	Sheyenne					T											T.			.05							T.		.08				0.13
Maddock	Sheyenne			T.							T					T.	T.		T.	.21	.01			T.					T.				0.22
Mandan‖‖	Missouri									T.						.08			.14								.11	.22					0.55
Manfred	James											T.				.03			.21	.20	.03			T.					.13				0.60
Marmarth	Lit. Missouri															.66			.05		T.			.06	.13			.19					1.09
Mary	Lit. Missouri															.16			.27			.04						.02					0.49
Max‖‖	Missouri														T.					.05	.02							.05	.13				0.25
Mayville	Red																	T.	T.	.30				T.	.06			T.	.16	.10			0.62
Minot	Mouse																		.17	.12	.21			.19				.10				T.	0.79
Mohall	Mouse			.02															.07	.10	.20			.08			T.	T.				T.	0.47
Mott	Cannon Ball															.28									T.		.22						0.50
Napoleon‖‖	Missouri										.01									.12								.05	.10				0.28
New England	Cannon Ball															.40	.24			.04							.30						0.98
New Salem	Heart															.08			.02	.08								.15					0.33
Oakes	James																			T.									.11	.02			0.13
Park River	Red																							.40					.10				0.50
Parshall	Missouri									T.						T.			.26	.20	.16			.02				.05	.06			T.	0.75
Pembina ***	Red	.02		T.	T.							.02					T.	.01	T.		T.	.03	T.		.12	T.	T.		.07	.02			0.29
Petersburg	Red											T.						T.		.20	.01	.01	T.	.07			T.	T.	.20				0.49
Pettibone	James															T.			.18	.54	T.			T.			T.	T.	.08				0.80
Portal‖‖	Mouse																				.22												0.22
Power	Sheyenne																																
Powers Lake	Missouri																		.30		.20												0.50
Richardton	Heart															.18					.48												0.66
Rugby [near]	Mouse																																
Ryder	Missouri															T.			.38	T.	T.			.19								T.	0.57
Sanish‖‖	Missouri																		.45	.18	.15	.10			T.	.10	.30						1.28
Sharon	Red											.03					T.	T.	T.	.34	.01	T.		.04	T.	T.	T.	T	.25				0.67
Stanton	Missouri															.20			.39								.12						0.71
Steele	Missouri																	.02	.29	T.								T.	.10				0.41
Stowers	Cannon Ball										T.				T.	.10	T.											T.					0.10
Tagus	Mouse																		.16		.12			.04									0.32
Tioga	Missouri																		.16		.31						.06	.20					0.73
Towner	Mouse																		.23		.09							.15					0.47
Trotters	Lit. Missouri									.01						.50			.10		.18			.01				.11					0.91
Turtle Lake	Missouri															.06			.59		.03								.14				0.82
Valley City	Sheyenne									.03										.48				.01			T.						0.52
Velva	Mouse																		.20	.19	.10	T.		.09	T.	T.		T.	.15				0.73
Wahpeton	Red																			.02									.03				0.05
Washburn	Missouri										T					T.				.51	T.							.04	.13				0.68
Westhope	Mouse										.02										.38			T	.04				.07			.02	0.53
Williston ***	Missouri					T						T.				.07			.34	.01	.20	T.		.15		T.	.04	.24		T.	T.	T.	1.05
Willow City	Mouse										T.									.11	.12			.10			T.		.10				0.43
Wishek‖‖	Missouri										.01									.04								T.	.04				0.09
Zap	Knife															.09			.21									.16					0.46
Moorhead, Minn ***	Red			T.		T	T.				T.	T.					T.	T.	.25	.14	T.			.02			T.	.02	.02				0.45

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for October 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	64	72	72	64	66	66	53	59	69	69	48	45	68	85	60	58	57	59	51	54	42	44	36	30	46	34	26	41	58	60	72	55.7
	Minimum	31	40	34	26	27	31	32	23	22	24	35	23	20	29	32	38	20	24	23	30	31	20	23	22	15	24	14	14	23	29	31	26.1
Arnegard (near)	Maximum	60	75	70	80	73	67	75	75	57	69	54	58	71	70	47	52	51	40	40	40	32	37	34	32	54	32	30	50	55	54	39	54.1
	Minimum	30	33	35	34	42	34	27	28	34	29	32	17	39	43	36	15	28	32	23	30	25	15	23	24	26	22	28	30	32	37	29	29.4
Ashley	Maximum	68	72	79	68	69	67	57	60	68	64	59	47	75	83	74	52	54	48	54	66	50	37	48	39	50	49	28	54	72	63	75	59.6
	Minimum	34	38	37	27	35	34	25	17	20	25	33	12	27	38	42	28	27	28	21	27	25	17	25	24	12	24	12	19	29	31	32	26.6
Beach	Maximum	67	73	73	82	71	66	69	72	62	68	52	60	74	73	55	49	48	49	49	47	34	36	51	37	61	49	49	59	61	56	59	58.4
	Minimum	31	29	36	47	50	32	30	37	35	32	37	23	40	43	35	28	32	29	28	34	22	18	27	27	28	27	21	26	36	41	33	32.1
Berthold Agency	Maximum	68	76	70	78	68	68	72	67	65	70	55	56	78	72	65	60	54	50	42	45	42	35	36	34	58	48	25	33	55	55	40	56.1
	Minimum	31	36	38	38	42	28	22	28	35	28	28	16	37	34	40	25	28	23	28	32	21	16	26	25	22	25	20	23	20	25	30	28.4
Bismarck	Maximum	68	69	74	72	68	65	55	60	71	69	49	52	78	77	56	52	54	46	47	60	38	38	43	33	55	35	25	58	57	58	65	56.4
	Minimum	38	39	35	32	44	36	28	26	30	37	28	17	35	41	40	31	30	27	30	33	25	19	29	25	24	25	18	23	33	33	34	30.5
Bottineau	Maximum	60	65	62	68	67	62	56	58	68	61	54	49	74	70	62	53	56	40	46	35	43	32	28	26	42	40	28	37	38	43	38	50.7
	Minimum	27	31	46	30	40	33	24	30	33	37	28	16	30	35	40	25	21	16	14	25	27	15	22	18	18	20	11	17	21	31	28	26.1
Bowman	Maximum	68	76	75	80	68	67	66	70	70	70	49	59	76	70	45	49	48	56	44	53	33	37	57	32	60	36	37	57	68	56	46	57.4
	Minimum	25	35	35	36	46	36	32	30	31	30	36	20	29	34	38	29	32	26	27	32	21	16	27	27	25	27	21	21	36	41	32	30.1
Cando	Maximum	66	66	63	64	66	67	68	69	68	64	58	43	71	74	70	68	55	53	46	45	43	38	34	41	41	28	39	39	34	40	41	53.6
	Minimum	29	41	39	28	25	31	30	26	23	40	35	18	27	35	31	25	18	20	26	29	26	22	18	14	22	9	15	16	21	26	27	25.5
Carrington §§	Maximum	61	69	68	70	79	74	52	59	70	77	59	46	73	55	70	55	56	54	46	63	45	35	30	27	47	28	19	47	53	58	42	54.5
	Minimum	34	39	39	27	29	32	19	20	25	21	28	17	20	22	29	30	20	22	25	30	30	21	24	23	18	20	13	13	19	33	30	24.9
Carson	Maximum	74	74	80	74	70	67	63	63	75	70	57	55	77	77	58	52	53	51	49	59	56	40	47	40	62	56	33	45	65	57	58	60.0
	Minimum	32	34	42	35	42	32	28	29	43	32	26	21	32	44	37	25	30	25	27	35	25	10	25	25	31	26	20	20	41	35	32	30.4
Crosby	Maximum	65	65	67	80	67	65	65	70	60	63	51	53	71	62	52	51	50	47	41	37	34	28	29	28	45	32	25	41	56	54	38	51.4
	Minimum	32	33	40	40	43	24	26	26	31	27	30	20	36	37	35	27	25	21	23	15	23	16	19	22	26	20	15	20	31	34	22	27.1
Devils Lake	Maximum	60	65	63	63	67	60	50	57	67	62	46	41	72	75	50	52	53	49	44	46	36	34	28	26	44	33	21	41	43	47	49	49.8
	Minimum	36	28	34	29	44	31	29	23	29	36	24	14	28	40	38	28	18	24	28	32	28	21	24	15	18	15	9	17	27	31	29	26.7
Dickinson §§	Maximum	66	70	74	80	67	67	62	69	67	70	49	58	75	70	41	50	50	47	45	49	35	34	47	34	60	33	34	59	62	57	46	55.7
	Minimum	28	32	36	34	39	28	25	29	32	29	34	19	24	41	40	28	29	25	28	30	25	17	21	25	26	27	20	21	33	38	32	28.9
Drake	Maximum	65	66	64	69	67	62	51	60	72	67	46	48	75	72	51	53	54	49	43	46	34	34	30	31	50	28	30	49	49	50	46	52.0
	Minimum	34	36	37	29	34	34	26	26	30	31	32	16	17	36	39	26	26	28	25	29	30	20	23	21	20	22	14	15	29	36	29	27.4
Dunn Center	Maximum	67	70	69	80	66	63	62	68	65	70	57	58	56	72	60	51	51	43	45	45	36	35	38	31	59	37	26	52	60	55	46	54.6
	Minimum	32	33	33	33	42	36	25	25	30	39	41	18	38	40	38	26	35	24	29	30	28	17	26	25	25	25	22	26	35	37	30	30.4
Dunseith	Maximum	58	65	63	67	66	62	56	58	69	62	60	42	72	71	65	50	53	50	45	43	37	29	27	27	39	39	25	36	48	46	38	50.6
	Minimum	34	35	40	28	42	35	26	27	32	33	33	15	26	35	39	27	26	22	23	28	24	15	19	16	16	18	6	14	20	32	24	26.1
Edgeley	Maximum	70	76	77	66	71	69	59	70	70	69	60	45	81	84	75	56	58	57	50	60	54	36	43	46	50	46	29	54	71	62	76	61.0
	Minimum	36	44	36	34	41	34	25	19	26	36	41	11	19	14	39	32	24	20	31	29	24	18	25	24	11	24	16	19	28	31	27	28.0
Ellendale	Maximum	68	76	79	66	70	66	60	68	66	68	60	46	75	85	69	55	53	56	51	63	59	38	52	41	49	47	30	54	75	67	73	60.8
	Minimum	37	40	39	30	43	38	29	25	26	41	43	19	23	45	42	35	26	25	33	32	29	20	30	26	14	25	18	21	20	36	30	30.6
Fessenden §§	Maximum	67	68	65	69	67	63	53	63	72	68	46	50	68	75	51	51	56	52	50	50	34	35	30	29	48	28	27	47	50	54	55	52.9
	Minimum	34	30	38	23	39	31	24	20	21	30	32	12	26	37	40	27	21	21	30	27	27	20	21	22	20	22	12	11	28	34	29	26.1
Foxholm (near)	Maximum	58	60	58	67	67	58	55	52	72	65	55	50	74	68	58	50	53	47	34	40	36	29	29	27	43	41	24	45	49	49	36	50.0
	Minimum	29	31	45	33	49	36	23	27	31	29	34	14	33	43	35	25	26	25	22	28	26	15	21	17	18	21	13	18	30	34	25	27.6
Fullerton	Maximum	67	74	76	64	68	65	57	57	65	66	43	73	75	83	60	53	54	58	58	61	52	37	48	37	48	46	28	52	71	63	76	59.2
	Minimum	34	44	38	25	43	33	28	22	26	36	15	24	35	43	42	34	25	25	32	32	29	19	28	22	14	24	18	22	30	33	40	29.5
Garrison	Maximum	72	71	76	75	68	65	60	62	69	70	52	52	76	71	58	53	57	51	43	46	41	35	35	42	54	50	27	49	53	54	44	55.9
	Minimum	52	38	34	31	48	33	27	28	31	32	37	15	32	36	41	27	27	25	26	32	26	19	25	23	30	25	18	21	32	32	29	30.1
Grafton	Maximum	59	68	64	61	68	65	53	61	69	62	59	42	66	79	69	54	55	51	51	47	46	38	53	29	38	38	27	34	39	48	51	53.0
	Minimum	40	28	40	22	44	46	34	28	22	43	39	28	23	31	42	37	23	26	28	26	32	15	23	18	24	25	12	16	33	38	34	29.7
Grand Forks	Maximum	59	65	66	59	66	62	53	57	65	62	52	40	64	82	57	54	54	54	51	50	42	38	30	28	39	37	20	35	42	47	57	51.2
	Minimum	41	36	34	24	41	32	30	22	25	42	33	22	24	33	42	28	22	23	31	31	30	23	24	11	15	18	13	18	28	30	32	27.7
Granville	Maximum	65	68	65	73	70	65	58	62	70	70	55	55	77	73	54	50	55	45	45	45	40	35	30	28	49	44	26	48	51	48	44	53.6
	Minimum	31	29	42	32	42	31	20	26	26	19	30	8	35	38	35	28	30	23	25	30	30	20	24	14	22	25	15	21	33	34	29	27.3
Hansboro	Maximum	60	64	62	59	65	60	65	61	67	61	58	55	72	71	71	66	64	63	57	54	54	38	26	18	38	38	32	35	37	45	38	53.4
	Minimum	30	41	54	50	53	40	40	24	25	41	34	15	27	40	40	30	21	21	25	17	17	12	10	11	8	20	12	5	20	37	26	27.3
Hettinger	Maximum	68	74	76	78	70	66	63	66	72	72	62	57	72	75	57	50	50	58	49	54	42	38	57	48	63	55	31	60	74	57	57	60.4
	Minimum	28	34	33	36	45	34	28	25	32	32	37	18	32	33	37	30	36	26	29	37	23	17	26	27	26	30	21	22	37	37	31	30.3
Hillsboro	Maximum	62	71	71	60	64	62	49	57	62	60	58	42	62	81	68	60	50	47	43	49	49	37	35	36	34	28	26	31	40	49	71	52.2
	Minimum	39	44	40	30	45	38	36	29	50	55	42	29	22	36	45	43	25	22	20	29	22	26	24	23	19	14	13	16	34	33	39	31.7
Howard (near)	Maximum	65	64	64	82	65	67	70	60	65	48	57	74	64	62	53	50	42	41	36	31	31	30	31	31	47	37	32	47	54	44	85	50.9
	Minimum	28	34	34	38	48	38	30	34	26	34	14	38	40	38	20	24	20	20	30	12	13	12	22	21	21	18	17	24	30	30	28	27.0
Jamestown §§	Maximum	69	73	66	67	64	52	58	70	67	57	47	71	79	62	54	56	56	49	57	47	36	35	30	47	46	28	41	63	55	70	64	56.1
	Minimum	32	39	32	26	41	33	27	22	20	35	40	16	25	37	44	33	19	22	31	33	30	21	27	20	17	22	13	17	33	33	31	28.1
Kenmare	Maximum	63	68	64	73	67	64	74	73	65	66	45	51	62	72	58	53	53	42	39	38	29	29	28	28	42	27	30	44	50	45	40	51.0
	Minimum	33	36	37	38	44	35	27	34	36	34	36	15	35	37	42	29	30	27	21	30	22	17	21	20	20	24	15	12	31	35	27	29.0
Langdon §§	Maximum	60	68	60	61	62	60	52	62	70	62	42	40	70	60	51	56	52	56	50	45	36	36	30	24	40	30	22	36	40	40	40	48.8
	Minimum	44	34	35	24	26	28	26	25	25	35	28	17	19	29	27	28	19	17	18	15	22	16	18	20	10	17	7	10	19	29	25	23.0
Larimore	Maximum	62	67	68	61	69	64	54	59	70	66	58	42	63	81	70	56	54	55	51	49	47	38	30	28	42	40	26	36	39	50	53	53.2
	Minimum	37	29	40	25	40	35	32	28	36	41	37	28	25	36	44	33	24	27	31	31	32	23	23	17	11	25	10	16	30	33	29	29.8
Linton	Maximum	70	72	78	73	72	67	55	64	72	74	72	68	80	84	65	55	55	54	55	56	49	48	46	40	53	50	29	60	70	68	74	62.2
	Minimum	27	32	33	29	35	24	24	18	18	20	11	32	30	30	29	25	25	12	32	28	24	13	27	25	22	28	18	22	34	29	27	25.3
Lisbon	Maximum	67	75	75	67	68	64	54	59	66	67	59	44	70	84	60	62	55	58	51	59	56	40	40	36	48	47	31	44	64	61	80	58.4
	Minimum	35	43	32	28	44	35	31	27	22	40	43	19	27	36	37	38	23	23	34	29	30	18	27	25	20	26	14	19	31	33	33	29.7
McClusky	Maximum	65	67	71	79	74	67	55	61	72	67	62	50	76	74	60	52	54	49	42	50	41	35	35	34	30	31	28	49	56	55	40	54.2
	Minimum	29	36	37	27	36	42	23	19	27	28	24	10	30	36	39	25	21	22	24	30	27	17	25	21	23	25	14	19	30	32	20	26.4
Maddock	Maximum	62	67	66	68	69	65	59	59	70	67	64	44	74	75	66	52	54	51	45	44	55	33	29	28	45	45	28	45	46	50	49	54.0
	Minimum	32	25	27	22	43	29	21	19	19	30	37	11	26	35	38	25	15	21	25	30	29	19	22	20	18	21	10	10	30	33	27	24.8
Marmarth	Maximum	70	75	79	86	72	72	69	73	70	74	58	60	76	75	58	52	50	60	58	50	49	39	50	33	62	52	30	62	68	56	51	60.9
	Minimum	26	26	31	33	41	27	25	27	30	29	38	19	35	29	37	26	35	29	26	38	23	34	30	28	29	30	24	28	33	38	30	30.1
Minot	Maximum	68	69	64	73	68	65	62	64	70	70	66	51	76	72	60	53	58	44	41	43	40	33	30	30	49	44	31	49	52	52	40	54.4
	Minimum	39	34	34	34	53	31	20	27	34	29	38	12	36	36	38	28	26	25	24	24	28	19	23	18	23	24	16	16	16	36	28	28.0
Mohall	Maximum	63	68	63	74	68	62	64	70	70	66	53	65	75	68	52	52	54	42	43	39	30	31	28	28	42	27	29	44	48	42	33	51.4
	Minimum	30	44	31	50	35	20	27	34	29	38	12	29	40	36	25	24	23	22	28	27	17	23	19	20	23	14	19	31	35	27	26	27.7
Mott	Maximum	70	70	73	71	69	63	63	62	73	71	51	50	77	60	50	50	52	50	48	62	51	41	46	35	56	36	26	61	59	66	57	57.1
	Minimum	41	34	33	35	37	29	28	31	36	42	20	33	36	35	30	28	26	35	37	31	30	30	28	26	30	21	20	25	38	35	30	31.3
Napoleon §§	Maximum	70	71	77	71	70	66	52	62	70	66	47	52	79	80	55	53	55	52	48	62	39	37	45	32	50	32	26	50	69	57	72	57.0
	Minimum	32	41	37	25	40	28	21	19	24	28	40	10	31	40	43	25	22	24	30	29	25	10	25	23	16	24	15	16	26	28	28	26.6
New England	Maximum	72	80	84	83	73	72	69	70	70	75	76	74	76	75	70	64	46	55	54	51	54	56	56	60	62	38	46	58	67	58	50	64.3
	Minimum	32	34	46	46	35	30	27	32	27	19	29	30	33	36	36	33	20	25	30	35	29	23	16	25	30	20	21	31	40	35	29	30.1
New Salem	Maximum	64	65	68	68	67	65	53	56	58	65	66	50	78	70	57	47	48	40	49	48	39	38	38	38	52	49	28	51	55	54	52	54.1
	Minimum	34	34	43	30	49	35	25	25	35	35	40	17	32	49	37	29	32	27	29	29	27	15	11	27	24	28	17	18	30	33	32	29.9
Oakes	Maximum	70	79	78	67	70	67	55	58	67	70	59	45	74	88	69	57	58	59	54	61	58	40	50	39	47	47	29	47	73	63	80	60.6
	Minimum	34	45	32	29	46	34	27	21	21	38	41	18	25	34	41	35	18	24	32	30	30	19	28	22	14	25	18	20	29	32	35	28.9
Pembina §§	Maximum	53	63	61	58	65	52	48	58	65	57	42	40	60	76	49	50	50	48	51	43	36	32	29	26	37	29	23	31	40	46	45	47.2
	Minimum	37	34	34	27	28	37	32	25	25	25	40	25	24	28	36	34	25	22	24	22	19	22	20	17	19	17	14	14	20	23	28	25.7
Sharon	Maximum	62	69	68	60	68	64	54	57	67	62	47	41	68	78	58	53	55	52	47	49	43	37	31	26	42	39	22	38	48	54	53	52.0
	Minimum	25	30	28	19	44	32	31	29	27	35	33	15	26	35	43	30	23	21	30	30	29	21	23	16	18	22	9	16	29	32	29	26.8
Steele	Maximum	64	68	72	70	65	63	55	66	69	65	64	52	72	77	58	58	60	65	55	65	46	38	36	37	50	49	38	53	68	59	61	58.6
	Minimum	38	39	35	32	44	36	28	26	30	37	28	18	35	41	40	31	30	28	35	25	25	19	28	29	24	25	18	23	33	33	34	30.5
Towner	Maximum	75	73	65	69	75	67	64	62	68	68	76	46	76	76	67	54	58	50	46	46	50	43	37	29	46	48	27	51	47	46	48	56.5
	Minimum	32	24	38	26	49	29	24	20	25	27	37	10	32	37	36	23	17	19	23	29	29	18	23	15	20	22	13	18	31	34	28	26.1
Valley City	Maximum	64	72	73	67	66	64	64	58	69	65	63	46	70	81	70	54	55	57	52	56	56	44	34	33	45	45	30	40	56	55	72	57.3
	Minimum	34	39	32	26	42	30	28	20	18	34	41	16	26	30	45	32	18	23	32	29	30	22	24	23	20	24	14	17	32	29	32	27.8
Wahpeton	Maximum	81	80	77	70	75	70	61	60	68	69	67	48	71	86	82	58	56	58	55	55	53	42	41	42	45	47	32	39	63	66	80	61.2
	Minimum	48	50	34	27	43	31	39	25	26	42	44	21	24	38	40	38	21	23	36	32	31	16	27	25	14	28	15	20	24	35	41	30.9
Westhope	Maximum	64	70	66	74	72	66	61	66	67	67	58	50	76	70	58	58	57	50	48	42	38	34	30	29	43	26	29	43	43	43	37	52.7
	Minimum	32	35	44	28	45	30	24	28	30	29	37	13	32	40	33	24	24	20	19	27	26	15	22	19	19	13	19	18	29	32	27	26.9
Williston	Maximum	68	69	67	82	66	66	67	70	59	67	49	59	75	68	45	52	52	38	40	42	32	33	32	32	53	30	27	51	55	53	37	52.8
	Minimum	34	33	36	44	44	32	30	35	34	32	29	20	41	42	35	28	33	27	27	29	23	18	26	25	29	23	22	27	33	37	30	30.9
Moorhead, Minn	Maximum	62	71	71	60	64	62	49	57	65	65	54	40	69	83	60	53	52	55	49	52	45	37	36	29	44	42	24	40	60	59	76	54.4
	Minimum	39	44	40	30	45	38	36	29	29	41	31	26	24	36	44	34	25	27	35	32	31	27	27	18	18	19	15	21	25	35	37	30.9

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 11-28-23—1050]

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLII   BISMARCK, N. D., NOVEMBER 1933   No. 11

GENERAL SUMMARY

Mild temperature and fair weather marked the opening of the month, but was immediately followed by lower temperature and general snows, which condition prevailed until the 12th, when clearing and warmer weather obtained. The latter part of the month was generally mild, allowing livestock to range freely in most sections, but considerable yard feeding in the eastern portion was necessary. A stormy period extended from the 21st to the 25th, but the precipitation was generally light.

TEMPERATURE

The mean temperature for the State was 28.3°, or 0.9° above the normal, and 3.1° higher than the mean for November 1932. The highest mean reported was 35.0° at Marmarth, Slope County; the lowest was 19.5° at Pembina, Pembina County. The highest temperature reported was 78° at Wahpeton, Richland County on the 1st; the lowest was -15° at Pembina, Pembina County on the 16th. The greatest monthly range of temperature was 82° at Wahpeton, Richland County; the least was 46° at Hannah, Cavalier County and Dogden Butte, McLean County. The greatest daily range of temperature was 52° at Ashley, McIntosh County on the 19th.

PRECIPITATION

The average precipitation for the State was 0.65 inch, or 0.04 inch above the normal, and 0.16 inch more than the average for November 1932. The greatest monthly amount reported was 1.51 inches at Jamestown, Stutsman County; the least was a trace at Mohall, Renville County. The greatest amount recorded in any 24 consecutive hours was 1.22 inches at Richarton, Stark County on the 4th. The average number of days with 0.01 inch or more of precipitation was 5. The average snowfall was 6.6 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Arnegard, Carson, Stowers, Williston, 10th; Eckman, 5th, 16th; Foxholm, 16th, 19th; Howard, 14th; Moorhead, 30th; Pembina, 19th; Petersburg, 15th, 17th.

FOG: Devils Lake, 11th, 18th, 29th; Edmore, Petersburg, 24th; Grand Forks, 18th, 19th; Hannah, 22d, 24th; Kenmare, 1st, 21st; Moorhead, 1st, 18th; New England, 3d; Sharon, 26th.

HALOS, lunar: Bismarck, 23d; Devils Lake, 7th, 26th; Ellendale, 1st; Oakes, 7th; Williston, 27th.

HALOS, solar: Devils Lake, 5th, 18th, 20th; Edmore, 13th, 15th; Foxholm, 5th; Moorhead, 8th.

SLEET: Devils Lake, 1st, 10th, 11th, 23d, 25th; Eckman, 1st; Edmore, 10th, 11th; Grand Forks, 10th, 11th, 12th; Howard, 20th; Larimore, 10th; McClusky, Velva, 25th; Marmarth, New England, 3d; Minot, 6th; Moorhead, 10th, 11th, 25th; Park River, 12th; Pembina, 11th, 25th; Sharon, 12th, 25th.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.07	30.61	4	29.43	27	10.6	50	nw.	12	84	69	74	38
Devils Lake	30.04	30.59	4	29.26	27	11.2	40	nw.	12	91	79	85	40
Grand Forks	30.02	30.52	4	29.33	27	......	48	nw.	14	92	...	88	....
Williston	30.09	30.71	4	29.43	26	9.6	46	nw.	12	83	68	73	46
Moorhead, Minn	30.05	30.55	16	29.29	27	10.2	35	n.	12	88	77	82	34
Averages & ext's	30.05	30.71	4	29.26	27	10.4	50	nw.	12	88	73	80	39

† And other dates.

COMPARATIVE DATA FOR NOVEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	22.3	−4.4	75	−26	0.79	+0.17	1.80	0.13	7.4	4	8	9	13
1893	22.4	−4.3	74	−27	0.57	−0.05	2.10	T.	2.6	3	9	10	11
1894	23.1	−3.6	71	−25	0.47	−0.15	1.30	T.	2.6	4	10	8	12
1895	20.6	−6.1	76	−25	1.06	+0.44	1.91	0.09	8.2	5	8	9	13
1896.	8.1	−18.6	62	−32	2.23	+1.61	4.33	0.70	21.7	9	8	7	15
1897	20.0	−6.7	86	−28	0.32	−0.30	1.07	T.	2.8	3	12	9	9
1898.	23.0	−3.7	69	−30	0.34	−0.28	1.19	T.	3.1	3	13	8	9
1899.	36.0	+9.3	68	2	0.31	−0.31	0.85	0.00	1.0	2	15	4	11
1900	20.4	−6.3	64	−29	0.32	−0.30	1.05	0.17	5.2	5	14	7	9
1901	26.8	+0.1	70	− 7	0.19	−0.43	1.02	0.00	1.6	1	15	8	7
1902	29.6	+2.9	69	−12	0.24	−0.38	0.72	T.	1.9	3	11	6	13
1903.	25.3	−1.4	78	−20	0.26	−0.36	0.90	T.	2.5	2	13	4	13
1904	35.7	+9.0	80	−10	0.09	−0.53	0.55	0.00	0.7	1	18	5	7
1905	31.6	+4.9	88	−38	1.54	+0.92	3.06	0.31	11.0	9	7	13	10
1906	23.8	−2.9	68	−16	1.62	+1.00	3.94	0.62	10.2	7	10	7	13
1907	30.2	+3.5	85	−15	0.09	−0.53	0.60	0.00	0.7	1	16	8	6
1908	31.1	+4.4	75	−15	0.97	+0.35	2.81	0.14	8.2	4	12	8	10
1909	29.4	+2.7	88	−23	0.43	−0.19	1.85	T.	4.6	3	11	9	10
1910	23.9	−2.8	68	−23	0.37	−0.25	1.50	T.	3.2	2	8	10	12
1911.	16.7	−10.0	58	−33	0.65	+0.03	1.62	0.10	7.1	6	12	8	10
1912	31.8	+5.1	70	1	0.06	−0.56	0.70	0.00	0.5	1	14	9	7
1913	34.1	+7.4	77	− 2	0.22	−0.40	1.20	T.	1.6	2	15	8	7
1914	30.7	+4.0	83	−30	0.35	−0.27	0.83	0.00	2.6	2	13	10	7
1915.	28.1	+1.4	71	−10	0.91	+0.29	4.44	T.	3.7	4	10	10	10
1916	28.8	+2.1	75	−18	0.24	−0.38	1.12	0.00	1.7	2	16	8	6
1917.	36.8	+10.1	77	− 7	0.14	−0.48	0.41	0.00	1.4	1	16	6	8
1918.	28.9	+2.2	71	−18	1.04	+0.42	2.62	0.10	5.3	4	13	6	11
1919.	15.6	−11.1	57	−36	1.16	+0.54	3.40	0.13	11.8	5	11	8	11
1920	28.0	+1.3	65	−14	0.37	−0.25	1.10	T.	2.1	3	10	9	11
1921	21.0	−5.7	69	−30	0.68	+0.06	2.06	0.05	6.3	5	7	8	15
1922	31.8	+5.1	65	− 8	2.33	+1.71	5.33	0.40	6.3	6	7	7	16
1923.	36.5	+9.8	72	− 5	0.50	−0.12	1.42	0.04	0.6	3	13	8	9
1924.	27.6	+0.9	69	−15	0.18	−0.44	0 85	0.00	1.9	2	11	9	10
1925.	28.8	+2.1	69	−17	0.25	−0.37	1.24	0.00	1.3	2	14	8	8
1926.	21.5	−5.2	68	−23	0.65	+0.03	2.00	T.	6.2	5	6	7	17
1927.	20.7	−6.0	59	−24	0.70	+0.08	1.56	0.17	7.1	6	7	8	15
1928.	31.0	+4.3	70	−11	0.48	−0.14	2.48	0.00	0.2	1	15	8	7
1929.	24.8	−1.9	70	−21	0.53	−0.09	1.60	T.	5.2	5	9	8	13
1930.	29.4	+2.7	72	−21	0.87	+0.25	3.09	T.	6.2	5	13	7	10
1931.	30.3	+3.6	78	−10	0.55	−0.07	1.77	0.00	5.0	3	13	7	10
1932.	25.2	−1.5	70	−17	0.49	−0.13	2.69	T.	4.6	4	10	10	10
1933.	28.3	+1.6	78	−15	0.65	+0.03	1.51	T.	6.6	5	9	8	13
Per..	26.7	....	88	−38	0.62	....	5.33	0.00	4.7	4	11	8	11

Climatological Data for November 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley	......	7	......	......	......	......	......	......	......	0.58	......	0.34	......	4	......	......	......	......	H. A. Bury.
Amenia	Cass	954	37	24.6	−3.4	51	20	−4	16	40	1.11	+0.46	0.74	11.1	4	9	10	11	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	31.2	+2.9	59	23	−2	7	30	0.71	+0.31	0.40	6.5	8	20	3	7	nw.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	30.3	+2.3	70	1	3	19	52	0.35	−0.28	0.24	8.5	4	10	5	15	nw.	H. D. Piper.
Beach	Golden Valley	2,759	27	33.4	+2.4	59	19	3	9	31	0.92	+0.39	0.34	5.3	4	......	......	......	nw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	31.1	+2.6	60	14†	3	5	37	0.52	+0.08	0.22	12.0	3	14	5	11	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	31.4	+2.9	61	24	8	9	34	0.74	+0.17	0.38	7.8	6	8	8	14	nw.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	25.7	+2.1	51	20	0	9	36	0.77	+0.23	0.27	5.7	11	10	9	11	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	32.7	+2.1	62	19	0	5	36	1.14	+0.76	0.52	2.5	8	18	8	4	nw.	George Larsen.
Cando	Towner	1,488	32	26.4	−0.1	52	20	−2	8	38	0.30	−0.23	0.30	3.0	1	8	7	15	nw.	A. J. Swanson.
Carrington	Foster	1,579	35	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	L. A. Swanson.
Carson	Grant	2,500	21	32.2	+2.2	60	1†	0	9	30	0.89	+0.28	0.45	6.0	6	15	11	4	nw.	J. W. Evens.
Cavalier	Pembina	894	23	......	......	......	......	......	......	......	0.97	+0.14	0.40	9.7	9	7	8	15	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	36	......	......	......	......	......	......	......	1.25	+0.55	0.70	12.5	9	9	1	20	nw.	Theo. Marquardt.
Corinth	Williams	2,180	5	......	......	......	......	......	......	......	0.15	......	0.08	1.0	3	1	16	13	nw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	4	......	......	......	......	......	......	......	0.85	......	0.50	8.5	4	15	3	12	nw.	Geo. E. Berg.
Crosby	Divide	1,954	26	29.6	+2.9	55	24	3	9	39	0.51	−0.14	0.23	2.8	4	1	12	17	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	36	24.4	−0.1	54	20	2	9	35	0.73	+0.01	0.23	5.4	10	5	8	17	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	31.2	+2.9	60	19	−2	5	40	0.60	+0.08	0.43	5.2	9	9	9	12	nw.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	28.3	......	53	20	7	16	36	0.87	......	0.31	8.0	7	10	4	16	nw.	R. L. Williams.
Drake	McHenry	1,634	4	27.2	......	53	20	6	5	36	0.45	......	0.15	5.0	5	5	8	17	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	31.1	+3.2	58	19	0	5	31	0.70	+0.13	0.40	8.0	2	6	10	14	nw.	W. F. Moede.
Dunseith	Rolette	1,682	37	23.9	−0.5	49	20	1	16	43	0.23	−0.28	0.15	1.5	2	6	3	21	nw.	L. F. Wetsch.
Eckman	Bottineau	1,500	28	26.4	+0.6	52	19†	−5	5	36	0.66	+0.08	0.12	7.5	8	9	15	6	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	32	29.8	0.0	68	24	3	8	47	0.52	+0.05	0.30	5.1	4	4	14	12	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	22.3	......	50	20	−6	9	40	0.66	......	0.35	6.3	11	7	6	17	nw.	E. D. Warner.
Ellendale	Dickey	1,457	38	31.4	+5.3	72	1	2	16	40	0.50	−0.24	0.31	5.4	3	9	8	13	nw.	J. E. Demmer.
Energy ‡‡	McLean	1,750	21	31.0	......	59	24	8	5	43	0.54	+0.17	0.24	6.0	4	8	18	4	nw.	H. S. Solenberger.
Epping	Williams	2,224	25	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	A. O. Wang.
Fairfield	Billings	......	4	......	......	......	......	......	......	......	0.50	......	0.30	5.0	2	17	1	12	nw.	F. R. Hecker.
Fessenden	Wells	1,610	21	26.0	−1.1	54	20	−2	9	35	1.13	+0.37	0.70	12.0	4	11	8	11	sw.	T. D. Monsen.
Forman	Sargent	1,249	40	......	......	......	......	......	......	......	0.39	−0.25	0.12	3.5	6	19	5	6	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	33	31.0	+4.2	64	24	7	8	44	0.30	−0.25	0.20	3.0	2	15	7	8	nw.	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	27.1	......	51	13†	1	5	36	1.08	+0.41	0.37	7.5	7	5	11	14	nw.	E. C. Bierbaum.
Fryburg	Billings	2,790	15	......	......	......	......	......	......	......	0.71	+0.07	0.50	6.0	3	16	8	6	w.	Verne King.
Fullerton	Dickey	1,439	35	29.8	+0.6	60	20	2	16	39	0.93	+0.08	0.42	9.0	5	8	8	14	nw.	F. O. Alin.
Gackle	Logan	1,951	3	......	......	......	......	......	......	......	0.93	......	0.50	11.0	5	9	6	15	nw.	Geo. Hummel.
Garrison	McLean	1,901	56	30.4	+4.1	54	19†	6	5†	32	0.60	+0.05	0.40	6.0	3	5	17	8	nw.	W. F. Robinson.
Grafton	Walsh	827	41	22.8	−1.9	51	20	−8	16	43	0.75	+0.01	0.49	12.1	4	8	7	15	nw	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	42	22.8	−3.2	56	1	−5	15†	41	1.15	+0.84	0.53	16.8	15	0	14	16	nw	U. S. Weather Bureau.
Granville	McHenry	1,504	26	28.4	+1.7	55	20	0	5	35	0.38	−0.23	0.20	6.5	5	8	12	10	nw	W. A. Christianson.
Hankinson	Richland	1,068	4	26.1	......	72	1	−5	15	50	0.58	......	0.25	7.0	4	15	4	11	nw.	R. G. Stock.
Hannah	Cavalier	1,568	41	21.2	......	44	20	−2	9	36	0.83	+0.05	0.34	4.9	7	6	11	13	nw.	James Muir.
Hansboro	Towner	1,597	25	24.0	+0.5	50	20†	0	16	38	0.30	−0.29	0.20	4.0	2	14	6	10	nw.	C. E. Blackorby.
Hettinger	Adams	2,675	26	34.4	+2.8	64	19	−2	5	33	0.44	0.00	0.30	3.0	2	7	10	13	nw.	C. H. Plath.
Hillsboro	Traill	901	27	23.6	−4.2	71	1	−4	16	37	1.11	+0.20	0.80	11.0	4	10	6	14	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	29.3	+3.0	55	24	−1	7†	27	0.02	−0.59	0.01	0.2	2	12	8	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	27.8	+0.5	61	1	1	9	35	1.51	+0.79	0.85	15.1	7	11	11	8	nw.	S. Calvelage.
Kenmare	Ward	1,799	2	30.2	......	61	14	5	5	44	0.42	......	0.22	4.2	7	6	8	16	w.	R. Costello.
Langdon	Cavalier	1,615	37	21.0	−3.0	45	11	−5	16	42	0.50	−0.33	0.20	5.0	3	11	19	0	nw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	24.7	−1.1	56	20	−2	16	43	0.73	−0.14	0.65	11.8	3	11	5	14	nw.	Mabel Walsh.
Linton	Emmons	1,711	16	31.1	+2.1	65	1	5	9	42	0.46	−0.20	0.15	4.5	5	7	14	9	nw.	Rev. E. J Olberding.
Lisbon	Ransom	1,091	29	28.6	−0.3	58	20	−1	16	39	0.70	−0.03	0.20	7.0	6	3	6	21	......	N. S. Lindstrum.
McClusky	Sheridan	1,943	15	27.4	......	54	24	7	8	36	0.90	+0.19	0.40	9.5	4	11	9	10	nw.	Edw. Tapley.
McLeod	Ransom	1,075	22	29.0	−1.3	70	1	−5	16	45	0.63	−0.10	0.25	6.3	5	15	7	8	nw.	J. G. Carlson.
Maddock	Benson	1,604	18	25.6	−1.0	54	20	1	16	40	0.29	−0.25	0.11	2.9	5	7	7	16	nw.	A. T. Felland.
Mandan	Morton	1,750	19	30.4	+1.2	60	24	6	9	35	0.90	+0.38	0.44	9.3	6	7	5	18	w.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30	......	......	......	......	......	......	......	0.73	+0.01	0.30	8.0	8	......	......	......	......	P. B. Anderson.
Marmarth	Slope	2,714	24	35.0	+3.6	63	13	−13	5	39	0.45	+0.04	0.32	5.0	4	13	7	10	nw.	S. P. Grane.
Mary	McKenzie	......	4	......	......	......	......	......	......	......	0.32	......	0.19	5.0	4	10	7	13	sw.	Fred Hartman.
Max	McLean	2,093	4	28.6	......	63	19	7	9	40	0.75	......	0.40	5.2	6	7	1	22	nw.	A. W. Rice.
Mayville	Traill	975	37	24.2	−4.0	56	20	−1	16	39	0.48	−0.31	0.15	4.5	7	2	6	22	nw.	H. B. Addicott.
Minot	Ward	1,557	37	29.1	+1.6	59	19	−1	5	33	0.79	+0.12	0.26	8.0	6	6	12	12	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	39	27.8	+3.0	51	19†	−1	4	38	T.	−0.60	T.	T.	0	5	9	16	nw.	G. V. Davidson.
Mott	Hettinger	2,424	26	31.8	+2.6	58	20†	3	4	34	0.43	−0.12	0.33	4.0	2	10	5	15	nw.	O. H. Opland.
Napoleon	Logan	1,955	41	29.0	+2.3	58	20†	6	8	40	1.15	+0.50	0.80	10.5	6	9	2	19	nw.	C. J. Hoof.
New England	Hettinger	2,400	39	33.4	+4.3	63	24	0	4	40	0.70	+0.19	0.49	4.0	2	17	8	5	nw.	F. S. Sleight.
New Salem	Morton	2,163	29	32.0	+2.2	70	24	1	9	40	0.58	+0.09	0.22	6.0	5	14	7	9	nw.	J. Christiansen.
Oakes	Dickey	1,318	4	30.2	......	70	1	−1	16	41	0.39	......	0.18	6.0	5	6	12	12	nw.	Eugene Naylor.
Park River	Walsh	998	29	24.8	−3.0	57	11	−5	16	51	0.84	+0.06	0.80	8.4	3	0	8	22	nw.	C. B. Wright.
Parshall	Mountrail	1,929	18	28.8	......	55	24	3	5†	33	0.18	−0.11	0.10	3.5	5	5	19	6	sw.	C. E. Shubert.
Pembina	Pembina	789	59	19.5	−3.8	40	13	−15	16	45	0.66	−0.13	0.19	11.5	12	0	4	26	nw.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3	......	......	......	......	......	......	......	0.72	......	0.41	5.0	6	5	10	15	nw.	T. M. Rykken.
Pettibone	Kidder	1,856	24	26.6	+0.2	55	1	1	9	37	0.82	+0.16	0.35	7.5	5	11	4	15	nw.	H. H. McCumber.
Portal	Burke	1,954	28	26.4	+1.0	52	23	3	4†	44	0.32	−0.26	0.20	3.0	2	8	8	14	nw.	R. G. Wegener.
Power‡‡	Richland	1,020	39	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Frank B. Power.
Powers Lake	Burke	2,205	28	28.0	......	58	19	2	4	35	0.49	−0.09	0.24	7.0	3	15	8	7	e.	Geo. B. Gee.
Richardton	Stark	2,467	17	29.8	+1.5	59	19	−4	7	31	1.46	+1.00	1.22	6.4	3	15	10	5	nw.	John Muggli.
Rugby (near)	Pierce	1,562	4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	E. C. Erickson.
Ryder	Ward	2,108	4	......	......	......	......	......	......	......	0.43	......	0.25	4.5	3	......	......	......	......	S. C. Schellenbaum
Sanish	Mountrail	1,835	...	29.4	......	58	24	1	4†	32	0.67	......	0.40	6.7	4	......	......	......	......	H. J. Bugge.
Sharon	Steele	1,516	9	23.9	......	52	20	−5	9	39	1.35	......	0.73	10.3	11	4	6	20	nw.	Nels O. Grefsheim.
Stanton	Mercer	1,722	9	......	......	......	......	......	......	......	0.68	......	0.25	11.5	3	6	14	10	nw.	J. H. Giffey.
Steele	Kidder	1,857	39	30.2	+3.9	62	20	10	3†	38	0.20	−0.42	0.15	4.2	3	7	15	8	sw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	18	......	......	......	......	......	......	......	0.03	−0.34	0.03	1.0	1	18	8	4	......	Thos. D. Alkire.
Tagus	Mountrail	2,179	4	......	......	......	......	......	......	......	0.29	......	0.15	......	3	6	14	10	sw.	J. C. Abbott.
Tioga	Williams	2,279	4	......	......	......	......	......	......	......	0.43	......	0.22	4.2	4	7	9	14	nw.	Anton Carlson.
Towner	McHenry	1,482	31	27.8	+2.6	58	14	5	5†	45	0.05	−0.54	0.05	1.0	1	7	8	15	w.	Karl Weber.
Trotters	Golden Valley	......	7	......	......	......	......	......	......	......	0.61	......	0.49	5.0	3	5	12	13	......	A. J. Nellermoe
Turtle Lake	McLean	1,899	19	......	......	......	......	......	......	......	0.51	+0.11	0.23	6.3	4	......	......	......	......	M. A. Slettum.
Valley City	Barnes	1,245	27	27.4	−0.6	69	1	−1	9†	37	0.87	+0.13	0.36	7.5	7	13	11	6	nw.	I. C. Robertson.
Velva	McHenry	1,511	6	28.0	......	57	20	5	5	37	1.06	......	0.35	11.0	6	4	12	14	w.	Oscar Anderson.
Wahpeton	Richland	962	41	28.4	−0.4	78	1	−4	16	42	0.92	+0.20	0.20	8.5	8	16	0	14	nw.	C. G. Luick.
Washburn	McLean	1,731	32	30.0	−0.3	61	20	9	5†	36	0.75	+0.23	0.57	7.5	4	9	10	11	w.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	27.1	+1.5	54	12	−2	5	45	0.42	−0.13	0.15	3.0	5	12	9	9	nw.	C. M. Condit.
Williston	Williams	1,878	54	32.0	+4.8	57	24	3	7	29	0.66	+0.06	0.44	6.2	8	11	9	10	w.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	24.6	+2.0	52	20	1	5	36	0.74	+0.15	0.20	5.0	5	8	12	10	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	4	28.4	−1.4	58	20	5	8	37	0.48	−0.04	0.23	4.8	3	12	1	17	nw.	Gottlieb Herr.
Zap	Mercer	1,838	18	......	......	......	......	......	......	......	0.28	−0.05	0.12	2.8	3	......	......	......	......	R. A. Norton.
Moorhead, Minn.	Clay	935	52	25.4	−1.7	66	1	−2	16	41	0.91	+0.01	0.45	11.2	9	5	8	17	nw.	U. S. Weather Bureau.
Averages				28.3	+0.9	78	1	−15	16	52	0.65	+0.04	1.22	6.6	5	9	8	13	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, ᵃ, ᵇ, ᶜ, appearing in the table indicate number of days missing; for example, ᵇ represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; Energy, Underwood; Grand Forks, University; Power, Leonard; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for November 1933

Stations	Drainage Basin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Alpha	Lit. Missouri			.10	.12			T	.02	T												T		.34	T								0.58
Amenia	Red				.74	.29	T	.03	T	T			T.	T.									.05				T.		T				1.11
Arnegard (near)	Missouri			.40	.05		.05	T	.05													.06			.05				.02	.03			0.71
Ashley	Missouri			.02	.24		.08																	.01		T.							0.35
Beach	Lit. Missouri			.34	.19				.09												T	T		.30					T				0.92
Berthold Agency	Missouri			.22	.15		.15		T												T		T			T.			T				0.52
Bismarck ***	Missouri		T	.28	.18	T.	.18		T	T.			T.			T.						.01	.06	T		.03							0.74
Bottineau	Mouse			.05	.02		.04	T.	.05	T.		T.	.27									.12	.06		.01	.02			.02	.11			0.77
Bowman	Grand			.22	.20	.08	.03															T.	.01	.52	.03	.05							1.14
Cando	Devils Lake					T	T	T	T	T.	T.	T.											T	T	T.	.30				T.			0.30
Carrington ‖	James																																.....
Carson	Heart			.15	.45																	.10	.10	.05		.04							0.89
Cavalier	Red				.40				.10	.02	.10	.05	.05			.10									.10	.05							0.97
Cooperstown	Sheyenne			T	.12	.70	.03	.05	.06	.15	.04		T.										.08		T.	.02				T.			1.25
Corinth	Missouri								T.			.05										T.	.08		.02				T.				0.15
Courtenay	James			.20	.50	.10																T.		T.		T.		T.	.05				0.85
Crosby	Mouse		T.	.20			T.	.03													T.	T.				.23			.05				0.51
Devils Lake ***	Devils Lake	T.	T.	.12	.18	T.	T.	.01	.03	T	T	.01	.09			T.	T.				.01	.07	T.	T	.01	.20		T.	T.	T.			0.73
Dickinson ‖	Heart			.05	.43	.01	.01	.01		.01												T.	.02	.04		.02							0.60
Dogden Butte	Mouse	T.		.20	.31		.07		T	T.	T.		.05									.01	.08			.15			T.	T			0.87
Drake ‖	Mouse				.13		.06	T.		T.													.10				.15			.01			0.45
Dunn Center	Knife			.10	.30																												0.70
Dunseith	Mouse			T			T.		T.													.08				T.			T.	.15			0.23
Eckman	Mouse	.03		.12	.10				.04			T.										.10	.07			.10			T	.10			0.66
Edgeley	James				.30		.17																.01			.04							0.52
Edmore	Devils Lake		T.	.05	.35		.01	.02	.07	T.	.02	T.	.05		T.	T.	T.					.01	.02	T.	.01	.05	T.	T.	T	T.			0.66
Ellendale	James				.10	.09	.31																T.	T.		T.							0.50
Energy	Missouri			.24	.10		.10																	T.		.10							0.54
Epping	Missouri																																.....
Fairfield	Knife			.20	.30																												0.50
Fessenden ‖	James				.70	.14	T.	T.															.11			.18							1.13
Forman	Sheyenne	T.		T.	.04	.04	.12		T.				T.										.05	.04		.10							0.39
Fort Yates	Missouri			T.	.20		.10															T.	T.			T.							0.30
Foxholm (near)	Mouse	T.		.37	.22				T.													.19	.12	T.		.06			.06	.06			1.08
Fryburg	Heart	T.		.10	.50		T.	.11	T.																								0.71
Fullerton	James			.12	.25		.42	T.	T.							T.						.08		T.		.06							0.93
Gackle	James			.10	.50	T.	.10															T.	T.	.03		.20							0.93
Garrison	Missouri			.40	.10		.10		T.													T.	T.	T.		T.			T.				0.60
Grafton	Red		T.		.49	.04		T.	T.	.07	T		.15			T						T			T.								0.75
Grand Forks ***	Red	.02	T.	.15	.53	.02	.01	.03	.04	T.	.04	T.	.15			T.						.01	.01	.01	.02	.03			T.	.05			1.15
Granville	Mouse	T.		.04	.20		T.		T.													.02	.04			.08			T.	T.			0.38
Hankinson	Red	T.		.10			.25															.13				.10							0.58
Hannah	Pembina		T.	T.	.22		T.	.05	T.	T	.06	T.	.34			T.						T.	T.		.03	.06	T.		T.	.07			0.83
Hansboro	Devils Lake																									.20				.10			0.30
Hettinger	Grand				.30		T.	T.																.14									0.44
Hillsboro	Red				.80				.14				.07									.10											1.11
Howard (near)	Missouri	T.	T	T.			T.		T.				.01								T.	.01		T.		T.			T.				0.02
Jamestown	James	T.		.85	.45		.05					.02				.02			.02			.10			T.								1.51
Kenmare	Mouse	.02	.02		.22					.01			.01											T.		.09				.05			0.42
Langdon	Pembina	.10			.20	.20																											0.50
Larimore	Red		T.	.02	.65			T.	T.		T.		T.										.06		T.	T.	T.			T.			0.73
Linton	Missouri	T.		.05	.15		.10															.01	.15	T		T.							0.46
Lisbon	Sheyenne			.30	.10	.10	.10																.05			.05							0.70
McClusky	Missouri			.40	.40		.05		.05																	T.							0.90
McLeod	Sheyenne				.25	.18	.05	T.	T.														.08	T.		.07							0.63
Maddock	Sheyenne			T	.06			T.	.02	T.	T.	T.	T.									.04	.06			.11			T.	T.			0.29
Mandan ‖	Missouri		.07	.44	.01	.26			T.													.10		T.	.02								0.90
Manfred	James			.10	.30		.10		T.				.02									.05	.05			.10			.01				0.73
Marmarth	Lit. Missouri			T.	.32		T.	T.	.01												T.	.05		.07		T.							0.45
Mary	Lit. Missouri			.19	.05		T.															.05		T.	.03				T.				0.32
Max ‖	Missouri			.02	.40			.02														.05				.25				.02			0.76
Mayville	Red		T.		.09	.15		T	.06	T.		T.	.03			T.						T.	.08		.05	.02							0.48
Minot	Mouse			.25	.26		T.		T		T.		T.									.10	.09			.05			.04				0.79
Mohall	Mouse			T.	T.					T.														T.									T.
Mott	Cannon Ball		.10	.33	T.				T.																								0.43
Napoleon ‖	Missouri		T.		.80		.20																.04	.05	.02	.04							1.15
New England	Cannon Ball			.49																			.21										0.70
New Salem	Heart			.18	.22		.10		T.														.05			.03							0.58
Oakes	James				.06	.05	.18																.05	T.		.05							0.39
Park River	Red			T.	.80		T.	T.	T.		.02		T.									.02			T.	T.							0.84
Parshall	Missouri			.10	.03		.02															.02		.01		T.			T.				0.18
Pembina ***	Red			T.	.01	.06	T.	T.	.04	.02		.05	.11	.06		.01	T.	T.			T.	.08	T.	T.	.01	.19	.02	T.			T.		0.66
Petersburg	Red		T.	T.	.41		T.	.02			T.		.14									.01	.01		T	.13							0.72
Pettibone	James	T.		.15	.35		.10	T.	T.	T.	T.		T.			T.						.03	T.	T.	.19				T.				0.82
Portal ‖	Mouse			.20																		.12											0.32
Power	Sheyenne																																.....
Powers Lake	Missouri							.24	.18												.07												0.49
Richardton	Heart			.20	1.22		.04															T.											1.46
Rugby [near]	Mouse																																.....
Ryder	Missouri		.25			.08																.10	T.										0.43
Sanish ‖	Missouri		.20	.40		.02		T.																				T.	.05				0.67
Sharon	Red	T.	T.	.20	.73	.01	T.	T.	.02		.01	T.	.12			T						.08	.02	.01	.01	.14	T.	T.	T.	T.			1.35
Stanton	Missouri			T.	.23		.25		T.													.20							T.				0.68
Steele	Missouri			T.	.15		.03						T.			T.						T	.02	T.		T.							0.20
Stowers	Cannon Ball			T.	.03		T.	T.																		T.							0.03
Tagus	Mouse			.05																		.15						.09					0.29
Tioga	Missouri			.22		.11																T.	.08		.02				T.				0.43
Towner	Mouse			T.	T.							T.										.05				T.			T.				0.05
Trotters	Lit. Missouri			.49		.07																	T.	.05									0.61
Turtle Lake	Missouri			.23	.13																	T.	.10			.05							0.51
Valley City	Sheyenne			.36	.12	.22	T.	T.	T.	T.	.01		T.			.01							.05	T.		.10			T.	T			0.87
Velva	Mouse	T.		.35	.25		.10	T.	T.	T.												.08	.07			.21			T.	T.			1.06
Wahpeton	Red			.10	.20	.10	.10							.02									.15	.05		.20							0.92
Washburn	Missouri		T.	.05	.57		.11							T.								T.	.02		T.	T.		T.					0.75
Westhope	Mouse			.04					T.		.03		.09									.11								.15			0.42
Williston ***	Missouri		T.	.44	.02	T.	.12	T.	T.												.02	.02			T.	.01			.02	.01			0.66
Willow City	Mouse			T.	.20		T.		.10		T.	T.	.14			T.					T.	.20				.10		T.	T.				0.74
Wishek ‖	Missouri				T.	.23	T.	.23																.02									0.48
Zap	Knife			.12		.08																		.08									0.28
Moorhead, Minn ***	Red	T.	T.	.29	.32	.03	.05	T.	.03	T.	T.	T.	.05		T.	T.						.08		.01	T.	.05		T.	T.				0.91

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for November 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	40	28	31	32	30	31	23	28	21	38	41	39	43	22	22	23	41	40	45	51	30	27	34	47	32	45	40	25	35	39	....	34.1
	Minimum	32	25	22	24	18	12	14	5	-2	2	17	21	4	8	3	-4	1	23	28	25	22	12	14	10	21	16	24	18	18	23	....	15.2
Arnegard (near)	Maximum	30	28	25	23	25	31	23	34	22	43	45	40	51	42	36	50	45	50	56	50	42	40	59	51	51	45	42	39	42	45	....	40.2
	Minimum	24	20	16	15	4	18	-2	16	16	19	32	23	22	25	22	20	22	31	32	25	22	32	32	27	32	35	26	25	17	22	....	22.3
Ashley	Maximum	70	33	27	26	25	30	27	35	23	39	41	47	53	47	40	39	45	47	55	58	51	46	40	57	50	46	45	39	36	45	....	42.1
	Minimum	29	23	17	18	12	15	15	6	11	12	33	20	14	12	13	5	26	27	3	26	11	20	24	27	24	23	33	20	16	20	....	18.5
Beach	Maximum	37	29	27	17	24	30	24	35	34	43	47	50	57	48	38	52	48	51	59	52	48	48	50	58	54	53	53	30	40	45	....	42.7
	Minimum	27	23	17	11	4	13	4	20	3	33	32	28	27	33	24	24	27	30	34	31	25	31	36	33	34	29	27	23	15	26	....	24.1
Berthold Agency	Maximum	35	35	28	20	30	30	25	38	20	40	47	40	47	60	43	47	46	50	55	55	40	34	35	60	55	45	60	27	38	40	....	40.8
	Minimum	28	20	16	14	3	18	10	20	4	15	30	15	17	23	17	20	18	25	28	36	32	30	28	30	28	28	25	22	20	22	....	21.4
Bismarck	Maximum	37	31	22	22	26	32	23	37	22	41	44	51	52	41	33	45	46	48	56	56	39	36	38	61	53	47	55	29	40	43	....	40.2
	Minimum	29	21	19	15	11	21	11	17	8	18	35	17	18	20	19	15	31	28	32	24	20	28	30	31	29	29	29	22	21	26	....	22.5
Bottineau	Maximum	35	29	21	20	25	33	27	24	18	34	37	29	46	40	26	41	42	44	46	51	44	27	35	45	39	32	31	27	28	32	....	36.0
	Minimum	26	10	9	14	2	20	10	12	0	16	21	15	10	15	12	6	20	25	26	28	15	22	18	18	18	14	21	12	18	8	....	15.4
Bowman	Maximum	32	33	25	16	28	29	35	36	37	45	57	41	59	39	38	49	48	52	62	52	48	49	41	60	44	54	38	30	40	46	....	42.1
	Minimum	30	22	24	13	0	11	8	8	9	9	31	36	27	34	27	22	23	29	33	27	24	26	34	32	37	28	31	25	19	21	....	23.3
Cando	Maximum	35	41	23	42	32	30	23	19	34	36	42	44	44	43	44	38	40	43	46	52	50	48	33	43	42	38	34	31	29	32	....	37.7
	Minimum	27	12	13	11	9	14	12	-2	15	19	8	14	19	17	8	0	22	23	21	25	26	17	19	18	16	15	13	14	12	13	....	15.0
Carrington §§	Maximum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
	Minimum	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	......
Carson	Maximum	60	43	25	20	25	30	20	35	22	42	52	47	55	48	37	47	46	50	49	55	40	43	40	60	54	44	55	31	40	43	....	41.9
	Minimum	34	20	12	10	8	18	9	11	0	20	33	23	25	26	20	22	26	29	32	30	20	32	32	32	31	26	29	20	18	24	....	22.4
Crosby	Maximum	32	28	22	21	29	32	22	32	20	45	46	41	53	46	32	46	45	50	53	48	36	43	39	55	51	40	50	28	35	40	....	38.8
	Minimum	26	14	18	13	17	21	13	16	3	17	31	22	14	25	20	20	25	30	25	21	17	19	26	31	22	27	27	16	18	21	....	20.5
Devils Lake	Maximum	36	28	21	23	25	31	21	25	18	37	36	42	46	27	23	37	41	44	46	54	24	30	30	46	37	39	44	18	28	32	....	33.0
	Minimum	28	14	16	14	9	20	13	3	2	17	20	11	11	9	3	3	25	27	30	21	19	21	17	22	18	20	18	13	16	10	....	15.7
Dickinson §§	Maximum	33	32	23	18	29	31	36	34	33	41	49	39	54	38	36	47	46	50	60	53	44	46	39	59	44	57	39	27	40	45	....	40.7
	Minimum	29	24	19	13	-2	-1	9	9	1	1	30	39	23	34	22	21	24	27	30	30	26	27	34	30	33	26	25	23	18	23	....	21.6
Drake	Maximum	31	25	21	21	30	33	33	30	22	40	45	43	50	28	26	39	43	46	52	53	30	34	35	50	33	46	36	24	34	35	....	35.6
	Minimum	27	17	12	16	6	13	16	11	11	14	22	25	14	20	16	8	18	28	31	30	16	18	20	23	23	21	29	17	17	24	....	18.8
Dunn Center	Maximum	38	28	24	21	24	31	21	37	21	47	45	47	46	45	37	48	46	48	58	43	43	45	40	50	51	45	55	30	39	42	....	39.4
	Minimum	28	22	14	12	0	20	8	16	2	16	34	23	24	26	23	20	29	32	34	28	22	32	35	36	23	31	30	19	21	25	....	22.8
Dunseith	Maximum	33	29	20	20	23	32	24	23	17	33	39	39	46	43	20	39	40	46	47	49	43	26	34	40	39	33	44	23	24	29	...	33.2
	Minimum	24	8	7	12	2	16	12	10	6	13	18	11	3	10	9	1	28	26	29	25	13	20	20	17	22	18	21	10	12	14	....	14.6
Edgeley	Maximum	66	34	25	28	28	29	28	50	22	32	48	45	48	45	25	38	42	50	54	56	47	32	38	68	50	45	50	38	36	46	....	41.2
	Minimum	30	20	14	10	14	19	6	3	5	17	30	19	13	18	8	4	17	20	30	22	18	21	24	23	24	24	31	21	22	26	....	18.4
Ellendale	Maximum	72	35	28	30	30	31	28	35	25	35	40	47	53	49	29	36	47	52	56	61	50	35	41	60	50	43	48	39	38	47	....	42.3
	Minimum	33	26	18	23	16	13	14	5	8	16	29	22	14	20	10	2	29	28	32	21	21	22	25	27	24	20	32	20	20	29	....	20.6
Fessenden §§	Maximum	32	34	21	22	30	33	31	29	20	39	42	40	46	25	25	39	43	46	52	54	28	34	35	50	30	44	37	24	33	36	....	35.1
	Minimum	29	18	12	16	8	10	14	8	-2	14	19	29	11	16	13	5	17	26	26	21	15	19	20	23	21	19	22	16	19	23	....	16.9
Foxholm (near)	Maximum	30	27	19	19	26	32	21	33	21	40	40	45	51	45	30	43	44	48	50	51	40	33	37	48	47	39	49	30	30	34	....	36.7
	Minimum	24	12	10	9	1	19	9	10	7	15	24	16	15	17	13	12	25	29	32	32	12	22	19	23	21	22	28	13	14	21	....	17.5
Fullerton	Maximum	38	33	24	30	27	31	26	37	21	35	40	47	51	47	27	35	45	51	50	60	42	33	39	57	51	43	50	38	37	45	....	39.7
	Minimum	30	23	16	24	16	16	10	4	7	18	28	22	13	17	12	2	28	27	30	21	20	22	26	25	23	21	32	22	22	22	....	20.0
Garrison	Maximum	40	30	26	23	28	32	22	34	23	40	39	46	50	42	40	42	44	47	54	53	46	42	36	51	48	42	53	35	36	38	....	39.5
	Minimum	28	21	17	14	6	20	10	12	6	16	29	22	18	19	18	26	28	28	32	29	22	19	27	29	26	26	34	18	19	20	....	21.3
Grafton	Maximum	50	33	25	29	28	30	29	22	21	25	37	40	43	42	14	28	38	40	40	51	45	23	28	29	22	30	37	25	30	32	....	32.2
	Minimum	28	12	11	14	-1	19	17	12	3	12	21	10	0	4	3	-8	24	18	29	29	16	14	11	10	16	13	25	18	16	9	....	13.5
Grand Forks	Maximum	56	29	28	29	21	30	24	22	22	36	36	40	42	24	11	29	38	35	40	43	26	25	30	34	31	33	41	22	31	36	....	31.6
	Minimum	27	17	20	23	15	23	12	6	-1	13	20	1	-2	4	-5	-5	20	22	28	26	17	12	14	17	16	19	19	15	18	5	....	13.9
Granville	Maximum	39	31	22	22	26	34	25	34	34	39	41	45	52	45	30	42	45	48	54	55	30	34	35	50	42	40	47	31	33	36	....	38.0
	Minimum	29	15	10	15	0	24	12	12	18	19	26	12	17	19	15	10	25	28	29	27	15	22	21	24	22	20	30	15	19	18	....	18.9
Hansboro	Maximum	33	29	20	21	27	30	22	17	20	34	36	38	43	39	30	38	40	44	45	50	48	50	34	41	35	33	42	35	28	25	....	34.2
	Minimum	26	12	12	14	5	9	9	9	13	9	15	16	9	7	8	0	25	26	26	25	12	18	18	19	15	10	13	10	12	12	....	13.8
Hettinger	Maximum	41	36	30	21	25	30	24	36	37	46	58	51	59	50	38	53	48	53	64	56	50	48	43	62	53	49	50	33	41	48	....	44.4
	Minimum	30	20	19	13	-2	14	9	16	8	31	32	33	26	35	22	20	27	30	33	33	25	35	36	32	34	28	31	24	20	20	....	24.5
Hillsboro	Maximum	71	34	26	30	30	28	26	15	15	29	28	29	32	28	10	28	35	35	40	45	45	26	23	35	35	35	39	30	32	30	....	31.5
	Minimum	34	19	15	24	16	15	10	9	0	15	15	16	11	4	5	-4	16	19	25	25	20	20	17	15	15	15	30	15	15	16	....	15.6
Howard (near)	Maximum	33	32	24	20	27	27	21	34	19	42	45	40	52	45	35	46	47	45	52	45	42	45	38	55	50	44	34	28	30	37	....	37.8
	Minimum	18	22	13	10	8	20	-1	13	-1	16	35	28	28	28	28	20	25	25	25	28	19	30	29	34	25	27	20	15	17	20	....	20.8
Jamestown §§	Maximum	64	31	22	27	25	30	27	33	20	36	39	43	44	41	25	35	43	45	47	56	45	30	35	54	47	39	47	34	35	38	....	37.9
	Minimum	29	19	14	21	12	17	6	4	1	10	23	15	10	13	11	4	25	29	30	22	19	20	22	22	20	22	32	18	19	23	....	17.7
Kenmare	Maximum	31	30	24	20	21	31	35	41	39	29	42	46	49	61	33	36	45	45	51	58	60	35	42	39	55	41	59	57	23	32	....	40.3
	Minimum	26	13	14	13	5	23	10	10	9	11	28	18	18	27	22	14	23	28	33	31	16	25	25	26	24	21	32	16	16	22	....	20.0
Langdon§§	Maximum	32	27	22	22	22	27	22	20	20	35	45	30	42	20	12	35	39	40	40	41	40	30	30	28	30	40	35	20	30	22	....	29.9
	Minimum	27	12	11	14	6	10	11	10	5	9	15	20	0	0	2	-5	5	20	24	30	12	10	15	15	14	12	28	10	9	14	....	12.2
Larimore	Maximum	49	32	25	28	25	30	27	24	20	28	37	40	43	40	21	32	40	40	42	56	42	25	30	36	31	36	42	28	31	33	....	33.7
	Minimum	32	20	17	23	13	16	18	8	3	14	19	10	0	6	3	-2	26	26	32	27	19	15	16	16	16	15	23	13	16	12	....	15.7
Linton	Maximum	65	33	26	24	27	31	25	36	24	45	50	49	55	50	34	45	45	49	56	59	50	40	40	62	50	47	50	38	40	45	....	43.0
	Minimum	30	25	19	19	11	17	8	6	5	19	34	23	13	25	12	11	25	21	24	17	14	27	21	29	21	21	18	21	20	19	....	19.2
Lisbon	Maximum	43	39	27	28	30	29	29	43	32	33	34	32	34	37	36	37	41	46	47	58	33	27	37	55	46	42	47	38	37	44	....	38.0
	Minimum	31	23	11	20	17	22	9	4	0	17	24	20	21	19	17	-1	27	27	29	21	22	16	22	22	23	19	32	20	21	25	....	19.3
McClusky	Maximum	30	29	21	20	20	31	21	33	18	38	38	44	48	44	29	32	42	48	51	53	42	35	34	54	45	39	46	40	35	38	....	36.6
	Minimum	26	10	10	13	15	16	8	6	10	15	25	17	12	15	10	10	23	23	30	28	15	22	23	24	20	22	30	25	16	22	....	18.1
Maddock	Maximum	50	31	23	22	22	32	29	29	20	35	33	43	48	46	24	41	42	44	50	54	46	30	32	47	50	35	44	29	31	34	....	36.5
	Minimum	28	14	7	7	10	12	12	8	2	5	10	15	10	13	10	1	23	26	29	23	15	18	19	20	12	14	28	14	15	20	....	14.7
Marmarth	Maximum	42	35	32	19	26	31	28	36	39	46	55	55	63	55	40	50	50	50	61	53	50	51	43	61	53	54	54	46	40	48	....	45.5
	Minimum	29	18	18	11	-13	20	7	21	12	28	30	35	26	35	30	32	23	30	28	21	25	35	38	32	36	26	29	25	20	25	....	24.4
Minot	Maximum	37	30	22	21	27	32	24	35	22	42	42	47	52	48	30	41	45	51	59	53	36	31	42	50	50	42	51	32	31	38	....	38.9
	Minimum	27	16	13	13	-1	22	14	13	10	19	27	20	20	20	16	15	27	26	26	26	15	15	20	27	24	20	31	16	18	25	....	19.3
Mohall	Maximum	31	30	21	26	31	32	33	31	27	42	42	47	49	30	29	43	46	48	51	51	28	33	33	42	45	48	34	34	32	38	....	36.9
	Minimum	12	13	13	-1	25	16	14	9	11	18	27	20	20	16	12	24	26	32	26	13	21	21	18	22	21	32	14	22	21	21	....	18.6
Mott	Maximum	37	32	33	23	26	34	38	38	24	42	37	41	55	34	35	44	45	53	57	58	42	35	40	58	57	53	44	30	34	40	....	40.6
	Minimum	27	18	23	3	12	18	9	11	16	22	22	19	29	18	18	20	32	28	26	24	31	26	30	36	38	40	24	20	24	25	....	23.0
Napoleon §§	Maximum	37	30	23	23	26	30	34	35	21	38	47	38	51	27	30	42	45	48	55	58	38	32	38	58	38	47	41	24	37	43	....	37.8
	Minimum	29	22	15	16	12	16	16	6	10	12	21	36	11	21	11	8	24	25	29	28	15	24	21	26	37	23	33	19	18	21	....	20.2
New England	Maximum	42	36	27	30	34	32	32	34	28	50	56	34	58	48	46	45	48	56	62	58	47	48	45	63	46	55	46	44	46	49	....	44.8
	Minimum	24	20	13	0	9	10	12	13	5	10	25	25	27	29	20	24	30	29	30	27	32	34	34	35	25	30	25	18	21	22	....	21.9
New Salem	Maximum	46	35	21	19	20	25	19	32	22	40	50	39	49	40	35	45	45	51	60	57	54	40	39	70	56	47	54	32	40	45	....	40.9
	Minimum	28	28	16	15	5	16	9	15	1	17	30	22	27	28	19	15	28	31	34	32	36	31	32	30	28	28	32	19	17	24	....	23.1
Oakes	Maximum	70	36	24	33	31	33	30	36	24	34	38	48	51	46	26	36	46	53	53	62	49	32	39	60	51	42	49	37	38	48	....	41.8
	Minimum	33	22	15	24	18	16	10	2	3	18	27	18	12	15	8	-1	25	28	24	21	21	19	24	24	24	16	33	20	19	24	....	18.7
Pembina §§	Maximum	33	25	25	27	27	28	21	18	17	33	37	35	40	5	5	30	31	39	34	36	18	28	28	26	22	39	37	19	31	29	....	27.4
	Minimum	30	18	18	17	15	11	16	13	3	5	14	19	-3	-2	-1	-15	-5	19	20	28	10	9	12	11	15	13	21	11	11	15	....	11.6
Sharon	Maximum	50	27	23	26	21	31	26	26	18	31	36	40	42	38	17	31	40	43	46	52	40	24	30	46	35	32	41	25	28	34	....	33.4
	Minimum	27	17	12	21	12	16	10	1	-5	13	19	10	3	8	3	-3	22	23	30	25	18	16	16	16	16	16	25	14	16	15	....	14.4
Steele	Maximum	40	34	30	27	24	31	25	35	23	37	40	36	51	45	36	42	44	48	52	62	51	38	36	57	55	42	55	40	39	42	....	40.6
	Minimum	32	15	10	19	10	14	10	11	12	14	30	18	18	22	11	11	28	21	29	24	16	24	23	26	23	24	34	19	21	23	....	19.7
Towner	Maximum	45	42	27	28	24	38	27	30	35	38	40	45	50	58	27	41	43	46	50	55	50	30	31	46	42	36	46	41	30	34	....	39.2
	Minimum	27	13	9	16	5	17	11	16	6	17	16	14	5	20	14	6	24	28	22	26	15	15	19	21	20	14	22	14	17	20	....	16.3
Valley City	Maximum	69	42	26	30	29	31	30	30	21	30	38	42	44	41	25	34	40	42	45	53	45	34	35	48	43	37	44	38	33	38	....	37.9
	Minimum	32	14	14	16	15	15	12	5	-1	12	21	18	7	13	12	-1	19	28	29	21	21	16	21	18	20	18	31	17	19	24	....	16.9
Wahpeton	Maximum	78	38	28	33	33	31	28	33	23	30	38	44	45	42	21	33	41	39	47	54	48	29	35	45	45	38	45	40	38	45	....	38.9
	Minimum	36	25	10	25	22	16	18	6	0	17	24	24	5	10	1	-4	21	26	27	29	24	14	11	11	22	20	33	20	21	23	....	17.9
Westhope	Maximum	47	31	22	21	31	33	25	30	21	40	40	54	49	39	27	42	44	41	50	51	46	32	33	49	47	35	48	27	32	31	....	37.3
	Minimum	27	11	10	13	-2	24	13	12	10	17	22	9	13	17	14	9	24	29	29	25	14	20	18	21	19	16	24	12	15	21	....	16.9
Williston	Maximum	31	26	22	20	26	32	26	36	23	43	47	49	53	41	37	49	45	49	56	49	44	48	40	57	51	53	53	24	34	40	....	40.1
	Minimum	26	22	17	14	10	20	3	15	6	23	34	26	27	27	25	25	29	31	36	24	24	33	34	33	30	30	24	20	23	27	....	23.9
Moorhead, Minn	Maximum	66	32	26	31	30	29	26	28	20	38	38	43	44	24	18	30	38	37	42	47	35	25	31	40	38	35	45	24	34	37	....	34.4
	Minimum	31	18	16	26	16	22	11	7	0	18	22	4	3	3	0	-2	24	29	29	29	22	13	16	17	19	19	22	19	24	14	....	16.4

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§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. [a] 1 day missing, [b] 2 days, etc.

[WBO, Minneapolis, 12-27-33—[illegible]]

51.05
NNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

VOL. XLII BISMARCK, N. D., DECEMBER 1933 No. 12

GENERAL SUMMARY

From the standpoint of comfort to both humans and livestock the weather of the month was decidedly unfavorable, the temperature being below the normal and the snowfall being above the average. The month opened with rather mild temperature and during that period practically all of the highest temperatures were recorded. Scattered precipitation occurred throughout the month, being general from the 9th to the 15th, inclusive, and on the 23d. Much yard feeding of livestock was necessary.

TEMPERATURE

The mean temperature for the State was 8.6°, or 4.0° below the normal, and 3.8° lower than the mean for December 1932. The highest mean reported was 18.8° at Marmarth, Slope County; the lowest was −0.6° at Hannah, Cavalier County. The highest temperature reported was 62° at New England, Hettinger County on the 2d; the lowest was −38° at Langdon, Cavalier County on the 28th and 29th. The greatest monthly range of temperature was 92° at Towner, McHenry County; the least was 69° at Fullerton, Dickey County. The greatest daily range of temperature was 61° at Langdon, Cavalier County on the 9th.

PRECIPITATION

The average precipitation for the State was 0.88 inch, or 0.36 inch above the normal, and 0.70 inch more than the average for December 1932. The greatest monthly amount reported was 2.35 inches at Howard, Williams County; there was none at Wishek, McIntosh County. The greatest amount recorded in any 24 consecutive hours was 1.00 inch at Tioga, Williams County on the 7th. The average number of days with 0.01 inch or more of precipitation was 6. The average snowfall was 9.7 inches.

MISCELLANEOUS PHENOMENA

AURORAS: Moorhead, 16th.

FOG: Beach, 4th; Bismarck, 14th, 29th, 30th; Bowman, 22d; Carrington, 20th; Carson, Steele, 16th; Crosby, Eckman, 9th; Dickinson, 14th, 16th; Dogden Butte, Fort Yates, 14th; Edmore, 10th; Ellendale, 2d, 29th; Fullerton, Oakes, 2d; Grand Forks, 2d, 3d, 4th, 5th; Linton, 11th, 14th, 16th; Moorhead, 3d, 20th; New England, 9th, 16th, 30th; Pembina, 2d, 3d; Pettibone, 3d.

HALOS, lunar: Bismarck, 2d, 24th; Devils Lake, 10th; Ellendale, 31st; Grand Forks, 26th, 29th; Moorhead, 6th; Oakes, 26th, 31st.

HALOS, solar: Bismarck, 24th; Ellendale, 10th, 31st; Grand Forks, Petersburg, 10th; Moorhead, 7th, 16th, 24th; Williston, 3d, 20th.

SLEET: Arnegard, Carrington, 30th; Bismarck, Steele, 14th; Devils Lake, McClusky, 14th, 30th; Edgeley, 15th; Larimore, Parshall, 31st; New England, 22d; Pettibone, 10th, 14th; Stanton, 15th, 30th; Velva, 14th, 15th.

THUNDERSTORMS: Bowman, 22d; Marmarth 23d.

PRESSURE, WIND, HUMIDITY, AND SUNSHINE

Stations	Atmospheric pressure (reduced to sea level)					Wind (true velocities)				Relative Humidity			Percentage of sunshine
	Mean	Highest	Date	Lowest	Date	Average hourly velocity	Maximum velocity	Direction	Date	7 a. m.	12 noon	7 p. m.	
Bismarck	30.11	30.82	28	29.50	3	8.1	29	nw.	10	82	67	75	32
Devils Lake	30.15	30.90	28	29.42	6	9.8	32	nw.	21	92	80	87	43
Grand Forks	30.14	30.98	28	29.52	3	......	32	nw.	20	86	....	86	....
Williston	30.10	30.75	28	29.51	6	7.3	25	nw.	20	82	76	78	38
Moorhead, Minn	30.16	31.05	28	29.45	4	9.0	25	n.	10	93	85	89	25
Averages & ext's	30.13	31.05	28	29.42	6	8.6	32	nw.	20†	87	77	83	34

† And other dates.

COMPARATIVE DATA FOR DECEMBER

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest monthly	Least monthly	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1891.	16.1	+3.5	50	−41	1.33	+0.81	......	......	......	4	12	8	11
1892.	7.1	−5.5	60	−39	0.57	+0.05	1.33	T.	7.7	4	13	8	10
1893	4.7	−7.9	55	−36	0.85	+0.33	1.92	0.04	8.4	6	11	9	11
1894	19.1	+6.5	70	−32	0.29	−0.23	1.20	T.	1.6	2	18	7	6
1895.	13.8	+1.2	62	−32	0.29	−0.23	0.88	0.03	2.6	3	12	9	10
1896	16.4	+3.8	53	−35	0.37	−0.15	1.60	T.	2.6	3	13	9	9
1897	10.8	−1.8	69	−35	0.22	−0.30	0.67	0.00	2.2	3	12	8	11
1898	12.1	−0.5	55	−38	0.24	−0.28	0.87	T.	2.1	3	14	9	8
1899	12.8	+0.2	60	−26	0.32	−0.20	0.80	T.	3.3	3	13	7	11
1900.	17.3	+4.7	58	−29	0.31	−0.21	0.92	T.	3.0	4	13	8	10
1901.	12.4	−0.2	61	−43	0.74	+0.22	1.45	0.08	7.2	5	10	7	14
1902	7.8	−4.8	49	−35	0.51	−0.01	1.55	T.	4.2	4	14	7	10
1903.	11.6	−1.0	57	−33	0.77	+0.25	1.67	0.10	7.2	6	11	7	13
1904.	14.2	+1.6	55	−43	0.62	+0.10	2.00	0.00	6.2	5	7	8	16
1905	15.3	+2.7	55	−34	0.16	−0.36	1.10	0.00	1.6	4	16	2	13
1906	8.4	−4.2	48	−40	1.07	+0.55	1.89	0.20	10.7	6	11	7	13
1907	20.1	+7.5	68	−26	0.30	−0.22	1.28	T.	3.1	3	15	7	9
1908	14.4	+1.8	62	−37	0.38	−0.14	1.57	0.00	3.7	3	13	10	8
1909	5.2	−7.4	54	−42	1.27	+0.75	4.84	0.29	12.1	7	9	8	14
1910	12.9	+0.3	56	−34	0.42	−0.10	2.00	T.	4.6	4	12	8	11
1911	14.9	+2.3	61	−33	0.39	−0.13	1.10	0.00	4.5	4	10	8	13
1912	18.9	+6.3	72	−28	0.43	−0.09	3.13	T.	4.0	4	14	8	9
1913.	22.7	+10.1	61	−21	0.07	−0.45	0.67	0.00	0.3	1	18	6	7
1914.	5.4	−7.2	57	−42	0.50	−0.02	2.00	0.10	5.7	4	12	9	10
1915.	15.8	+3.2	57	−27	0.52	0.00	2.10	0.00	5.4	5	11	9	11
1916.	2.7	−9.9	61	−50	1.21	+0.69	3.09	0.02	13.9	5	15	8	8
1917.	0.7	−11.9	58	−44	0.60	+0.08	1.60	T.	7.4	6	9	9	13
1918.	18.5	+5.9	65	−41	0.88	+0.36	2.29	0.05	9.9	5	9	8	14
1919.	7.4	−5.2	49	−38	0.46	−0.06	1.30	0.00	4.8	3	14	9	8
1920	15.2	+2.6	59	−32	0.32	−0.20	1.50	T.	3.2	3	11	9	11
1921.	16.5	+3.9	59	−33	0.41	−0.11	1.60	T.	3.9	4	14	7	10
1922.	8.5	−4.1	55	−34	0.67	+0.15	2.43	0.00	7.4	5	11	8	12
1923.	22.2	+9.6	62	−36	0.32	−0.20	0.96	T.	3.6	3	16	8	7
1924.	2.9	−9.7	58	−46	0.43	−0.09	1.00	T.	5.3	4	12	7	12
1925.	16.5	+3.9	67	−38	0.28	−0.24	1.20	0.00	2.6	3	12	8	11
1926.	9.2	−3.4	55	−36	0.57	+0.05	1.50	0.10	5.5	3	14	8	9
1927.	−1.8	−14.4	43	−38	0.75	+0.23	3.50	0.00	8.7	5	14	7	10
1928.	20.7	+8.1	57	−30	0.28	−0.24	0.95	0.00	3.2	3	14	7	10
1929.	12.5	−0.1	59	−38	0.81	+0.29	2.10	0.10	9.9	5	12	8	11
1930.	19.9	+7.3	53	−30	0.19	−0.33	0.90	0.00	2.0	3	12	8	11
1931.	21.0	+8.4	58	−21	0.23	−0.29	1.20	0.00	2.7	2	13	8	10
1932.	12.4	−0.2	60	−31	0.18	−0.34	0.80	0.00	1.7	3	14	10	7
1933.	8.6	−4.0	62	−38	0.88	+0.36	2.35	0.00	9.7	6	9	8	14
Per..	12.6	....	72	−50	0.52	....	4.84	0.00	5.0	4	12	8	11

Climatological Data for December 1933

Stations	Counties	Elevation, feet	Length of record, years	Temperature, in degrees Fahr.							Precipitation, in inches				Number of days				Prevailing direction of wind	Observers
				Mean	Departure	Highest	Date	Lowest	Date	Greatest daily range	Total	Departure from the normal	Greatest in 24 hours	Snowfall, unmelted	With .01 or more precipitation	Clear	Pt. cloudy	Cloudy		
Alpha	Golden Valley		7								0.50		0.41	5.0	3					H. A. Bury.
Amenia	Cass	954	37	4.1	−8.1	48	6	−32	28†	53	1.58	+1.03	0.43	15.8	7	8	12	11	nw.	I. Idso.
Arnegard (near)	McKenzie	2,238	20	10.9	−2.1	51	2	−26	25†	55	1.39	+0.82	0.60	16.2	8	14	5	12	se.	Chas. A. Benson.
Ashley	McIntosh	2,001	37	13.1	−1.1	54	3	−22	26	53	0.07	−0.44	0.03	3.0	3	16	4	11	se.	H. D. Piper.
Beach	Golden Valley	2,759	27	16.4	−0.6	55	3	−22	26	45	0.49	−0.01	0.27	5.0	8				sw.	J. C. Russell.
Berthold Agency‡‡	McLean	2,082	40	11.2	−4.2	55	6	−36	25	54	0.67	+0.28	0.32	11.0	5	19	3	9	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	58	12.0	−2.7	56	6	−23	25	41	0.43	−0.14	0.29	7.0	7	6	7	18	e.	U. S. Weather Bureau.
Bottineau	Bottineau	1,638	41	3.0	−4.4	42	6	−34	25	33	1.16	+0.72	0.27	11.6	12	9	11	11	nw.	N. D. School of Forestry.
Bowman	Bowman	2,961	19	18.4	+3.3	53	3	−22	26	50	0.39	+0.11	0.12	2.7	8	13	10	8	nw.	George Larsen.
Cando	Towner	1,488	32	2.8	−5.8	49	3	−33	28	42	1.09	+0.65	0.36	10.9	7	9	3	19	nw.	A. J. Swanson.
Carrington	Foster	1,579	35	8.0	−3.7	53	6†	−31	23	58	1.13	+0.71	0.32	9.5	8	14	7	10	w.	L. A. Swanson.
Carson	Grant	2,500	21	13.8	−0.9	54	3	−26	26	44	0.29	−0.26	0.15	3.0	4	10	10	11	nw.	J. W. Evens.
Cavalier	Pembina	894	23								1.72	+0.72	0.50	17.2	8	11	5	15	n.	E. W. Kibler.
Cooperstown	Griggs	1,428	36								2.16	+1.64	0.91		6	14	4	13	ne.	Theo. Marquardt.
Corinth	Williams	2,180	5													1	21	9	sw.	T. C. Lorenzen.
Courtenay	Stutsman	1,523	4								1.37		0.80	13.7	4	10	7	14	nw.	Geo. E. Berg.
Crosby	Divide	1,954	26	6.4	−5.2	50	2	−26	25	41	1.15	+0.70	0.40	11.5	6	6	3	22	sw.	J. H. Phelps.
Devils Lake	Ramsey	1,478	36	3.8	−5.7	47	6	−30	28	39	1.05	+0.51	0.29	9.9	14	8	4	19	nw.	U. S. Weather Bureau
Dickinson	Stark	2,543	41	14.0	−2.4	57	3	−23	26	54	0.41	−0.08	0.09	3.9	10	2	15	14	w.	Leroy Moomaw.
Dogden Butte‡‡	McLean	1,880	7	7.9		51	3	−25	25†	46	1.46		0.50	16.0	6	12	3	16	nw.	R. L. Williams.
Drake	McHenry	1,634	4	7.0		50	6	−30	28	57	0.60		0.18	10.5	6	7	6	18	nw.	Peter Anton.
Dunn Center	Dunn	2,191	34	13.6	−4.1	53	2	−24	25†	38	0.60	+0.05	0.50	5.0	2	12	6	13	w.	W. F. Moede.
Dunseith	Rolette	1,682	37	3.4	−7.3	43	6	−33	28	47	1.40	+1.00	0.31	15.0	7	9	2	20	n.	L. F. Wetsch.
Eckman	Bottineau	1,500	28	3.8	−5.5	46	2	36	27	50	0.93	+0.42	0.20	10.0	7	11	8	12	nw.	B. C. Phipps.
Edgeley	LaMoure	1,568	32	11.5	−4.3	58	3	−22	25†	48	0.24	−0.15	0.15	1.6	3	4	13	14	nw.	O. A. Thompson.
Edmore	Ramsey	1,524	9	2.2		43	6	−32	28	46	1.11		0.25	10.9	13	10	6	15	nw.	E. D. Warner.
Ellendale	Dickey	1,457	38	13.0	−3.8	49	3	−23	27	48	0.33	−0.15	0.14	2.3	5	8	6	17	s.	J. E. Demmer.
Energy ‡‡	McLean	1,750	21	10.8		52	1	−30	25	45	0.93	+0.49	0.30	13.5	7	7	15	9	se.	H. S. Solenberger.
Epping	Williams	2,224	25																	A. O. Wang.
Fairfield	Billings		4								0.55		0.50	5.5	3	14	6	11	nw.	F. R. Hecker.
Fessenden	Wells	1,610	21	6.2	−4.4	51	6	−31	25	57	1.58	+0.92	0.49	15.5	7	8	15	8	sw.	T. D. Monsen.
Forman	Sargent	1,249	40								1.06	+0.51	0.50	5.0	4	13	11	7	nw.	Helge Dyste.
Fort Yates	Sioux	1,670	33	16.8	−1.6	57	18	25	26	46	0.11	−0.37	0.05	5.0	3	13	5	13	nw	P. J. Jacobson.
Foxholm (near)	Ward	1,657	12	5.0		47	6	−29	28	48	1.21	+0.78	0.42	15.0	8	11	8	12	nw	E. C. Bierbaum.
Fryburg	Billings	2,790	15								0.43	−0.15	0.15	4.1	4	8	9	14	se.	Verne King.
Fullerton	Dickey	1,439	35	11.5	−2.9	48	1†	21	27	44	0.51	−0.34	0.40	5.1	3	6	12	13	nw	F. O. Alin.
Gackle	Logan	1,951	3								0.34		0.21	4.6	7	8	13	10	nw.	A. H. Haut.
Garrison	McLean	1,901	56	9.6	−4.1	51	6	−25	25†	48	1.00	+0.45	0.40	10.0	4	10	7	14	nw.	W. F. Robinson.
Grafton	Walsh	827	41	4.1	−4.8	49	6	−34	28	49	1.48	+0.96	0.45	22.1	6	11	3	17	nw.	James P. Aylen.
Grand Forks ‡‡	Grand Forks	830	42	3.4	−7.2	45	6	−37	28	38	1.47	+0.84	0.27	14.4	12	9	5	17	nw.	U. S. Weather Bureau.
Granville	McHenry	1,504	26	7.0	−5.0	50	2†	−31	25	48	1.25	+0.73	0.40	12.5	5	12	4	15	nw.	W. A. Christianson.
Hankinson	Richland	1,068	4	12.4		51	1	−24	26†	52	0.97		0.50	4.0	2	8	7	16	nw.	R. C. Stock.
Hannah	Cavalier	1,568	41	−0.6		40	6	−37	28	38	0.92	+0.32	0.20	9.2	8	8	10	13	nw.	James Muir.
Hansboro	Towner	1,597	25	0.4	−7.6	45	5	36	28	54	1.07	+0.42	0.40	20.0	5	8	7	16	nw.	C. F. Blackorby.
Hettinger	Adams	2,675	26	18.4	+1.6	55	3†	−24	26	40	0.36	−0.01	0.18	1.9	4	12	9	10	nw.	C. H. Plath.
Hillsboro	Traill	901	27	6.2	−5.0	43	2	−34	28	47	1.66	+0.90	0.86	18.0	5	9	9	13	nw.	G. Hovland.
Howard ‡‡ (near)	Williams	2,275	26	6.0	−5.6	50	2	−33	27	45	2.35	+1.68	0.50	23.0	10	12	8	11	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	41	8.4	−5.0	54	6	−27	26	45	0.75	+0.07	0.35	7.5	5	8	6	17		S. Calvelage.
Kenmare	Ward	1,799	2	8.6		53	4	−26	28	51	0.93		0.37	14.0	7	10	6	15	nw.	R. Costello.
Langdon	Cavalier	1,615	37	−0.4	−8.7	44	9	−38	28†	61	0.50	−0.13	0.20	5.0	3	12	14	5	sw.	R. T. Burke.
Larimore	Grand Forks	1,134	40	4.2	−6.8	48	6	−33	28	47	1.52	+0.95	0.33	15.3	8	12	2	17	nw.	Mabel Walsh.
Linton	Emmons	1,711	16	13.6	−0.3	53	6	−27	26	46	0.08	−0.33	0.07	1.0	2	5	13	13	se.	Rev. E. J. Olberding.
Lisbon	Ransom	1,091	29	10.3	−3.8	49	3	−27	27	43	0.65	+0.14	0.30	6.5	4	4	8	19		J. O. Halverson.
McClusky	Sheridan	1,943	15	8.4		51	6	−32	25†	43	1.30	+0.68	0.70	13.0	3	8	11	12	nw.	Edw. Tapley.
McLeod	Ransom	1,075	22	10.0	−4.4	48	1†	−31	28	42	0.57	+0.10	0.29	2.8	3	11	7	13	nw.	J. G. Carlson.
Maddock	Benson	1,604	18	4.5	−5.5	46	6	−34	28	47	0.60	+0.34	0.21	7.0	6	5	10	16	nw.	A. T. Felland.
Mandan	Morton	1,750	19	11.1	−2.6	55	6	−24	25†	53	0.52	+0.09	0.24	7.8	8	7	5	19	se.	No. Gt. Plains Field Sta.
Manfred	Wells	1,605	30								0.95	+0.29	0.30	13.8	7					P. B. Anderson.
Marmarth	Slope	2,714	24	18.8	+2.0	58	2	−29	26	41	0.49	+0.09	0.12	9.4	5	6	7	18		S. P. Grane.
Mary	McKenzie		4								0.57		0.26	7.5	7	10	7	14	nw.	Fred Hartman.
Max	McLean	2,093	4	9.6		48	1†	−34	26	53	0.96		0.50	9.8	4	9	1	21	nw.	A. W. Rice.
Mayville	Traill	975	37	4.9	−8.0	48	7	−33	28	51	1.16	+0.60	0.37	11.5	11	5	8	18	n.	H. B. Addicott.
Minot	Ward	1,557	37	8.0	−3.9	50	2†	−29	28	46	0.92	+0.44	0.30	9.5	7	12	7	12	nw.	Mark M. Chatfield.
Mohall	Renville	1,646	39	4.7	−6.3	47	2	−30	27	50	1.16	+0.75	0.40	11.6	4	8	5	18	nw.	G. V. Davidson.
Mott	Hettinger	2,424	26	12.6	−1.2	56	6	−26	26	40	0.74	+0.10	0.31	8.0	6	8	4	19	e.	O. H. Opland.
Napoleon	Logan	1,955	41	10.6	−2.0	52	3	−26	26	51	0.41	−0.04	0.10	4.8	6	10	1	20	sw.	C. J. Hoof.
New England	Hettinger	2,400	39	15.8	−0.7	62	2	−24	25	48	0.69	+0.29	0.29	5.0	4	9	4	18	nw.	F. S. Steight.
New Salem	Morton	2,163	29	14.7	−0.6	52	1	−25	25	47	0.10	−0.18	0.19	4.0	9	11	9	11	nw.	J. Christiansen.
Oakes	Dickey	1,318	4	11.8		48	3	−25	27	45	0.39		0.20	2.0	3	7	12	12	sw.	Eugene Naylor.
Park River	Walsh	998	29	4.8	−5.7	59	6	−36	28	58	1.32	+0.87	0.40	13.2	5	7	7	17	n.	C. B. Wright.
Parshall	Mountrail	1,929	18	7.5		51	6	−37	25	46	0.61	+0.21	0.23	8.5	6	6	10	15	nw.	C. E. Shubert.
Pembina	Pembina	789	59	1.1	−5.2	41	6	−35	28†	57	0.80	+0.03	0.32	13.5	11	6	8	17	s.	U. S. Weather Bureau.
Petersburg	Nelson	1,520	3								1.38		0.58	14.0	7	9	12	10	sw.	T. M. Rykken.
Pettibone	Kidder	1,856	24	7.8	−2.7	52	6	−32	25	46	0.92	+0.35	0.60	9.2	6	14	4	13	se.	H. H. McCumber.
Portal	Burke	1,954	28	3.8	−8.4	49	1	−31	27	60	1.04	+0.54	0.30	11.0	5	9	2	20	w.	R. G. Wegener.
Power‡‡	Richland	1,020	39																	Frank B. Power.
Powers Lake	Burke	2,205	28	8.4		45	21	−32	26	38	0.44	−0.15	0.19	10.0	5	8	12	11	ne.	Geo. B. Gee.
Richardton	Stark	2,467	17	13.6	−0.4	55	3	−26	26	48	0.20	−0.18	0.20	2.0	1	8	12	11	nw.	John Muggli.
Rugby (near)	Pierce	1,562	4																	E. C. Erickson.
Ryder	Ward	2,108	4								0.80		0.25		7					S. C. Schellenbaum
Sanish	Mountrail	1,835		7.0		52	1	−33	24	53	1.20		0.60	12.0	3					H. J. Bugge.
Sharon	Steele	1,516	9	3.8		48	6	−32	25	47	1.33		0.47	13.2	13	6	6	19	w.	Nels O. Greisheim.
Stanton	Mercer	1,722	9								0.57		0.30	6.5	4	5	15	11	nw.	J. H. Giffey.
Steele	Kidder	1,857	39	11.7	−0.6	57	6	−27	26	47	0.30	−0.25	0.20	5.0	2	5	13	13	sw.	R. S. Armstrong.
Stowers‡‡	Adams	2,325	18								0.26	−0.23	0.24	2.2	2	8	7	16		Thos. D. Alkire.
Tagus	Mountrail	2,179	4								0.40		0.20	4.0	2	7	7	17	nw.	J. C. Abbott.
Tioga	Williams	2,279	4								1.30		1.00	13.0	3	9	4	18	nw.	Anton Carlson.
Towner	McHenry	1,482	31	5.5	−4.6	56	6	−36	25	50	1.40	+1.00	0.45	30.2	6	11	8	12	e.	Karl Weber.
Trotters	Golden Valley		7								0.72		0.38	5.5	4	5	14	12		A. J. Nellermoe
Turtle Lake	McLean	1,899	19								0.64	+0.10	0.22	7.4	7					M. A. Slettum.
Valley City	Barnes	1,245	27	8.6	−5.1	50	6	−28	27	45	0.53	+0.07	0.26	10.0	4	11	6	14	ne.	I. C. Robertson.
Velva	McHenry	1,511	6	7.2		51	2	−34	25	41	1.47		0.46	25.5	7	5	12	14	w.	Oscar Anderson.
Wahpeton	Richland	962	41	11.6	−3.7	50	1	−28	26†	45	1.46	+1.02	0.60	10.0	9	12	0	19	nw.	C. G. Luick.
Washburn	McLean	1,731	32	11.1	−2.9	55	6	−25	25	45	0.65	+0.33	0.29	5.0	6	6	13	12	s.	Fred F. Jefferis.
Westhope	Bottineau	1,508	27	4.2	−5.8	46	1	−33	28	48	0.68	+0.41	0.31	8.0	4	10	9	12	nw.	C. M. Condit.
Williston	Williams	1,878	54	8.8	−5.0	49	6	−26	25	41	2.11	+1.53	0.53	21.2	13	7	9	15	sw.	U. S. Weather Bureau.
Willow City	Bottineau	1,471	41	1.8	−6.9	44	1†	−35	25†	47	1.70	+1.16	0.50	17.0	6	9	5	17	nw.	O. M. Sanderson.
Wishek	McIntosh	2 010	4	13.4	+0.4	52	3	−23	26†	51	0.00	−0.64	0.00	0.0	0	16	0	15	se.	Gottlieb Herr.
Zap	Mercer	1,838	18								0.12	−0.21	0.12	1.2	1					R. A. Norton.
Moorhead, Minn.	Clay	935	52	7.2	−4.3	44	1	−31	25	45	1.70	+0.98	0.90	21.9	10	5	4	22	s.	U. S. Weather Bureau.
Averages				8.6	−4.0	62	2	−38	28†	61	0.88	+0.36	1.00	9.7	6	9	8	14	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section means.

Reference letters, a, b, c, appearing in the table indicate number of days missing; for example, b represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries.

T. Precipitation is less than 0.01 inch rain or melted snow.

‡‡Post-office addresses of these stations are: Berthold Agency, Elbowoods; Dogden Butte, near Butte; **Energy**, Underwood; Grand Forks, **University**; **Power**, **Leonard**; Howard, Grenora; Stowers, Thunder Hawk, S. D.

Daily Precipitation for December 1933

Stations	Drainage Basin	Day of Month																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alpha	Lit. Missouri									.07	T.	T.											T.	.41	T.		.02			T	T	T.	0.50
Amenia	Red			T	T.	T.	T	.32	T.	T.	.18			.12	.13	.43		T.				T.		.25	.15					T	T	T.	1.58
Arnegard (near)	Missouri							.02			.05	.02	.15	.05										.60				.05				.45	1.39
Ashley	Missouri												.02		.01											.02							0.05
Beach	Lit. Missouri								T.	.03	.06	.07	.02	T	T.		T						T	.27		.02			.01		.01	T	0.49
Berthold Agency	Missouri							T.			.02	.05	.03											.25					T		T	.12	0.47
Bismarck ***	Missouri					T.		T.		.05		.05	.02	T	T	T	T						.18	.11	T.	T.			.01			.01	0.43
Bottineau	Mouse					.01			T.		.10	T.	.11	.17	.12	.02	T.				.01		.09	.23	.02				.01	T		.27	1.16
Bowman	Grand				T.					.07	.05	.04	.01										.12	.05		.04						.01	0.39
Cando	Devils Lake				T.	T.			T	.04		.14	.11	.23	.36	T.			T.		T		.07	.14					T.		T		1.09
Carrington‖	James					T	.06			.14			.13				.09						.26	.10							.32	.03	1.13
Carson	Heart									.02	.02	.15												.10									0.29
Cavalier	Red					.10				.02	.20			.20	.50	.40							.15									.15	1.72
Cooperstown	Sheyenne					T.		.02	T	T.	T.	.45	T.	.12	T.	.15									.51							.91	2.16
Corinth	Missouri																																......
Courtenay	James					.07			.10						.40	T.							.80										1.37
Crosby	Mouse					.10		.05					.40		.30									.10								.20	1.15
Devils Lake ***	Devils Lake				T.	T.	T.	.01	.03	.07	.05	T.	.20	.02	.10	.03	T.				T	.04	.05	.14					.02		.13	.16	1.05
Dickinson‖	Heart								.01		.04	.02	.08	.01	T.	T		T.			T.			.09	.08	T.	T.		.02	.01		.05	0.41
Dogden Butte	Mouse							.14			.11		.10	.21	T.									.53					T.			.37	1.46
Drake‖	Mouse							.10			.10			.10										.10	.02							.18	0.60
Dunn Center	Knife							T.			T	T.	.10											.50			T.						0.60
Dunseith	Mouse			T.		T					.18			.19	.20	T.	T.				T.		.08	.31						.15		.29	1.40
Eckman	Mouse					T.			.04	.07			.15		.17								.12	.20					T.			.18	0.93
Edgeley	James											.01				.08								.15									0.24
Edmore	Devils Lake				T.	T.			.01	.01	.15		.05	.20	.25	.03	.02	T.			T.		.03	.17					.02	.02	T.	.15	1.11
Ellendale	James		.06								T.	.03	T.		.14	.07								T.	T.	.03			T	T.			0.33
Energy	Missouri							.08			.05	.04	.08	.08										.30								.30	0.93
Epping	Missouri																																......
Fairfield	Knife											.15	.10											.30									0.55
Fessenden‖	James							.16			.12			.22	.12									.39	.08							.49	1.58
Forman	Sheyenne		.50	.04							T.	T.	T.		.22	.30								T.		T.			T.	T.			1.06
Fort Yates	Missouri										T.	T.	.02		.04									.05									0.11
Foxholm (near)	Mouse					T.		.02	T.		.02	T.	.25	.13	T.		T.						T.	.42					.02	.05		.30	1.21
Fryburg	Heart									T.	.08	.10	.10	T.	T.									.15									0.43
Fullerton	James		T.								T.	.03	T.	T.	.40		T							.08	T.	T.			T.				0.51
Gackle	James							.02			.01	.02	.01		.06		.01							.21					T			T.	0.34
Garrison	Missouri								T.	T	T	T.	.20	T.			T.						T.	.40					.10			.30	1.00
Grafton	Red								T.	T.	.17		.18		.18	.17	T.							.33								.45	1.48
Grand Forks ***	Red		.11	T.	T.				T.	.01	.13		.11	.07	.27	.11					T.	.02	.12	.25							.16	.11	1.47
Granville	Mouse							T.	T		.05	T.	.40	.20	T.		T.				T.			.20					T.		T.	.40	1.25
Hankinson	Red		.50												.47																		0.97
Hannah	Pembina					T.			.02	T.	.08		T.	.13	.12	.06	T.				T.	T.	.13	.18	T.					T.		.20	0.92
Hansboro	Devils Lake										.20			.20									.12	.40						.15			1.07
Hettinger	Grand									T.	.05	.09												.18		.04			T.				0.36
Hillsboro	Red								.06					.17		.50								.86								.07	1.66
Howard (near)	Missouri				T.	T.		.50	.05	T.	.05	.10		.50	T.		T.			.20				.40					.30		.20	.05	2.35
Jamestown	James						.10							.08	.15								.35	.07						T.			0.75
Kenmare	Mouse					.01		T.	T.		.05		T.	.26	T.	.05								.18						.01		.37	0.93
Langdon	Pembina															.20							.10	.20									0.50
Larimore	Red							T.	T.	T.	.21		.09	.22	.14	.13							.10	.33	T.					T.		.30	1.52
Linton	Missouri							T.			T.	T.	.07		T.	T.	T.							.01		T.							0.08
Lisbon	Sheyenne							.05							.10	.20								.30									0.65
McClusky	Missouri												.30		T.									.70							.30		1.30
McLeod	Sheyenne			.29				T.		T.	T.	T.				.17								.11						T			0.57
Maddock	Sheyenne					T		.02	T.	T.	.07		T.	.11	.07	T.	T.				T.		T.	.12					T.			.21	0.60
Mandan‖	Missouri						T.	T.		.06	.01	.11			T.	T.	.01						.24	.05				T.	.02		.02		0.52
Manfred	James							.08	T.		.06		.06	.12		.18	T.							.30				T.				.15	0.95
Marmarth	Lit. Missouri									.12	.11	T.			T.									.12	.04	.10							0.49
Mary	Lit. Missouri							.02		T.	.03	.04	.02		.04									.26								.16	0.57
Max‖	Missouri						.06			.10				.30										.50									0.96
Mayville	Red				T.		T.	.02	.01	.01	.08		T.	.09	.16	.18							.04	.18						.02		.37	1.16
Minot	Mouse						T.	.18	T.	T	.05	T.	.27	.10	T.		T.							.30					T.	.01		.01	0.92
Mohall	Mouse									T.		T.	.30	T.	T.	T.	T.						T.	.40					.08		T.	.38	1.16
Mott	Cannon Ball									.08	.08	.16	T.										.31				.03		.08	T.			0.74
Napoleon ‖	Missouri										.10		.10			.02								.10	.08							.01	0.41
New England	Cannon Ball										.14		.20										.06	.29									0.69
New Salem	Heart							T.			.02	.04	.06	.01	.01									.19	.04	.02			.01	T.			0.40
Oakes	James		.18	.01							T.					.20								T.									0.39
Park River	Red																																......
Parshall	Missouri							.01			.23		.02		.07									.03								.22	0.61
Pembina ***	Red				T.	.01	.01	T.	T.	.01	.09	T.		.07	T.	.32	T.	.02			T.	.04	.01	T.	.18					T.		.04	0.80
Petersburg	Red								T.	T.	.09			.12	.18		T.					T.	.02	.33					.06			.58	1.38
Pettibone	James					T.		.10		T.	.10	T.	T.	.05	T.	T.	.02							.60					T			.05	0.92
Portal‖	Mouse				.18					.10			.30		.19														T.			.27	1.04
Power	Sheyenne																																......
Powers Lake	Missouri							.08	.01	.19	.09								.04														0.44
Richardton	Heart							T.		T.		T.												.20									0.20
Rugby [near]	Mouse																																......
Ryder	Missouri						.05	.03	T.			.14	.03			.25	T.							.15	T.				.15		T.		0.80
Sanish‖	Missouri						.20	T.			T.	.40			T.					T.										.60			1.20
Sharon	Red				T.	T.		.02	.01	T.	.07		.03	.16	.15	.04	T.				T.		.09	.47	T.				.01	.02	.03	.23	1.33
Stanton	Missouri						.02			.04					.21								.30	T.							T.		0.57
Steele	Missouri							T.			T.	T.												.20					T.			.10	0.30
Stowers	Cannon Ball										T.	.02	T.	T.			T.						T.	.24		T.							0.26
Tagus	Mouse							.20																.20									0.40
Tioga	Missouri							1.00					.20																		.10		1.30
Towner	Mouse					T.		T.			.05	T.	.45											.35	T.				.08	.10	T.	.37	1.40
Trotters	Lit. Missouri																																......
Turtle Lake	Missouri					T.		.04			.11	T.	.04	.06	T.		.01							.16					T.			.22	0.64
Valley City	Sheyenne									T.	.10	T.	T.	.07										.26					T.			.10	0.53
Velva	Mouse							.19			.16		.16	.16	.04	T.								.30					T.		T	.46	1.47
Wahpeton	Red		.30	.05				.02						.02	.10	.60								.30		.02						.05	1.46
Washburn	Missouri							.06			.08		.03	.10										.29	.09					T.			0.65
Westhope	Mouse												.31		T.		.10									.23						.04	0.68
Williston ***	Missouri						.22	.18		.12		.13	.29		.11	T.	.03				T		.17	.29	.02				.02		.34	.19	2.11
Willow City	Mouse					T.					.20			.20	.20		T.							.30						.30		.50	1.70
Wishek‖	Missouri																																0.00
Zap	Knife																						.12										0.12
Moorhead, Minn ***	Red		.03	T.	T.	T.	T.	.15	T.	.03	.09	T.	.06	.02	.90	T.	T.	T.			T.		.09	.30					T.	T.	T.	.03	1.70

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. ‖ Precipitation measured in the morning; amount then recorded is for the preceding 24 hours ***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. * Precipitation included in the next following measurement. T. Trace or less than 0.01 inch.

Daily Temperatures for December 1933

Stations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean
Amenia §§	Maximum	41	34	44	23	26	48	5	8	24	-1	7	5	15	22	18	10	21	40	22	24	40	3	10	-15	-8	-22	-25	-2	17	30	-10	14.7
	Minimum	9	15	26	20	5	7	-2	-11	-10	-5	-15	-4	0	-10	12	-15	-14	-13	-1	0	-4	0	0	-21	-30	-25	-31	-32	-32	-8	-12	-6.5
Arnegard (near)	Maximum	50	51	48	23	36	50	32	22	33	33	6	6	9	15	10	3	39	40	14	14	42	36	10	-10	-3	-4	-7	32	38	40	-3	22.7
	Minimum	24	24	20	10	13	22	7	12	17	-11	-3	-3	-7	3	-4	-10	-16	0	0	-4	3	10	-15	-20	-26	-26	-24	-8	-2	-3	-11	-0.9
Ashley	Maximum	50	40	54	45	27	49	39	27	33	30	2	8	13	23	24	20	21	43	35	32	46	32	18	4	-3	-4	4	-5	14	48	32	25.8
	Minimum	17	20	20	20	9	11	6	1	11	-5	-6	0	4	3	5	-4	-10	9	2	9	5	6	2	-16	-18	-22	-19	-15	-17	-5	-11	0.4
Beach	Maximum	50	52	55	43	34	52	37	36	36	34	4	3	12	16	14	5	30	44	32	32	44	50	35	-5	-3	-2	0	0	42	42	3	26.8
	Minimum	25	27	28	24	18	25	17	18	24	-4	0	1	5	9	-5	-4	-3	15	12	7	19	19	-7	-13	-17	-22	-14	-6	-3	3	-8	6.1
Berthold Agency	Maximum	50	40	50	36	32	55	38	22	32	32	5	8	8	20	10	5	28	45	18	30	50	30	23	-10	-5	-8	-8	-5	14	31	31	25.1
	Minimum	20	22	15	14	8	20	8	10	18	-8	-4	0	-4	4	-7	-14	-15	0	0	-4	-4	15	-10	-30	-36	-32	-30	-31	-8	12	-10	-2.6
Bismarck	Maximum	52	36	46	32	28	56	30	24	33	31	6	9	13	24	15	12	25	46	25	32	48	26	10	-8	-3	-3	-5	-5	18	37	7	22.5
	Minimum	24	21	18	14	16	20	7	9	19	-5	-1	5	3	9	0	-5	-8	6	3	5	7	10	-9	-22	-23	-21	-23	-15	-11	7	-11	1.6
Bottineau	Maximum	36	40	37	30	26	42	29	8	18	16	11	4	-3	12	14	9	11	30	3	8	26	11	3	-4	-12	-13	1	-7	0	31	12	13.8
	Minimum	11	20	14	8	-1	11	-4	-1	-2	-15	-15	-10	-11	-5	4	-8	-18	2	-6	-5	-7	3	-18	-32	-34	-31	-29	-30	-20	-1	-16	-7.9
Bowman	Maximum	51	48	53	40	37	52	37	41	36	25	5	9	18	17	20	18	40	42	42	46	50	46	45	-5	-1	0	4	6	41	45	33	30.4
	Minimum	21	22	25	27	15	13	14	11	23	-1	-1	0	-1	3	0	0	-2	18	15	15	17	27	-5	-8	-7	-22	-15	-8	-6	6	-2	6.3
Cando	Maximum	38	41	49	38	27	45	34	7	20	19	21	6	-2	14	15	9	20	33	12	11	31	11	2	-10	-14	-15	-10	-10	1	21	3	15.1
	Minimum	11	9	20	12	4	12	-6	-5	0	-17	-16	-11	-20	-10	0	-14	-11	-9	-6	-3	-6	-1	-29	-31	-29	-30	-28	-33	-20	-1	-28	-9.5
Carrington §§	Maximum	48	41	51	22	32	53	8	15	35	32	5	6	14	26	21	10	28	45	41	28	53	18	-1	-1	-7	-11	-7	-8	35	45	-12	21.5
	Minimum	25	24	19	7	15	1	-3	0	-7	-13	-2	-2	-13	8	-9	-12	-4	-2	-2	-2	4	-2	-31	-26	-24	-27	-27	-27	-9	-13	-17	-5.5
Carson	Maximum	51	41	54	39	34	52	33	35	31	2	5	7	14	15	12	10	27	44	26	35	48	43	34	30	0	-1	-3	-6	12	47	20	25.5
	Minimum	23	23	25	20	17	17	8	16	-4	-4	1	0	2	0	-2	-4	-10	0	12	10	12	12	-5	-15	-20	-26	-17	-12	-17	12	-10	2.1
Crosby	Maximum	46	50	40	39	28	41	23	18	22	23	12	10	10	10	9	3	20	36	5	23	41	22	9	-10	-7	-10	-10	-8	14	32	-4	17.3
	Minimum	23	23	24	11	10	16	0	5	7	-18	-10	-6	-13	-2	-8	-15	-20	-1	-3	-5	4	8	-16	-25	-26	-23	-23	-25	-11	-6	-10	-4.4
Devils Lake	Maximum	44	42	42	32	19	47	9	6	21	21	7	0	1	17	17	7	19	37	8	17	42	10	-1	-15	-11	-13	-8	-17	12	32	-7	14.1
	Minimum	10	22	23	6	7	9	-3	-2	6	-15	-8	-6	-16	1	-5	-10	-14	-1	-5	-5	-4	-2	-17	-25	-27	-26	-23	-30	-17	-7	-18	-6.5
Dickinson §§	Maximum	51	53	57	35	43	51	17	28	37	1	3	5	18	19	10	8	40	43	40	45	46	50	11	-7	-4	-1	-3	2	39	42	-4	25.0
	Minimum	25	20	21	26	16	19	10	6	8	-2	-3	0	3	4	4	-4	-14	8	4	7	9	18	7	-13	-20	-23	-18	-12	-9	2	-8	2.9
Drake	Maximum	48	47	45	19	37	50	5	18	30	2	8	0	12	18	10	11	35	34	21	39	43	12	-2	-14	-8	-9	-10	-4	34	36	-11	17.9
	Minimum	19	23	25	17	8	15	-2	-8	5	-11	-12	-4	-7	-8	7	-9	-12	10	-4	-3	-3	6	-2	-23	-26	-26	-25	-30	-23	-4	-15	-3.9
Dunn Center	Maximum	50	53	51	46	34	52	30	28	36	32	5	9	11	20	12	6	26	41	17	36	46	35	21	-6	-3	3	4	4	18	40	11	24.8
	Minimum	21	25	24	14	13	28	6	13	19	-6	0	5	5	10	-1	-5	-11	7	-10	3	20	16	-6	-17	-24	-23	-24	-22	-9	10	-9	2.3
Dunseith	Maximum	38	40	35	36	15	43	31	32	18	19	6	5	2	11	13	6	12	37	5	15	39	10	2	-14	-12	-10	-3	-11	-2	38	3	14.8
	Minimum	6	17	20	6	1	8	-5	2	-2	-15	-16	-13	-14	-7	-1	-13	4	2	-8	-8	-8	0	-20	-26	-30	-30	-24	-33	-21	-4	-20	-8.1
Edgeley	Maximum	51	55	58	50	29	37	13	21	28	23	4	9	10	13	21	12	13	40	29	20	46	32	12	5	1	1	0	-2	13	40	36	23.2
	Minimum	13	23	21	19	6	0	-2	8	10	-4	-5	1	4	0	8	-5	-11	8	0	8	4	3	1	-17	-22	-20	-22	-18	-16	11	-12	-0.2
Ellendale	Maximum	48	42	49	39	30	48	42	18	27	23	3	9	12	23	24	17	16	45	37	28	48	39	14	8	-3	-7	2	-3	15	44	36	24.9
	Minimum	12	25	21	23	10	11	5	-4	11	-2	-5	0	6	4	12	-5	-8	2	2	10	4	5	3	-14	-16	-19	-23	-16	-15	11	-12	1.2
Fessenden §§	Maximum	50	47	49	20	36	51	3	12	30	-1	7	2	14	19	12	17	32	41	25	29	42	9	-4	-13	-8	-10	-10	-9	32	38	-13	17.7
	Minimum	18	21	22	15	6	22	-2	-9	3	-11	-12	-4	-4	-6	7	-13	-16	-3	-3	-6	-3	4	-4	-22	-31	-29	-27	-30	-25	-5	-15	-5.2
Foxholm (near)	Maximum	44	44	43	38	24	47	30	13	21	21	8	5	-3	14	12	4	22	39	0	22	42	13	6	-13	-14	-10	-10	-14	5	38	1	15.9
	Minimum	15	22	29	10	7	17	-3	0	8	-15	-15	-9	-16	-6	-2	-13	-15	-3	-6	-7	-6	5	-18	-23	-27	-25	-24	-29	-18	-1	-16	-5.9
Fullerton	Maximum	48	39	48	38	28	46	40	15	28	28	4	11	12	23	16	16	16	45	29	34	48	20	15	0	-2	-3	-1	-7	15	41	7	22.5
	Minimum	12	26	23	18	8	12	6	-3	11	-3	-4	2	6	1	2	-7	-8	4	2	9	4	6	0	-16	-18	-20	-21	-16	-15	7	-13	0.5
Garrison	Maximum	50	48	45	40	27	51	36	20	28	30	6	7	8	22	22	6	24	39	10	27	46	28	2	-2	-7	-6	-6	-8	9	32	6	20.6
	Minimum	21	20	20	16	11	16	5	4	16	-10	-5	-2	-1	0	4	-8	-12	7	-1	1	-2	-7	-7	-19	-25	-25	-23	-22	-11	4	-12	-1.5
Grafton	Maximum	46	39	39	38	17	49	41	5	16	19	7	7	5	17	21	13	11	41	21	15	25	10	7	8	-9	-8	-5	-10	6	12	6	16.4
	Minimum	3	15	25	11	1	5	-8	-9	-5	-9	-18	-7	-13	-15	5	-11	-20	1	-5	-4	-7	-2	-12	-22	-27	-27	-28	-34	-23	1	-16	-8.2
Grand Forks	Maximum	41	34	36	33	20	45	11	6	19	20	7	4	7	21	20	10	11	39	17	18	34	6	2	-11	-10	-9	-6	-16	12	24	-1	14.3
	Minimum	5	21	28	4	1	11	-9	-9	3	-17	-14	-6	-14	7	-1	-12	-16	1	-2	-5	-4	-1	-18	-26	-30	-28	-27	-37	-16	-1	-16	-7.4
Granville	Maximum	48	50	46	39	24	50	34	15	24	25	12	7	0	17	17	5	20	36	12	20	44	26	12	-5	-7	-4	-8	-12	7	35	11	19.4
	Minimum	18	20	24	12	11	16	-5	-3	10	-12	-14	-7	-11	-2	4	-16	-18	-1	-3	-4	-4	10	-15	-26	-31	-28	-30	-30	-14	0	-15	-5.3
Hansboro	Maximum	39	41	40	35	45	44	37	22	22	19	5	4	5	2	12	11	10	35	2	-4	40	8	8	-16	-16	-15	-10	-10	0	10	-4	13.6
	Minimum	2	12	19	2	12	10	-10	-7	-10	-15	-21	-10	-23	-12	-13	-25	-18	0	-8	-13	-14	-12	-22	-26	-34	-34	-35	-36	-24	-8	-20	-12.7
Hettinger	Maximum	50	47	55	41	37	55	40	42	39	36	4	8	10	24	18	13	28	46	32	39	43	54	38	6	-2	-1	8	1	24	44	35	29.3
	Minimum	26	20	23	27	18	23	13	11	21	-1	-1	-2	2	9	0	1	-8	18	11	19	28	24	5	-8	-14	-24	-9	-8	-6	24	-5	7.6
Hillsboro	Maximum	35	43	36	40	22	36	40	4	17	21	5	6	5	21	12	10	8	39	37	21	41	17	12	-2	-10	-10	-9	7	7	38	12	18.1
	Minimum	5	17	26	18	4	17	-3	-8	2	-1	-11	-1	-7	-11	10	-11	-11	-4	0	-11	-6	-4	-2	-20	-31	-25	-30	-34	-24	-7	-16	-5.6
Howard (near)	Maximum	47	50	45	31	32	44	35	17	27	27	9	8	4	11	10	-2	21	38	6	25	40	20	14	-12	-15	-10	-10	-11	15	34	-10	17.5
	Minimum	24	25	23	14	14	23	-1	4	-13	-17	-9	-5	-14	0	-2	-12	-17	-2	-3	-10	-5	10	-12	-25	-28	-30	-33	-26	-19	-10	-12	-5.4
Jamestown §§	Maximum	25	41	51	35	25	54	35	9	23	28	5	7	4	22	22	12	22	42	14	27	44	19	8	11	-4	-8	-6	-12	10	40	14	20.0
	Minimum	15	24	19	15	8	15	-6	-8	6	-9	-8	1	-5	-8	3	-11	-17	8	-2	0	-1	1	11	-21	-25	-27	-26	-26	-19	10	-17	-3.2
Kenmare	Maximum	37	50	51	53	25	46	52	10	19	24	3	14	1	9	14	10	11	45	32	42	41	31	14	-8	-16	-7	-5	-11	-8	-38	-32	21.0
	Minimum	21	29	28	12	11	15	1	0	9	-15	-11	-7	-14	-12	4	-12	-13	9	-5	-4	-6	7	-8	-23	-22	-23	-22	-26	-22	-8	-12	-3.8
Langdon §§	Maximum	17	30	37	22	40	42	20	6	44	0	5	20	8	17	10	6	22	35	10	10	31	1	-6	-10	-15	-12	-12	-10	20	20	-14	12.7
	Minimum	7	1	8	-14	0	12	5	-22	-17	-20	-10	-11	-10	-19	-2	-17	-22	-9	-10	-10	-12	-6	-17	-27	-34	-36	-32	-38	-38	-22	-22	-13.4
Larimore	Maximum	47	39	40	35	20	48	34	3	16	16	6	6	0	18	18	11	12	40	17	17	41	12	2	-16	-12	-10	-7	-19	4	36	2	15.4
	Minimum	5	21	22	10	1	11	-6	-9	3	-14	-15	-6	-16	-16	4	-7	-12	9	-4	-3	-6	-2	-16	-21	-24	-25	-25	-33	-23	2	-20	-6.9
Linton	Maximum	50	43	50	43	30	53	40	27	34	32	5	8	14	24	24	15	25	48	30	23	51	30	24	3	-4	0	-2	-6	15	43	35	26.0
	Minimum	20	20	12	20	6	14	9	6	15	-4	-4	2	5	6	3	-7	-16	15	6	9	5	11	2	-15	-26	-27	-24	-14	-13	10	-11	1.1
Lisbon	Maximum	48	38	49	43	21	44	38	8	24	26	4	10	9	24	23	10	14	39	19	27	45	32	10	3	-4	-3	0	-9	10	38	22	21.4
	Minimum	13	27	23	19	8	15	-1	-6	7	-5	-6	4	0	-4	7	-10	-10	8	2	4	2	4	3	-16	-22	-22	-27	-24	-17	10	-12	-0.8
McClusky	Maximum	49	46	47	33	20	51	36	20	26	29	13	7	6	20	20	5	18	40	18	22	42	26	20	-5	-9	-6	15	-10	10	38	6	21.1
	Minimum	21	20	22	11	8	15	-5	-2	11	-12	-13	-1	-3	-2	0	-10	-15	2	-6	-6	-1	5	-11	-23	-32	-32	-22	-25	-14	4	-16	-4.3
Maddock	Maximum	45	45	44	37	19	46	34	7	23	27	6	4	0	17	18	10	19	39	6	25	41	12	7	-12	-10	-11	-10	-14	4	33	8	16.7
	Minimum	12	16	19	12	4	12	-5	-11	5	-14	-15	-8	-16	-8	5	-16	-20	5	-7	-3	-6	0	-15	-24	-29	-28	-31	-34	-20	2	-20	-7.7
Marmarth	Maximum	51	58	51	41	36	53	46	40	37	36	7	9	12	19	16	18	27	44	34	47	47	49	38	3	1	2	8	5	32	39	30	30.2
	Minimum	21	17	19	19	15	25	17	14	20	-1	-1	2	-1	9	-5	-3	-7	22	19	15	27	28	-2	-6	-7	-29	-12	-3	-2	21	-3	7.4
Minot	Maximum	49	50	45	38	23	50	34	14	24	27	11	8	3	17	17	5	22	38	6	21	44	18	10	-10	-5	-6	-6	-10	8	36	4	18.9
	Minimum	21	23	26	14	11	18	-1	-1	12	-11	-12	-7	-7	-1	0	-17	3	2	-3	-4	-2	8	-14	-20	-26	-24	-27	-29	-14	2	-14	-3.0
Mohall	Maximum	45	47	44	22	44	44	8	18	20	8	10	8	-2	14	11	14	25	40	2	20	44	15	6	-12	-8	-8	-15	-10	5	35	0	15.9
	Minimum	12	26	12	9	14	-3	3	6	6	-13	-10	-8	-16	-6	-6	-11	-19	1	-5	-5	-6	-5	-16	-24	-26	-22	-30	-28	-18	0	-15	-6.5
Mott	Maximum	50	48	43	30	30	56	18	26	18	10	2	4	20	22	12	11	27	44	34	35	48	27	12	-4	-3	-5	-1	-4	20	36	11	21.8
	Minimum	24	32	27	16	20	16	8	17	0	0	-1	-4	1	5	-5	-2	-2	5	11	7	18	4	-6	-12	-17	-26	-16	-11	-5	11	-8	3.5
Napoleon §§	Maximum	48	49	52	26	26	51	11	23	30	2	5	8	21	24	15	19	25	46	31	24	48	25	8	-11	-5	-5	-8	-4	32	46	-13	20.8
	Minimum	20	21	23	20	19	10	8	0	12	2	-9	-1	0	0	7	-10	-13	15	0	11	3	5	0	-21	-25	-26	-20	-25	-19	14	-13	0.8
New England	Maximum	55	62	57	52	43	52	19	30	41	3	7	8	16	25	19	6	30	38	50	48	49	49	14	5	-2	-4	7	2	39	42	8	28.1
	Minimum	30	34	30	19	22	11	8	6	-1	-1	-1	-1	6	0	-4	-11	12	6	9	13	21	9	-10	-15	-24	-17	-10	-14	-6	-6	-7	3.5
New Salem	Maximum	52	45	51	43	36	51	41	24	37	40	19	8	10	22	22	10	25	46	33	35	49	35	34	29	15	0	-6	-9	17	40	10	27.9
	Minimum	21	22	28	18	13	17	7	7	15	-7	-3	0	0	3	2	-3	-11	19	0	7	6	12	-5	-17	-25	-23	-21	-19	-13	10	-13	1.5
Oakes	Maximum	47	37	48	38	27	45	37	12	27	27	5	12	13	23	23	16	13	39	29	31	47	29	12	4	-2	1	2	-6	18	41	27	23.3
	Minimum	13	27	25	17	11	17	1	-4	10	-4	-5	0	4	2	6	-8	-8	5	1	5	2	5	1	-15	-18	-22	-25	-18	-16	11	-14	0.2
Pembina §§	Maximum	40	34	34	11	24	41	-7	2	15	-7	5	-2	10	19	9	5	13	35	13	7	12	1	-10	-18	-16	-13	-13	-10	7	6	-14	13.9
	Minimum	-5	7	15	11	-4	1	-10	-13	-8	-8	-21	-14	-13	-14	8	-6	-21	-22	-7	-7	-11	-6	-10	-24	-27	-30	-28	-35	-35	-10	-15	-11.7
Sharon	Maximum	45	40	41	33	22	48	32	1	17	25	4	3	-1	19	19	9	14	39	10	19	40	10	0	-15	-11	-12	-3	-17	5	36	0	15.2
	Minimum	7	22	22	10	3	15	-7	-9	1	-17	-18	-5	-13	-13	2	-11	-18	10	-4	-5	-7	-4	-15	-25	-32	-27	-26	-31	-23	0	-19	-7.6
Steele	Maximum	49	40	50	39	21	57	44	18	27	25	5	8	9	23	28	10	19	44	27	35	48	29	29	-4	-6	-4	-5	-7	13	37	20	23.3
	Minimum	21	20	19	19	9	13	2	-3	15	-8	-6	2	-1	1	7	7	-14	13	1	4	1	8	-4	-20	-25	-27	-17	-17	-16	11	-13	0.1
Towner	Maximum	46	44	42	40	20	56	34	10	24	32	19	4	-3	16	24	-2	19	26	12	36	50	17	11	-7	-4	-18	-12	-15	4	30	[illegible]	18.1
	Minimum	15	17	20	11	5	13	-1	-1	7	-14	-13	-7	-12	-3	-12	-12	-14	-23	-4	1	0	4	-12	-24	-36	-35	-32	-34	-18	2	-16	-7.1
Valley City	Maximum	42	37	45	38	28	50	42	6	22	23	6	7	6	21	21	11	14	40	30	27	43	25	9	-2	-5	-6	-5	-5	9	38	18	20.5
	Minimum	12	22	20	18	8	16	-3	-10	3	-8	-10	2	0	-9	10	-11	-13	10	-1	3	-1	0	-3	-20	-27	-26	-28	-26	-20	7	-16	-3.3
Wahpeton	Maximum	50	41	39	39	21	45	40	8	22	24	4	10	12	22	25	20	20	39	38	26	40	35	13	10	-5	-5	-3	-9	10	39	[illegible]	22.7
	Minimum	16	29	33	17	10	16	0	-7	8	-6	-8	3	7	5	14	-13	5	6	1	5	-1	7	8	-17	-26	-28	-23	-28	-13	10	-11	0.6
Westhope	Maximum	46	44	36	33	20	42	35	11	20	21	8	8	-1	14	15	6	10	40	6	15	41	15	9	10	11	-4	-9	-11	1	13	0	16.3
	Minimum	12	13	14	9	1	10	-4	2	8	-15	-10	-12	-24	-6	4	-15	-21	2	-5	-5	-7	5	-17	-25	-31	-27	-32	-33	-19	-5	-16	-8.0
Williston	Maximum	47	47	42	26	34	49	15	20	31	11	7	6	9	15	9	3	29	40	13	28	43	24	8	-11	-6	-8	-10	-4	26	32	-4	18.4
	Minimum	26	24	26	15	19	15	5	13	11	-8	0	1	-4	7	-10	-12	-10	-1	1	-4	11	7	-15	-21	-26	-25	-24	-21	-4	-9	-9	-0.7
Moorhead, Minn	Maximum	44	36	37	37	22	41	17	8	22	24	5	8	8	24	24	16	12	39	26	25	41	11	8	-13	-6	-8	-8	-11	15	35	[illegible]	17.5
	Minimum	13	27	32	10	6	17	-5	-6	6	-10	-9	1	0	6	-1	-10	-3	7	0	-4	-4	1	-13	-21	-31	-26	-27	-29	-11	[illegible]	-16	-3.1

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. ᵃ 1 day missing, ᵇ 2 days, etc.

[WBO, Minneapolis, 1-30-34—1050]

1.05
JNT

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
CHARLES F. MARVIN, Chief

CLIMATOLOGICAL DATA

NORTH DAKOTA SECTION

O. W. ROBERTS

Vol. XLII BISMARCK, N. D., ANNUAL 1933 No. 13

GENERAL SUMMARY

The year 1933 was the fifth successive year with precipitation below the normal, a record for persistent dry weather. It was also the third driest year in the climatological history of the State, and some stations reported the least annual precipitation of record at their respective localities. May was the only month during the crop season with precipitation above the normal. The precipitation was especially deficient in the Red River valley. As a result of the five years of deficient rainfall, ground water levels are the lowest of record. The snowfall for the year, however, was 12 inches above the 42-year average.

The average annual temperature for the State was 41.1°, or 1.8° above the normal, making the fourth successive year with the temperature above normal. The highest average annual temperature reported was 45.4° at New England, Hettinger County; the lowest was 36.5° at Pembina, Pembina County. The highest temperature reported was 110° at Fort Yates, Sioux County, on June 18th; the lowest was -45° at Energy, McLean County, and Marmarth, Slope County, on February 7th.

The average annual precipitation for the State was 13.34 inches, or 3.84 inch below the normal, and was the third driest year of record. The greatest annual precipitation reported was 19.36 inches at Hillsboro, Traill County; the least was 7.10 inches at Stowers, Adams County. The greatest monthly amount reported was 5.41 inches at Mohall, Renville County, in May; there was none reported at Hankinson, Richland County, in October, and at Wishek, McIntosh County, in December. The average snowfall for the State was 42.3 inches.

The average number of days with 0.01 inch or more of precipitation was 65.

There were 161 clear days, 104 partly cloudy days and 100 cloudy days.

The prevailing wind was northwest.

THE WEATHER BY MONTHS

JANUARY.—The weather of the month was generally mild and pleasant, outdoor work made excellent progress and livestock ranged freely on pastures and harvested fields, saving much feed. While the average precipitation was above the normal, the heaviest occurred during the second decade, and, being accompanied by occasional high winds, effectively blocked highways at times.

FEBRUARY.—Low temperature, accompanied by snow and occasional high winds prevailed throughout the first part of the second decade, the storm of the 7-8th being the most severe in the history of the State. This condition was followed by generally mild and pleasant weather with only light scattered precipitation. Much yard feeding of livestock was necessitated during the fore part of the month, and highways in all sections were snow blocked.

MARCH.—While mild, pleasant weather prevailed throughout the State during the greater part of the month, soil conditions were such that practically no spring work on farms could be accomplished until the last few days, due to frozen ground. The precipitation, while below normal, was practically all absorbed by the soil, and surface moisture conditions were excellent generally. Winter rye came through as a rule in good condition.

APRIL.—Temperature conditions were somewhat changeable in all sections. Occasional frosts and freezing temperature were reported, but due to the backward condition of vegetation little damage resulted. Spring work on farms generally made good progress, and early planted grains were up to good stand and color. Pastures and ranges improved rapidly and afforded ample feed for livestock.

MAY.—The temperature averaged above normal and only a few scattered stations reported readings below freezing after the 12th. Precipitation also averaged somewhat above normal. General, beneficial showers occurred on the 8-9th and 22d-24th. Crops were somewhat backward at the beginning of the month, but at the close both crops and soil mosture conditions were mostly good.

JUNE.—Unfavorable weather conditions prevailed throughout North Dakota. The mean temperature was the highest of record for June and the average precipitation was but slightly more than one-half of the normal. As a result of the combined drought and high temperatures crops deteriorated in all sections. Small grains generally, headed short, while in some sections fields were abandoned, being used for pasture or summer fallowed. Ranges and pastures were short.

JULY.—Scattered showers occurred during the opening days of the month, which slightly improved conditions in a few sections, but as a rule small grains deteriorated generally; winter rye and early planted small grains headed short, considerable being cut for hay or used for pasturage. Rye harvest was completed and threshing of this crop was well advanced during the month with disappointing yields. Pastures, ranges, and meadows were short in nearly all sections and livestock deteriorated somewhat.

AUGUST.—The weather of the month was favorable for harvesting and threshing and excellent progress was made, though with generally disappointing yields. Due to unseasonably high temperatures and to lack of precipitation corn, potatoes, late

[Continued on page 53]

Climatological Data for the Year 1933

Stations	Counties	Elevation, feet	Temperature (degrees Fahrenheit)						Precipitation (inches)							Number rainy days	Sky			Prevailing direction of wind
			Length of record, years	Annual mean	Highest	Date	Lowest	Date	Length of record, years	Total for the year	Greatest monthly	Month	Least monthly	Month	Total snowfall		Number clear days	Number partly cloudy days	Number cloudy days	
Alpha	Golden Valley	.....	.....	.....	.....	.....	.....	.....	8	14.19	5.26	May	0.28	Feb.	27.4	62	.....	.....	.....	.....
Amenia	Cass	954	38	40.3	102	June 18	−38	Feb. 7	38	19.31	4.81	May	T.	Feb.	43.9	53	125	168	72	nw.
Arnegard	McKenzie	.....	21	42.3	103	June 17	−37	Feb. 7†	21	14.25	3.68	May	0.35	Feb.	47.2	77	213	73	79	nw.
Ashley	McIntosh	2,001	38	43.1	103	July 28	−35	Feb. 7†	38	12.81	3.44	June	0.04	Feb.	40.5	53	218	67	80	nw.
Beach	Golden Valley	2,579	28	43.2	104	July 26	−38	Feb. 7†	28	15.46	4.02	May	0.15	Feb.	39.3	77	.....	.....	.....	nw.
Berthold Agency	McLean	2,082	41	42.1	107	July 26	−42	Feb. 7	41	10.72	2.57	July	T.	Mar.	49.5	48	228	49	88	nw.
Bismarck	Burleigh	1,674	59	43.3	106	June 18	−38	Feb. 7	59	10.86	2.38	May	0.22	Feb.	47.5	78	129	122	114	nw.
Bottineau	Bottineau	1,638	42	38.2	109	July 28	−42	Feb. 7	42	13.54	2.30	May	0.26	Mar.	34.7	83	147	165	53	se.
Bowman	Bowman	2,961	19	42.9	104	July 26	−37	Feb. 7†	20	16.13	3.50	May	0.39	Dec.	43.4	100	234	75	56	nw.
Cando	Towner	1,488	33	39.2	99	June 17†	−38	Feb. 7	33	13.92	4.51	May	0.07	Mar.	40.2	57	130	103	132	nw.
Carrington	Foster	1,579	36	40.0	106	June 18	−34	Feb. 6	36	12.63	3.26	May	0.10	Feb.†	49.8	48	183	77	105	w.
Carson	Grant	2,500	22	43.8	108	June 18	−39	Feb. 7	22	11.15	2.59	May	0.16	Feb.	35.2	50	200	101	64	nw.
Cavalier	Pembina	.....	.....	.....	.....	.....	.....	.....	24	11.54	3.36	May	0.09	Mar.	51.5	67	193	76	96	n.
Cooperstown	Griggs	1,428	.....	.....	.....	.....	.....	.....	37	13.67	2.51	June	T.	Oct.	61.1	53	190	45	130	nw.
Corinth	Williams	2,180	.....	.....	.....	.....	.....	.....	6	10.46	1.66	June	0.10	Mar.	40.0	60	142	131	92	w.
Courtenay	Stutsman	1,523	.....	.....	.....	.....	.....	.....	5	15.50	3.33	July	0.26	Aug.	57.9	58	191	105	69	nw.
Crosby	Divide	1,954	27	39.6	101	July 26†	−38	Feb. 8	27	12.38	4.46	May	0.07	Feb.	34.2	64	90	153	122	sw.
Devils Lake	Ramsey	1,478	37	39.2	103	June 18	−35	Feb. 7	37	10.91	2.58	July	0.11	Feb.	39.1	104	112	104	149	nw.
Dickinson	Stark	2,543	42	41.7	104	July 26	−37	Feb. 7	42	11.50	2.63	July	0.24	Mar.	29.8	111	150	122	93	nw.
Dogden Butte	McLean	1,880	8	41.0	99	June 17†	−35	Feb. 8	8	15.11	3.68	May	0.25	Feb.	60.3	59	173	94	98	nw.
Drake	McHenry	1,634	5	40.1	103	June 18	−36	Feb. 9	5	11.29	2.96	May	0.09	Feb.	35.0	68	134	125	106	nw.
Dunn Center	Dunn	2,191	35	42.1	104	July 26	−37	Feb. 7	35	12.58	3.93	May	T.	Feb.	33.0	50	174	84	107	w.
Dunseith	Rolette	1,682	38	38.3	102	June 18	−38	Feb. 7	38	11.72	3.24	May	0.13	Mar.	35.2	55	107	118	140	nw.
Eckman	Bottineau	1,500	29	38.6	101	June 17†	−42	Feb. 7	29	14.52	4.25	May	0.14	Mar.	36.1	76	122	170	73	nw.
Edgeley	LaMoure	1,468	33	43.1	106	June 18	−35	Feb. 7	33	12.31	3.79	June	0.05	Feb.	23.9	52	76	218	71	nw.
Edmore	Ramsey	1,524	9	37.4	101	June 18	−36	Feb. 7	10	10.10	1.88	July	0.12	Feb.	41.0	93	134	124	107	nw.
Ellendale	Dickey	1,449	31	43.7	105	June 18†	−32	Feb. 7	39	13.03	3.69	July	0.07	Feb.	22.7	63	165	89	111	nw.
Energy	McLean	1,750	9	42.9	106	June 18†	−45	Feb. 7	22	12.30	3.13	May	0.20	Sept.	54.0	59	132	179	54	nw.
Epping	Williams	2,224	9	.....	104	July 26	−38	Feb. 8	26	.....	3.41	May	0.11	Mar.	.....	.....	.....	.....	.....	.....
Fairfield	Billings	.....	.....	.....	.....	.....	.....	.....	5	14.38	3.47	May	0.16	Feb.	38.5	42	202	80	83	nw.
Fessenden	Wells	1,610	22	39.8	105	June 18†	−35	Feb. 7†	22	15.38	3.31	May	0.39	Aug.	63.7	59	166	125	74	nw.
Forman	Sargent	1,249	.....	.....	.....	.....	.....	.....	41	12.96	2.69	June	T.	Aug.	21.5	54	233	76	56	nw.
Fort Yates	Sioux	1,670	34	45.2	110	June 18	−35	Feb. 7	34	8.97	2.62	July	0.10	Oct.	21.0	36	191	82	92	nw.
Foxholm	Ward	1,657	9	39.2	99	June 17†	−40	Feb. 8	13	16.45	4.04	May	0.23	Feb.	53.2	76	117	127	121	nw.
Fryburg	Billings	2,790	.....	.....	.....	.....	.....	.....	16	15.29	3.65	May	0.08	Feb.	47.1	55	197	98	70	nw.
Fullerton	Dickey	1,439	36	43.5	107	June 18†	−34	Feb. 7	36	17.74	3.90	July	0.12	Oct.	48.3	55	164	110	91	nw.
Gackle	Logan	1,951	.....	.....	.....	.....	.....	.....	3	15.18	3.61	June	0.34	Dec.	47.2	63	174	74	117	nw.
Garrison	McLean	1,901	39	42.3	104	June 17	−35	Feb. 7†	57	12.85	3.16	May	0.10	Mar.	46.0	51	150	135	80	nw.
Grafton	Walsh	827	42	40.2	104	June 19	−34	Feb. 7†	42	11.83	2.79	May	0.12	Mar.	49.7	54	164	90	111	nw.
Grand Forks	Grand Forks	830	43	39.8	105	June 18	−37	Dec. 28	43	15.38	2.81	May	0.13	Feb.	62.3	97	71	175	119	nw.
Granville	McHenry	1,504	27	40.7	104	June 18	−37	Feb. 7	27	16.05	3.81	May	0.36	Feb.	52.5	69	166	106	93	nw.
Hankinson	Richland	1,068	5	43.3	104	June 15†	−29	Feb. 6	5	14.18	2.76	May	0.00	Oct.	23.5	44	195	82	88	nw.
Hannah	Cavalier	1,568	25	37.4	100	June 17	−38	Feb. 8	42	12.50	4.12	May	0.18	Mar.	33.1	73	101	184	80	nw.
Hansboro	Towner	1,597	26	37.9	103	June 18	−36	Feb. 9†	26	17.11	5.02	May	0.15	Mar.	68.0	62	194	101	70	nw.
Hettinger	Adams	2,675	27	44.5	104	July 28	−37	Feb. 7	27	9.21	2.57	May	0.06	Feb.	23.5	58	191	86	88	nw.
Hillsboro	Traill	901	28	40.6	105	June 18	−34	Feb. 7†	28	19.36	2.92	May	0.06	Feb.	66.6	53	168	163	94	nw.
Howard	Williams	2,275	27	39.3	103	July 26	−39	Feb. 8	27	14.06	3.65	May	0.02	Nov.	54.8	56	162	91	112	nw.
Jamestown	Stutsman	1,390	42	41.1	107	June 18	−38	Feb. 7	42	15.90	3.34	May	0.19	Feb.	59.2	60	153	128	84	nw.
Kenmare	Ward	1,799	2	40.5	100	June 18†	−38	Feb. 7	2	12.41	3.49	May	0.11	Feb.	35.6	68	133	108	124	nw.
Langdon	Cavalier	1,615	38	37.0	106	June 18	−42	Feb. 9	38	10.86	2.76	May	0.13	Aug.	49.0	48	201	126	38	sw.
Larimore	Grand Forks	1,134	41	40.1	104	June 18	−33	Dec. 28	41	15.23	4.09	May	0.06	Feb.	57.5	70	178	72	115	nw.
Linton	Emmons	1,711	16	43.4	106	June 18†	−41	Feb. 7	17	9.19	1.92	May	0.07	Oct.	20.3	56	123	172	70	nw.
Lisbon	Ransom	1,091	30	43.5	105	June 20	−34	Feb. 7	30	14.91	3.24	June	0.08	Mar.	41.7	67	97	126	142	.....
McClusky	Sheridan	1,943	9	40.6	103	July 28	−38	Feb. 7	16	15.64	4.71	May	0.49	Sept.	61.5	49	192	92	81	nw.
McLeod	Ransom	1,075	22	42.3	105	June 16	−36	Feb. 7	23	12.18	2.85	July	0.13	Oct.	27.3	68	185	74	106	nw.
Maddock	Benson	1,604	19	39.5	104	June 18	−39	Feb. 7	19	10.68	3.61	May	0.13	Apr.	24.1	57	98	148	119	nw.
Mandan	Morton	1,644	20	42.7	106	June 18	−36	Feb. 8	20	11.91	2.18	June	0.27	Sept.	52.5	84	155	28	182	se.
Manfred	Wells	1,605	.....	.....	.....	.....	.....	.....	31	12.73	3.07	May	0.42	Feb.	56.2	81	.....	.....	.....	.....
Marmarth	Slope	2,714	20	43.8	104	July 26	−45	Feb. 7	25	14.98	4.03	May	0.45	Feb.†	63.1	74	154	89	122	.....
Mary	McKenzie	.....	.....	.....	.....	.....	.....	.....	5	14.17	4.12	May	0.14	Feb.	36.5	61	204	71	90	se.
Max	McLean	2,093	5	40.2	105	June 17	−37	Feb. 8	5	14.69	4.61	May	0.07	Mar.	40.7	56	154	48	163	nw.
Mayville	Traill	975	38	40.7	105	June 18	−35	Feb. 7	38	14.64	3.46	May	0.30	Mar.	37.7	84	119	118	128	nw.
Minot	Ward	1,557	38	40.7	103	June 17	−36	Feb. 8	38	14 77	4.13	May	0.12	Feb.	41.0	73	163	127	75	nw.
Mohall	Renville	.....	40	39.3	101	July 28	−38	Feb. 7	40	16.85	5.41	May	T.	Nov.	31.8	52	129	130	106	nw.
Mott	Hettinger	2,424	27	43.3	105	July 26	−40	Feb. 7	27	12.99	3.72	May	0.34	Feb.	36.0	58	144	62	149	nw.
Napoleon	Logan	1,955	42	42.1	108	June 18	−41	Feb. 7	42	12.29	2.80	July	0.20	Feb.†	36.3	79	176	63	126	nw.
New England	Hettinger	2,400	40	45.4	107	July 19	−38	Feb. 6	40	13.60	3.51	June	0.32	Feb.	37.0	54	162	110	93	se.
New Salem	Morton	2,163	30	42.6	104	June 18	−36	Feb. 7	30	12.83	3 78	May	0.22	Sept.	43.5	78	191	91	83	nw.
Oakes	Dickey	1,318	5	43.9	106	June 16†	−34	Feb. 7	5	13.38	3.80	July	0.13	Oct.	18.2	66	123	149	93	ne.
Park River	Walsh	998	30	40 3	104	June 18	−36	Dec. 28	30	17.59	2.13	May	0.10	Feb.	49.1	47	132	120	113	nw.
Parshall	Mountrail	1,929	1	39.9	102	July 27	−42	Feb. 7	19	13.78	4.95	July	0.11	Feb.	25.5	75	98	189	78	se.
Pembina	Pembina	789	60	36.5	102	June 18	−37	Feb. 8	60	10.47	2.10	May	0.19	Mar.	46.5	89	77	120	168	nw.
Petersburg	Nelson	1,520	.....	.....	.....	.....	.....	.....	4	11.76	3.22	May	0.06	Feb.	33.6	78	168	106	91	nw.
Pettibone	Kidder	1,856	25	40.8	106	June 18	−38	Feb. 7	25	14.55	3.59	May	0.30	Mar.	47.2	56	211	64	90	nw.
Portal	Burke	1,954	21	38.1	100	June 16†	−40	Feb. 7	29	11.12	3 98	May	0.06	Mar.	28.5	47	185	46	134	w.
Powers Lake	Burke	2,205	8	40.1	101	July 26	−38	Feb. 8	29	15.48	4.61	May	0.24	Feb.	50.5	40	199	102	64	e.
Richardton	Stark	2,467	18	42.1	105	June 18	−42	Feb. 7	18	13.46	3.10	May	0.10	Mar.	21.6	44	145	138	82	nw.
Rugby	Pierce	1,562	.....	.....	.....	.....	.....	.....	5	10.15	2.91	May	0.12	Feb.	27.6	72	.....	.....	.....	.....
Ryder	Ward	2,108	.....	.....	.....	.....	.....	.....	5	13.75	3.35	July	0.18	Mar.	28.0	57	.....	.....	.....	.....
Sanish	Mountrail	1,835	11	40.6	107	July 26	−42	Feb. 7†	11	13.73	2.55	July	0.30	Mar.	55.7	62	.....	.....	.....	.....
Sharon	Steele	1,516	7	39.4	103	June 18	−35	Feb. 7	10	16.19	4.25	May	0.17	Feb.	52.5	93	119	108	138	nw.
Stanton	Mercer	1,722	.....	.....	.....	.....	.....	.....	10	10.24	2.66	June	0.20	Feb.	43.7	42	156	122	87	nw.
Steele	Kidder	1,857	40	42.2	109	June 18	−41	Feb. 7	40	14.93	4.89	May	0.10	Feb.	35.6	62	136	131	98	nw.
Stowers	Adams	2,325	.....	.....	.....	.....	.....	.....	19	7.10	2.68	May	0.03	Nov.	18.7	34	239	43	83	.....
Tagus	Mountrail	2,179	.....	.....	.....	.....	.....	.....	5	12.27	3.28	May	0.27	Jan.	30.4	52	174	108	83	nw.
Tioga	Williams	2,279	.....	.....	.....	.....	.....	.....	5	12.84	3.60	May	0.21	Mar.	36.7	60	152	92	121	nw.
Towner	McHenry	1,482	32	40.2	103	June 18	−41	Feb. 8†	32	12.55	3.05	May	0.02	Feb.	63.2	57	186	93	86	nw.
Trotters	Golden Valley	.....	.....	.....	.....	.....	.....	.....	8	15.18	4.04	May	0.21	Feb.	46.0	64	154	105	106	.....
Turtle Lake	McLean	1,899	.....	.....	.....	.....	.....	.....	20	10.97	3.96	May	0.13	Feb.	36.7	63	.....	.....	.....	.....
Valley City	Barnes	1,245	28	41.5	104	June 19	−35	Feb. 7	28	17.25	4.49	June	0.26	Aug.	46.1	71	204	77	84	nw.
Velva	McHenry	1,511	7	41.2	105	June 18	−37	Feb. 8	7	15.65	4.15	May	0.19	Feb.	65.5	74	97	157	111	w.
Wahpeton	Richland	962	42	44.6	106	June 19	−32	Feb. 8	42	16.45	3.11	May	0.05	Oct.	43.8	79	219	0	146	se.
Washburn	McLean	1,731	33	42.1	101	June 17†	−37	Feb. 8	33	12.94	2.64	May	0.31	Sept.	40.3	57	153	114	98	s.
Westhope	Bottineau	1,508	28	39.9	104	June 16†	−38	Feb. 7†	28	11.23	2.16	May	0.19	Feb.	24.6	61	182	126	57	nw.
Williston	Williams	1,878	55	42.3	103	July 26	−35	Feb. 8	55	15.44	3.52	May	0.29	Mar.	51.7	89	162	108	95	se.
Willow City	Bottineau	1,471	42	37.8	104	June 18	−41	Feb. 7	42	13.76	2.95	May	0.10	Feb.	52.0	58	176	130	59	nw.
Wishek	McIntosh	2,010	5	41.0	105	June 18	−34	Feb. 7†	5	9.53	1.93	May	0.00	Dec.	21.6	47	205	8	152	se.
Zap	Mercer	1,838	.....	.....	.....	.....	.....	.....	19	8.01	2.18	May	0.12	Feb.†	15.1	36	.....	.....	.....	.....
Moorhead, Minn	Clay	935	62	41.7	104	June 18	−31	Feb. 7†	53	15.25	2.13	June	0.37	Mar.	70.0	102	111	109	145	s.

†Indicates on other dates (or in other months) also. T. Indicates trace.

Monthly and Annual Precipitation for the Year 1933, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure	Precipitation	Departure
Alpha	0.54	.....	0.28	.....	1.17	.....	1.45	.....	5.26	.....	1.84	.....	0.39	.....	0.86	.....	0.36	.....	0.96	.....	0.58	.....	0.50	.....	14.19	.....
Amenia	0.51	+0.03	T.	0.54	0.20	-0.32	1.67	0.15	4.81	+1.96	3.30	-0.49	2.77	-0.12	1.63	0.92	1.30	0.81	0.43	0.91	1.11	+0.46	1.58	+1.03	19.31	0.79
Arnegard	0.57	+0.02	0.35	-0.10	0.57	-0.15	0.98	0.19	3.68	+1.62	1.52	1.81	2.82	+1.06	0.48	-0.97	0.72	-0.71	0.66	0.29	0.71	+0.51	1.39	+0.82	14.25	0.72
Ashley	0.46	0.05	0.04	0.48	0.68	0.34	1.04	-0.88	1.81	0.59	3.44	-0.10	3.23	+0.40	1.20	-1.24	0.42	-1.05	0.07	1.12	0.35	0.28	0.07	-0.44	12.81	6.15
Beach	1.23	+0.72	0.15	-0.25	0.74	+0.11	1.74	+0.52	4.02	+1.44	1.85	-2.04	1.11	0.71	1.37	0.40	0.95	-0.37	0.89	-0.69	0.92	+0.59	0.49	0.01	15.46	0.69
Berthold Agency	0.82	+0.48	0.38	0.09	T.	-0.69	0.85	-0.24	1.71	-0.73	1.73	-2.15	2.57	+0.40	0.60	-1.13	0.58	0.88	0.29	0.77	0.52	+0.08	0.67	+0.28	10.72	5.24
Bismarck	0.83	+0.38	0.22	-0.22	0.68	0.21	0.73	-0.79	2.38	+0.06	1.95	-1.40	1.61	0.63	0.48	-1.24	0.37	0.86	0.41	-0.50	0.71	+0.17	0.43	0.14	10.86	5.48
Bottineau	0.33	-0.07	0.28	-0.07	0.26	-0.43	2.08	+1.19	2.30	+0.21	1.61	-1.70	1.60	-0.70	1.63	-0.56	1.07	0.55	0.45	0.58	0.77	+0.23	1.16	+0.72	13.54	-2.31
Bowman	1.14	+0.69	0.54	+0.25	1.14	+0.68	1.89	+0.76	3.50	+1.08	2.14	-1.35	1.24	1.13	1.00	-0.36	0.95	0.25	1.06	+0.08	1.11	+0.76	0.39	+0.11	16.13	+1.32
Cando	1.43	+1.01	0.25	-0.12	0.07	-0.61	1.50	+0.42	4.51	+2.19	1.14	-2.46	2.21	0.31	0.20	-1.93	1.07	0.55	0.15	0.71	0.30	0.23	1.09	+0.65	13.92	-2.65
Carrington	0.88	+0.56	0.10	0.29	0.35	-0.32	1.75	+0.52	3.26	+0.63	1.73	-1.78	1.14	-1.40	0.10	2.02	0.63	-0.91	0.76	0.21	0.80	+0.25	1.13	+0.71	12.63	-4.26
Carson	0.62	+0.27	0.16	0.15	0.80	+0.21	0.72	-0.76	2.59	+0.30	0.88	3.19	2.25	+0.31	1.04	-0.48	0.54	-1.20	0.37	-0.65	0.89	+0.28	0.29	0.26	11.15	-5.30
Cavalier	1.08	+0.34	0.27	-0.31	0.09	-0.59	0.38	-0.84	3.36	+0.65	0.92	-2.00	0.68	-2.05	0.80	-1.46	0.86	1.08	0.41	-0.68	0.97	+0.14	1.72	+0.72	11.54	7.19
Cooperstown	0.82	+0.40	0.59	+0.18	0.63	+0.05	0.96	-0.60	2.33	-0.05	2.51	1.05	1.50	1.05	0.13	-2.13	0.79	-1.00	T	1.06	1.25	+0.55	2.16	+1.64	13.67	-4.12
Corinth	0.81	.....	0.85	.....	0.10	.....	1.01	.....	1.55	.....	1.66	.....	1.43	.....	0.72	.....	0.51	.....	0.52	.....	0.15	.....	1.15	.....	10.46	.....
Courtenay	1.60	.....	0.31	.....	0.45	.....	1.95	.....	2.55	.....	1.31	.....	3.33	.....	0.26	.....	1.10	.....	0.42	.....	0.85	.....	1.37	.....	15.50	.....
Crosby	0.55	+0.12	0.07	-0.21	0.25	-0.26	1.18	+0.06	4.46	+2.45	1.45	-1.71	1.19	-0.96	0.32	-1.40	0.87	-0.53	0.38	0.50	0.51	0.14	1.15	+0.70	12.38	2.58
Devils Lake	0.88	+0.41	0.11	0.39	0.27	-0.51	0.62	0.90	2.22	+0.19	0.96	-2.60	2.58	+0.01	0.27	2.21	0.60	1.03	0.62	-0.63	0.73	+0.01	1.65	+0.51	10.91	7.14
Dickinson	0.83	+0.39	0.35	-0.08	0.24	-0.55	0.86	0.37	2.56	+0.20	1.26	-1.93	2.63	+0.38	0.72	-1.07	0.49	-0.70	0.55	0.32	0.60	+0.08	0.41	0.08	11.50	-4.05
Dogden Butte	0.62	.....	0.25	.....	0.35	.....	0.95	.....	3.68	.....	1.50	.....	2.93	.....	1.13	.....	0.51	.....	0.86	.....	0.87	.....	1.46	.....	15.11	.....
Drake	0.61	.....	0.09	.....	0.26	.....	1.15	.....	2.96	.....	0.93	.....	2.59	.....	0.42	.....	0.75	.....	0.48	.....	0.45	.....	0.60	.....	11.29	.....
Dunn Center	0.85	+0.42	T.	-0.54	0.49	-0.13	1.53	+0.15	3.93	+1.41	0.94	-3.07	1.19	0.99	1.04	-0.37	0.70	0.63	0.61	-0.14	0.70	+0.13	0.60	+0.05	12.58	4.01
Dunseith	0.48	+0.08	0.24	-0.18	0.15	-0.53	0.98	+0.17	3.24	+1.40	1.26	-1.82	1.01	1.43	1.90	-0.48	0.67	-1.04	0.18	-0.73	0.23	0.28	1.40	+1.00	11.72	3.84
Eckman	0.40	0.04	0.21	-0.15	0.14	-0.34	2.07	+1.11	4.25	+2.14	1.70	-1.24	2.13	-0.14	0.32	-1.75	1.27	-0.13	0.44	-0.49	0.66	+0.08	0.93	+0.42	14.52	0.53
Edgeley	0.12	+0.09	0.05	-0.29	0.35	0.31	1.60	-0.17	1.80	-0.86	3.79	+0.10	2.40	0.34	0.45	-1.81	0.51	-1.31	0.18	-0.85	0.52	+0.05	0.24	-0.15	12.31	-5.85
Edmore	0.70	.....	0.12	.....	0.44	.....	0.86	.....	1.43	.....	0.92	.....	1.88	.....	0.13	.....	1.23	.....	0.68	.....	0.66	.....	1.11	.....	10.16	.....
Ellendale	0.26	-0.22	0.07	-0.51	0.60	-0.23	2.34	+0.24	1.61	-1.47	2.08	2.51	3.69	+0.54	1.23	-1.85	0.20	-1.82	0.12	1.05	0.50	0.24	0.35	-0.15	13.05	-9.27
Energy	1.15	+0.89	0.60	+0.27	0.50	0.00	0.65	-0.48	3.13	+0.91	1.48	-2.00	1.72	-0.54	0.78	-1.07	0.20	-1.27	0.62	-0.26	0.54	+0.17	0.93	+0.49	12.30	-2.83
Epping	1.00	+0.54	0.51	+0.10	0.11	-0.40	1.17	-0.02	3.41	+1.10	1.02	-2.55	2.32	+0.31	0.37	-1.33	0.53	-1.08	.....	.....	.....	.....	.....	.....	.....	.....
Fairfield	1.04	.....	0.16	.....	0.50	.....	2.60	.....	3.47	.....	1.69	.....	1.76	.....	0.26	.....	1.16	.....	0.69	.....	0.50	.....	0.55	.....	14.38	.....
Fessenden	0.92	+0.44	0.41	-0.14	0.77	+0.07	2.04	+0.53	3.31	+0.93	1.37	-2.46	2.03	-0.09	0.39	-1.78	0.59	-1.20	0.84	-0.07	1.13	+0.37	1.58	+0.92	15.38	-2.48
Forman	0.25	-0.29	0.07	-0.58	0.36	-0.44	1.64	-0.51	2.04	-0.33	2.69	-0.80	2.49	-0.16	1.39	-1.35	0.58	-1.36	T.	-1.40	0.39	-0.25	1.06	+0.51	12.96	-7.76
Fort Yates	0.32	-0.20	0.16	-0.46	0.40	-0.54	0.86	-0.73	1.70	-0.27	1.53	-1.97	2.62	+0.20	0.20	-1.80	0.67	-0.48	0.10	-0.81	0.30	-0.25	0.11	-0.37	8.97	-7.68
Foxholm (near)	0.86	+0.53	0.23	-0.34	0.53	0.14	2.74	+1.39	4.04	+2.07	1.45	-1.64	2.01	-0.22	0.69	-1.05	0.86	-0.64	0.75	0.35	1.08	+0.41	1.21	+0.78	16.45	+0.80
Fryburg	1.48	+1.03	0.08	-0.46	0.84	+0.12	2.27	+0.94	3.65	+1.41	2.02	-1.37	1.66	-0.34	0.31	-1.15	0.55	-1.14	1.29	+0.10	0.71	+0.07	0.43	-0.15	15.29	-0.94
Fullerton	1.05	+0.25	0.62	0.30	0.88	-0.30	2.51	+0.45	2.56	-0.64	3.10	-0.65	3.90	+0.71	1.07	-1.51	0.46	-1.70	0.12	-1.30	0.93	+0.08	0.51	-0.34	17.71	-5.25
Gackle	0.61	.....	0.42	.....	0.70	.....	1.31	.....	3.05	.....	3.61	.....	3.34	.....	0.06	.....	0.45	.....	0.36	.....	0.93	.....	0.34	.....	15.18	.....
Garrison	1.44	+1.02	0.20	-0.30	0.10	-0.83	0.70	-0.52	3.16	+0.93	1.18	-2.24	1.96	0.21	0.86	-1.16	0.92	-0.52	0.73	-0.17	0.60	+0.05	1.00	+0.45	12.85	-3.53
Grafton	0.64	+0.07	0.20	-0.39	0.12	0.54	0.92	-0.48	2.79	+0.60	1.66	-1.70	1.41	-1.08	0.76	-1.71	0.85	-1.21	0.25	-0.76	0.75	+0.01	1.48	+0.96	11.83	-6.23
Grand Forks	1.06	+0.52	0.13	0.45	0.40	-0.33	1.41	-0.43	2.81	+0.20	2.01	-1.41	1.35	-1.38	0.46	-2.02	1.80	-0.05	1.33	+0.06	1.15	+0.34	1.47	+0.84	15.38	-4.11
Granville	0.88	+0.48	0.36	-0.09	0.67	+0.19	2.14	+1.09	3.81	+1.88	2.24	-0.65	2.11	+0.01	0.74	-1.11	0.94	-0.55	0.53	-0.42	0.38	-0.23	1.25	+0.73	16.05	+1.33
Hankinson	0.75	.....	0.35	.....	1.85	.....	1.70	.....	2.76	.....	1.21	.....	1.14	.....	2.37	.....	0.50	.....	0.00	.....	0.58	.....	0.97	.....	14.18	.....
Hannah	0.65	-0.03	0.31	-0.27	0.18	0.48	0.56	-0.71	4.12	+1.99	1.37	-2.03	0.78	-1.65	0.88	-0.94	1.57	-0.64	0.33	-0.74	0.83	+0.05	0.92	+0.32	12.50	-5.13
Hansboro	1.15	+0.46	0.35	-0.23	0.15	-0.57	1.80	+0.31	5.02	+2.71	1.87	-1.22	1.70	0.74	1.95	-0.25	1.40	-0.60	0.35	-0.82	0.30	-0.29	1.07	+0.42	17.11	-0.82
Hettinger	0.51	+0.18	0.06	-0.28	0.52	-0.16	0.75	-0.25	2.57	+0.22	0.38	-3.22	1.18	-1.37	1.26	-0.04	0.59	-0.91	0.59	0.22	0.44	0.00	0.36	-0.01	9.21	-6.06
Hillsboro	1.79	+1.21	0.06	-0.57	0.60	-0.07	2.11	+0.26	2.92	-0.27	2.86	-0.56	1.83	-0.60	1.23	-1.26	2.71	+0.49	0.48	-0.72	1.11	+0.20	1.66	+0.90	19.36	-0.99
Howard (near)	0.26	-0.35	0.90	+0.30	0.11	-0.91	1.97	+0.67	3.65	+1.27	1.35	-1.43	0.79	-0.99	1.06	-0.45	0.65	-0.89	0.95	+0.05	0.02	-0.59	2.35	+1.68	14.06	-1.64
Jamestown	1.02	+0.44	0.19	-0.43	0.45	-0.46	1.96	+0.23	3.34	+0.56	1.75	-2.05	3.26	+0.54	0.68	-1.85	0.33	-1.40	0.66	-0.46	1.51	+0.79	0.75	+0.07	15.90	-4.02
Kenmare	0.27	.....	0.11	.....	0.27	.....	1.14	.....	3.49	.....	2.38	.....	1.74	.....	0.24	.....	0.81	.....	0.61	.....	0.42	.....	0.93	.....	12.41	.....
Langdon	1.60	+1.03	0.52	-0.10	0.20	-0.61	0.80	-0.54	2.76	+0.55	0.91	-2.50	0.98	-1.49	0.13	-2.34	1.71	-0.58	0.25	-0.78	0.50	-0.33	0.50	-0.13	10.86	-7.82
Larimore	0.91	+0.26	0.06	-0.52	0.53	-0.23	1.21	-0.47	4.09	+1.33	1.87	-2.07	1.47	-1.76	0.47	-2.17	1.27	-0.81	1.10	-0.27	0.73	-0.14	1.52	+0.95	15.23	-5.90
Linton	0.25	-0.18	0.08	-0.47	0.33	-0.15	0.87	-0.65	1.92	-0.36	1.85	-0.71	1.89	-0.17	0.28	-1.73	1.11	-0.67	0.07	-0.97	0.46	-0.20	0.08	-0.33	9.19	-6.59
Lisbon	1.04	+0.44	0.32	-0.35	0.08	-0.44	1.90	+0.06	3.06	+0.03	3.24	-0.72	2.20	-1.10	0.74	-1.60	0.78	-1.39	0.20	-0.95	0.70	-0.03	0.65	+0.14	14.91	-5.91
McClusky	1.15	+0.70	0.64	0.04	0.60	0.14	1.25	-0.17	4.71	+2.06	1.61	-1.54	1.17	-1.15	0.73	-1.02	0.49	-0.82	1.09	+0.10	0.90	+0.19	1.30	+0.68	15.64	-1.15
McLeod	1.04	+0.44	0.25	-0.45	0.31	-0.23	1.65	-0.52	2.44	-0.88	0.68	-3.44	2.85	-0.08	0.66	-1.49	0.97	-1.39	0.13	-1.27	0.63	-0.10	0.57	+0.10	12.18	-9.31
Maddock	0.56	+0.29	0.22	-0.15	0.33	-0.06	0.13	-1.22	3.61	+1.41	2.27	-1.11	1.63	0.77	0.20	2.01	0.62	-1.41	0.22	-0.71	0.29	-0.25	0.60	+0.34	10.68	-5.65
Mandan	1.23	+0.95	0.34	-0.02	1.02	+0.31	0.86	-0.56	1.83	-0.59	2.18	1.15	1.80	-0.85	0.41	-1.09	0.27	-1.19	0.55	-0.29	0.90	+0.38	0.52	+0.09	11.91	-4.01
Manfred	1.01	+0.45	0.42	-0.09	0.50	-0.25	1.30	-0.05	3.07	+0.72	1.46	-2.16	1.62	-0.52	0.49	-1.86	0.58	-0.99	0.60	-0.37	0.73	+0.01	0.95	+0.29	12.73	-4.82
Marmarth	1.64	+1.27	0.45	+0.05	1.20	+0.62	1.57	+0.53	4.03	+1.56	1.39	-1.87	1.32	-0.52	0.65	-1.09	0.70	-0.65	1.09	+0.25	0.45	+0.04	0.49	+0.09	14.98	+0.28
Mary	0.62	.....	0.14	.....	0.44	.....	2.01	.....	4.12	.....	1.26	.....	1.48	.....	1.70	.....	1.02	.....	0.49	.....	0.32	.....	0.57	.....	14.17	.....
Max	1.06	.....	0.65	.....	0.07	.....	0.51	.....	4.61	.....	1.05	.....	3.81	.....	0.49	.....	0.47	.....	0.25	.....	0.76	.....	0.96	.....	14.69	.....
Mayville	0.93	+0.51	0.37	-0.08	0.30	-0.42	0.58	-1.12	3.46	+0.44	2.78	-0.63	1.53	-1.26	0.94	-1.68	1.49	-0.71	0.62	-0.58	0.48	-0.31	1.16	+0.60	14.64	-5.24
Minot	0.46	+0.08	0.12	-0.35	0.24	-0.45	2.56	+1.33	4.13	+2.09	1.43	-1.79	2.16	+0.29	0.63	-1.38	0.51	-1.07	0.79	-0.19	0.79	+0.12	0.92	+0.44	14.77	-0.88
Mohall	0.45	+0.12	0.10	-0.22	0.60	-0.08	1.60	+0.66	5.41	+3.40	2.87	-0.43	2.36	+0.13	0.73	-1.08	1.10	-0.45	0.47	-0.57	T.	-0.60	1.16	+0.75	16.85	+1.63
Mott	0.66	-0.18	0.34	-0.24	0.56	-0.36	0.82	-0.58	3.72	+1.34	1.38	-2.16	1.95	-0.64	1.54	-0.23	0.35	-1.13	0.50	-0.57	0.43	-0.12	0.74	+0.10	12.99	-4.77
Napoleon	0.66	+0.23	0.20	-0.23	0.93	+0.10	1.00	-0.61	2.16	-0.20	1.75	-1.78	2.80	+0.30	0.20	-2.13	0.75	-0.69	0.28	-0.75	1.15	+0.50	0.41	-0.04	12.29	-5.30
New England	1.26	+0.76	0.32	-0.18	0.35	-0.44	0.92	-0.11	1.89	-0.18	3.51	+0.61	1.91	-0.04	0.53	-1.06	0.54	-0.74	0.98	+0.28	0.70	+0.19	0.69	+0.29	13.60	-0.62
New Salem	1.18	+0.68	0.41	-0.03	0.37	-0.46	0.89	-0.33	3.78	+1.53	1.32	-2.11	2.61	+0.58	0.74	-0.84	0.22	-1.15	0.33	-0.63	0.58	+0.09	0.40	-0.18	12.83	-2.85
Oakes	0.31	.....	0.18	.....	0.45	.....	1.70	.....	2.40	.....	2.32	.....	3.80	.....	0.72	.....	0.59	.....	0.13	.....	0.39	.....	0.39	.....	13.38	.....
Park River	0.62	+0.24	0.10	-0.30	0.77	+0.21	0.85	-0.47	2.13	-0.24	1.09	-2.39	1.37	-1.14	0.23	-2.05	0.77	-1.22	0.50	-0.64	0.84	+0.06	1.32	+0.87	10.59	-7.04
Parshall (near)	0.48	+0.29	0.11	-0.25	0.33	+0.11	1.36	+0.22	2.63	+0.52	1.25	-1.84	4.95	+3.14	0.42	-1.41	0.71	-0.85	0.75	+0.06	0.18	-0.11	0.61	+0.21	13.78	+0.09
Pembina	0.87	+0.25	0.30	-0.43	0.19	0.68	0.26	-1.18	2.10	-0.33	1.33	-2.27	1.17	-1.29	1.29	-0.97	1.21	-0.79	0.29	-1.14	0.66	-0.13	0.80	+0.03	10.47	-8.93
Petersburg	0.59	.....	0.06	.....	0.44	.....	0.48	.....	3.22	.....	0.91	.....	1.12	.....	0.97	.....	1.38	.....	0.49	.....	0.72	.....	1.38	.....	11.76	.....
Pettibone	0.58	+0.17	0.78	+0.35	0.30	-0.25	1.25	-0.08	3.59	+0.97	2.13	-1.03	2.23	-0.47	0.40	-2.03	0.75	-0.81	0.80	-0.18	0.82	+0.16	0.92	+0.35	14.55	-2.85
Portal	0.13	-0.35	0.08	-0.35	0.06	-0.58	1.08	-0.04	3.98	+1.81	2.15	-1.20	0.76	-1.14	0.56	-1.37	0.74	-0.73	0.22	-0.53	0.32	-0.26	1.04	+0.54	11.12	-4.20
Power	1.60	+0.97	0.56	-0.08	0.15	-0.55	2.90	+1.10	2.25	-0.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Powers Lake	0.62	+0.01	0.21	-0.24	0.30	-0.52	1.93	+0.35	4.61	+2.44	2.91	-0.64	1.73	-0.49	0.97	-0.52	0.74	-0.53	0.50	-0.73	0.49	-0.09	0.44	-0.15	15.48	-1.11
Richardton	0.70	+0.28	0.20	-0.17	0.10	-0.43	0.74	-0.74	3.10	+0.61	1.54	-1.91	2.54	+0.50	1.77	+0.20	0.45	-0.90	0.66	-0.08	1.46	+1.00	0.20	-0.18	13.46	-1.82
Rugby	0.39	.....	0.12	.....	0.26	.....	0.74	.....	2.91	.....	1.34	.....	2.06	.....	0.25	.....	0.88	.....	0.30	.....	0.30	.....	0.60	.....	10.15	.....
Ryder	0.42	.....	0.41	.....	0.18	.....	1.25	.....	2.90	.....	1.48	.....	3.35	.....	0.91	.....	1.05	.....	0.57	.....	0.43	.....	0.80	.....	13.75	.....
Sanish	1.04	.....	1.00	.....	0.30	.....	0.85	.....	1.71	.....	1.68	.....	2.55	.....	0.54	.....	0.91	.....	1.28	.....	0.67	.....	1.20	.....	13.73	.....
Sharon	0.92	.....	0.17	.....	0.45	.....	1.41	.....	4.25	.....	2.52	.....	1.48	.....	0.37	.....	1.27	.....	0.67	.....	1.35	.....	1.33	.....	16.19	.....
Stanton	0.35	.....	0.20	.....	0.27	.....	0.66	.....	2.30	.....	2.66	.....	0.99	.....	0.55	.....	0.30	.....	0.71	.....	0.68	.....	0.57	.....	10.24	.....
Steele	0.61	+0.15	0.10	-0.37	0.40	-0.41	0.73	-0.46	4.89	+2.31	1.90	-1.60	3.49	+0.59	0.39	-1.98	1.51	+0.06	0.41	-0.66	0.20	-0.42	0.30	-0.25	14.93	-3.04
Stowers	0.36	0.00	0.14	-0.41	0.32	-0.47	0.82	-0.34	2.68	+0.30	0.42	-3.03	0.60	-1.13	0.81	0.50	0.56	-0.73	0.10	-1.01	0.03	-0.34	0.26	-0.23	7.10	-7.89
Tagus	0.27	.....	0.72	.....	0.30	.....	1.72	.....	3.28	.....	0.73	.....	2.87	.....	0.80	.....	0.57	.....	0.32	.....	0.29	.....	0.40	.....	12.27	.....
Tioga	0.61	.....	0.60	.....	0.21	.....	0.78	.....	3.60	.....	1.52	.....	1.92	.....	0.44	.....	0.70	.....	0.73	.....	0.43	.....	1.30	.....	12.84	.....
Towner	0.77	+0.33	0.02	-0.42	0.65	-0.08	1.21	+0.11	3.05	+0.84	1.41	-1.49	2.59	+0.33	0.15	-1.74	0.78	-0.99	0.47	-0.52	0.05	-0.54	1.40	+1.00	12.55	-3.17
Trotters	0.95	.....	0.21	.....	1.27	.....	1.35	.....	4.04	.....	1.50	.....	1.74	.....	1.14	.....	0.74	.....	0.91	.....	0.61	.....	0.72	.....	15.18	.....
Turtle Lake	0.62	+0.24	0.13	-0.28	0.42	-0.32	0.48	-0.71	3.96	+1.64	1.63	-2.35	1.11	-1.79	0.41	-1.94	0.24	-1.06	0.82	+0.11	0.51	+0.11	0.64	+0.10	10.97	-6.25
Valley City	0.95	+0.40	0.37	-0.12	0.37	-0.20	1.88	+0.36	2.99	+0.08	4.49	+1.16	3.07	+0.28	0.26	-1.81	0.95	-1.00	0.52	-0.46	0.87	+0.13	0.53	+0.07	17.25	-1.11
Velva	0.83	.....	0.19	.....	0.29	.....	0.59	.....	4.15	.....	1.93	.....	3.24	.....	0.40	.....	0.77	.....	0.73	.....	1.06	.....	1.47	.....	15.65	.....
Wahpeton	1.46	+1.02	0.55	+0.04	1.31	+0.53	2.31	+0.16	3.11	+0.43	0.92	-2.94	1.68	-1.78	1.76	-0.99	0.92	-1.34	0.05	-1.42	0.92	+0.20	1.46	+1.02	16.45	-5.07
Washburn	1.02	+0.68	0.34	-0.05	0.61	+0.09	0.53	-0.54	2.64	+0.57	2.39	-0.92	1.87	-0.32	1.15	-0.19	0.31	-0.86	0.68	-0.18	0.75	+0.23	0.65	+0.33	12.94	-1.16
Westhope	0.47	+0.07	0.19	-0.01	0.45	-0.01	2.04	+1.13	2.16	+0.22	0.70	-2.31	1.70	-0.53	0.51	-1.53	1.38	+0.03	0.53	-0.30	0.42	-0.13	0.68	+0.41	11.23	2.96
Williston	0.49	-0.05	0.61	+0.20	0.29	-0.40	1.20	0.00	3.52	+1.46	1.60	-1.83	2.57	+0.68	0.41	-1.06	0.93	-0.16	1.05	+0.19	0.66	+0.08	2.11	+1.53	15.44	+0.64
Willow City	1.10	+0.56	0.10	-0.42	0.55	-0.18	1.78	+0.78	2.95	+1.03	1.05	-2.06	1.87	-0.22	0.81	-1.19	0.68	-1.04	0.43	-0.41	0.74	+0.15	1.70	+1.16	13.76	-1.84
Wishek	0.11	-0.42	0.10	-0.49	0.52	-0.20	1.23	+0.19	1.93	-0.95	1.88	-1.04	1.90	-0.72	0.32	-1.79	0.97	-0.38	0.09	-0.88	0.48	-0.04	0.00	-0.64	9.53	-7.36
Zap	0.42	+0.08	0.12	-0.15	0.14	-0.49	0.36	-0.69	2.18	-0.21	1.41	-2.33	1.72	-0.24	0.56	-1.26	0.21	-1.02	0.46	-0.61	0.28	-0.05	0.12	-0.21	8.01	-7.18
Moorhead, Minn.	1.37	+0.70	0.43	-0.26	0.37	-0.64	2.07	-0.11	1.93	-0.96	2.13	-1.92	1.44	-1.99	1.34	-1.55	1.11	-1.11	0.45	-1.24	0.91	+0.01	1.70	+0.98	15.25	-8.09
....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The mean departures from normal precipitation are based on records from stations that have ten or more years of observations. T. indicates trace.

Monthly and Annual Mean Temperatures for the Year 1933, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure	Temperature	Departure
Amenia	9.8	+4.9	7.4	-1.4	28.5	+3.9	40.1	-1.9	56.0	+2.0	71.2	+ 7.8	70.6	+1.9	67.8	+1.3	62.1	+4.8	40.9	-3.7	24.6	-3.4	4.1	-8.1	40.3	+0.7
Arnegard	16.5	+7.5	11.4	-2.5	31.6	+6.3	39.7	-1.4	54.6	+1.9	69.1	+ 7.4	73.2	+3.9	67.8	+0.5	59.4	+3.1	41.8	-1.1	31.2	+2.9	10.9	-2.1	42.3	+2.2
Ashley	16.2	+7.6	11.0	-0.1	30.4	+6.1	41.8	-0.8	53.6	+0.1	72.8	+10.4	72.2	+3.5	68.6	+2.1	64.3	+7.0	43.1	+0.3	30.3	+2.3	13.1	-1.1	43.1	+3.1
Beach	18.3	+7.2	10.8	-5.4	31.4	+4.2	40.8	-1.2	52.9	+1.5	69.0	+ 7.3	72.8	+4.3	67.6	+1.2	60.1	+3.7	45.2	+1.6	33.4	+2.4	16.4	-0.6	43.2	+2.2
Berthold Agency	12.6	+4.0	9.2	-3.0	32.1	+6.1	41.2	-2.3	55.4	+1.3	69.8	+ 7.0	72.0	+2.8	68.7	+1.0	60.0	+3.1	42.2	-2.4	31.1	+2.6	11.2	-4.2	42.1	+1.3
Bismarck	14.2	+6.4	10.6	+0.3	31.0	+6.8	42.5	+0.4	55.6	+1.1	73.2	+ 9.5	73.9	+4.1	69.3	+2.0	62.9	+4.8	43.4	-1.5	31.4	+2.9	12.0	-2.7	43.3	+2.8
Bottineau	7.1	+6.5	3.9	-0.3	24.0	+3.9	36.0	-3.1	54.2	+2.9	67.7	+ 6.4	71.4	+4.8	69.2	+5.1	58.2	+3.3	38.4	-2.6	25.7	+2.1	3.0	-4.4	38.2	+2.0
Bowman	17.4	+4.4	9.7	-8.8	30.4	+2.7	40.2	-2.4	51.6	-0.6	69.7	+ 7.2	74.2	+4.8	66.9	-0.8	60.0	+3.2	43.8	-0.2	32.7	+2.1	18.4	+3.3	42.9	+1.2
Cando	6.6	+6.6	5.8	+0.2	26.6	+4.4	39.4	-1.3	51.3	+2.3	69.8	+ 8.3	71.2	+4.4	68.6	+3.7	59.5	+3.3	39.6	-4.1	26.4	-0.1	2.8	-5.8	39.2	+1.8
Carrington	10.8	+4.1	7.6	-1.1	27.8	+4.4	37.9	-1.7	53.2	+0.7	70.6	+ 7.6	70.7	+2.0	67.6	+0.8	62.2	+5.6	39.7	-4.1	24.4	+3.4	8.0	-3.7	40.0	+0.9
Carson	18.7	+9.7	10.8	-4.6	33.0	+6.7	41.0	-1.7	52.6	-0.5	74.2	+11.8	74.3	+5.5	67.6	-0.3	62.8	+6.4	45.2	+1.9	32.2	+2.2	13.8	-0.9	43.8	+3.0
Crosby	9.3	+5.7	8.7	-0.7	29.3	+5.8	36.8	-3.4	54.0	+2.8	67.8	+ 6.7	70.0	+3.2	66.5	+1.9	57.0	+2.9	39.2	-2.6	29.6	+2.9	6.4	-5.2	39.6	+1.7
Devils Lake	9.5	+7.7	5.8	+0.7	25.8	+6.0	38.4	-0.4	55.0	+2.4	70.2	+ 8.3	70.8	+3.4	68.2	+3.4	60.6	+4.7	38.2	-4.2	24.4	-0.1	3.8	-5.7	39.2	+2.2
Dickinson	14.2	+3.7	8.2	-4.9	30.8	+5.5	39.5	-2.6	52.4	+0.2	69.8	+ 8.1	72.4	+4.2	67.2	+0.9	58.6	+2.6	42.3	-1.3	31.2	+2.9	14.0	-2.4	41.7	+1.4
Dogden Butte	13.2	......	8.5	......	28.4	......	39.8	......	54.6	......	69.4	......	70.8	......	68.8	......	61.2	......	41.4	......	28.3	......	7.9	......	41.0	......
Drake	9.9	......	6.6	......	27.6	......	38.1	......	55.0	......	69.6	......	71.0	......	68.8	......	61.0	......	39.7	......	27.2	......	7.0	......	40.1	......
Dunn Center	14.4	+0.6	10.2	-4.4	31.4	+5.9	40.3	-1.5	53.8	+1.1	69.6	+ 7.6	71.2	+3.2	68.0	+1.8	59.0	+2.8	42.5	-1.9	31.1	+3.2	13.6	-4.1	42.1	+1.2
Dunseith	6.8	+4.3	4.1	-2.3	23.8	+3.6	37.4	-2.5	54.7	+2.6	69.2	+ 8.3	70.8	+4.9	68.1	+4.2	58.5	+4.1	38.4	-3.0	23.9	-0.5	3.4	-7.3	38.3	+1.4
Eckman	5.2	+2.1	4.2	-3.4	25.6	+2.7	38.4	-2.2	54.3	+2.9	67.6	+ 6.0	70.3	+3.5	68.4	+4.2	59.6	+4.4	39.4	-2.4	26.4	+0.6	3.8	-5.5	38.6	+1.1
Edgeley	15.2	+6.4	12.6	-0.1	30.8	+3.5	42.8	+0.1	55.0	+1.3	72.1	+ 9.2	71.3	+2.5	69.0	+2.1	62.8	+5.2	44.5	-0.8	29.8	0.0	11.5	-4.3	43.1	+2.1
Edmore	6.6	......	4.1	......	24.0	......	38.4	......	53.6	......	68.2	......	69.2	......	66.0	......	58.3	......	36.4	......	22.3	......	2.2	......	37.4	......
Ellendale	15.2	+4.5	11.0	+0.3	29.8	+4.2	41.4	-2.2	55.2	-0.5	74.4	+ 8.4	72.7	+2.0	69.9	+1.1	64.6	+6.2	45.7	+0.1	31.4	+5.3	13.0	-3.8	43.7	+2.1
Energy	13.4	......	9.3	......	31.2	......	42.1	......	55.6	......	72.5	......	73.5	......	69.1	......	62.2	......	43.6	......	31.0	......	10.8	......	42.9	......
Epping	11.6	......	7.9	......	30.2	......	[c]39.2	......	......	......	[b]70.2	......	73.3	......	66.2	......	58.8	......	......	......	......	......	......	......	......	......
Fessenden	10.2	+5.7	6.2	-3.9	26.8	+3.4	38.2	-2.5	54.3	+2.3	70.0	+ 8.3	70.8	+2.8	68.6	+2.7	61.0	+5.3	39.5	-3.5	26.0	-1.1	6.2	-4.4	39.8	+1.2
Fort Yates	17.5	+8.3	13.0	+1.2	32.1	+5.8	44.0	-0.9	55.4	-0.7	76.0	+ 9.8	74.4	+2.7	69.6	+0.3	64.6	+4.8	45.6	-0.8	34.0	+4.2	16.8	-1.6	45.2	+2.7
Foxholm (near)	9.6	......	6.9	......	27.1	......	38.1	......	54.6	......	67.8	......	69.9	......	68.4	......	58.2	......	38.8	......	27.1	......	5.0	......	39.2	......
Fullerton	16.4	+7.5	11.2	-0.8	30.4	+3.6	42.2	-0.6	56.2	+2.2	74.4	+11.0	73.2	+4.2	69.1	+2.0	63.6	+6.4	44.4	-0.4	29.8	+0.6	11.5	-2.9	43.5	+2.7
Garrison	12.7	+5.1	9.5	-1.4	30.3	+6.5	40.7	-1.6	55.5	+2.8	71.1	+ 8.9	72.6	+4.4	69.7	+3.6	62.4	+7.5	43.0	+0.3	30.4	+4.1	9.6	-4.1	42.3	+3.0
Grafton	8.6	+6.4	7.2	+0.5	26.0	+4.8	40.9	+0.3	56.9	+3.6	71.1	+ 8.3	72.4	+4.7	69.3	+4.1	61.6	+5.3	41.4	-0.7	22.8	-1.9	4.1	-4.8	40.2	+2.6
Grand Forks	9.4	+5.9	5.6	-2.0	26.4	+4.0	40.0	-1.7	57.1	+3.4	71.1	+ 8.1	71.8	+4.3	69.5	+4.1	61.6	+5.2	39.4	-4.2	22.8	-3.2	3.4	-7.2	39.8	+1.4
Granville	10.2	+5.6	6.8	-3.3	28.8	+4.7	39.4	-1.4	55.3	+3.7	69.6	+ 7.4	72.0	+4.5	69.2	+4.3	60.6	+5.8	40.4	-2.9	28.4	+1.7	7.0	-5.0	40.7	+2.1
Hankinson	14.4	......	11.4	......	31.2	......	43.2	......	58.1	......	74.4	......	73.6	......	68.4	......	63.0	......	43.8	......	26.1	......	12.4	......	43.3	......
Hannah	3.8	......	0.6	......	22.4	......	39.2	......	55.2	......	69.2	......	70.7	......	70.5	......	60.4	......	36.8	......	21.2	......	-0.6	......	37.4	......
Hansboro	6.0	+6.1	2.3	-3.5	23.6	+3.0	38.4	-0.5	54.5	+3.8	66.9	+ 6.5	68.4	+3.2	67.3	+4.9	62.1	+8.6	40.4	-0.3	24.0	+0.5	0.4	-7.6	37.9	+2.1
Hettinger	18.8	+5.8	12.7	-3.8	32.9	+4.3	42.0	-0.8	52.2	-1.4	71.4	+ 8.5	75.6	+5.5	68.0	-0.8	62.2	+4.6	45.4	-0.2	34.4	+2.8	18.4	+1.6	44.5	+2.2
Hillsboro	9.0	+4.4	7.7	-2.6	[f]25.4	-0.2	41.2	-1.6	55.4	+1.5	72.6	+ 8.4	72.3	+2.7	69.2	+1.7	62.0	+3.4	42.0	-3.2	23.6	-4.2	6.2	-5.0	40.6	+0.5
Howard (near)	12.5	+8.1	6.7	-2.3	28.6	+6.7	37.5	-1.6	52.9	+3.1	65.6	+ 5.4	70.6	+4.6	66.5	+1.6	56.8	+2.5	39.0	-2.6	29.3	+3.0	6.0	-5.6	39.3	+1.9
Jamestown	11.8	+4.8	8.4	-1.2	28.9	+4.9	38.9	-3.2	54.4	+0.9	71.5	+ 8.3	71.3	+2.8	67.9	+1.5	61.8	+5.3	42.1	-2.4	27.8	+0.5	8.4	-5.0	41.1	+1.4
Kenmare	10.4	......	5.6	......	28.2	......	38.3	......	54.6	......	70.6	......	71.2	......	69.0	......	59.0	......	40.0	......	30.2	......	8.6	......	40.5	......
Langdon	4.2	+5.1	1.6	-3.2	21.6	+2.0	37.3	-0.5	55.4	+4.5	69.0	+ 9.1	72.0	+7.4	68.6	+6.1	58.0	+5.7	35.9	-5.0	21.0	-3.0	-0.4	-8.7	37.0	+1.6
Larimore	9.9	+6.3	7.4	+0.1	26.3	+4.0	38.0	-2.4	55.9	+3.3	70.2	+ 7.8	71.0	+4.0	70.0	+5.0	62.2	+6.9	41.2	-2.7	24.7	-1.1	4.2	-6.8	40.1	+2.1
Linton	14.4	+4.9	9.8	-4.7	31.2	+3.5	42.4	-0.3	54.1	-0.1	72.8	+ 8.5	73.8	+2.5	70.0	+0.8	64.2	+5.7	43.8	-0.9	31.1	+2.1	13.6	-0.3	43.4	+1.8
Lisbon	12.0	+4.7	9.5	-1.7	30.0	+2.9	41.4	-1.0	56.1	+2.2	73.4	+ 9.9	72.1	+2.8	68.8	+1.8	62.0	+4.5	44.0	+0.2	28.6	-0.3	10.3	-3.8	42.3	+1.8
McClusky	11.8	......	7.8	......	28.2	......	40.0	......	54.2	......	69.6	......	70.9	......	67.8	......	61.0	......	40.3	......	27.4	......	8.4	......	40.6	......
McLeod	11.8	+3.4	8.9	-4.4	29.4	+1.7	42.0	-2.2	56.1	+1.6	73.6	+ 9.1	73.4	+3.2	68.5	+0.6	61.2	+2.2	43.8	-2.4	29.0	-1.3	10.0	-4.4	42.3	+0.6
Maddock	9.1	+4.3	6.8	-4.3	26.8	+2.2	38.7	-2.3	54.4	+1.7	69.4	+ 8.3	70.4	+2.8	67.9	+2.2	61.8	+6.1	39.4	-3.5	25.6	-1.0	4.5	-5.5	39.5	+0.9
Mandan	13.6	+5.3	8.9	-4.0	30.0	+3.3	41.8	-0.9	55.6	+1.7	72.3	+ 9.0	73.4	+2.8	69.6	+1.5	63.0	+5.6	42.8	-1.2	30.4	+1.2	11.1	-2.6	42.7	+1.8
Marmarth	16.0	+3.2	10.8	-6.9	32.2	+4.5	41.9	-1.1	52.5	+1.3	69.7	+ 7.7	75.0	+5.6	67.8	+0.5	60.1	+3.6	45.5	0.0	35.0	+3.6	18.8	+2.0	43.8	+2.0
Max	9.5	......	6.8	......	[h]26.3	......	40.6	......	55.2	......	69.8	......	69.6	......	67.8	......	60.0	......	38.2	......	28.6	......	9.6	......	40.2	......
Mayville	10.8	+5.0	7.4	-2.1	26.6	+2.1	40.2	-2.8	56.2	+4.9	71.9	+ 7.9	72.4	+0.9	70.0	+3.0	62.8	+5.4	40.6	-5.3	24.2	-4.0	4.9	-8.0	40.7	+0.6
Minot	12.2	+6.0	9.0	-0.7	29.4	+6.6	38.4	-2.4	51.5	+2.3	68.8	+ 6.5	70.0	+2.1	69.0	+4.0	59.2	+3.3	41.2	-2.1	29.1	+1.6	8.0	-3.9	40.7	+1.9
Mohall	7.7	+3.1	5.7	-1.4	26.4	+5.5	38.0	-2.5	56.0	+3.7	68.0	+ 6.9	70.3	+4.0	68.8	+4.9	58.9	+4.9	39.6	-2.1	27.8	+3.0	4.7	-6.3	39.3	+1.9
Mott	13.8	+5.0	11.7	-1.8	32.6	+5.7	42.8	+1.0	53.6	+0.1	72.2	+ 7.8	73.8	+3.5	68.0	+0.9	62.0	+5.4	44.2	+0.9	31.8	+2.6	12.6	-1.2	43.3	+2.5
Napoleon	14.6	+8.2	8.4	+0.1	29.2	+6.5	41.0	-0.4	53.8	+1.4	72.4	+10.0	72.4	+3.8	68.8	+2.4	62.8	+6.1	41.8	-1.9	29.0	+2.3	10.6	-2.0	42.1	+3.1
New England	22.8	+9.4	13.0	-1.1	32.4	+7.2	41.1	-1.2	54.2	+2.2	[m]73.0	+10.4	78.0	+9.2	70.3	+3.4	63.0	+6.6	47.2	+3.8	33.4	+4.3	15.8	-0.7	45.4	+4.5
New Salem	16.1	+7.0	10.0	-3.1	29.6	+3.7	40.6	-1.8	53.5	+1.1	71.1	+ 8.2	72.8	+2.9	67.2	0.0	61.2	+3.7	42.0	-2.8	32.0	+2.2	14.7	-0.6	42.6	+1.7
Oakes	15.0	......	11.3	......	31.0	......	43.0	......	56.2	......	75.1	......	73.4	......	70.0	......	64.8	......	44.8	......	30.2	......	11.8	......	43.9	......
Park River	8.4	+5.7	6.6	-1.1	25.0	+1.9	38.0	-3.3	57.0	+4.0	69.7	+ 6.8	72.8	+4.9	70.0	+3.8	63.4	+6.8	43.2	-0.6	24.8	-3.0	4.8	-5.7	40.3	+1.7
Parshall	10.8	......	7.5	......	28.6	......	38.8	......	53.3	......	68.4	......	70.1	......	66.5	......	58.0	......	40.2	......	28.8	......	7.5	......	39.9	......
Pembina	4.4	+6.8	1.1	-1.9	20.2	+2.0	37.7	-0.9	55.6	+2.8	68.2	+ 5.5	68.6	+1.1	67.2	+2.9	57.6	+3.5	36.4	-5.0	19.5	-3.8	1.1	-5.2	36.5	+0.7
Pettibone	11.0	+8.0	7.6	-1.2	28.8	+4.5	39.2	-1.7	54.4	+2.6	72.0	+10.5	71.4	+3.4	68.0	-0.3	61.6	+6.4	40.5	-1.3	26.6	+0.2	7.8	-2.7	40.8	+2.4
Portal	7.6	+5.1	5.0	-0.4	26.8	+9.1	36.8	-4.6	54.4	+3.9	67.0	+ 7.8	69.9	+3.7	67.3	+3.1	56.6	+2.2	35.8	-5.6	26.4	+1.0	3.8	-8.4	38.1	+1.4
Powers Lake	16.0	......	6.0	......	29.3	......	36.3	......	54.0	......	68.6	......	70.4	......	66.3	......	58.0	......	40.0	......	28.0	......	8.4	......	40.1	......
Richardton	15.6	+5.4	9.6	-5.6	31.2	+4.1	39.6	-1.5	52.4	-0.2	71.0	+ 8.4	72.1	+2.0	68.0	-0.1	59.7	+2.9	42.9	-0.5	29.8	+1.5	13.6	-0.4	42.1	+1.3
Sanish	10.8	......	5.8	......	28.8	......	41.2	......	55.4	......	70.4	......	[a]72.1	......	67.8	......	58.7	......	39.6	......	29.4	......	7.0	......	40.6	......
Sharon	9.3	......	6.2	......	25.9	......	38.4	......	54.8	......	70.2	......	70.8	......	68.9	......	60.7	......	39.4	......	23.9	......	3.8	......	39.4	......
Steele	12.2	+4.9	7.0	-2.4	29.2	+5.9	40.4	-2.8	54.4	+1.0	73.0	+10.5	71.6	+2.2	68.8	+2.1	64.0	+7.1	44.6	+0.8	30.2	+3.9	11.7	-0.6	42.2	+2.7
Towner	8.6	+4.8	5.8	-1.9	27.4	+5.3	40.0	-1.9	55.5	+2.3	69.2	+ 6.4	72.2	+4.2	69.6	+4.2	59.5	+3.3	41.3	-2.1	27.8	+2.6	5.5	-4.6	40.2	+1.9
Valley City	12.4	+6.9	7.3	-4.2	28.2	+2.2	41.2	-1.4	54.7	+1.2	72.4	+ 9.3	71.0	+2.3	68.4	+1.6	63.7	+5.5	42.6	-2.0	27.4	-0.6	8.6	-5.1	41.5	+1.3
Velva	11.8	......	8.9	......	29.4	......	40.4	......	55.7	......	69.8	......	71.6	......	69.6	......	61.1	......	41.0	......	28.0	......	7.2	......	41.2	......
Wahpeton	16.4	+8.0	10.3	-1.7	31.4	+3.9	44.3	-0.1	58.2	+2.6	75.4	+10.3	76.4	+6.6	71.0	+3.1	66.0	+6.8	46.0	-0.6	28.4	-0.4	11.6	-3.7	44.6	+2.9
Washburn	12.4	+5.0	8.0	-1.5	29.2	+4.8	42.2	-1.6	55.6	+1.8	71.6	+ 7.5	72.8	+3.3	67.3	-0.1	62.0	+3.5	42.7	-1.8	30.0	-0.3	11.1	-2.9	42.1	+1.5
Westhope	6.2	+4.9	5.3	-1.7	27.0	+5.0	39.4	-0.5	57.2	+5.4	70.4	+ 8.4	72.6	+5.8	69.8	+5.1	60.0	+5.1	39.8	-2.3	27.1	+1.5	4.2	-5.8	39.9	+2.6
Williston	14.8	+8.4	10.0	+1.9	31.9	+9.0	40.2	-1.8	55.2	+1.2	70.4	+ 7.7	73.2	+4.3	69.6	+3.5	59.8	+3.2	41.8	-1.6	32.0	+4.8	8.8	-5.0	42.3	+3.0
Willow City	5.0	+4.1	3.0	-1.9	24.1	+4.4	38.6	-1.0	54.3	+2.8	68.1	+ 7.1	70.6	+4.9	67.8	+4.2	58.6	+4.4	37.2	-4.2	24.6	+2.0	1.8	-6.9	37.8	+1.6
Wishek	15.2	+8.2	9.0	0.0	26.3	0.0	39.8	-2.1	51.8	+1.1	70.5	+ 8.2	69.6	+1.0	65.8	0.0	61.6	+6.0	40.2	-3.7	28.4	-1.4	13.4	+0.4	41.0	+1.5
Moorhead, Minn.	11.9	+8.1	7.4	-0.7	28.0	+5.3	41.4	+0.8	56.8	+1.7	72.8	+ 8.4	73.7	+5.6	69.5	+3.4	63.2	+5.0	42.6	-1.9	25.4	-1.7	7.2	-4.3	41.7	+2.5

The mean departures from normal temperatures are based on records from stations that have ten or more years of observations. [a], 1 day missing, [b], 2 days missing, etc.

[Continued from page 49]

flax, pastures, and ranges deteriorated considerably. Little fall plowing was accomplished due to lack of soil moisture.

September.—The weather during the month was characterized by unseasonably high temperature and extreme dryness. As a result of these conditions, excellent progress was made in late harvesting and threshing, though the yields were disappointing. Fall plowing and the seeding of winter rye, due to dry soil, made slow progress.

October.—Moderate temperature and mostly fair weather prevailed during the first half of the month, but cloudy skies, light precipitation, and colder weather prevailed during the latter part. Frosts early in the month damaged late garden truck. Due to the dryness of the soil pastures, ranges, and harvested fields yielded less than the usual feed for livestock and considerable yard feeding was necessary.

November.—Stormy periods prevailed from the 3d to the 10th and from the 21st to the 25th. Generally fair and warmer weather during the remainder of the month allowed livestock to range freely in most sections, but considerable yard feeding was necessary in the eastern portion.

December.—From the standpoint of comfort to both humans and livestock the weather of the month was decidedly unfavorable, the temperature being below normal and the snowfall being above the average. Much yard feeding of livestock was necessary.

Killing Frosts

Stations	Last in Spring	First in Autumn	Stations	Last in Spring	First in Autumn
Amenia	May 9	Sept. 26	Kenmare	May 11	Oct. 7
Arnegard	" 10	" 26	Langdon	" 14	Sept. 26
Ashley	" 10	" 26	Larimore	" 10	Oct. 4
Beach	" 2	Oct. 2	Linton	" 14	Sept. 26
Berthold Agency	" 10	Sept. 20	Lisbon	" 2	" 26
Bismarck	Apr. 26	" 26	McClusky	" 10	" 26
Bottineau	May 10	" 26	McLeod	Apr. 27	" 26
Bowman	" 10	" 26	Maddock	May 20	" 24
Cando	" 10	" 26	Mandan	" 10	" 26
Carrington	" 11	Oct. 4	Marmarth	" 1	" 26
Carson	" 9	Sept. 26	Max	" 10	" 25
Crosby	" 11	" 26	Mayville	" 20	Oct. 4
Devils Lake	Apr. 26	Oct. 4	Minot	" 10	Sept. 20
Dickinson	May 1	Sept. 26	Mohall	" 9	" 25
Dogden Butte	" 12	Oct. 7	Mott	Apr. 25	" 25
Drake	" 10	Sept. 26	Napoleon	May 10	" 20
Dunn Center	" 10	" 26	New England	" 8	" 25
Dunseith	" 10	" 26	New Salem	" 10	" 26
Eckman	" 12	" 24	Oakes	" 10	" 26
Edgeley	" 10	" 26	Park River	" 10	" 26
Edmore	" 10	" 24	Parshall	" 10	" 26
Ellendale	Apr. 27	" 26	Pembina	" 20	Oct. 4
Energy	May 10	" 20	Pettibone	" 10	Sept. 20
Fessenden	" 14	" 26	Portal	" 10	" 25
Fort Yates	" 2	" 20	Powers Lake	" 9	" 19
Foxholm	" 10	" 26	Richardton	" 10	" 26
Fullerton	Apr. 26	" 26	Sharon	" 9	" 26
Garrison	" 26	" 26	Steele	" 10	" 26
Grafton	May 14	Oct. 2	Towner	" 10	" 20
Grand Forks	" 10	" 4	Valley City	" 10	" 24
Granville	" 10	Sept. 26	Velva	" 10	" 26
Hankinson	Apr. 26	Oct. 7	Wahpeton	Apr. 27	" 26
Hannah	May 12	Sept. 26	Washburn	May 10	" 26
Hansboro	" 11	" 24	Westhope	" 10	" 26
Hettinger	" 9	" 20	Williston	" 10	" 26
Hillsboro	" 10	Oct. 4	Willow City	" 10	" 20
Howard	" 11	Sept. 24	Wishek	" 9	" 26
Jamestown	" 10	" 26	Moorhead, Minn.	" 10	Oct. 8

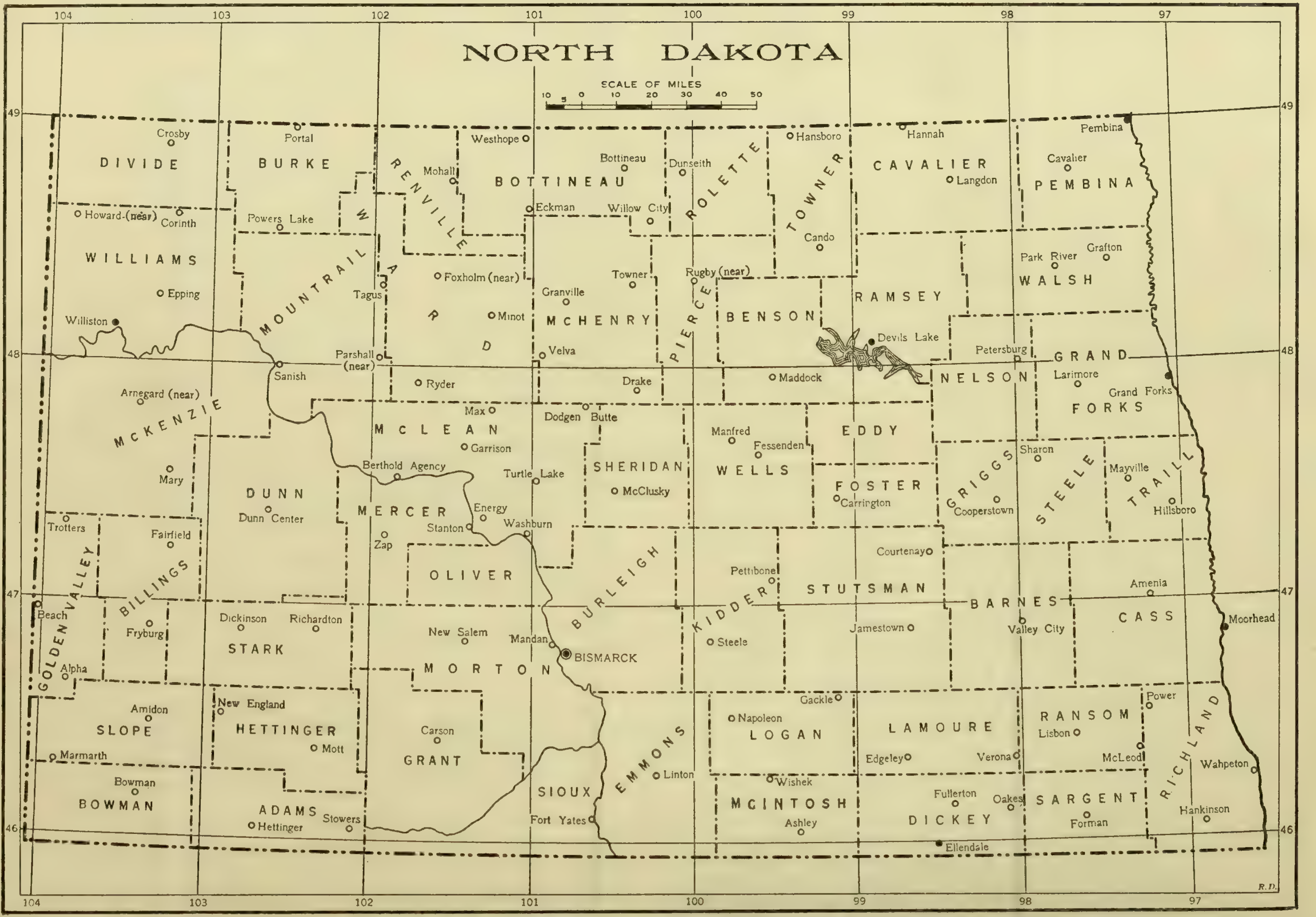
Climatological Summary, 1933

Month	Temperature in degrees Fahrenheit				Precipitation, in inches			Number of days				Prevailing direction of the wind
	Mean	Departure	Highest	Lowest	Average	Departure	Snowfall	Precip., .01 inch or more	Clear	Pt. cloudy	Cloudy	
January	11.8	+5.6	53	−30	0.80	+0.33	10.0	7	12	7	12	nw.
February	7.9	−2.3	58	−45	0.28	−0.21	3.3	3	13	8	7	nw.
March	28.5	+4.4	70	−14	0.45	−0.25	3.7	3	14	10	7	nw.
April	40.0	−1.6	84	2	1.33	−0.06	7.3	5	11	9	10	nw.
May	54.8	+2.0	98	19	3.15	+0.75	T.	9	9	10	12	se.
June	70.7	+8.2	110	33	1.75	−1.70	0	7	18	10	2	se.
July	71.9	+3.5	109	36	2.00	−0.42	0	7	19	9	3	se.
August	68.5	+2.3	104	31	0.73	−1.31	0	5	17	9	5	se.
September	60.9	+4.5	101	22	0.79	−0.86	0	4	16	8	6	nw.
October	41.5	−2.1	88	5	0.53	−0.55	1.7	4	14	8	9	nw.
November	28.5	+1.6	78	−15	0.65	+0.03	6.6	5	9	8	13	nw.
December	8.6	−4.0	62	−38	0.88	+0.36	9.7	6	9	8	14	nw.
Annual	41.1	+1.8	110	−45	13.34	−3.89	42.3	65	161	104	100	nw.

COMPARATIVE DATA FOR YEAR

Year	Temperature				Precipitation					Number of days			
	Mean	Departure	Highest	Lowest	Average	Departure	Greatest annual	Least annual	Average snowfall	Precipitation, .01 inch or more	Clear	Partly cloudy	Cloudy
1892.	37.8	−1.4	108	−52	18.34	+0.90	26.60	14.26	34.9	70	157	95	114
1893.	35.8	−3.4	112	−54	15.91	−1.53	22.29	11.64	46.1	65	154	104	107
1894.	40.3	+1.1	107	−47	15.64	−1.80	20.98	10.84	24.6	56	174	100	91
1895.	37.7	−1.5	104	−50	17.30	−0.14	22.78	11.76	20.9	63	155	117	93
1896.	37.3	−1.9	107	−42	23.57	+6.13	33.18	13.43	48.3	80	143	111	112
1897.	37.8	−1.4	109	−48	15.88	−1.56	28.55	8.49	33.9	63	162	105	98
1898.	39.2	0.0	106	−38	16.15	−1.29	23.91	8.81	22.7	57	159	108	98
1899.	36.9	−2.3	109	−48	17.67	+0.23	28.84	12.50	26.6	60	161	105	99
1900.	40.9	+1.7	114	−48	19.06	+1.62	28.32	11.78	23.2	62	178	97	90
1901.	40.4	+1.2	110	−43	19.48	+2.04	29.75	12.92	20.2	63	175	92	98
1902.	39.4	+0.2	106	−39	19.34	+1.90	27.45	6.58	29.9	62	160	79	126
1903.	38.3	−0.9	108	−49	19.25	+1.81	26.02	13.18	28.8	65	166	81	118
1904.	37.6	−1.6	103	−52	19.02	+1.58	28.83	9.44	38.1	68	150	73	143
1905.	39.3	+0.1	107	−46	19.96	+2.52	30.39	10.66	29.6	66	152	79	134
1906.	39.4	+0.2	109	−40	19.72	+2.28	33.87	13.24	35.4	78	164	93	108
1907.	36.9	−2.3	104	−49	14.41	−3.03	23.02	8.75	33.7	63	175	101	89
1908.	40.7	+1.5	104	−41	18.64	+1.20	26.71	13.49	43.7	75	164	97	105
1909.	38.2	−1.0	109	−48	17.73	+0.29	27.89	9.77	33.5	71	143	110	112
1910.	41.1	+1.9	114	−50	12.19	−5.25	19.09	7.55	21.0	52	180	92	93
1911.	38.0	−1.2	108	−43	19.40	+1.96	26.27	8.17	36.5	76	160	100	105
1912.	38.2	−1.0	124	−52	20.35	+2.91	29.13	13.86	19.3	74	161	102	103
1913.	40.0	+0.8	106	−54	14.69	−2.75	26.70	9.60	19.4	64	166	104	95
1914.	40.1	+0.9	109	−47	19.16	+1.72	26.41	12.99	30.0	70	155	110	100
1915.	39.7	+0.5	104	−48	19.42	+1.98	26.83	12.24	21.2	72	148	101	116
1916.	36.2	−3.0	105	−56	20.50	+3.06	35.51	12.01	54.2	70	170	97	99
1917.	36.3	−2.9	114	−48	10.92	−6.52	17.20	6.02	40.5	60	154	111	100
1918.	40.0	+0.8	102	−44	16.02	−1.42	25.54	10.18	29.7	63	159	104	102
1919.	38.6	−0.6	108	−44	15.76	−1.68	25.33	7.07	47.2	60	165	107	93
1920.	39.5	+0.3	108	−44	15.34	−2.10	23.78	9.88	27.9	64	166	108	92
1921.	42.0	+2.8	110	−33	19.59	+2.15	33.78	9.22	29.4	74	158	111	96
1922.	39.7	+0.5	115	−46	19.75	+2.31	33.14	14.50	42.8	75	155	100	110
1923.	40.7	+1.5	103	−40	17.76	+0.32	25.50	11.03	30.1	64	160	110	95
1924.	38.2	−1.0	105	−46	17.55	+0.11	27.56	10.87	26.1	66	158	101	107
1925.	40.6	+1.4	111	−39	16.81	−0.63	28.33	9.80	19.7	64	158	107	100
1926.	40.7	+1.5	108	−36	15.70	−1.74	21.78	10.01	23.7	68	151	105	109
1927.	38.0	−1.2	101	−44	21.52	+4.08	32.12	13.87	36.2	79	150	102	113
1928.	41.1	+1.9	107	−41	18.40	+0.96	30.38	10.70	17.3	59	177	101	88
1929.	38.0	−1.2	109	−44	14.32	−3.12	22.36	8.29	41.8	65	171	98	96
1930.	41.4	+2.2	107	−43	14.90	−2.54	22.13	7.38	25.0	66	166	101	98
1931.	44.9	+5.7	111	−31	14.99	−2.45	22.98	5.62	18.0	56	180	92	93
1932.	40.0	+0.8	108	−34	17.11	−0.33	23.13	10.07	34.9	69	156	108	102
1933.	41.1	+1.9	110	−45	13.34	−4.10	19.36	7.10	42.3	65	161	104	100
Per..	39.2	....	124	−56	17.44	....	35.51	5.62	30.2	66	162	100	103

CHART SHOWING METEOROLOGICAL OBSERVATION.



Key to Symbols: ● Meteorological observations (regular Weather Bureau stations). ○ Meteorological observations (sub-stations).

[WBO, Minneapolis, 3-8-34—1500]

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